LANDSCAPE & IMAGINATION

Towards a new baseline for education in a changing world

Conference, Paris 2 - 4 May 2013

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Editori e Stampatori

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Front Cover Photo: Valentina Cattivelli
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Back Cover Photo: Bas Pedroli

C. Newman, Y. Nussaume & B. Pedroli (Eds) 2013: Landscape & Imagination: towards a new baseline for education in a changing world. Conference, Paris 2-4 May 2013. UNISCAPE, Florence / Bandecchi & Vivaldi, Pontedera. 720 pp.

ISBN: 978-88-8341-548-7

© 2013 by UNISCAPE
Viale Pieraccini, 15 - I-50139 Florence
www.uniscape.eu
info@uniscape.eu

© 2013 by Bandecchi & Vivaldi
Via Giovanni XXIII, 54 - I-56025 Pontedera (Pisa)

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PREFACE

Introduction

This publication constitutes the proceedings of an international conference, **Landscape and Imagination: Towards a New Baseline for Education in a Changing World** (*Paysage et Invention: évolution des enseignements dans un monde en transition*) held in Paris, 2nd to 4th of May 2013. Speakers from more than 30 countries worldwide gathered at three different venues: *la Cité des Sciences et de l'Industrie*, *l'École Nationale Supérieure d'Architecture de Paris La Villette*, and *La Cité de l'Architecture et du Patrimoine*.

The success of the event is down to the collaboration of the research team AMP LAVUE, the *École Nationale Supérieure d'Architecture de Paris La Villette* (ENSAPLV) and UNISCAPE, which is a network of universities especially dedicated to the implementation of the European Landscape Convention. Through its participation in this event, and the active support of its office management at an organisational level, UNISCAPE continues its efforts to support and strengthen interdisciplinary cooperation between universities, not only in Europe but also outside Europe, in the common pursuit of landscape research and education.

This Conference *Landscape & Imagination* can be seen as the logical follow-up of the Conference *Living Landscapes* UNISCAPE organised October 2010 in Florence, Italy, at the occasion of the 10th Anniversary of the European Landscape Convention. That conference focussed on the ways research can support the implementation of the European Landscape Convention. One of the conclusions was that awareness of the societal value of landscape is crucial for an adequate implementation of landscape protection, management and planning approaches, which signifies a huge challenge for education. *Landscape & Imagination* has addressed this challenge. Imagination is explicitly mentioned in the conference's title because education in the multifaceted nature of landscape requires going beyond the boundaries of disciplines, and across the dichotomy of empirical data versus perceived values.

This conference was topical because framing every aspect of our daily lives in an increasingly globalised and virtual world, landscape remains a core element in how we connect with society's rapidly changing social and physical conditions. The request for long term decisions about environmental enhancement and sustainable development has generated considerable spin-off in relation to landscape planning and transformation processes, in terms of governance and the participation of citizens. The outcomes depend on scale and context, regardless of whether the landscapes are rural, urban or peri-urban. If the approaches adopted vary from place to place it is because different understandings of the environment arise from different "milieus" (relationships between society and its environment) and places depending on geography and cultural backgrounds, as well as differing stages of economic development. Regardless, many regions share common concerns, such as climate change, dwindling water resources, use of proven technologies and technical know-how, etc. This all calls for synergy between the disciplines involved in landscape planning and design.

The broad question posed to all of the conference delegates was: how should education evolve in terms of content and modus of delivery in order to respond appropriately to the environmental and landscape changes that are shaking our planet? The great diversity of contributions is accounted for by the fact that the question speaks also to creativity and imagination. With the help of members of the Scientific Committee, the organisers made a selection of rich and varied papers aimed at encouraging diverse and lively discussion and debate. All papers have been reviewed anonymously and subsequently revised by the authors. Of course, responsibility for the views expressed in the papers rests with the authors.

The papers are preceded by the Abstracts of the keynote lectures. We are very happy to have found Pavlina Mišíková, Augustin Berque, Toshio Kuwako, Bernard Lassus and Yu KongJian ready to set the scene and fundamentally discuss their visions on Landscape and Imagination with us.

The papers in this volume are arranged under six themes corresponding to the main topics in landscape pedagogy, namely epistemology, history, arts, process, science and governance. The wide diversity of responses to these themes represented among the papers is a reflection of the variety of different experiences, values and understandings of landscape occurring across the globe. Between them, they illustrate well the complex challenge that is landscape education.

Epistemology

Under the theme of epistemology, terms and concepts common to landscape discourses are analysed and critiqued. The concepts behind the terms 'landscape', 'milieu', 'place', 'environment', 'territory', 'heritage' and so on, are complex and potentially problematic on account not just of cultural and linguistic specificities but also different philosophical, religious and intellectual traditions. Meanings can be both lost and gained in translation from one language to another. Only by exploring and embracing these semantic differences can we begin the journey of understanding and learning from one another. A concern, for instance, is whether the definition of landscape in the European Landscape Convention is a product of Western ontology and therefore not universally applicable; this against the backdrop of the International Federation of Landscape Architect's proposal for an International Landscape Convention. Moreover, as the oeuvre of landscape research evolves and grows, the terms themselves are further redacted, acquiring more composite and enriched meanings. While such may produce interesting opportunities for discussion in the classroom, it can, however, result in difficulties in the arenas of public debate and governance where the challenge is to balance the *poïetic* aspects of milieu; the *poesis* of place and attachment; with other imperatives such as energy supply and spatial planning. The sub-text to this aspect of the call for papers is that both considerations should be regarded as being of equal importance to the well-being of our species. Contributors to this theme were asked to consider, *inter alia*, how creativity and the human imagination could be best sustained in the context of green-infrastructure, eco-districts, eco-constructions, and so on.

History

The second theme refers to history, and deals directly with the challenge of teaching about landscape when, refracted through the milieus of language, belief, social praxis and culture, there exists a myriad of different ways of being, seeing and acting in the world. At a time of unprecedented mobility of teachers, students and practitioners, and of knowledge-transfer, the job of creating syllabi that are sufficiently universal and yet offer the prospect of appropriately diversified and tailored solutions to common issues, such as climate change, social detachment, decreasing landscape diversity, etc., is onerous: all the more so, in fact, when the European Landscape Convention mandates all stakeholders to recognise, celebrate and protect the mosaic of different local and sub-regional landscapes. The call for papers invited contributors to this section to also consider how teachers and instructors might negotiate these concerns in the context of international competitions and commissions.

Art

While generations of students may have first learned about the phenomenological consideration of landscape through comparative analysis of landscape paintings, the connection between landscape and art runs much deeper than that of mere analogue, allegory or metaphor. Arguably, the polysemic nature of art matches that of landscape itself. In recognition of this, the third theme of the conference proceedings focuses on the arts, and in particular the potential role of landscape representation as a vector of landscape instruction and learning. It poses the question: how can artistic experiments and works of art enrich landscape legibility and contribute to landscape analyses and actions? Consideration of the capacity of installation or public art to transform settings, in terms of both perception and perspective, encourages us to recognise the processual dimension of works of art.

Process

The fourth theme of these proceedings is process, and is concerned with training for the practicalities of a landscape project that, taking into account all of the considerations outlined already, adopts a hermeneutic approach, is mindful of temporality, and yet also allows for creativity. The demands of sustainable development highlight the convergent roles of disciplines such as urban planning and landscape architecture, and suggest that the blending of disciplines and partnered delivery of modules are key to the development of syllabi and curricula. Among the papers is a wide variety of case studies of field-training exercises as well as actual landscape projects. Some touch on the issue of stakeholder participation. A fundamental principle of the European Landscape Convention, in many countries stakeholder participation remains one of the more contested aspects of planning and governance.

Science

Science, the fifth theme of the conference proceedings, considers the use of empirical evidence and personal observation in education for a sustainable landscape. As we have touched on already, a very wide selection of specialisms is required to provide a complete or rounded education in landscape, ranging from environmental sciences (e.g. vegetation science; hydrology; geology; ecology, etc.), humanities (e.g. social science; history; archaeology; anthropology; economics, etc.) and arts (e.g. landscape design; architecture, etc.), not to mention the considerable volume of literature on landscape theory and newly emerging areas of research such as spectral landscapes. Multi-competency is an ambitious academic goal, but how realistic or necessary is it when ideally landscape management should be the product of multiple-stakeholder dialogue? Landscape management is about imagining and moderating change in landscapes that are already historicized and populated. Landscape training has somehow got to teach students how to draw imaginative and creative inspiration from the existing character and structure of the landscape without becoming imprisoned by the potential inertia of historical narratives or compromising on the exacting measures of sustainability as defined by the environmental sciences.

Governance

As we have already mentioned, public participation is central to the vision of landscape management outlined in the European Landscape Convention. Though countries will each have their own traditions and modalities of public participation in decision-making, education needs to prepare students for the mediatory and leadership roles that landscape practitioners can expect to play between community groups and public authorities. The sixth theme of the proceedings, therefore, concerns governance, and in particular issues surrounding basic training and continuous professional development (CPD), leadership facilitation, and outreach to community groups involved in landscape governance. The questions of how best to structure such training and at what levels, need to be debated. Is mediation and leadership training, for instance, more suited to undergraduate or postgraduate teaching, or is the best vehicle CPD training offered by the professional institutes/bodies, particularly in light of the need to up-skill existing decision-makers? Clearly the universities and teaching institutions have a role to play here and this is just one of the many challenges facing us into the future.

Acknowledgements

This ambitious conference has benefitted from significant financial support. UNISCAPE, the research team AMP LAVUE and the ENSAPLV wish to thank the French Minister of Culture and Communication, and *Mairie de la Ville de Paris*. The provision, for free, of conference venues at *Cité des Sciences et de l'Industrie, Cité de l'Architecture et du Patrimoine*, and at ENSAPLV has contributed greatly to the smooth running of the event, and we would like to take this opportunity to commend the staff and management for their contribution towards making this conference a success. The assistance and support of Wageningen University and the National University of Ireland, Galway, through their representatives on UNISCAPE, has been essential. Chongqing University has also been kind enough to help finance the communications surrounding this event. We wish also to thank the Association *Territoires* (Paris) as well as the Mayor and the *Syndicat des Producteurs de Château-Chalon (Jura)*. Emma Masiero designed the conference logo, timetable and merchandise. People from many different institutions have helped with the organisation and running of the conference, contributing also to the decisions that have helped shape its direction, themes and content. UNISCAPE, the team at AMP LAVUE and the ENSAPLV would like to thank everyone who contributed to the successful running of such a key event in the development of landscapes that really do belong to each and every one of us.
Finally, we wish to express our sincere thanks to those people without whom this publication would never have seen the light of day. We are grateful to the small army of UNISCAPE members and associates of AMP LAVUE and ENSAPLV who anonymously reviewed all of the papers. The decision to employ English as the language of the proceedings necessitated the assistance of three language editors, Dr Amy Strecker (who also co-ordinated this aspect of the work), Ms Karen Ray and Mr Antoine Libert Amico. Their contribution has been immense. Layout, type-setting and printing is the work of Mr Fabrizio Bagatti and Tipografia Bandecchi & Vivaldi (Pontedera). Above all, we wish to acknowledge the immeasurable contribution of Ms Tessa Goodman, office manager at UNISCAPE, who co-ordinated every aspect of this publication with singular dedication and professionalism.

Conor Newman, Yann Nussaume, Bas Pedroli

Abstracts of the Keynote Lectures

Constituting the Subject: Milieu, History, Evolution

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Who is the subject who is thinking through landscape? Certainly not only "I, here, now". "I" may be physically there, looking at a certain landscape and even measuring that landscape as an object, but the reasons why it exists as a landscape, not a mere environment, why I am motivated to look at it as such, and why I feel what I feel in front of it, go far beyond the definition of my individual identity. When Cézanne, thinking of Mount Sainte-Victoire, doubted that peasants had ever seen it – that is, in fact, seen it as a landscape –, and said "that a tree is green and that this green is a tree and the earth is red and that those red heaps are hills, I don't think they feel it", he was not only that individual subject whom we know as Paul Cézanne (1839-1906), but a collective one for at least two reasons: first, because he participated in a social class which could enjoy the landscape as such, whereas the peasants of his time, as he says, did not know what that was; second, because, as a member of the species Homo sapiens, he could perceive a wavelength of 700 nanometers as red, whereas the species Bos taurus (cows) does not perceive that color. What Cézanne felt in front of Sainte-Victoire was certainly subjective, but his individual subjectiveness supposed the collective subjectiveness of a certain social class, resulting from history, and still deeper, that of a certain species, resulting from evolution. This is to say that Sainte-Victoire was not a mere part of the environment (Umgebung, in Uexküll's words), out there as a timeless object; due to a certain temporality, it was part of a certain milieu (Umwelt), proper to a certain species, a certain society within that species, and a certain person within that society. Landscape, for the same reason, is a certain aspect of a certain milieu, which, for that reason, cannot be equated with the environment.

Whereas the environment has always existed, at least since life appeared on this planet, landscape as such appeared only in the IVth century AD in China, and during the Renaissance in Europe. This historical fact means, first, that landscape is historical. Its reality is not the objective reality of a physically measurable, universal and a historical object existing in itself (an sich), because it supposes the existence of a certain subject, which is at the same time de specie, social, and personal. This reality is trajective : it intertwines the objective and the subjective, and cannot be reduced to either one of these two theoretical poles. The logic of trajectivity is not really a logic, that of discrete objects related by causes; it is a lemmic, woven with reasons and motives intertwining the subject and the object, A and non-A. In that relationship, the subject's subjectiveness participates in the landscape, which supposes the subject. Contrary to what the modern classic Western paradigm established nearly four centuries ago, then, what the subject thinks cannot be reduced to a placeless, universal and abstract cogito. The subject, concretely, is thinking through the landscape[*].

To help overcoming the notion that landscape as an object can sustainably be managed using objective criteria, education in all landscape disciplines should help raising awareness for the reality and opportunities of thinking through landscape, allowing subjects – be it professionals, citizens or politicians – to participate in a sound development of landscape.

Notes:

[*] Berque, A. (2013). Thinking through landscape. Abingdon : Routledge.

Landscape Education Through Co-learning

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What is the adequate setting for learning about local landscapes? Who interprets their values and meanings? Who decides how we conserve and convert landscapes? My answer to these questions is, "we are all teachers, and we are all students." I recognized the importance of co-learning processes in discovering and nurturing the unique values of landscapes on the basis of my experience in the public works in which I played not only a role of researcher, but a role of practitioner, i.e., coordinator, advisor, mediator, or facilitator, namely, the role of one of those who are charged with the duty of resolution of environment and landscape disputes.

When I was involved in the project of building infrastructure promoted by national or regional governments, I organized many town meetings and workshops to discuss the risks of degrading habitats and ecosystems, and the possible influences on people's lifestyles and local landscape.

The philosophy that underlies my practice is as follows.

Human beings, in order to live, have no option but to place themselves within the environment and the limited natural resources that are provided by the earth, and to consume a portion of those resources. At the same time, human beings face certain threats from the earth's environment and must protect themselves against these. Access to resources and vulnerability to threats have to be considered in the concrete circumstances of each living being, and the distribution of resources and of the vulnerability to threats has to be worked out among human beings. The principle by which an appropriate distribution must be made is *practicable justice*, and the actual contents of justice must be determined according to the concrete situation of the availability of resources and the exposure to threats. However, there is an inevitability of conflicting interests arising from the different standpoints that exist, and there is constantly the possibility that these conflicting interests will give rise to disputes and conflict. Peace can only be maintained by a constant effort to deal with disagreements and dispute.

With this basic idea, I usually organize a project management team around consensus-building to solve disputes concerning dam or road construction, river repairs, city planning etc. At the start of meetings to discuss the issues (I call the meeting '*dangi*', which means democratic process for discussion on important issues), I conduct a *fieldworkshop*, in which fieldwork and workshop are fused into a continuous process. People who are participating in the process go and look around the place at stake and discuss the value and meaning of the space from their own view points. Usually people have different education and experience and, consequently, different views and interests concerning the same space in which they live their lives. Those different views can become causes of a conflict when a public work seems affect the structure and appearance of the space. In order to avoid conflict, the stakeholders should understand both the unique spatial characteristics and local people's interests.

I call the discerning process of a space '*finding homeplace*.' I mean by this word a way of looking at the space on the earth from global and local points of view. The *finding homeplace* method contains the process of understanding the locale, particularly, the element of the historical profile of the locale.

The relationship of the people to the locale has been constituted through history, so a historical profile of the local is essential. This profile should be an historical overview of the space, its ecosystem, and the lives, activities and culture of its people, along with an assessment of the impact that society is having on the present and on prospects for the future. The natural history, the history of human activity, and the interaction between them are included in this. For example, traditions regarding the management of water will be different according to the amount of rainfall in the area, and this will result in differences in the kinds of conflicts that emerge and traditional methods of dealing with the conflicts. These differences have to be taken into consideration in dealing with the region's problems.

Landscape is the appearance and expression of the historical profile of the space. Participating in co-learning processes concerning the values and meanings of landscapes is essential to finding solutions to environmental conflicts. These solutions will definitely differ according to the tradition and the culture of the place, just as much as solutions in Japanese cases may differ from European ones, as reflected e.g. in the European Landscape Convention.

Sensitive Logics: a Multicultural Approach

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A number of years ago, in 1972, a project named '*The Well / Le Puits*' led me into this enquiry.

By subterfuge, through substituting an unbearable silence for the sound expected when a large pebble falls into a well, I obliged people to quickly imagine one or more hypothesis that would allow them to confront the unconceivable.

That this is a shared reaction, I was able to check with most - if not all - of the people who, having thrown a stone into the well, had waited expectantly for the sound of its impact… and who had effectively been obliged to devise a solution no matter how implausible, even poetic, to resolve this impossibility.

A distinct reaction, equally revealing, affected a number of people to whom I put the question: are they, could they be beautiful, those water towers that crowned and dominated so many of the hilltops above the slopes leading to boroughs and villages? Despite the efforts and the skills of many architects, these works are not seen as very beautiful, and often seen as unfortunate. This observation prompted me to examine the possible reasons for these repeated failures. I then arrived at the conclusion that it was not logical in terms of our sensory perception to erect a volume of water on a height when normally that water should have flowed down into the valley.

This understanding, deeply established in our thinking, oppresses our senses and prevents any possibility of dissociating the architecture of a water tower from its improbable location and purpose, and prevents its appreciation. Water does not rise but always flows downwards.

Following this hypothesis, I concluded that this not very controllable reflex which almost everyone experiences, might be used to explain other matters. Take, for example, the manner in which the A.19 motorway crosses the River Loing, going towards Courtenay. In order to cross the river the motorway has to descend from the Plaine de la Beauce plateau whose sides - which are almost vertical at this point - must therefore become slopes suitable for car users. To avoid polluting the Loing, as required by water-course legislation, the rainwater run-off from the road has to be collected and treated before entering the river. This is why its engineers made plans for two reservoirs to be placed halfway down the slope.

In order to locate them there, they broke through the solid rockface which flanks the new slope created for the motorway. Because of their formal adequacy, each driver perceives the break and the two reservoirs as a single 'wound' which he / she separates from its context and reads as an aggressive artificial intervention. It is only by dissociating the reservoirs from the rock masses and their newly created geometric forms, and thinking carefully about their appearance, that one can begin to imagine how this device for holding water could be experienced as something more natural. To achieve that, the dismembered break becomes, on its sheer side facing the river, a rocky slope which gradually descends in a series of earthworks to the bottom of the cliff. One of the other sides - running parallel to the Loing which now follows its contour - becomes a rocky mass, a natural stop which prevents the water from flowing down to the river, thereby creating standing water, or a pond, at its base.

By making something even more '*artificial*', something a little more 'natural' is created.

Our societies are short of landscaping solutions whose meanings are 'available for' multicultural uses, in the sense of 'which may be availed of'.

The ways in which space is punctuated and the roles these punctuations may play, may be clear or ambiguous here for one or the others, there a little less or a little more, and all may stimulate the imagination: witness an experiment undertaken for the 'Jardin des Saisons' [Garden of the Seasons], with artificial trees, on behalf of the Direction Générale of Colas in Boulogne Billancourt, in the western suburbs of Paris. These invitations to interpret our space – I would repeat – may be clear for some and ambiguous for others, further they may be the reverse, and elsewhere again they may be ambiguous for us all. Hence the suggestion of 'fractions d'espace au sens indéterminé' [fractions of space with indeterminate meaning(s)], but this implies that they are located in a rigorous succession where basic sensitive logics are carefully organized and diversified with, as a consequence, the introduction of moments of disruption.

Feeling at Home in the Landscape

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With modernization, the historical connection of dependency between humankind and landscape has undergone a transformation, breaking time-tested patterns of coexistence, so that today it seems that humans and nature exist more separately than ever. Globalization is providing more and more people with easier access to an increasingly planetary civilization, providing education/cross-cultural learning, and improving quality of life/living conditions. The phenomenon of globalization has certainly had a major impact on lifestyles and thus on diversity. While mixing global and local elements can lead to the generation of new cultural and biological forms, it can also result in less desirable outcomes. Standardizing agricultural machinery, for example, leads to the loss of small mosaics of landscape and thus of landscape diversity, while the introduction of modern agriculture practices replaces diversified agricultural production leaving local varieties lost and landscapes abandoned.

This transformation in our connection with the surrounding environment is most evident in two dimensions:

a) Transformations of landscapes and life on Earth – patterns of population growth, migration, land management, resource extraction, unsustainable production and consumption, etc., have had considerable impacts on both the natural and cultural environment. Observing the changes in land-use and land cover over the centuries, it becomes apparent that people have significantly altered the face of the Earth and the function of life. Examples are de/reforestation and transformation to/from agriculture, the unregulated expansion of industrial agriculture and introduction of monocultures, industrial production, unsustainable practices in spatial and town planning, intensive forestry, transport development, increase of tourism and recreation).

b) Transformation of livelihood/lifestyles – economic, political and cultural forces of change can be either beneficial or threatening to diversity. Modernization, urbanization, globalization and mass culture; and in ratios that dominate over spiritual values; have resulted in lifestyles increasingly disconnected from the natural environment and traditional cultural values.

Three considerations are crucial to face these challenges, and allowing modern people to feel at home again in their landscapes:

1) *Dissolving fragmentation*. The current artificial division between people (culture) and environment (nature), which is used too readily as an excuse to just focus on threatened tangible values, should be transformed into co-creation. Approaching biological and cultural diversity as inseparably interrelated values requires varying interests within the same location to be addressed by joint forces. Although different competencies and designated domains of authority, different instruments, policies, tools, and legal frameworks, different understandings of diversity among responsible authorities are at stake, there are various international movements seeking to bridge these differences.

2) *Knowing the links*. There is a wealth of evidence indicating that it is exactly the links between culture and nature that make our world function. An integrated approach to culture and nature leads to collaborative treatment of biological and cultural diversity, overcoming otherwise diverging and even conflicting agendas. This will give voice to the things that connect people and landscape – language and linguistic diversity, material culture, knowledge and technology, modes of subsistence, economic relations, social relations, and belief systems[1].

3) *Feeling connected again*. A paradigm shift is needed to restore the integrity of diversity. At all levels, a more holistic and comprehensive approach is needed to jointly reverse the current trends of erosion of landscape diversity and weakening of cultural diversity. Building upon bottom-up initiatives, a global knowledge platform should link biological and cultural diversity. Exchange of local, regional, national, and international practices and experiences should form the practical basis of finding, learning, experiencing and living re-connectedness with the landscape[2].

In this sense, presenting students (sensu lato!) a whole world for inspiration instead of, primarily, its fragments is a crucial educational duty. Landscape is the perfect playground for this!

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* Currently seconded to UNESCO Liaison Office, New York - to support UNESCO and CBD in advancing the implementation of the Joint UNESCO-SCBD Programme on the Links between Biological and Cultural Diversity

Notes:

[1] Twenty-third session of the Governing Council / Global Ministerial Environment Forum Nairobi, 21–25 February 2005: Assessment, monitoring and early warning: state of the environment. Contribution of the United Nations Environment Programme to the forthcoming session of the Commission on Sustainable Development

[2] See e.g. the Joint UNESCO – SCBD Programme on Links between Biological and Cultural Diversity.

Designed Ecologies: Toward a New Landscape Infrastructure and Aesthetics

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Through centuries of landscape change, dominated by industrial civilization, humankind has totally messed up the Earth-Eden created by the God of Nature and even chased away the God. Fortunately, along with the suffering we have in fact gained by our naïve, rebellious and arrogant behavior, we have been taught lessons and have gained knowledge through countless failures and even disasters. Time has come for man to assume the role of God of Nature himself, to clean up the mess and regain the Paradise we have lost by designing in a way that helps the complex ecosystem of the earth to heal itself and return to a healthy and sustainable state. Landscape architects, more than any other professionals, will have to take responsibility in this process, to meet this grand challenge of pursuing God's will to reclaim Good Earth, overseeing the evolution of Designed Ecologies. To meet this great challenge and opportunity, landscape architecture as a profession needs to embrace two strategies:

(1) to consider and be able to plan, design and manage landscape as an alternative infrastructure: an ecological and living infrastructure as opposed to the grey infrastructure that dominates today's urbanism; to provide multiple ecosystem services for a sustainable rural and urban earth. This ecological landscape infrastructure is a holistic integration of crucial landscape elements (and ecosystems) to safeguard the critical natural, biological and cultural processes in the functioning of landscape.

(2) to define a new aesthetics for urban life, fundamentally based on sustainable practice. I call this new aesthetics "big feet aesthetics": an appreciation of landscape as an authentic, high performance, high productivity, and low maintenance environment.

It is for this understanding of the science and art of landscape architecture as Designed Ecologies, and it is for these two strategies (and professional capacities), that landscape architecture education must be reformed and restructured to nurture new values and to create a new generation of landscape architects capable of designing of ecologies at all scales, from the global to the living room. To this end, we need to expand both science and imagination in design education.

This educational restructuring of landscape architecture must include the following aspects:

1. Re-define the history of professional landscape architecture. Today, textbooks about the history of landscape architecture are dominated by gardening as a noble art and the cosmetics of ornamental horticulture. Our history should return to the original meaning of *Paysage* as the peasant's land. Landscape architecture is, therefore, the art of survival: The leveling of the terrain for agriculture, the diverting of water for irrigation, the growing of crops for nourishment, and the celebration of harvests and successes of the métier. These still are the basis for the profession of landscape architecture.
2. A renewed and deep understanding of ecology across scales: global ecology, regional ecology, landscape ecology, urban ecology, etc. It will be necessary for students to study and learn from the past failures of human interventions in landscape in order to fully understand current urban problems.
3. Return to a farmers' land ethic, by re-discovering the farmers' approach and wisdom to working with the land as an art of survival. Specifically, to observe land stewardship, to invest labor and energy only if it is productive, and to change practices only when there is a sustainable benefit for future generations. In other words, minimize intervention and maximize value.
4. Align landscape architecture with, or re-integrate it into, civil engineering. This trans-disciplinary alignment will empower landscape architects to change aging and static urban infrastructure into green infrastructure, and establish a history of landscape architecture beyond the profession of gardening and/or ornamental horticulture.
5. Finally, develop new aesthetics that celebrate ecology and productivity, and make reclaimed or "messy" landscapes into accessible and enjoyable experiences for all people.

LANDSCAPE & IMAGINATION

Towards a new baseline for education in a changing world

Conference, Paris 2 - 4 May 2013

Epistemology

R. Petani, *One week day, they are coming back to the city,* Third Edition People's Landscapes, UNISCAPE.

An "Up-Lift Approach" for Landscape Planning

Social Sustainability Analysis of Urban Parks

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Abstract: With the "Up-Lift Approach" (ULA), we look at those landscape planning issues or policies that are most in need of attention. For example, if a city has much less area of urban parks per each citizen, the city is recommended to catch up with other cities by providing more urban parks. The application of ULA is illustrated by analyzing and comparing per capita area of, and public accessibility to, urban parks in three Korean cities. Our analyses show that the three cities provide just about the minimum or far less urban park areas than required by the law. Three kinds of urban parks (children's park, close-by neighborhood park, and walkable neighborhood park, all which need to be within walking distance) in the three cities are not fairly distributed and many citizens do not have good access to them. ULA suggests that the cities provide more urban parks, first in the park-deprived neighborhoods. The ULA concept will encourage new research, education, and administration practices. ULA is also applicable to other local/global environmental issues such as energy use and carbon footprint per capita, or medical services per capita. ULA will help 'up-lift' the quality of life, especially of the most disadvantaged people, and thus help not only environmental but also social sustainability.

Keywords: urban parks, accessibility, area per person, cities with less park areas, up-lift approach (ULA).

"… the only adequate conceptual framework for understanding the city is one which encompasses and builds upon both the sociological and the geographical imaginations." – David Harvey, 1973

1. Introduction

For many people green space is taken for granted, even in urban areas. For others, urban greens are simply out of reach or something beyond the fence through which they get a glimpse from time to time. In modern cities, urban parks and greens are "basic needs" which contribute to physical and mental health, of utmost aesthetic, and recreational value (Farr 2008). However, we find that urban parks are far from fairly and evenly distributed and accessible to the community members (Ahn et al 1991, Oh 2007). We illustrate this uneven and unfair distribution of urban parks for a few Korean cities and argue, for the sake of social sustainability, that we should focus on supplying greens and urban parks in parts of the city with the least urban park areas, or in cities (of a country, or of the world) with the least urban parks. In order to achieve this, we propose the "Up-Lift Approach (ULA)." ULA calls for giving priority, and allocating a budget first to the most disadvantaged areas of the city, to the cities most in-need in any given country.

1.1 Environmental, Economic, and Social Sustainabilities

Sustainability is a comprehensive concept and encompasses environmental, economic, and social sustainabilities (Pezzoli 1997, Thompson et al. 2008).

Distribution and accessibility of urban parks must be an important social dimension of sustainability. This is because it will seriously affect the wellbeing of the people. ULA will help improve sustainability by reducing the gap between those at the forefront and those far behind.

Fig. 1. One of the highly affluent societies with beautiful green areas in the world. The same society suffers from extreme social inequality.

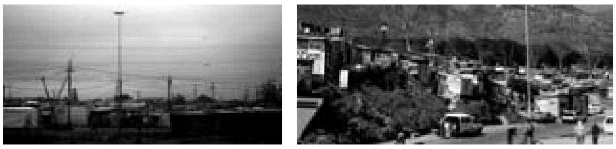

Fig. 2. Not far from the affluent part of the city above, these shanty towns lack the supply of basic needs including urban parks.

1.2 From Gardens to the Earth

If you have long enough arms you can hug your family, embrace your neighbors, reach your tribesman, and hold hands with any of the global village members. Our colonization of the earth's surface has been ever expanding from scattered homes with gardens, to cities and city regions, to abutting nations, and to much of the face of the globe. Consequently, landscape architects' prevailing roles have shifted from gardening and site planning, to the designing of urban parks and open space, to the stewardship of national and global landscapes. Examples of these enlarging scopes are: works of Le Notre, Ebenezer Howard, Geoffrey Jellicoe, Ian McHarg, and more recently, the European Landscape Convention (ELC), and the International Landscape Convention (ILC) (currently being promoted by IFLA). John Hilary from "War on Want" of U.K. proposes in his essay entitled "Now, a real chance to tackle global poverty" (Ransom 2011), a global scale war against poverty, and planning for global environmental sustainability and common management and use of natural resources. This clearly implies that not only economies across the whole world are interconnected with each other, but also that the already globalized economy is unavoidably linked to global sustainability. This idea should not be new to any reader of this paper. However, most of us have simply neglected or forgotten this idea in our teaching, research, or practice.

2. "Up-Lift Approach"

2.1 "Up-Lift Approach" (ULA) Defined

We can imagine a race between different groups of people where the most recent member of each group decides which group wins. The group whose most recent member arrives at the finishing line first gets the gold medal. ULA tries to help the most recent member of the racing group to catch up with other members so that the whole group successfully completes the race and wins. In any policy area, ULA pays attention to the poorest performance and tries to improve it by directing the policy priority, efforts, and resources to the sector.

2.2 ULA: Why and Where

Wherever applicable, ULA will enhance social equality by improving the poorest conditions of that society. Quoting research carried out by social scientists, Layard argues that social inequality harms our happiness in general (Layard 2011). Wilkinson and Pickett (2011) triggered hot debates on whether equality is better for everyone, in poorer societies and in developed countries, and argues that reducing inequality could also make a major contribution to environmental sustainability. ULA, at any level, from the neighborhood to the whole global village, will help reduce inequality, and thus, increase happiness of the constituents. ULA may well be applicable to medical services, library facilities, sports facilities, bikeways, childcare, housing, public transport, and so on, provided in a community or a city. As a measurable indicator for any public service or goods, ULA may serve to up-lift the most lagging behind sectors of a community and thus increase the sum of happiness of its members.

3. "Up-Lift Approach" for Landscape Planning

If we went on a pilgrimage of landscape projects, the holy shrines would be, from the top, world famous, nation famous, or city famous parks and/or gardens. For example, in Seoul city, the list could include the royal gardens, the 1986 Asian Games Sports Park, the 1988 Seoul Summer Olympic Games Park, the 2002 World Cup Park, Seoul Forest Park, Chunggyecheon Stream Park and many other landmark projects. Just as we are attracted to larger rare mammals in the jungles when we think of biodiversity and conservation, we are attracted to larger fancy parks and so on.

"For his different purposes man needs many different structures, both small ones and large ones … Today, we suffer from an almost universal idolatry of gigantism. It is therefore necessary to insist on the virtues of smallness – where this applies." (Schumacher 1973 p.54)

3.1 "Urban Parks Act" of Korea

Many Korean cities provide far below the minimum standards of park area per capita.

There are 83 cities in South Korea. To put it simply, cities are developed areas of housing with 50,000 or more people. The biggest is Seoul and its population is over 10 million. Compared to many larger cities in the world, Seoul city provides much less urban park area per person (Table 1).

Table 1. Urban park area per person of selected cities

Urban Park Area per Person (m^2, 2010)				
Seoul (Korea)	Paris (France)	London (U. K.)	New York City (U. S.)	Tokyo (Japan)
6.1	11.6	26.9	18.6	4.4
** Source: Ministry of National Land and Marine Affairs, Korea*				

Under the "Urban Parks Act" of Korea, these 83 cities should provide a minimum of 6m^2 of urban parks per citizen. Major types of urban parks are home range parks, and thematic parks (Table 2).

Table 2. Types of Urban Parks and Catchments

Types of Urban Parks			Catchments
Home range parks	Mini Park		not applicable (n.a.)
	Children's Park		**250m or less**
	Neighbor-hood Parks (NP)	**Close-by NP**	**500m or less**
		Walkable NP	**1000m or less**
		Regional-NP	n.a.
		Metropolitan-NP	n.a.
Thematic Parks	Historic Park		n.a.
	Cultural Park		n.a.
	Waterfront Park		n.a.
	Cemetery		n.a.
	Sports Complex		n.a.
	Others		n.a.

** Three types of urban parks in bold faces, which have catchment distances, are analyzed in terms of accessibility for three selected Korean cities*

3.2 ULA for per Capita Area of Urban Parks

Investigation of the statistics of all 83 Korean cities in relation to population and area of urban parks, revealed that 10 cities provided less than 3m^2 of urban parks per person. Areas that have been designated and planned to be urban parks by urban planning but not yet completed for use have been excluded in the analyses because they do not yet qualify as urban parks. Seoul metropolitan area and its surrounding province are most densely populated and thus many cities there do not provide enough urban parks (Fig. 3).

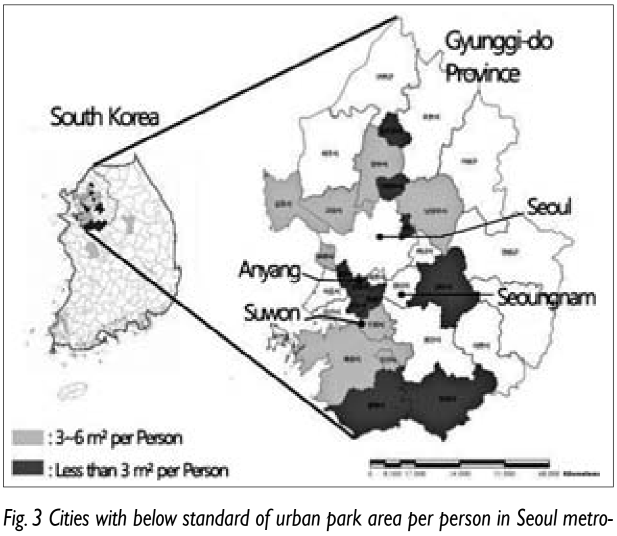

Fig. 3 Cities with below standard of urban park area per person in Seoul metropolitan area, Korea

Among them, three cities, Anyang City, Seoungnam City and Suwon city, are selected for our illustrative analyses.

3.3 ULA for Accessibility to Urban Parks

Ideally, each household should have good access to the three types of urban parks; children's parks, close-by parks, and walkable neighborhood parks, all of which need to be within walking distance of residences (Table 2). Good access means having these urban parks within the catchment distance, 250m, 500m, and 1000m respectively, without any major barriers between the parks and our homes. In order to illustrate application of ULA to the accessibility of these urban parks, we applied GIS buffering techniques to the three selected cities (Fig. 4). We indicated the three types of urban parks and their catchment areas, and then calculated residential areas outside of those catchments.

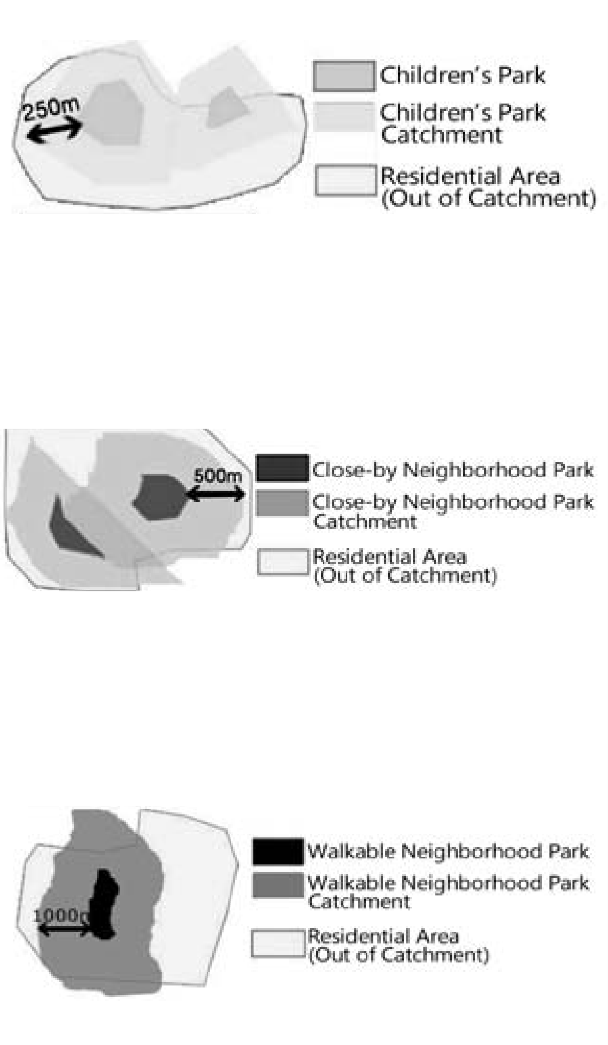
250m
Children's Park
Children's Park Catchment
Residential Area (Out of Catchment)
500m
Close-by Neighborhood Park
Close-by Neighborhood Park Catchment
Residential Area (Out of Catchment)
1000m
Walkable Neighborhood Park
Walkable Neighborhood Park Catchment
Residential Area (Out of Catchment)

Fig. 4 Locating catchment area for each type of urban parks (not to scale).

Table 3. Area of urban park catchments (km2) (percentage of residential area)

Cities	Anyang	Seoungnam	Suwon
Area	58.5	141.70	121.01
Residential Area	14.42	17.89	35.66
Urban Park Area per Person (m^2)	$2.0m^2$	$7.42m^2$	$4.5m^2$
Children's Park catchment	7.70 *1 (53.40%) *2	5.89 (32.92%)	4.47 (12.54%)
Close-by Neighborhood Park catchment	2.09 (14.49%)	2.14 (11.96%)	29.59 (82.98%)
Walkable Neighborhood Park catchment	3.30 (22.88%)	6.72 (38.68%)	14.83 (41.59%)
Total	9.08*3 (62.97%) *4	9.57 (53.49%)	30.06 (84.30%)

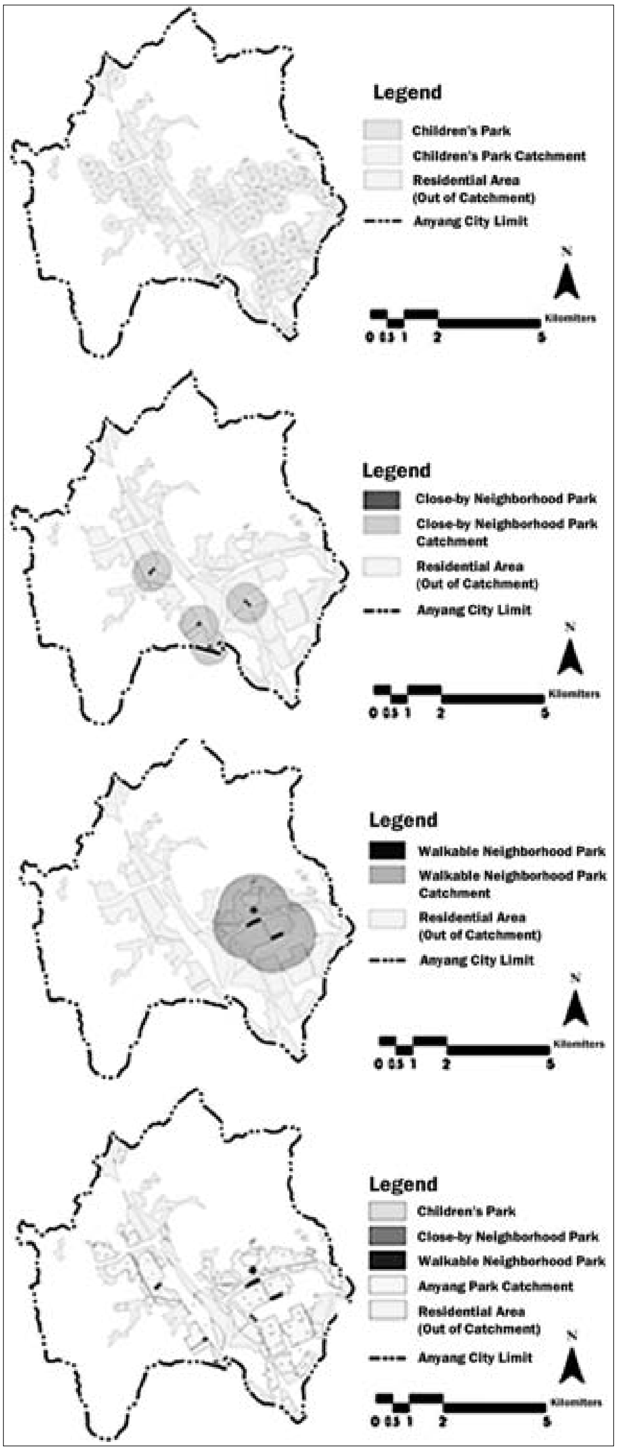
Legend
Children's Park
Children's Park Catchment
Residential Area (Out of Catchment)
Anyang City Limit
N
Kilometers
0 0.5 1 2 5
Legend
Close-by Neighborhood Park
Close-by Neighborhood Park Catchment
Residential Area (Out of Catchment)
Anyang City Limit
N
Kilometers
0 0.5 1 2 5
Legend
Walkable Neighborhood Park
Walkable Neighborhood Park Catchment
Residential Area (Out of Catchment)
Anyang City Limit
N
Kilometers
0 0.5 1 2 5
Legend
Children's Park
Close-by Neighborhood Park
Walkable Neighborhood Park
Anyang Park Catchment
Residential Area (Out of Catchment)
Anyang City Limit
N
Kilometers
0 0.5 1 2 5

Fig. 5 Anyang City

**1 Catchment areas of each type of parks in each city.*
**2 Above area as the percentage of residential area of each city.*
**3 Sum of residential area inside any one of the catchments.*
**4 Above area as the percentage of residential area of each city.*
Note: Areas do not add up to the total because overlapping areas have been counted only once.

In Seoungnam city, though it provides $7.42m^2$ per person of urban parks and meets the legal requirement, a total of 46.51% (100% - 53.49%) of residential areas are out of service (or outside the catchment distance from children's park, or close-by neighborhood park, or walkable neighborhood park).

In other words, Seoungnam city has a poorer distribution and only

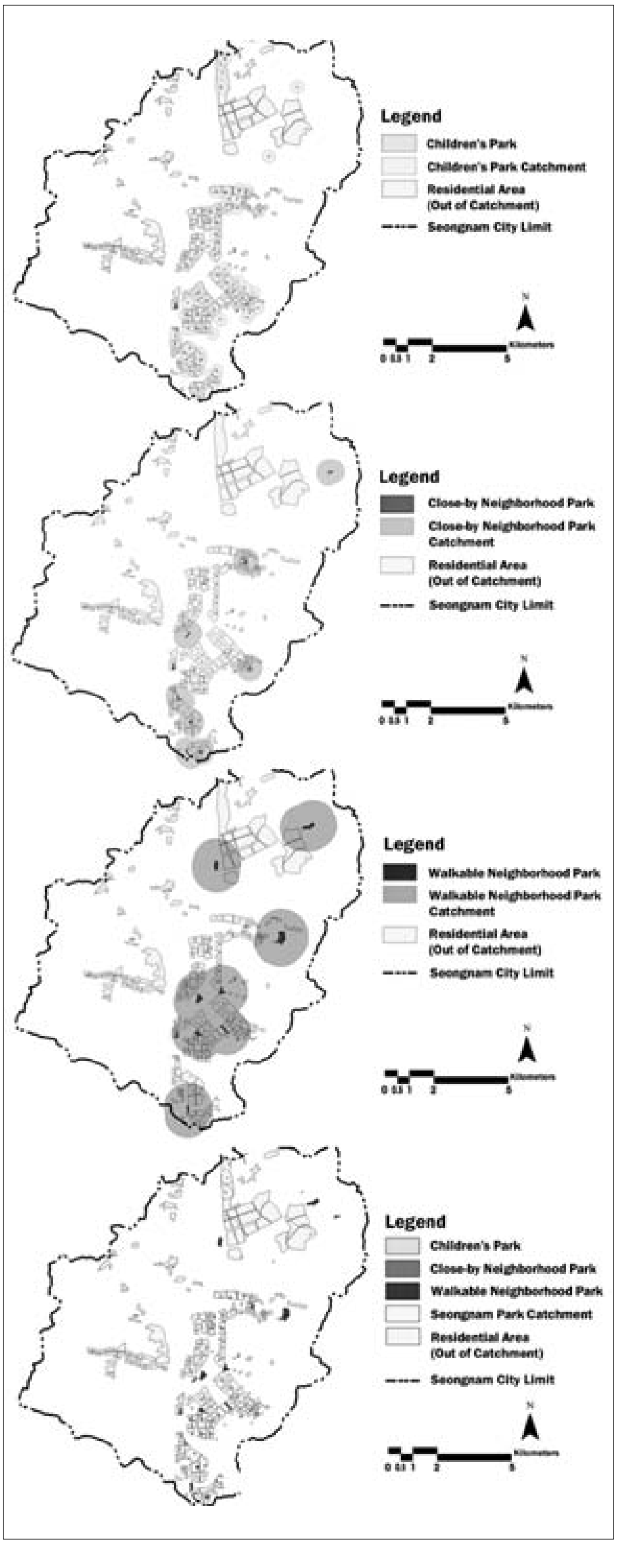
Legend
Children's Park
Children's Park Catchment
Residential Area (Out of Catchment)
Seongnam City Limit
Close-by Neighborhood Park
Close-by Neighborhood Park Catchment
Walkable Neighborhood Park
Walkable Neighborhood Park Catchment
Seongnam Park Catchment
N
Kilometers
0 0.5 1 2 5

Fig. 6 Seoungnam City

53.49% of residential areas are in catchments of these three types of urban parks (Fig. 6 and Table 3). Among the three selected cities, Anyang city provides the least area of urban parks, 2.0m^2 per person or less than one third of Seoungnam City. But Anyang city has better distribution and 62.97% (compared to 53.49% of Seoungnam city) of residential areas are within catchments of either one of these three types of urban parks (Fig. 5 and Table 3).

ULA urges Seoungnam city, among the 3 selected cities out of 83 Korean cities, to give priority to creating more urban parks in the park-deprived residential areas. Both Suwon city & Anyang city, though they are better than Seoungnam city, are also urged to do the same following the concept of ULA.

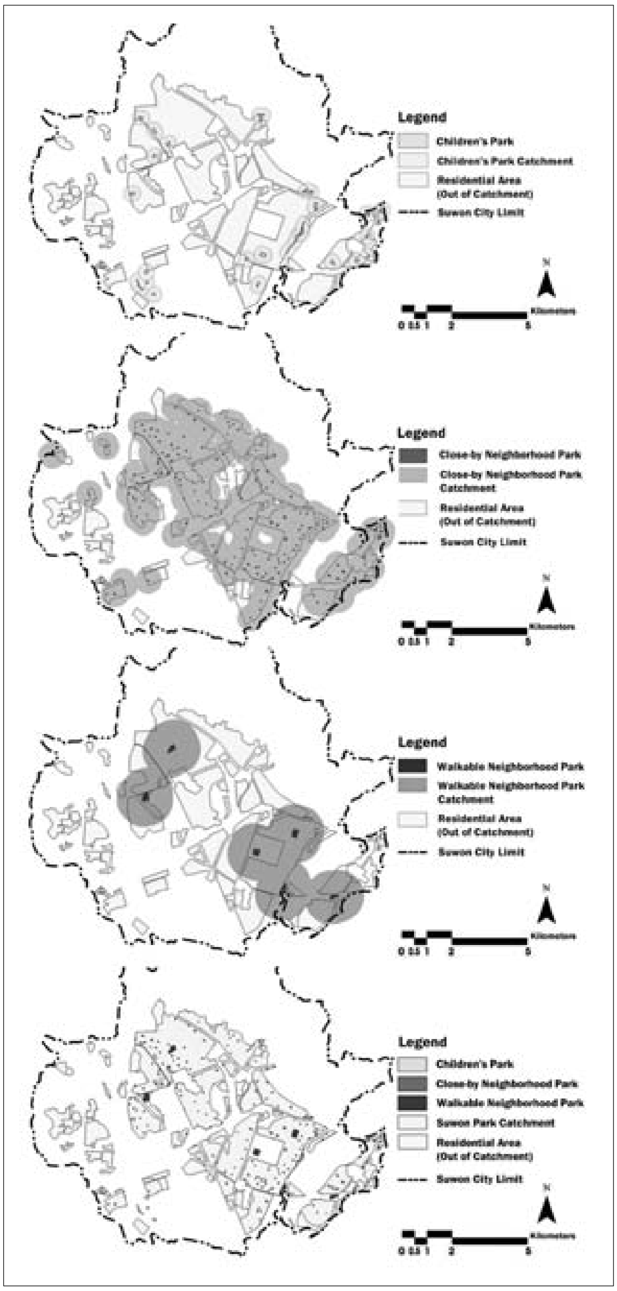
Legend
Children's Park
Children's Park Catchment
Residential Area (Out of Catchment)
Suwon City Limit
Close-by Neighborhood Park
Close-by Neighborhood Park Catchment
Walkable Neighborhood Park
Walkable Neighborhood Park Catchment
Suwon Park Catchment
N
Kilometers
0 0.5 1 2 5

Fig. 7 Suwon City

3.4 ULA and policy prescriptions

We illustrated ULA with only three selected cities in Korea. Further extended analyses of urban park area per capita for all 83 Korean cities clearly show which cities lack urban parks the most and which are below legal requirement, though complete details are not reported here. This way, ULA enables the decision-makers of the most park-deprived cities to estimate the required addition of park areas and the necessary budget to improve the situation, or at the least, to improve the next park-deprived city in this country.

Most Korean cities depend very much on the central government for their annual budgets. Now, the most park-deprived cities can ask the central government for additional funding based on this ULA analysis and the central government should consider this.

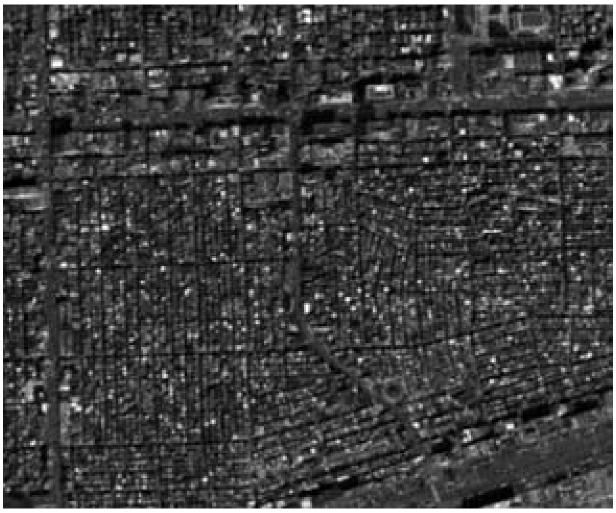

Fig. 8 City area where "Up-Lift Approach" urges the provision of urban parks first.

Next, within a city or between cities, with ULA we illustrated urban residential areas where they do not have nearby parks within walking distance catchments. The results show clearly that every city, especially the more park-deprived cities, should provide urban parks first and foremost in such neighborhoods as shown in Fig. 8.

3.5 ULA at global level
Urban parks are physical elements of our daily living and their fair distribution and accessibility are important dimensions of social sustainability. At the various levels, whether parts of a city, cities of a nation, or all the cities of the world, ULA needs to be considered and applied for the improvement of global sustainability. In the same manner as ULA helps to make a society happier, at the international level ULA will encourage the more deprived cities to catch up and help the world become more livable and happier. In order to make ULA widely applicable, we need to spread the idea, and define urban parks from one city to another. We can apply ULA to the fair provision of, for example, bikeways, outdoor sports grounds, green roofs, permeable paving, rain gardens, and other landscape items. The same ULA can be applied to policy issues other than landscape architecture.
If you are not content with the average and you are interested in up-lifting the most disadvantaged and suffering, ULA, from local to global level, will give you an excellent tool to improve the inequality. Other areas of ULA application can be economic sustainability, social sustainability, and environmental sustainability, wherever a measurable and cross comparable index is available.

4. Implications

4.1 Implications for education
First, landscape students need to be taught that urban parks and green spaces accessible to every citizen are basic needs of modern urban dwellers, and that, like any other basic needs, urban parks should be fairly provided across any level of the community for the sake of green justice and social sustainability.
Second, landscape students need to be educated to extend their imagination far beyond the political boundaries and conceive landscape issues at the multinational and global levels.
Third, teachers may guide students to pick more international projects which will shed light on disadvantaged people or an area that needs up-lifting for green justice.
Fourth, landscape students should be equipped with the versatile techniques to compile necessary data and analyze gaps in area, accessibility, and other aspects of urban parks and greens.

4.2 Implications for research
First, graduate landscape students should be encouraged to do more research on trans-boundary, and overseas landscape issues.
Second, we propose a "Global Green Justice Network" through which any landscape students, teachers, and practitioners in any part of the world can join and share information and do research not on making fancy landmark parks but on making urban parks accessible to the most disadvantaged citizens, which is not benchmarking the famous parks, but looking at the most park-deprived communities thus constituting the Up-Lift Approach.

5. Conclusion

While we, as landscape professionals, often aspire for landmark projects and tend to teach landscape students to do so by introducing them to the most memorable landscape projects in history, we usually forget the extreme inequality in the provision of urban parks and accessibility to them. In most contemporary grey cities, urban parks constitute an important basic need as part of social sustainability.

The Up-Lift Approach (ULA) was proposed and illustrated by its application to three Korean cities. ULA is an approach for analyzing the most disadvantaged parts of a society, where far more urban parks should be provided within reach of walking distance. Up-lifting these poor conditions by paying the utmost attention to these areas and making them a policy priority, ULA is envisaged to reduce inequality and increase happiness wherever it is implemented.

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The Meaning of the Being of Water in the Landscape

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Abstract: Landscape is the being of entities, not an aggregate of entities. To design a landscape is to explicate the meaning of this being, to make present the intrinsic beauty of this being, and finally, to realize liberties by our own authentic imaginations. The concept of landscape and that of design should be set free from restrictions imposed by the modern mechanistic view of nature, in this world of globalization and virtualization based on advanced information technologies. On water, which is the source of life and a primordial element of landscapes, I have presented my idea of *Libertas Aquis* (a new challenge to explicate the meaning of the being of water) to redefine landscape as a cultural strategy for preservation and development. Some examples on sustainable development, academic and practical, will be presented to attest this idea.

Keywords: Propositio Ontologia, *Libertas Aquis*, epistemology, move beyond modernity, preservation and development

1. Landscape

1.1 Landscape and design

Landscape is the being of entities, not an aggregate of entities. We concern ourselves through our bodies being there. Consequently, to design a landscape is to explicate the meaning of this being, to make present the intrinsic beauty of this being, and finally, to realize liberties. The problems of landscape and of design rest on misunderstanding this structure.

1.2 Modernization and landscape

Based on the combination of a metaphysical mindset and a material view of nature, as represented by Platonism, the loss of humanity and the destruction of the environment are possible negative consequences of modernization engendered by a mechanistic view of nature. The loss of humanity could easily pose mental and moral hazards for individuals and society, while the destruction of the environment has now escalated to a level at which it is manifesting its repercussions on a global scale. Similarly, the objectification of landscape by the mechanistic view of nature could easily reduce the primordial meaning of landscape, which is where we confront ourselves and which could move us beyond modernity.

1.3 Authentic landscape

It is not a coincidence that we have recognized the concept of landscape in this Modern Age of loss of humanity and the destruction of the environment. Authentic landscape as a being has the potential to control a variety of emerging complex occurrences and to realize a creative and affluent society. Nevertheless, in the inauthentic and objectified landscape generated by the mechanistic view of nature, we are losing sight of the authentic and the landscape is toyed with by the changing trends of the world. It means the choice between a diverse and affluent society and a homogeneous and poor society. A diversity of languages and cultures guarantees the unity of the authentic landscape. Furthermore, globalization and virtualization based on advanced information technologies have the same effect.

1.4 Sustainable development and landscape

Sustainable development, as defined by the United Nations - to meet the needs of the present without compromising the ability of future generations to meet their own needs –does not contradict an authentic landscape. In the middle and long terms, the pursuit of a superior landscape is in accordance with the economic and social needs of society. In the short term, we often encounter several tasks to be completed, and this presents a challenge to test our imaginations and creativity in practice. With them we can face such tasks, finding our new potentials.

1.5 Propositio Ontologia

Scilicet, I understand the context of landscape as a *Propositio Ontologia*, from the viewpoint of epistemology, the theory of knowledge. In this treatise, landscape as being will mainly be discussed. As for ourselves as ontological entities concerned with landscape and what would conclusively decide the meaning and sense of landscape (*sub specie aeternitatis*), that discussion will be left for another occasion. In addition, the meaning of Japanese culture in relation to landscape and water, which is significant in the move beyond modernity, will be dealt with elsewhere.

2. Water

2.1 Water and landscape

Water is the source of life and a primordial element of landscapes. Water in the landscape differs from a landscape of water, inasmuch as water has an ontological nature *sui generis*. Objectified water, like an objectified landscape, cannot solve the problems of the world water crisis caused by the objectification of water. Herein lies the main reason why conventional cultural strategies, discussed for many years, could not solve our water problems. In addition, herein lies the reason why we should continue to ask about the meaning of the being of water. The potentials of an authentic landscape and of authentic water, each of which has an intrinsic nature, could be integrated together and could have further potential to change the world.

2.2 World water crisis

The water crisis is mainly discussed in its negative aspects, in terms of preventing disaster, pollution, and shortages, which are also the results of modernization. A positive aspect of water in this respect is that it could force society to change its paradigm of thinking. In the world water crisis, the positive meaning of water plays a very important role, not only aesthetically but also economically and politically. I presented my cultural strategy for water, named 'Project Hydroscape' (the positive meaning of water against the world water crisis), at the UNESCO session of the 3rd World Water Forum in Kyoto, Japan (2003).

2.3 Water resources

In the world water crisis, the pollution caused by industrialization and disasters caused by urbanization are challenges that should be met by the nation or nations responsible. The shortage of water pertaining to water resources implies something else. It is an unassailable truth that water is a precious resource as the source of life for all human beings. From this presupposition, we can deduce two opposite propositions: (1) precisely for this reason, it must be made the most of, in the national interest of sovereign nations, and, (2) also precisely for this reason, it should be redistributed among all human beings. This is quite a difficult problem to solve, and only the explication of the meanings of the being of water may be able to solve it. This discussion is not limited to water resources, however, but pertains to all precious resources.

2.4 Libertas Aquis

Scilicet, I understand the context of water, the *sine qua none* essence of life, as *Libertas Aquis* (a new challenge to explicate the meaning of the being of water), from the perspective of epistemology, an addition to 'Project Hydroscape' on landscape. It is this concept that might be able to answer the questions not only of landscape but also of technology and art, life and beauty, *et cetera*.

3. Schema

3.1 Diversity and unity

The diversity of reality coexists with the unity of theory. The objectified objects of inauthentic landscape and water cannot coexist with each other, and if you dare to homogenize them, the characteristics of each, which is the meaning and sense of landscape and water, would be reduced or lost. Problems of diversity in the landscape, including the diversity of languages, rest on this. Nevertheless, the diversity of the landscape of my world guarantees the unity of an authentic landscape and water.

3.2 Objectification of modernization

Objectification in time and space not only makes everything specialized and divided but separates philosophy, science, and technology, which should constitute a unified edifice. It is entirely possible that objectified science and technology, which are not based on philosophy, could easily cause the loss of humanity and the destruction of the environment.

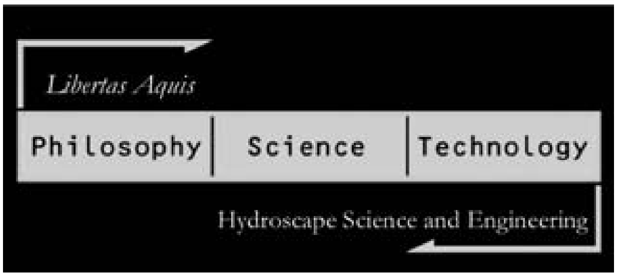


Fig. 1 Schema on Landscape and Water

3.3 Scientiae Aedificium

My concept of landscape and water as being covers a very wide range of fields, from philosophy to science and technology, as well as both theory and practice. In relation to other scientific fields, it includes physical sciences and social sciences. The approach from philosophy is via the foregoing *Libertas Aquis*, that from science is Hydroscape Science, and that from technology is Hydroscape Engineering is shown in *Fig. 1*.

3.4 Theory and practice

To demonstrate my concept, I carried out several full-scale physical and social experiments, shown in the next two sections. This demonstration is done to ensure that the theory has a real-world application and is not just an abstract plan. Furthermore, the theory *ipso* includes the demonstration *per se*.

4. Design

4.1 Scientific approach

The potential of science exceeds its empirical terminus in an authentic landscape because the diversity of reality coexists with the unity of theory. The expression of water cannot be scaled down physically like other elements, because the Reynolds, Weber, and Froude similarity cannot stand together at the same time. Herein lies the importance of my full-scale physical experiments on water.

4.2 The texture of water

The texture of water has its own variety of shapes. Combining water structure and this texture in a good design will only be possible with the establishment of a hydraulics-derived estimation methodology. There have been many famous studies on mechanical stress (Chen and Davis 1964; Hagerty and Shea 1955; York, Stubbs and Tek 1953; Schlichting 1968), but almost no studies on the texture and shape of water in three dimensions except our works.

4.3 Full-scale physical experiments on water

Several types of full-scale experiments on falling and flowing water were carried out to accumulate basic data. *Fig. 2* and *Fig. 3* show examples of the results. The texture of falling water was classified into three categories for both free-falling and slope-falling types, according to an increase in Reynolds number: (1) stability of free surface, (2) transition, and (3) whole turbulence (*Fig.* 2). In the first category, the stability of the free surface was related to the growth of minute disturbances. Surface tension works as a counter force to the disturbances in free-falling water, and gravity in slope-falling water. The shape and texture of flowing water were classified into a further three categories according to the patterns of artificial roughness and Froude number: (1) repetition of a piece, (2) linear divided pattern, and (3) undivided complex pattern (*Fig. 3*). The principal hydraulics factors that determine the shape and texture are hydraulic jump, the mutual interference of wakes, and the volume balance of flowing water.

5. Proposition

5.1 Practical approach

Propositions can change the world. Even from an etymological approach, the tasks on landscape and water are not abstract but the

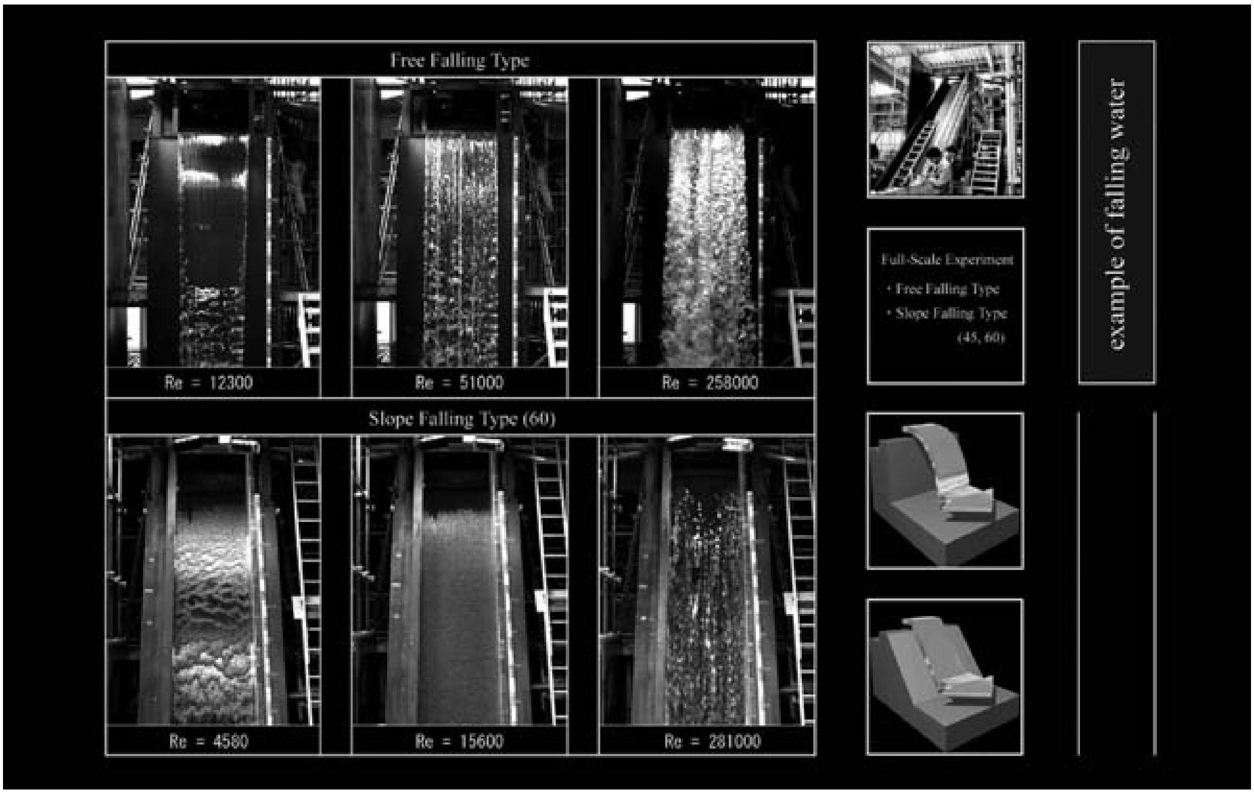

Free Falling Type
Re = 12300
Re = 51000
Re = 258000
Slope Falling Type (60)
Re = 4580
Re = 15600
Re = 281000
Full-Scale Experiment
• Free Falling Type
• Slope Falling Type
(45, 60)
example of falling water

Fig. 2 Full-Scale Physical Experiments on Water: The Texture of Falling Water

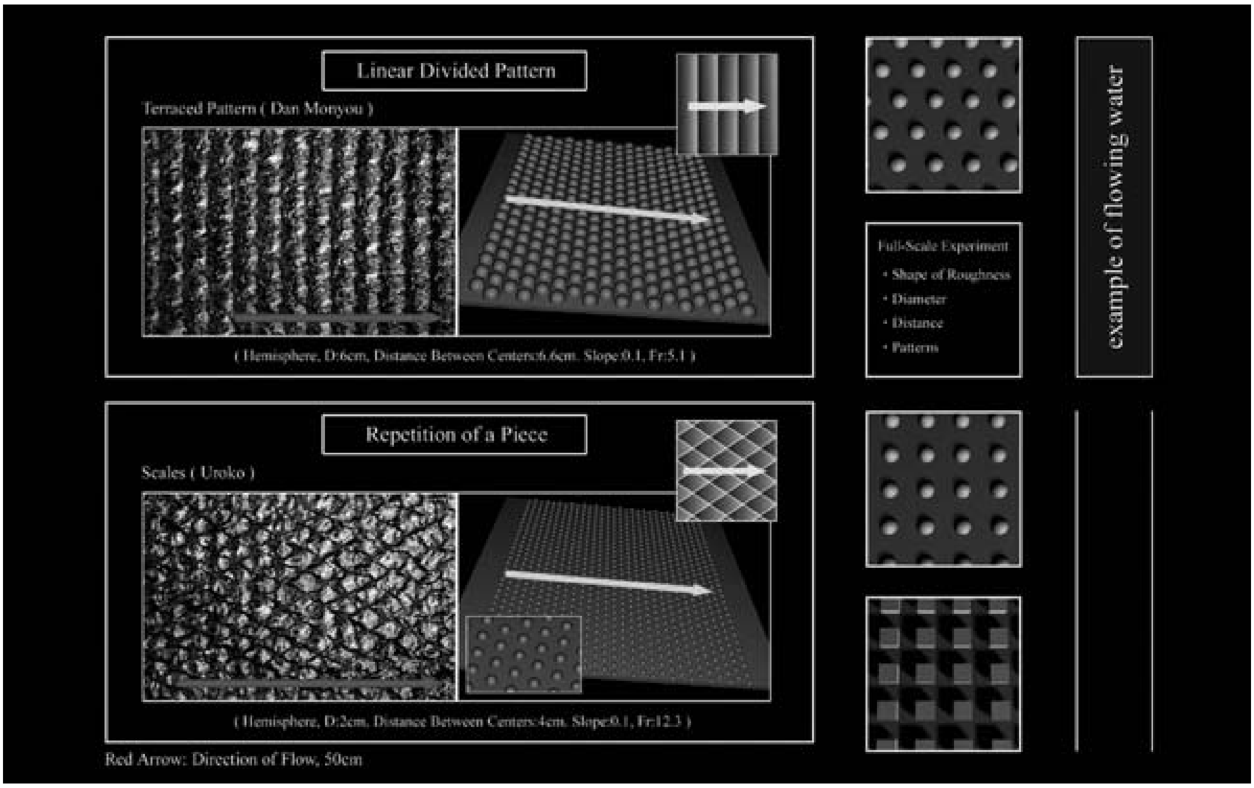

Linear Divided Pattern
Terraced Pattern (Dan Monyou)
(Hemisphere, D:6cm, Distance Between Centers:6.6cm, Slope:0.1, Fr:5.1)
Repetition of a Piece
Scales (Uroko)
(Hemisphere, D:2cm, Distance Between Centers:4cm, Slope:0.1, Fr:12.3)
Red Arrow: Direction of Flow, 50cm
Full-Scale Experiment
• Shape of Roughness
• Diameter
• Distance
• Patterns
example of flowing water

Fig. 3 Full-Scale Physical Experiments on Water: The Texture and Shape of Flowing Water

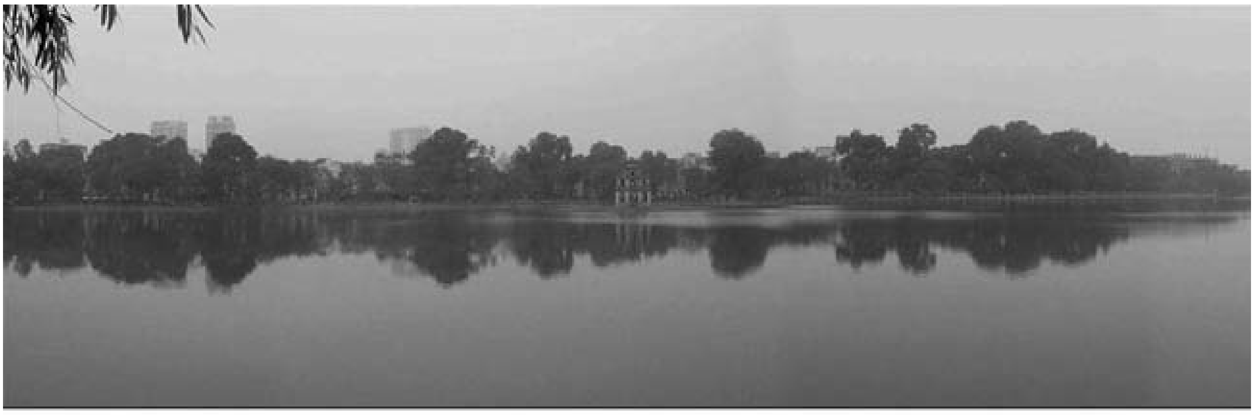
most concrete that there are. Objectified landscapes cannot solve the problems of landscape caused by the objectifications of modernization.

5.2 Preservation and development

Infrastructure-related activities on landscape can be considered as indicative of a complex relationship between preservation and development. Preservation concerns history, tradition, culture, and other attributes based on the climate and topography of a particular place. Development must be done to realize the future potentiality based on historicity.

5.3 Today's practical landscape challenges

5.3.1 Full-scale social experiment on space



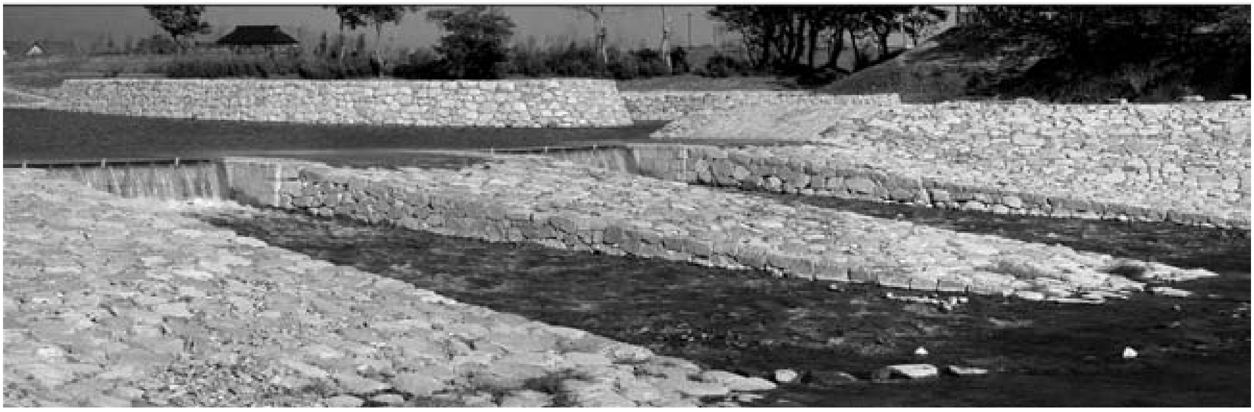


Fig. 4 (above) Full-Scale Social Experiment on Space: Landscape Master Plan for Hanoi Capital City (Hoan Kiem Lake).
Fig. 5 (under) Full-Scale Social Experiment on Time: Ohide River Weir (Kase River, Saga, Japan).

Fig. 4 shows a location-centric practice, The Hanoi Project. I have been asked to plan a Landscape Master Plan for Hanoi City (2004–2006), the capital of the Socialist Republic of Vietnam, where many cultural layers pertaining to the modern, French, Chinese, native and other cultures are evident. Furthermore, in Hanoi, typical development-related sociocultural features (both good and bad) can be found together. I believe that Hanoi has the potential to become the most beautiful cultural capital city of Asia and water has a very important role to play in this transformation.

The participation of citizens with regard to the preservation of cultural heritage is easy to envisage but very difficult to implement, particularly in developing countries. In addition to an ordinary household interview survey (sample size of 20,000), I have prepared a public image mapping survey in order to sketch their images of Hanoi on paper. In the hundreds of image sketches of Hanoi provided by its residents, they reveal their actual aspirations and desires.

5.3.2 Full-scale social experiment on time

Fig. 5 shows a time-centric practice, a river structure built with natural materials, The Ohide Project. A Samurai warrior named Naridomi-Hyougo-Shigeyasu designed and built a river management system in Japan around 400 years ago. The Ohide River Weir is a modern interpretation of the relics of the old stone river weir. The width of the structure is approximately 70 m and most sections, except the machinery section, are made of stone.

It is a hybrid model of traditional river-control technology and modern machine technology, built with the intention of handing down, over the course of centuries, the region's philosophy, and knowledge to future Samurai engineers. In a few years, the 'presentness' of the Weir will become a part of the surrounding environment, and the structure will become a part of history.

5.4 Imagination and creativeness

As a result of the paradigm shift of society from an industrialized to an information-oriented society, the negative aspects of modernization with regard to preservation and development have become increasingly complicated in nature and global in scope. The need to avoid the relinquishment of modernization and to adapt modernization instead to suit our needs with our imagination and creativeness, is increasing in our pursuit of an affluent society.

6. Vision

6.1 International governance on landscape

In this Modern World, the world is primarily an aggregate of dependent sovereign nations. Therefore, international relations can only be established by a strict contract between nations, wherein, any intervention exceeding the will of a nation often results in failure. Consequently, international cooperation on landscape must be limited to offers of theoretical and/or empirical information, unless based on strict agreements. From the perspective of an authentic landscape, diversity of landscape in a nation should be esteemed, rather than homogeneity. This diversity includes not only spatial aspects, but also temporal aspects of each developing stage of a nation.

WATER and DESIGN

Fig. 6. Lecture at National Chung Hsing University (Taiwan, 2012)

Fig. 7. First Landscape Workshop in Hanoi City (The Socialist Republic of Vietnam, 2005)

6.2 Educational innovation on landscape

The main reason for the failure of education about landscape is that students are repeatedly forced to pursue a humdrum, specialized, and divided knowledge of an inauthentic and objectified landscape. The goal of education is the realization of a liberal idea. What is crucial is an authentic diversity, not homogeneity. In an authentic landscape education, the student should be taught to think with his/her own brain and to act with his/her own body, drawing on the whole edifice of landscape education, including philosophy, science, and technology, both theory and practice. Education directs the way the world is going, bringing up new generations. *Figs. 6-9* show my lectures in universities, workshops, design studies and international conferences, and in each case, *docendo discimus*.

6.3 Tomorrow's landscape

Tomorrow's landscape is tomorrow's people. Continuously examining the meaning of the being of water in the landscape implies an explication of this fact, enabling us to realize sustainable development. Furthermore, through this examination, we can repeatedly rediscover ourselves in the world to come.

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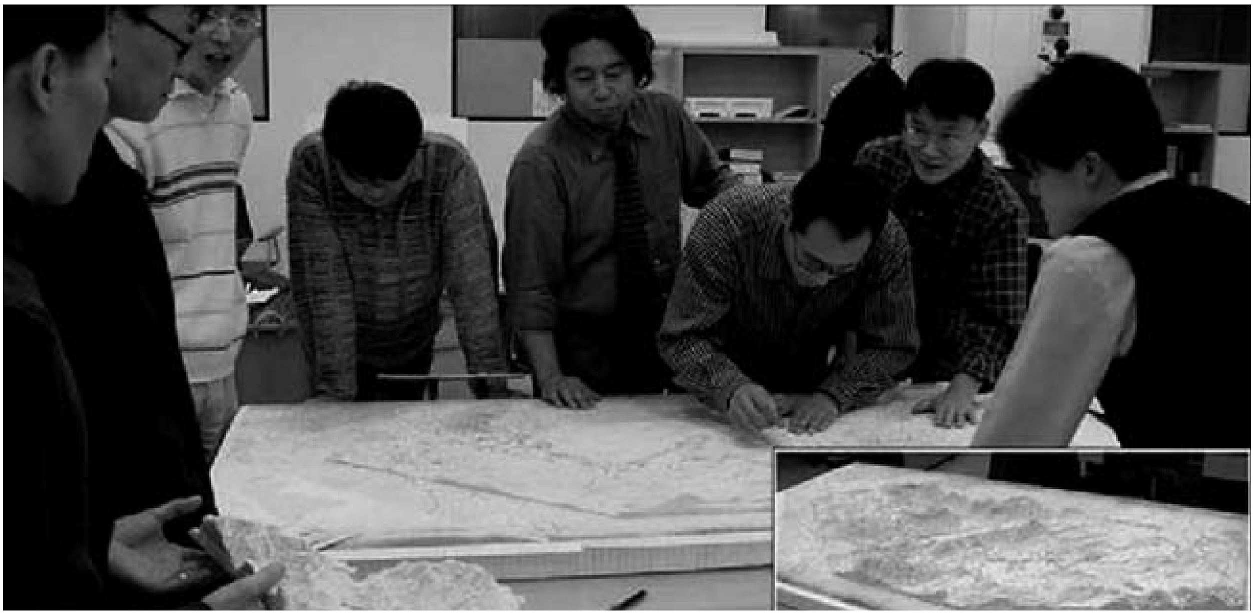

Fig. 8. Model Study with Korean Engineers (Hantangang Project, Republic of Korea, 2002)

Honoré
MOBONDA
Samia
GALAL Saad
Translation
Ch-1 Engl
Ch-2 Japa
Ch-3 Spa
Ch-4 Fre

Fig. 9. UNESCO Session of Water and Cultural Diversity (3rd World Water Forum, Kyoto, Japan, 2003)

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Could We Help Landscape With Imagination or Imagination With Landscape?

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Abstract: People held admiration for the unseen landscape of "Xiaoxiang" by looking at pictures, writing poetry and painting. The way of selecting "Eight Sights" would be a way of grasping and forming landscapes that would be mostly elusive. The selection of Eight Sights from real landscapes and making poetry or 'Waka' of them seemed to have tried to capture landscape and imagination. Naming anonymous landscapes and turning them into Waka could give these landscapes new meaning. It would be a process of 'japanizing' the imported idea of "Eight Sights" and regarding specific landscapes as art. The symbolized landscapes survive inside gardens. Real landscapes that gave imagination are in fact threatened now. We could grasp and understand the classical interaction between landscape and imagination if those landscapes would just exist. Landscapes are media that can link up memories of different generations.

Keywords: poetry, power, reproduce, symbolize, quote, cultivate, link, memories, generation.

1. Introduction

First of all, we should recognize that the supply and demand of information on landscape is quite different between past and present, and the current situation is not at all optimum. It is getting difficult for students to choose one useful piece of information from the vast amount out there. Information today offers images that are sometimes so concrete that they might prevent one from freely imagining. Therefore it seems that many students would be very good at citing some information without deeply feeling or imagining it by themselves. It might be a way for recovering the power of imagination to reconsider the time when landscape was related to imagination (or art) more deeply. A case of a pictured landscape that was portrayed ca.1000 years ago and which reproduced images like poems and other pictures will be presented.

Landscape is a medium that produces imagination even now. If there is no landscape to refer to, there is no imagination to reproduce art.

Real landscapes give us imagination. And the imagination gives us recognition and conceptual understanding of landscape, sometimes making landscapes appear from people's own imaginations. The picture "Xiaoxiang Eight Sights" painted ca. 1000 years ago in China was passed to Japan. The portrayed landscape also gave imagination that had a great influence not only on paintings but also on poetry writing. So that picture had the power of reproduction for creating arts. At that time there was hardly anyone in Japan who had seen the real landscapes of Xiaoxiang in China. Thus the portrayed landscape was passed to Japan as a paper-medium. In the next section, the power of imagination of pictured landscapes will be presented. The picture reproduced arts such as poetry and paintings, but also selected views on real landscapes like the "Eight Sights" of different regions in Japan. In section 3, some cases of Japanese gardens which have been quoted from the scenic beauty of existing landscapes as metaphors will be mentioned. These gardens were sometimes used for writing poems. Recognizing the classical interactions between landscape and imagination would show us how to find a way towards a new baseline for education.

2. "Xiaoxiang Eight Sights" and the culture of selecting landscapes

The fabulous region of lakes and marshes, Xiaoxiang, still exists in China. The landscape of this region was the subject matter of the main theme at that time which motivated Chinese literati and Zen-monks to write poetry and paint pictures. The boom began in the 10th century in China but faded out in the 13th century. By contrast, in Japan that boom survived as culture and expanded. As mentioned, the landscape of "Xiaoxiang" was transmitted by means of paper to Japan. It is interesting that "Xiaoxiang" became a form of subject matter that crossed mutually between extraneous media such as paintings and poetry. Hiroyuki Suzuki (1993) described where and how Japanese literati accepted the culture of "Xiaoxiang". The landscape of "Xiaoxiang" that was pictured even on the paper of fusuma doors and fans was reproduced in a number of poems in the 15th century. In such poetry-meetings, famous or professional poets (Zen-monks, court nobles) were invited by the Shogun family.

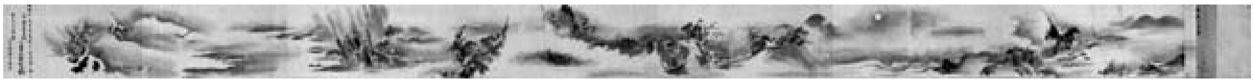
Fig. 1 Xiaoxiang Eight Sights (Shoushouhakkei-zu painted Sesshu1420-1506. This picture was traced by Kano Tan-yu ca.1672)

However, in the 14th century people tried to find suitable scenes like Eight Sights in the real landscape and apply them to their own imagination in Japan. In 1979 Kenneth Clark wrote 'Landscape into Art' and described how landscape painting became independent of the other fine arts. Landscapes motivated painters and reproduced a huge number of landscape paintings. Toru Haga, Japanese art critic, in 1986 quoted from the title of K. Clark's book "Landscape into Art" in his article and presented the inverted concept of "Art into Landscape". Real landscapes lend to the imagination. And the imagination forms recognitions and conceptual understanding of landscape. It means that people would try to find "art" in real landscapes. The boom of comparing real landscape with "Xiaoxiang

Eight Sights" seems to have appeared in the first half of 12th century in China. In the period of acceptance of the Eight Sights-Culture in Japan (from 13th to 14th century) ink paintings and Chinese poetry were imported from China. But in the early 14th century, i.e. the initial phase of the acceptance by Japanese poetry, Eight Sights-Waka was formed. As a turning point in the history of cultural acceptance H. Suzuki referred to the birth of Eight Sights-Waka. Waka is a Japanese style of poetry (thirty-one syllable verse) and is quite different from Chinese poetry. Since the appearance of the famous "Oumi Eight Sights" in the 16th century, which were selected from landscapes of the southern part of lake "Biwako", a number of "Eight Sights" spread in numerous places of Japan. The selection of "Eight Sights" was combined mostly with Waka or the poetic compliments. The selection of Eight Sights from real landscapes and making poetry or Waka of them seemed to have tried to capture landscape and imagination. Naming anonymous landscapes and turning them into Waka could give these landscapes new meaning. It would be a process of 'japanizng' the imported idea of "Eight Sights" and regarding specific landscapes as art.

3. Landscape into Art - Symbolized Landscapes in Garden

Landscapes have been captured in pictures. Kenneth Clark expressed it in 'Landscape into Art'. Many landscapes were also pictured in Japan. Especially in the Edo period landscape pictures were published as Ukiyoe or Meishozue (*Fig.2*).

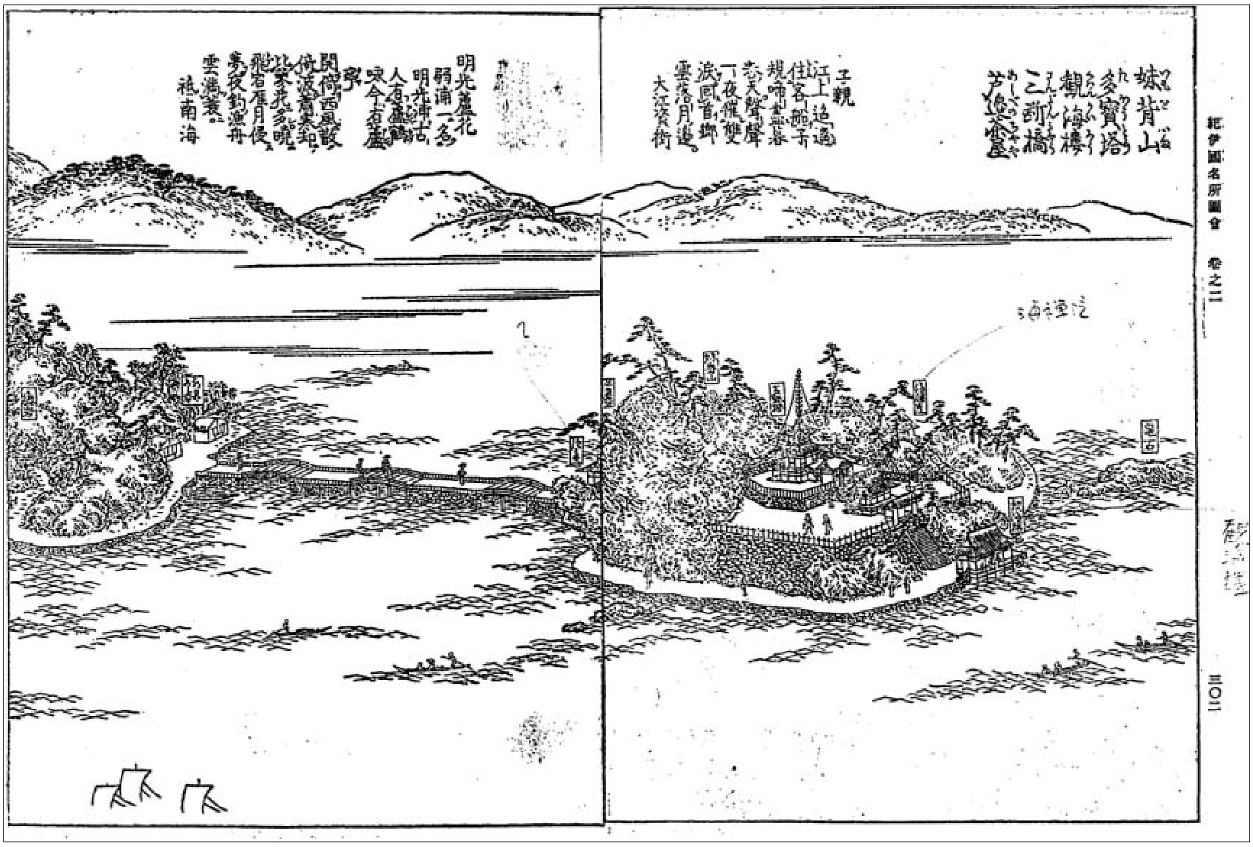

Fig. 2 Kinokuni Meishozue (1811)

Real landscapes produced a number of landscape paintings and other sorts of art. Among them, garden art should be mentioned. The gardens of the Edo period often contained elements of symbolized landscapes of famous scenic beauties. This sort of garden was preferred by daimyos (Japanese feudal lords) and spread not only in Edo (present Tokyo) but also to many places in Japan (homeland of each daimyo). Symbolized landscapes in gardens were quoted from scenic beauties. For example, some sceneries in Korakuen-garden (Tokyo) (*Fig.3*) were quoted from Ooigawa (Arashiyama, Kyoto) and Tsutenkyo (Tofukuji Temple, Kyoto), one scene in the pond of Katsura-rikyu garden (Kyoto) (*Fig.4*) from Ama-no-hashidate (Miyazu, Kyoto-fu), Rikugien-garden (Tokyo) (*Fig.5*) from Waka-no-ura (Wakayama) and so on. Scenic beauty in China was also quoted like the West Lake that would be the most preferred garden motif in the Edo period. We can see these gardens with motif of the West Lake even now as historic chinoiserie-gardens (*Fig.6*). Meanwhile, the rather Japanese styled garden was built in 1702, namely Rikugien-garden, which Shogun and the family visited frequently. A number of points in this garden were named for Waka-no-ura. Rikugien-garden was a garden of Waka. After 4 years of completion of the garden the ex-emperor Reigen selected 12 Points and 8 Sights and gave the owner of the garden a Waka written by the court nobles for each Point and Sight. After more than 300 years, the Rikugien-garden exists as cultural property even now. How is the real landscape, Waka-no-ura? About a quarter of a century ago the big resort development project by the Wakayama Prefecture began and the roads and bridge to the resort area were planned. The people who disagreed with the resort development took legal action for the right to conserve the site, because the project threatened to destroy the historic landscape of Waka-no-ura which related to the birthplace of the Japanese style of poetry, Waka. Finally, in 1994 the plaintiff lost the lawsuit (*Fig.7*). The real landscape would be the source of imagination. And imagination produces art.

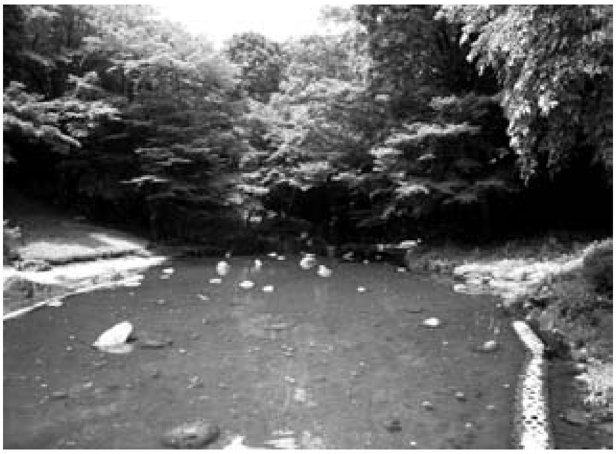

Fig. 3 Ooigawa, Korakuen-garden

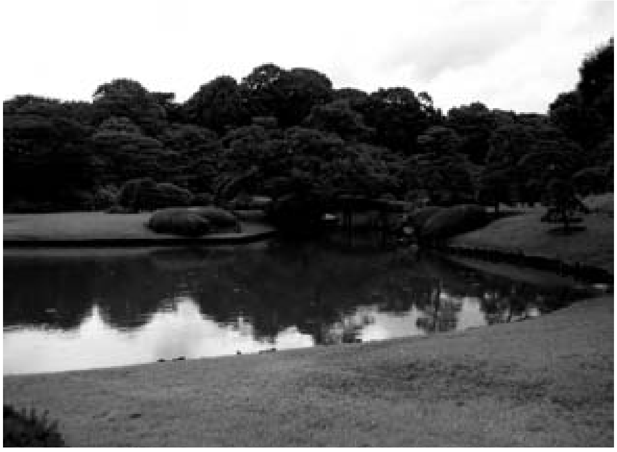

Fig. 5 Rikugienn-garden

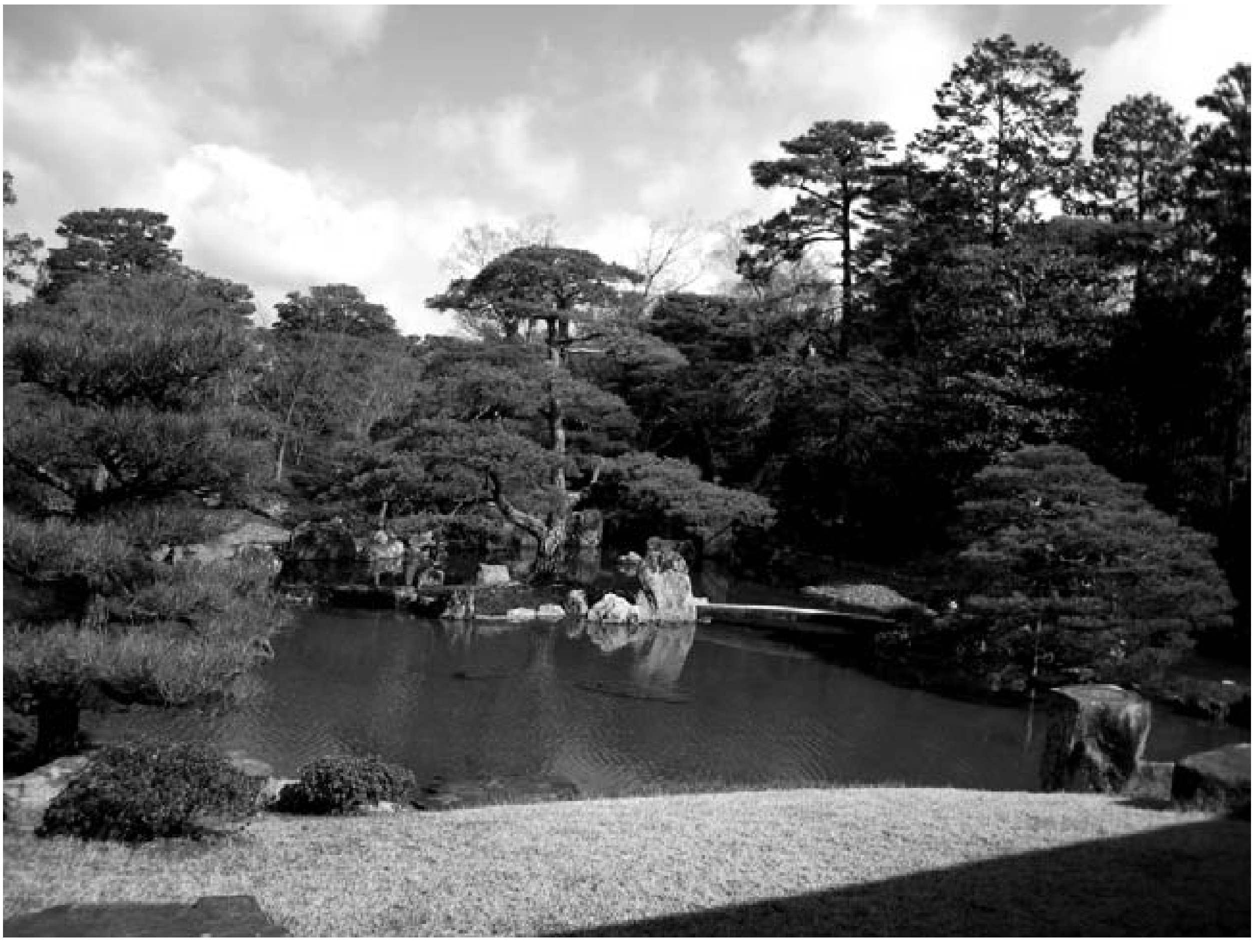

Fig. 4 Ama-no-hashidate, Katsura-rikyu garden

But how could art help the crisis of the real landscape as a source of imagination?

4. Conclusion

People held admiration for the unseen landscape of "Xiaoxiang" by looking at pictures, writing poetry and painting pictures. It would be the power of imagination that could reproduce the other sort of art. The way of selecting "Eight Sights" would be a way of grasping and forming landscapes that would be mostly elusive.

The garden where symbolized landscapes were gathered could be seen as a place that gathers "fragments" of scenic beauties. Inviting well-known names to the garden and getting them to write poetry could enable the garden to rise in rank to a greater extent. The gardens would be just about social and political spaces. Indeed, symbolized landscapes survive inside gardens. However the real landscapes that gave us imagination are in fact threatened now. We have to urge the conservation of landscapes that could cultivate imagination sufficiently. We could grasp and understand the classical interaction between landscape and imagination if those landscapes would just exist. Landscapes are media that can link up memories

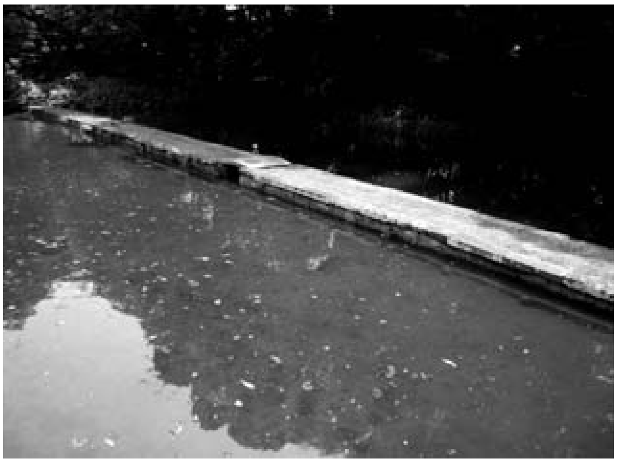

Fig .6 Miniature of West Lake Bank, Korakuen-garden

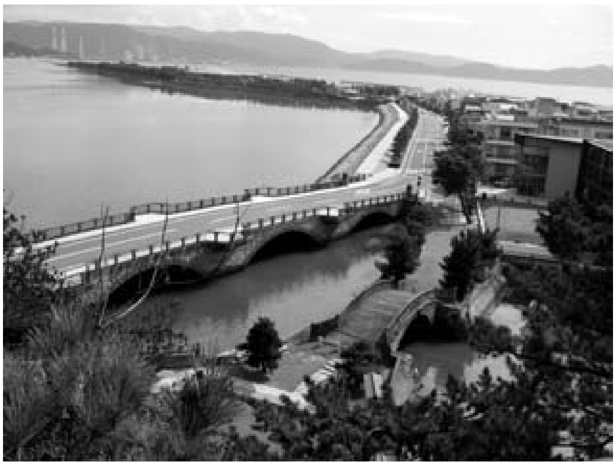

Fig.7 The 1851 built Bridge (right) and the new one

of different generations. We should consider the significance and "raison d'être" of those landscapes. It is one of the most important aspects for landscape education.

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Re-Thinking Landscape in the Context of Virtualisation

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Abstract: Within digitisation everyday experience is infused by information that augments "our reality" of things. It is not so much that the boundaries between the real and the virtual, the copy and the original, are abolished, but the fact that real and virtual entities, and also copies and originals, altogether compose our reality. Between immersive experiences in virtual worlds and "real" experiences in a world that gradually becomes virtualised, the aim of this paper is to question landscape in relation to "placeness" and "groundedness" today. Through phenomena of theme parks that replicate different parts of the world, and virtual reality environments within fantasy lands, it will reflect on the role of landscape and its response to the context of the contemporary world.

Keywords: context, digitisation, ground, hyperreality, place, Second Life, virtual reality, virtualisation

1. Introduction

The digital age has introduced not simply the digital reconstruction of places, but the virtualisation of physical space as well, as this becomes supplemented by information and communication. Everyday experience is thus infused by information that augments "our reality" of things. Due to the immateriality of this information, but also to the impact that this has on our perception of things, we are more than ever unable to discern whether this experience is composed by things or by images of things. Here, dreams of the perfect place are easily confused with the construction of the perfect image of a place. And it is not so much that the boundaries between the real and the virtual, the copy and the original, are abolished, but the fact that real and virtual entities, and also copies and originals, altogether compose our everyday – virtual or not – reality. But is there space for imagination and creativity in all this, or does virtualisation generously envelop our existences with things reduced into images and "*deprived of their substance*" (Žižek, 2002:11)?
Between immersive experiences in virtual worlds and "real" experiences in a world that gradually becomes virtualised, the aim of this paper is to question the role of landscape in relation to "placeness" and to ask whether there is such a thing as "groundedness" today. Through phenomena of theme parks that replicate different parts of the world, and virtual reality environments that simulate real buildings within fantasy lands, it will reflect on the role of design, architecture, and landscape today.

2. Groundedness

Traditionally the concepts of place, home, and ground are intrinsically interwoven. Native ground stands as the symbol of the origin, the broad basis on which the human being is defined, the "there" of human existence in the world. By extension, the earth provides the foundation and the firm support for any establishment of place. But in the electronic age, where the earth is no longer something that anchors us and where mobility and connectivity introduce new, dynamic and flexible spaces, the attachment to the ground as placeness is at stake. Now that mobility and connectivity have introduced a new dynamism and flexibility, the question is whether the attachment to the ground refers to the native material ground itself or to some sort of a phantasmatic background context. In a world that is less about place and more about places, less about origins and more about connections between the different sites of one's lives, the notion of *groundedness* mediates between materiality and symbolism. Similarly to physical space, cyberspace is also capable of creating a *there* and a place, establishing new geographies and different sorts of attachment. Are we then moving from a conscious attachment to a native ground and a single home, to a multiplicity of places, grounds, and, if possible, *homes*?

3. Simulations

Robert Venturi et al. in "*Learning from Las Vegas*" (1972), Rem Koolhaas in "*Delirious New York*" (1978), Jean Baudrillard in "*Simulacra and simulation*" (1994), and Umberto Eco in "*Faith in Fakes: Travels in Hyperreality*" (1995) describe America as the land of simulation. Theme parks, signs, lights, and replicas of great historical monuments attempt to supplement the "insufficient" reality with virtuality and end up forming a complex and fascinating world in which the *real* totally disappears. Although this hyperreal – and also surreal – environment and its forthcoming extensions may have seemed extraordinary in the 1970s when Venturi, Scott Brown, and Izenour talked about iconography as a phenomenon of architectural communication (fig.1), or later, when Baudrillard and Eco identified the desire for a "more-than-real" world generated by code and models, this is construed differently within digitisation. In recent times virtual reality is also generated by the superimposition of electronic networks in the physical world and the free flow of information in the form of image, sound, and/or text. The digital imagery similarly

TO Fabulous
LAS VEGAS
NEVADA

Fig. 1: Las Vegas[1]

supplements the *insufficient* physical reality creating hyperreal conditions, setting apart the question of copies and their original, and merging everything into a hybrid whole. Three different examples of *hyperreality* are here discussed to approach the virtualisation of space and question the role of *groundedness*.

3.1 Replicas in an empty landscape

In "*Faith in Fakes: Travels in Hyperreality*" (1995) Umberto Eco describes how the European past can be reconstructed and thus re-experienced on the coast of California, in-between amusement parks and fantasylands. Wax museums, collections of replicas, and museums where original artwork meets simulated artwork illustrate the relation of the American culture with the past, and consequently with the present and the future and form an absurd, yet very symbolic landscape. The components of this landscape all declare to be "*realer than real*". In the innumerable wax museums historical figures, such as Julius Caesar and Marie Antoinette, stand equally next to fantastic characters that never existed, like Tom Sawyer and Alice in Wonderland. In art galleries, original artwork and historical buildings that have been bought, dismantled, and rebuilt in place are accompanied with others that couldn't be transferred and for this reason they have been reconstructed anew. Altogether, one has the opportunity to witness several versions of Michelangelo's "Davids" and "Pietás", tens of "Mona Lisas" and "Last Suppers" by Leonardo da Vinci, combined by replicas of Renaissance Palazzos and Ancient Greek temples. In hyperreal America everything that looks real is real. The sign becomes the thing in its perfect likeness, not to reference the original, but so that the reference to the original is unnecessary: "*we are giving you the reproduction so you will no longer feel any need for the original*" (Eco, 1995).

Past and memories, fantasies and desires are reconstructed and re-experienced in a continuous, new sort of space. This space may have been constructed materially-actually, nevertheless it features unreality and a world made of simulation. The sign, disengaged from its reference, becomes the "*real thing*" that becomes identical to the "*completely fake*". The desire for the perfect imitation, and the placement of this imitation next to the others, create a new condition, to which reality will always be inferior. Eco and Baudrillard argue that America provides this extended, empty space, disengaged from history and culture, and even from its geographical dimension.

In the place where Disneyland (fig.2) merges all historical periods in an atemporal mode in order to erase any distinction between reality and fantasy, and where in Las Vegas one finds Venetian palazzos next to Egyptian monuments, all housing casinos and hotels, this apposition becomes the only way to present history, and the only way to construct a "reality", a real story out of it. The ground here resembles a blank page, taking its character from the artefacts that are placed on it.

3.2 A landscape that simulates the world

One would think that in the age of digitisation, where the Internet allows everyone to explore the world's most famous constructions – and Virtual Reality enables their three-dimensional reproduction – in various ways, there would be no need for the Californian museums of the 1990's. However an entertainment park in China rejects this. The "*Beijing World Park*" is a theme park in the southwest part of Beijing that boasts to give its visitors the chance to see the whole world without even having to leave Beijing. The park is modelled on the globe, representing the oceans and the continents by their most famous landmarks. The Arc de Triomphe, the Eiffel Tower, the Acropolis, the London Tower Bridge, the Taj-Mahal, the Sphinx, the Grand Canyon, the Sydney Opera House, the Statue of Liberty, the White House, the Capitol, even a miniature of the Great Wall are only few of the replicas that can be found there, made out of their original materials, forming a continuously evolving landscape.

Fig. 2: Disneyland, California[2]

Fig.3: Image from the Beijing World Park website[3]

Every attraction is placed in the park according to its location on the – real world – map, and it is scaled down appropriately in order to fit to the environment. Inside each different "region", various cultural activities and performances are staged in order to create the proper atmosphere. The park is also the subject of the Chinese film "*The World*", directed by JiaZhangke (2004), who presents a discontented vision of contemporary China by focusing on the lives of people who work at several positions in the park. The protagonist is a young female dancer, Tao, whose life takes place almost exclusively within "The World". She and her boyfriend, a security guard named Taisheng, strive for a better life outside the park, but any attempt to exist beyond the boundaries of this manufactured world appears despairing and uncertain. Tao is depicted as living a life split between the spectacular illuminated stage of her show and the dark corridors backstage, the crowded dressing rooms and the depressing performers' accommodation (fig. 4-7) – that is, a life that moves between the inside and the outside of fiction. The protagonists go about their everyday dreary and repetitive lives, while in the background the TajMahal, the Pisa tower and the Manhattan skyline form a bizarre and continuous recombinant landscape that envelops them. The Eiffel Tower, centrally positioned to be visible from anywhere in the park, acts as a point of reference and orientation. The main advertising slogan of the park: "*see the world without ever leaving Beijing*" is repeatedly heard throughout the film, juxtaposed with the protagonists' dreams to acquire a passport and abandon the country hoping for a better future.

3.3 A Virtual Reality Landscape

In recent times virtual worlds have attempted to recreate the

The park is open daily
from 9.00 a'm. to 10.30 p.m.
That's America.
'Give us a day.

Fig. 4, 5, 6, 7: Stills from the film The World by JiaZhangke (2004)

world as the Beijing World Park does, free from physical constraints. Second Life clearly does so in the sense that one can possibly find any famous building's representation among its thousand virtual islands, some randomly placed all over the world and others put one next to the other. An interesting example is that of the Frank Lloyd Wright virtual museum in Second Life, launched at the beginning of 2010. The museum operated under a licensing agreement from the Frank Lloyd Wright Foundation for educational purposes and aimed at recreating the work of the architect on a digital island named *Usonia*. On this island, simulations of a number of the most famous works by Wright were positioned, some of which were used as museums and archives of the architect's work, while others were simply open to the [virtual] public, available for exploration. The main buildings of the site – the museum, the visitor's centre, the shop, and the iconic Falling Water – were centrally arranged. A series of other important buildings by the architect were also placed nearby, forming a neighbourhood reminiscent of a typical American suburban district.

All the buildings were carefully modelled and rendered to display the original materials both on the exterior and the interior, accompanied with the appropriate furniture in an attempt to immerse the visitors within the simulation. The buildings of an architect who was so much about the nature of the site, rootedness and the interrelation of the building with the setting and the environment, were represented on a different scale from their original, artificial digital ground, in a row, all archived and labelled (fig. 8-11). An assortment of buildings – originally scattered across the United States – modelled the one next to the other and labelled appropriately may create a bizarre and rather surreal environment, however it bears little difference to Umberto Eco's description of the American museums of simulations. Through a series of interactive three-dimensional models, and also photos and digital reproductions of the original drawings made by the architect, this virtual museum aims at recreating an atmosphere *more real* than any original experience, as it would have been impossible for anyone to see and experience all these buildings together, the one after the other. Interestingly, in less than a year from its launch, the Frank Lloyd Wright Foundation had to withdraw the license to the Virtual Frank Lloyd Wright Museum in Second Life and Usonia disappeared from the Second Life world (Au, 2010). One of the main reasons for the termination of the former agreement was reportedly that the Foundation was not happy with the fact that the architect's intellectual property was widely sold via the Second Life Marketplace. The Frank Lloyd Wright Foundation's reproductions were not to be reproduced.

4. Conclusion

"The simulacrum, in rising to the surface, causes the Same and the Like, the model and the copy, to fall under the power of the false (phantasm). It renders the notion of hierarchy impossible in relation to the idea of the order of participation, the fixity of distribution, and the determination of value. It sets up the world of nomadic distributions and consecrated anarchy. Far from being a new foundation, it swallows up all foundations, it assures a universal collapse, but as a positive and joyous event, as de-founding (effondrement)." (Deleuze, 1983)

In "*Plato and the Simulacrum*", Gilles Deleuze (1983) analyses the Platonic theory of Ideas as a process of drawing differences between the "*thing"* itself and its various images, between the original and the copy, between the model and the simulation. According to Deleuze, to share something means to possess, at best, second-hand, and this initiates a process of third- and forth-hand possession, "*continuing to the nth degree of debasement*", until one possesses no more than a simulacrum. Copies constitute "*second-hand possessors*" and well-grounded claimants of the Idea, authorised by resemblance, while simulacra stand for "*groundless claims*", built on disparity, difference, and dissimilarity, referencing the model of the "*Other*". Consequently, the domination of the simulacra aims at the subversion of the world, and contains a power that would reject the copy and the original, the model and the representation. As quoted above, the prevalence of the simulacra would suggest a process of "*de-founding*", a condition of absolute groundlessness that would diminish any essence of things. Then, maybe this explains the Frank Lloyd Wright Foundation's concern about the virtual museum: it is not the fact that the architect's buildings are being reproduced that is at stake, but the uneasy feeling that this infinite reproduction – followed by an unlimited circulation – might diminish or even taint the value of the architect's work. Here, the problem is not the absence of a material ground, but instead the construction of a "*groundless claim*", a groundless fantasy that leads

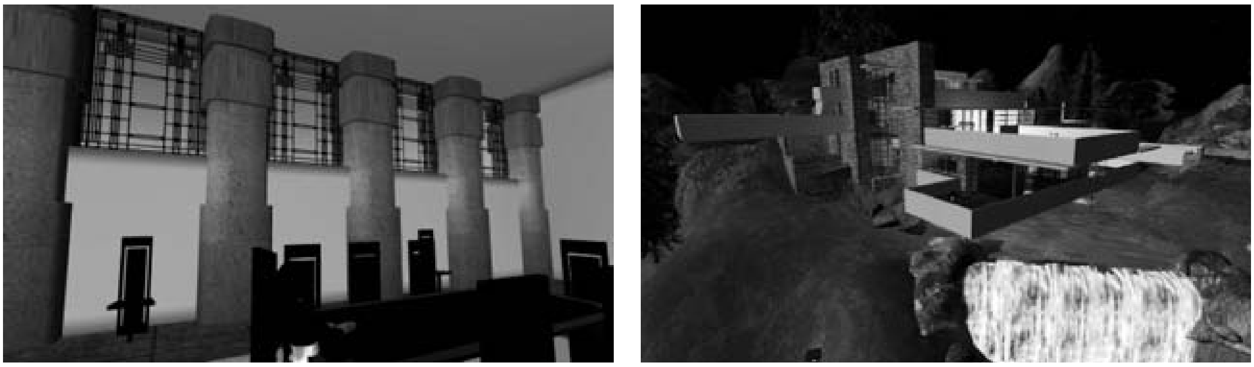

Fig. 8, 9: The Frank Lloyd Wright Museum in Second Life, accessed (by the author) 31-01-2010

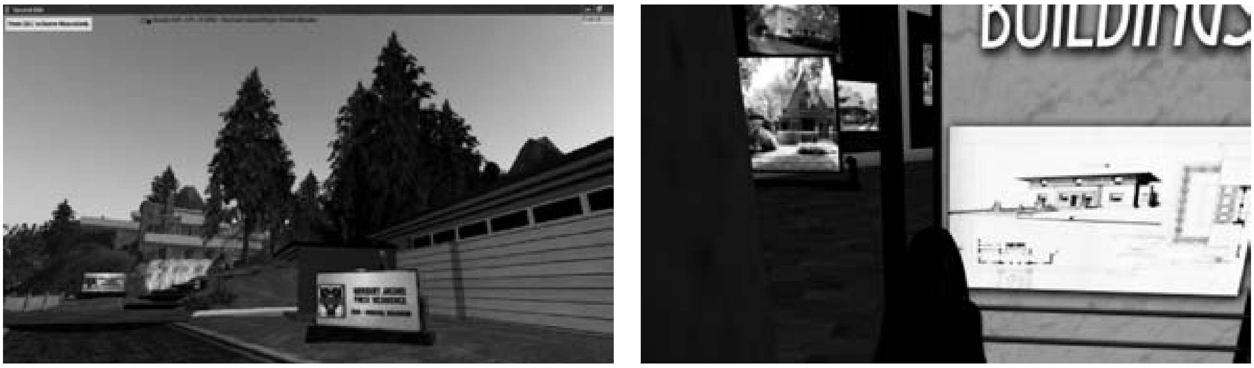

Fig. 10, 11: The Frank Lloyd Wright Museum in Second Life, accessed (by the author) 31-01-2010

nowhere. Similarly, the issue raised from the "World" film does not have to do with the fact that the replicas of the famous buildings of the Beijing World Park stand on a piece of earthly ground that is emptied and suspended from its earthly reality, but rather with the fact that – despite this suspension – there will always be a need for well-grounded fantasies. Here, the life of the female protagonist is experienced through the domination of the fantasy that she is forced to act out (in order to please the spectator/consumer). However the *reality* that she experiences at the backstage is equally more awful. Living between these two worlds, she is instinctively driven by yet another fantasy construction, the *real world* beyond the simulation, into which she dreams of escaping.

Then, maybe, there can be no attachment without fantasy, even if the dream object to which we are attached has its value because it seems *more real* than the *clearly virtual* from which we are escaping. Most generally, what matters in this *virtual reality* world that we all experience – regardless of its digital or physical construction – is not to preserve the native/original ground, but to make sure that we are still able to create *well-grounded* fantasies in order to invest our [digitally or physically constructed] grounds with meanings and attachments, and, reversely, to build [physically or digitally mediated] connections that will infuse these grounds and create meaningful contexts. The challenge within digitisation is not to overcome fiction, but to create meaningful fantasies that would help us to re-create with both physical and digital means a ground that supports our wishes and desires– and this should be the main focus of ourselves as designers.

Notes:

[1] Source: Las Vegas website, http://www.lasvegas.com/planning-tools/photos-and-videos-gallery/#tab=Photos&tourid=4&videoid=q7eOR6YOv5Y&photoid=37, accessed 02-02-2013

[2] Source: Disneyland official website, http://disneyland.disney.go.com/disneyland/main-street-usa/, accessed 17-02-2012

[3] Source: http://www.beijingworldpark.com.cn/one/index.php?id=5, accessed 17-02-2012

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Tetsuro Watsuji's *Fudo*, Ethics and Sustainability

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Abstract: My paper discusses the notion of fudo by Tetsuro Watsuji, a Japanese philosopher. Watsuji went beyond seeing natural features—climatic, scenic, and topographical—of a given land merely as the factors of environmental science. He illuminated a deeper bond between man and nature, or fudo, in which the natural operates as the metaphor of subjectivity and from which man and nature as such emerge as its two abstracted facets. Furthermore, fudo operates as the context in which "who we are," not just "who I am," is discovered, defining the ethics of the inter-personal as its fundamental dimension. With these in mind, my paper shows how Watsuji's fudo opens a path for an extended notion of landscape that embraces the natural as the metaphor of human subjectivity and its inter-personal ethics.

Keywords: Tetsuro Watsuji, Fudo, Climate, Ethics, Subject of Inter-Fudos, Sustainability

1. Introduction

The goal of this paper is to illuminate the notion of *fudo* by Tetsuro Watsuji, a Japanese philosopher, as a way of reformulating the definition of landscape and its relationship with the human being. What defines Watsuji's theory of landscape is the fact that he did not see natural features—climatic, scenic, and topographical—of a given land merely as the factors of environmental science. Instead, he demonstrated how man and natural phenomena are intertwined in such a way that the phenomena operate as a metaphor for human subjectivity. Watsuji called this deeper bond beyond scientific objectivism *fudo*. From *fudo* man and nature emerge as its two abstracted facets. Watsuji further demonstrated the inter-personal, or ethical, dimension of *fudo*, clarifying that the relationship between man and nature cannot be separated from the relationship between man and man. With these in mind, my paper shows how Watsuji's *fudo* opens a path for an extended notion of landscape that embraces the natural as a metaphor of human subjectivity and its inter-personal ethics.

2. *Fudo*, Climatic Phenomena and Self

Criticizing Martin Heidegger's *Dasein* as an individual being characterized lopsidedly by time at the expense of disregarding spatiality, Watsuji brought to our attention the fundamental significance of spatiality of the human being. Here the spatiality does not mean the significance of space in the scientific sense, but what Watsuji called *fudo*.

As is well-known in Sino-Japanese linguistic tradition, *fudo* literally means wind and earth. However, Watsuji did not treat *fudo* as natural environment, in which biological, physical and geographical features exert forces on human living and the human beings in turn transform the environment. Watsuji wrote,

I wish to treat this natural environment of man not as 'nature (*shizen*)' but as 'climate (*fudo*)...What I am concerned with is whether the climate we experience in daily life is to be regarded as a natural phenomenon. It is proper that natural science should treat climate as a natural phenomenon, but it is another question whether the phenomena of climate are in essence objects of natural science (Watsuji 1961).

Watsuji's point can be accounted for this way. Temporality conditions our concrete experience of the world. As an abstraction of this concrete experience, we come up with 'time' as a concept. The same goes for our spatial understanding. There are places first. Then, 'space' emerges as a concept abstracted from our experiences of places. Likewise, before there is nature, there is *fudo*, or climate. Nature as such is an abstraction. It could even be an illusion that there is such a thing as nature in separation from humanity. *Fudo*, or climate, seeks to overcome this division between man and nature, this dichotomous framework.

For Watsuji, this manner of thinking in which man and nature are treated as two separate entities misses more fundamental bonds between man and climatic phenomena. First, *fudo* indicates concrete phenomena in daily life in which, for instance, a physical movement of air is never apprehended as a scientific fact. Rather, the movement appears "as a mountain blast or the cold, dry wind that sweeps through Tokyo at the end of the winter," (Watsuji 1961) or a spring breeze "which blows off cherry blossoms or which caresses the waves" (Watsuji 1961). More importantly, according to Watsuji, *fudo* is "the agent by which human life is objectified, and it is here that man comprehends himself; there is self-discovery" in it (Watsuji 1961). It is for this reason that "the climatic character is the character of subjective human existence" (Watsuji 1961). His examples included "*sabaku*," the Japanese term for desert—one example being the Arabian desert that Aden Watsuji himself experienced and another being the Gobi desert that spans the territory from northern and north-western China to southern Mongolia. The term "*sabaku*" is a combination of sand (*sa*) and bleakness (*baku*) to signify one single reality.

For Watsuji, this coinage indicates the fact that "*sabaku*" is not simply a physical expanse of sand, but a phenomenon of the human heart–aridity, bleakness and loneliness–creating an empathetic unity between man and the sandy landscape. For instance, terms such as *virgin land* or *wilderness* do not indicate the nature as it is, but are already imbued with human values of culture: *virgin* land for its unexplored chastity, and *wilderness* for its erratic untameable condition. To cite another example, one can think about *warmth*. Warmth is not only a physical quality of a body of air with a certain degree of temperature. It is also a quality that characterizes the relationship between man and man, or the warmth of a person towards others. The same is true of coldness.

More curiously, Watsuji pointed out the fact that a climatic phenomenon is pervasive. Put differently, it is not something that can be objectified as an entity standing in front of a perceiver. Rather, it formulates a context in which different individuals are located. When one feels cold on a winter day, for Watsuji, coldness is not at the outside of the perceiver, but is already unfolding at the depth of him or her. From a diametrically opposite angle, this means that the I who is feeling cold is already out in the middle of coldness. A thought that "I feel cold" in which the I and the coldness are treated as two separate objective entities emerges only as an abstraction of this concrete experience in which the I, a being of *ex-istere*, has already transcended its supposed boundary. The I is not lost in this process of acknowledging the trans-individual background of the coldness. Rather, the shared coldness is precisely the ground for the articulation of a distinctive experience of coldness based on one's memory, character and capacity. It is in this context that in Japan the greeting in the morning is often characterized by the description of the weather itself: "It is cold this morning" is equivalent to the Western manner of greeting such as "good morning." For Watsuji, climate is the basis for the formation of "a 'mutual relation' that discovers ourselves in the cold" (Watsuji 1961). The same coldness embraces one person and another, and is articulated distinctively in their hearts. This pervasive nature of climatic phenomenon indicates that the character of human subjectivity that corresponds to a climatic phenomenon is also pervasive, i.e. collective. What we call ethos is none other than this shared character of a group of people represented by customs, norms, habits and styles in music, dancing, painting, architecture, theatre and so forth. Watsuji's theory of climate thus establishes a platform for environmental ethics concerned with the bond between climate and collective cultural expressions.

Entering into the discussion of collective ethos, according to Watsuji, what distinguishes the climate of Japan from other parts of the world such as Europe is the coupling of "the seasonal and the sudden" (Watsuji 1961). Amidst the cyclic anticipation of the seasons, the Japanese climate manifests variegated articulations from the winter chills to the rainy summer and from the misty morning to the evening shower via the clarity of the atmosphere during the day. In Europe, despite the fact that its "meager humidity content may give rise to . . . fog or mists, it is still not sufficiently rich in change to impress our feelings with any delicacy of light and shade variation. Dull and cloudy days succeed each other in Northern Europe. Clear and fine days are the rule in the South" (Watsuji 1961). "This monotony, this absence of variation" in climate is "the mark of Europe" (Watsuji 1961). In contrast, in Japan, "the hot season is also the rainy period" (Watsuji 1961). The amount of rain in this season is "from three or four times up to six or seven times that of Europe and atmospheric humidity" (Watsuji 1961). Humidity and the sun combined give rise to "a marked difference in the tone of the atmosphere" (Watsuji 1961). Even a single day of summer presents "refreshing cool" and "a sudden change on the style of the complete clearing of the weather that follows a sharp summer evening shower in Japan" (Watsuji 1961). Varieties of thermal conditions are apparent as well: "the cool of a summer's evening, for example, the freshness of the morning, the violent change, sufficient to bring cold at sunset of an autumn day, the morning cold in winter, enough to shrivel the skin, and, after it, the balmy warmth of an Indian summer day" (Watsuji 1961). The wide spectrum of the Japanese climate is further verified by the scene of "the bamboo, a native of the tropics, covered in snow" (Watsuji 1961) combining a woody plant of "a tropical belt" with ice crystals of "a frigid zone" (Watsuji 1961).

These characteristics of the climate in Japan are not only environmental facts; they are "transferred to the description of men's minds and hearts" (Watsuji 1961). Climatic characteristics come to be intertwined with "features of man's life" (Watsuji 1961). In order to concretize this argument, Watsuji again discusses a European case. "The bright and shadeless clarity and the aridity of Greece's 'eternal noon' presently turned into a type of thinking in which man revealed his all" (Watsuji 1961). Watsuji continued:

Nature's docility—the warm, humidity-free atmosphere, the tender pastures, the smooth limestone—presently turned into the Greek style of clothing, with its sense of freedom . . . its carefree scorn of the need for protection against nature . . . [and] the love of the statue of the naked body (Watsuji 1961).

In contrast, the climate in Japan exemplifies and cultivates a different ethos. On account of the dualistic aspect of climate in Japan, the ethos of the Japanese is "neither the constant fullness of feeling of the tropics nor again the single-toned tenacity of emotion of the cold zone" (Watsuji 1961). The cyclical nature of the climate fosters perseverance of, for instance, coldness in expectation of the warmth of spring and the hotness of summer. The climate further nurtures the Japanese with "a copious outflow of emotion, constantly changing, yet conceals perseverance beneath this change" (Watsuji 1961). In this context, the Japanese sensitivity to "minute and delicate switches of mood" (Watsuji 1961) combined with meditative calmness, comes into being (Watsuji 1961).

3. ***Fudo*, Self, Creation**

It is significant here to mention that coldness is not an isolated phenomenon. Coldness is merely a concept, rather than a climatic phenomenon apprehended in the context of daily life. Before there is coldness, there is a bone-chilling wind. Coldness is a facet of the wind. Furthermore, a cold wind is, as introduced previously, "experienced as a mountain blast or the cold, dry wind that sweeps through Tokyo at the end of winter" (Watsuji 1961). Taking a different example, the heat of summer "wither[s] rich verdure or to entice children to play merrily in the sea" (Watsuji 1961). Again, in each of these is the moment of self-discovery. We find ourselves "gladdened or pained [...] in a wind that scatters the cherry blossoms" (Watsuji 1961) of summer, that scorches down on plants and trees in a spell of dry weather," wrote Watsuji, "we apprehend our wilting selves" (Watsuji 1961) of this tiered system from the abstract to the concrete: from coldness to a cold wind then to a mountain blast and then finally to a mountain blast that makes the human heart bleak. It is important to understand that here the discovery of the self is not the discovery of the subject who actively feels coldness, but the discovery of the self as intermeshed with climatic conditions. In other words, here what one finds is not the heroic subject who centres on an ego to measure the world the outside, but the self as the capacity to be imbued by the efficacy of climatic phenomena.

A Mountain Blast that makes the Human Heart Bleak
A Mountain Blast
A Cold Wind
Coldness

In self-apprehension in which the self operates as an egoless capacity to accept the efficacy of climatic phenomena, according to Watsuji, our attention is not fixed on ourselves. We do not look merely at our own self. Rather, we reach out to the world. When I find myself feeling cold, this moment of self-apprehension is not an end in itself. Instead, we come to be necessarily connected with *acts* such as looking for more clothes. Consequently, the discovery of one's own self does not confirm the insulated interiority of the subject. Rather, it reconfirms how one is interconnected with the world. "In this self-apprehension," wrote Watsuji, "we are directed to our free creation" (Watsuji 1961). More importantly, as argued above, in the phenomenon of self-apprehension in a milieu, the I is joined with other Is. In particular, when the tyranny of nature erupts, "we first come to engage ourselves in joint measures to secure early protection from such tyranny" (Watsuji 1961). Creations and acts through the joining of different Is are the basis for what we call culture. The joining does not indicate only between the I and its contemporaries, but also between the I and the individuals of the past periods. Culture is "an inheritance of self-apprehension accumulated over the years since the time of our ancestors" (Watsuji 1961).

4. Ethics of the Inter-personal

Fudo is by nature the agency of collective sharing. It is the context through which self-enclosed individualism is overcome in favour of an empathy that cultivates collective, cultural measures. *Fudo*, as the spatiality of the human being, is necessarily the space where the presence of the other is acknowledged. It is in this context that Watsuji discussed *ex-sistere*' to define it as 'to be out among other 'I's" (Watsuji 1961).

As a matter of fact, for Watsuji, there is never "a man", but men from the beginning. Watsuji thus wrote that the term *man*, the English translation of *ningen*, must be comprehended not as "the individual (anthrōpos, homo, homme, etc.), but man both in [the] individual sense and at the same time man in society, the combination or the association of man" (Watsuji 1961). Watsuji's emphasis on the social dimension of the human being is further articulated in his study of ethics. In *Rinrigaku* (Ethics), his major work on ethics that was first published in 1937, two years after the publication of *Fudo* (*A Climate: A Philosophical Study*), Watsuji criticized Western individualism which he accused of substituting the notion of the individual "for the notion of the totality of mankind" (Watsuji 1961). In order to solidify his position on the social as the basis for the comprehension of man, Watsuji conducted a philological investigation of *ningen*, or man in the Sino-Japanese linguistic tradition. *Ningen*, or man, is a combination of *nin* and *gen*. *Nin* alone means man, yet is hardly ever used in this singular form to mean man in traditional linguistic usage. *Nin* is always joined with *gen*, an alternative pronunciation of the character *ma* meaning "in-between." *Ningen* thus brings to the notion of man a balanced perspective of the individual and the social. Further, it is not that the relational dimension of *ma* between man and man is secondary to the individual dimension; Watsuji saw the linguistic construction as indicating that man is fundamentally inscribed with the dimension of "we." In fact, Watsuji went so far as to claim that "every trace of the notion of independent existence must be voided" (Watsuji 1961).

The second dimension of *ningen* as the dialectical unity of contradictions concerns itself with the relationship between the individual and another individual. As has been implied, a key to understanding Watsuji's sense of the social is a dialectical structure in which opposite parties are contrastively joined: the father and the mother, the parent and the child, the brother and the sister, and so forth. There is no father unless there is a mother. There is no parent unless there is a child. There is no brother unless there is a sister. One is oneself not because one retains a substantial core in himself or herself, but because of the reciprocity with his or her opposite. For Watsuji, one does not come alone, but emerges necessarily with, and in reference to, the other, realizing the logic of co-dependent origination. Watsuji thus refuted self-sufficiency of a being. The identity of a being is determined not based on what is believed to be existent within itself but based on its dialectical relationship with the opposite. What is seen as internally present in an entity is existent in the first instance because of the external presence of its opposite. The entity and its opposite are intertwined through the principle of inverse correspondence, a higher level of accord that emerges from the disposition of asymmetrical qualities. According to David A. Dilworth, this symmetrical, yet reversed, reciprocity is the logic of "is *and yet* is not" and that of "simultaneity, and bi-conditionality, of opposites without their higher synthesis" (Dilworth 1987). This dialectical logic does not indicate a middle ground between two co-emerging identities. This version of dialectic is not "dialectical (sublational) in . . . a Hegelian sense; it does not postulate another level of being or noematic determination" (Dilworth 1987). Citing an example, this logic is not meant to synthesize gray out of white and black. This kind of synthesis merely produces another static entity only to lose the creative energy emanating from the juxtaposed, yet inseparable, synthesis of the two opposites. Instead, Watsuji's logic formulates a contradictory synthesis operating on a deeper level of intuition that sees relatedness between contrasting elements.

This dialectical logic is valid not only for individual entities, but also for the identity of regions. In reference to regional identity, as Watsuji's travels to different climates demonstrates, what is significant is to figure out similarity in the pattern between reflection of one's own self and the reflection of one's own climate. Just as one has to come out of the confines of the I in order to discover who he or she is, Watsuji comes out of his own climate. The self-awareness of the region in which he is situated emerges from the viewpoint of a traveller. The climate of a region is distinctive not because it is self-sufficiently so, but because of its relationship with others. Apprehending the identity of a region in this fashion corresponds to the logic of the dialectics of opposites in which distinctiveness of a climate is not in itself, but rather in its relationship with what it is not. Identity is not something that is present within the interiority of a culture, a land, a people or a territory. Rather, it is a product of a dialectical encounter with others in the form of mutual contrast and dependence. Even when Watsuji's aim was to clarify what his own culture was by referring to the other, what is confirmed here is not necessarily the uniqueness of a culture with a coherent and inherent system of identity, but the dialectical structure of the identity in which one is present because of the other or one comes to be clarified because of its engagement with the other.

5. The Social and the Subject of Inter-*Fudo*s

Then how was Watsuji's comparison different? In this regard, it is worth introducing Kioka's interpretation. Kioka acknowledges that, as Berque argues, Watsuji's theory of climate lacks objectivity in that his personal experience became the characteristic of a climate. Despite this problem, one significant point about Watsuji's study of different climates is that it was nomadic. This nomadic nature of his theory of climate is expressed in the form of analogy between the climates and the characters of peoples, formulating a proportional relationship among different climates. The reason why Japan is often mentioned in his study is because of his familiarity with Japan, not necessarily because of his nationalistic partiality. Most importantly, Watsuji's theory of climate entails a unique type of subject, which Kioka names the subject of "inter-*fudos* (*kanfudosei*)." It is a subject that stands in the interstitial zone between different *fudos* (here I am rendering *fudo* plural to follow the habit of English). In this type of subjectivity, the discovery of who I am is conducted upon the encounter with the other. The Watsuji of the Arabian Desert discovers his non-desert nature as a monsoon person whose identity Watsuji had not felt before. In this context emerges a proportional formulation:

monsoon: submissive and persevering = desert: confrontational and wilful (Kioka 2011)

For Kioka, this analogical relationship overcomes any possibility of making a climate and its cultural expression absolute. Furthermore, the analogy is an open one, accepting additional pairs of particulars. For instance,

monsoon: submissive and persevering = desert: confrontational and willful = prairie: rational and regular (Kioka 2011)

On account of this open analogy, for Kioka, Watsuji's *fudo* is not self-centred, but moves along "the logic of particularization" in which both the I and the other are rendered relative. The subject of "inter-*fudo*s" assumes a position that is neither a centre, nor a periphery, reflecting the nature of analogy that does not presume the particular under universality and that moves from a particularity to another particularity. In the case of empathy, there still exists a privileged centre. It is till self-centred. It places one's subjective consciousness at the centre and then enters the interiority of the other and understands the other by projecting what is present in one's interiority. This is a closed analogy that is predicated upon the fixed and centralized image of the self. In contrast, Watsuji's logic is that of discovering the other in a climatic context and discovering one's own self by taking the other as the mirror against which who I am is reflected. It is the logic of mutual discovery between who I am and who he is (Kioka 2011). Watsuji's logic is not merely a logic, but ethics of de-centralization to overcome self-centeredness. Watsuji's logic is a post-colonial logic in that modernity placed Europe as the centre and other parts of the world as peripheries, and peripheries were then conquered and subjected to the centre. In contrast, Watsuji's logic is the logic of de-centralization, proliferating particulars and their proportional, yet contrasted, reciprocities.

Extending the significance of Watsuji's *fudo*, Kioka differentiates between the communal and the public. The communal is fundamentally based upon the fact that one is born in a land to which he and others belong together. A typical form of the communal is a village. This *Gemeinschaft* was the primary subject of study in climatology, as there is a close bond between the land, on one hand, and the industry, cuisine and culture on the other. The communal is sustained often by internal rules of operation such as a hierarchy, placing primary the whole such as the family over the individuals and the village over the villagers. In contrast, the public occurs at the moment when one seeks to move beyond the land and its correlate society. It is a turning away from the protected interiority of the communal. The one who leaves the communal is the one who has awakened to the presence of the exterior, placing one in a dynamic between belonging to a communal society and being free to come out of the society. The public thus lives on the volition to place oneself beyond the territory. Watsuji's subject of inter-*fudo*s is exactly this type of subject who stands in a public sphere. He or she is the one who negates the centralizing desire, who overcomes self-centeredness, and who finally moves into the interstitial space between different communities. He or she expands his or her horizon not by negating the other, but by negating his or her own self. This public sphere is called by Kioka "the place of nothingness (*mu no basho*)" where our conventional interests in the identities of groups are overcome to face an individual as an individual. It is not a place of loneliness, but a place where self-awareness in the form of (decentralized) one seeing one's own self as a person belonging to a particular *fudo* is carried out. It is also a place where a de-centralized individual encounters another de-centralized individual to experiment unconditioned possibilities and potentialities that may exist in the inter-personal to formulate an alternative mode of society. For Kioka, this decentralizing logic of particularization and its correlate interstitial space of self-discovery and of the inter-personal encounter is Watsuji's most significant contribution (Kioka 2011).

6. Conclusion

Watsuji's theory of *fudo*, or climate, is the milieu in which nature and man are intertwined with each other. In this milieu, a seemingly natural climatic phenomenon operates as the metaphor of humanity. In extension, the surrounding landscape thus operates as the mirror that reflects 'who I am,' and more precisely 'who we are.' This interpersonal collective dimension of *fudo* is highly significant in consideration of the contemporary discourse of sustainability. This is because Watsuji illustrated how *fudo* functions as the agency for the formation of collective cultural measures, joining the relationship between nature and man with the relationship between man and man. I believe that reminding ourselves of Watsuji's notion of *fudo* encourages us to formulate a different environmental philosophy that overcomes the habitual dichotomous division between man and the surrounding environment to acknowledge a bond between humanity and the qualities of the landscape, and that balances our relationship with nature and our relationship with other human beings. 'Who we are' is the landscape, and the landscape is 'who we are.' We are the landscape and the landscape is us.

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The River Landscape: a New Vector of Projects in the City

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Abstract: The introduction of policies to rehabilitate waterfronts shows the newfound interest in Europe's Rhineland areas for their rivers. Cities such as Basel, Strasbourg and others are rediscovering the Rhine and its banks, after years of denying the river's urban qualities, and are now making it a major asset in their overall development policy. The many examples of such rehabilitation projects today raise the question of whether there is a common riverside and waterfront development model. Our study provides a comparative view on the European scale. We assessed this process of refocusing on the river through the landscape. On a conceptual basis, a diagnosis was possible by addressing not only the field situation, but also the discourse relating to it. Various analytical approaches were applied to measure the extent of integration of the river into the structure of the cities being studied. This overview of many recent regional projects around the Rhine and the testimonies provided by their participants, were used to show the different representations of the river and give a more practical vision. This study reveals a cultural history and assesses the importance of political, economic and social factors in relation to the river. The comparative analysis helps us understand whether a European river development model exists or not.

Keywords : River banks, metropolitisation processes, urban and port wastelands, Rhenish Europe, economic and social dynamism.

1. Introduction

If Rhineland Europe was able to take advantage of the strong presence of the river and canals over the centuries, it is not the case today. Because of economic changes and the relocation of various port activities, the traditional function of the Rhine concerning the movement of people and goods had gradually disappeared.

Over the last 20 years, the decrease in the River's activities has led to many questions concerning the establishment of policies to "reconquer" the water's edges, their development policy and their overall development.

For a long time, cities had denied the urban quality of the river and its shores; but now, they intend to reevaluate the existence of an urban model concerning the development of waterfronts. From this point, we can evaluate the process of returning to the River, to integrate new dimensions and to give a new identity to the river's edges. "To reconcile the city with its river", "to give back/ to bring back the banks to the inhabitants", "to integrate them in the urban organization", "to return the city to its River", "to put the River back inside the city", all of these expressions move towards a new direction of a revaluation in the "City/River" relationship.

At the European level, they have a clear objective in the sustainable town planning today.

Within this context, is there any common model of development for urban banks in metropolitan areas as well as industrial peripheries? How are we going to define this model? How can we analyze this relationship that is not really a successful guarantee, but which remains strongly linked to the physical and social fabric of the river in the city?
What quantitative and qualitative indicators could be developed to evaluate such a process and understand the form and use of these spaces?

2. Approach of the research

The hypothesis of our research defends the new status of the River as an identity and structuring element of the Rhenish space. It is through the notion of landscape that it takes on a new dimension. This notion is used here in the sense of landscape provided by the European Landscape Convention: "An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (Article 1).

Combining physical reality and lived in space, landscape perception evolves towards objective forms due to the interconnectedness between the urban and fluvial areas. This eventually favors the emergence of "the river landscape", a new social and cultural polarity of the city, witnessing an evolution of reference values in the appropriation of the river.

The elevation of landscape to the ranks of scientific approaches, in order to understand the city/river relationship, is quite recent. The first works achieved in this perspective are just a decade old. The questions raised by landscape painters were the first element that attracted interest in the city/nature relationship as seen through the prism of the river.

For the first time, the specialists and the inhabitants seem to look in the same direction. Michel Corajoud, the landscape painter and researcher, legitimates this new consensus by asking the following questions: "What has happened, what is going to happen there? What do we want to do? Who is interested? What about its apogee? And when was its decline? Why is it available today? Why should we change it? What are its different angles and in which space sequences is it registered?"

According to him, the interest in studying urban river landscapes has a double rationale. First, it does not constitute an objective in itself, from the perspective of understanding a physical and cultural evolution, but it is also an important means to act with lucidity on the river space, in particular by avoiding repeated mechanically standardized forms in the thoughts of that moment.

J.L. Renard, geographer and researcher, goes further in this analysis by considering that, the study of current transformations in river landscapes reveals the relationship between the inhabitant and nature on the one hand, but also the new ways of conceiving urbanization on the other hand.

For the town planner Lussault, the definition of his process appears as a "mental construction and/or an object representing geographical space".

Practices and imagination are closely linked, influence each other and sometimes merge together.

The study of the City/River relationship leads to a trail of cultural history that measures the importance of the political, economic and social relations between the city and the water. The comparative analysis of the urban structure and the regeneration projects of the river banks should enable us to understand whether there is a Rhenish European model for the valuation of the landscape of the Rhine River. So, to elaborate an international study means that the conceptual construction of the landscape should be extended to all the national contexts in which the study should be made. The example of Rhenish cities represents, more than ever, an appropriate laboratory since their history is similar but not identical, and the question of returning or coming back to the river is current but differently defined according to urban cultures and the processes of a project at work. Opting for a comparative approach is quite possible. Confronting different political, cultural and social contexts should be a way to understand the current process of metropolitisation, as is seen today, in central Europe and later to consider new explanatory factors of "long lasting" (sustainable) urban development.

3. Method of analysis

River landscapes are not yet the subject of many analytical works. In fact, most of the time, they are considered just as a landscape entity in a large context (environment) and are approached using generic methodologies.

The development of a diagnostic approach to land specific study (in the cities of Basel and Strasbourg), and the discourse concerning these lands by urban actors, requires the use of multiple and diverse sources: directing diagrams, plans and metropolitan projects, written sources and meetings of actors, in situ observations.

The Rhine: An architectural, urban and landscape project

The study of the evolution of the Rhine as an architectural and urban entity is not a revolution in itself. For a long time, the river's development was and is until now of order (control of the flows, hydraulic studies, design of facades built near rivers, etc. But the development of landscape remains a new thing.

Aesthetic interventions and development, as well as the presence of more landscape painters during public commissions, represents an important change. Looking at several recent important development projects in Strasbourg and Basel will provide a way of bringing out relevant similarities in terms of reflection on landscapes, as well as the idea of a common language in order to understand the river, its practices and its cultural value.

Asking for an analysis project to assess the progress of each of the cities in the process of returning to the river and to compare their involvement is not something easy. According to the architectural and technical directions the project is a "drawing (map, plans, elevation...) to edify a building", of an object, "before the implementation".

In fact, it is the "image of a situation, of a state, we think to reach... an idea, an intention, a plan, a programme, a resolution". To plan, from latin, projectare, is a word used at first to design the action of "throw away, forward", "outside, on the ground" (12th century, throw, plan). But the architectural project or the landscape project refers to the final state "the execution, the realization" of this drawing.

From a methodological point of view, an analysis of these projects focuses not only on the achievements carried out, but also on the different stages of project design before their delivery, as well as on the diagnostics and studies conducted down the road.
This information is precisely located in its temporal context in order to validate or invalidate the hypothesis of an evolution of the project towards a closer integration of natural processes in the urban environment.
Is the evolution of the discourse concerning the idea of nature effective in the projects carried out? It is a study of the recent development projects of the two rivers (project "Deux Rives" in Strasbourg, and the "IBA Basel" in Basel) which is going to make it possible to give a clear account. Many aspects of these projects are considered: the project itself, studied in situ (shape, topography, access, vegetation, full/empty composition), and the communication of the project: written literature (conferences, texts of diagnoses and projects) and drawn literature (perspectives, sections, key plans, and images of reference). All of these elements will make it possible to establish the genesis of these projects, their perspective impact and their implementation.

Through the current transformation of river landscapes, what is asked is a reading of societal evolutions/changes in the relationship between the inhabitant and nature. Today, the way to conceive the urban image should meet new requirements related to sustainable development. In this context, sociology appears as a chosen field to try to understand the complexity of the question. The analysis of the social representations of space is a tool particularly adapted to this reading (Gumuchian, 1991).

Their tangible and intangible characteristics are expressed, respectively, in the context of research through social practices and imaginary rivers. If the social practices of space refer to terms of use (walking, fishing, etc...), the imaginary river refers to all the users as well as the developers and developments (banks landscaping, urban planning/development in relation to the river, land projects…), establishing a new form of governance.

4. Conclusion

The study of urban forms and landscape evolutions would be enriched by a comparative approach. Noting that the river is now carrying the urban image, social representations of the river in the city are analyzed to understand this change. This approach allows us to try to measure a broader societal evolution: How can we rationalize the city and its development through projects related to the urban landscape and the river?

However, this research would benefit from taking into account the populations involved in the process of the project. The collection of their stories remains central to understanding the complexity of the phenomenon. The objective is not to oppose different points of view, but to articulate the various representations of the river to have a better vision of it.

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The Concept of “Habitat”: the Cellular Design Reformulation of the Post-War Modern Movement

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Abstract: After six years of conflict, World War II ended in the aftermath of the atomic bomb. It was the end of the ideology of progress. Struck by an internal crisis, the Modern Movement tried to oversee the reconstruction, aware that this could no longer be based on the principles of ‘33. It was as a result of this quest that the *Charte de l’Habitat* arose: it defined the response to a holistic design approach towards architecture and the environment, and a theoretical and practical reformulation of man’s attitude towards nature. *Habitat* not only referred to human shelter but was the cell of a socially organized body. It came about when the content (man and needs) and the container (dwelling and environment) were organically joined to their social and productive territory. The concept embraced new dimensions of time and space and resulted in the post-war desire for sustainable development

Keywords: habitat, territorial transformation, design process, holistic approach, sustainable development.

1. The Modern Movement after World War II

After almost six years of uninterrupted conflict, anticipated by a crippling financial crisis, World War II came to an end under the impact and devastation of the atomic bomb. This conflict of catastrophic dimensions highlighted an increased interdependence between regions and states and underlined the emerging problem of the protection of humanity and human rights. Political order was turned upside down, productive structures were shaken and the lives of survivors were deeply scarred. Pain and reconstruction went hand in hand with a strong, widespread desire for stability.

At the end of the war, architects of the International Congresses of Modern Architecture (the so called CIAM) were involved in important reconstruction work. Acting as an echo of pre-war avant-garde, they focused on the attempt of transferring international rationalism methods and principles on a larger scale, assuming the role of institutions in charge of the reconstruction, and they criticized the evident contrast between rapid economic growth and the lack of a shared attitude towards reconstruction.

Looking for effective ways to try to solve the situation, the Modern Movement expanded its horizons. Young people from all over the world, not only Europe, began taking part in the CIAM. “[…] Congresses stopped being exclusively a Western and Central European organization as many of its old and new members were scattered in different continents” (Tyrwhitt *et al* 1952). This diffusion encouraged the CIAM to widen its circle of duties. During the pre-war years Congresses had dealt with European themes, concerning themselves with countries with a high standard of living. They had ignored the fact that about four fifths of the world’s population had issues of a different nature to be solved. After the war it became clear that reconstruction could not be based on pre-war principles “the four basic functions of urbanism set by the CIAM in the *Charte d’Athènes* in 1933, their balance and their ordered relationships. They must also be rebuilt” (Giedion, 1961).

A new focus on the concept of habitat, References: to biological sciences, “otherness” and context were all elements of the general intellectual post-war movement that helped to fill the vacuum caused by the conflict. With a historical approach and the use of newly declassified documents, this article will shed light on the post-war spread of the term habitat. The objective is to document the post-war stages of the CIAM’s interest in the new concept and to record its leading role in the theoretical construction of a holistic and sustainable reformulation of modern principles in architecture and landscape design. “Since the war we have become more and more aware; […] a profounder approach will be imperative” (Van Eyck 1954).

2. The problem of listening to context

The *Charte de l’Habitat* arose from this search for a holistic approach in the field of architecture. In 1949, at the CIAM meeting in Bergamo (Italy), Le Corbusier put forward a study of the concept of *habitat* and a charter to complement the work that the Congress had signed in Athens in 1933. Le Corbusier did not indicate the charter’s content, nor did he define the meaning of the new concept of *habitat* but, despite initial uncertainty, this term remained the centre of debate in Congresses until CIAM X.

In Hoddesdon (England), during CIAM 8 (1951), the issue was not directly addressed but, in an attempt to clarify it partially, Sigfried Giedion aimed at dealing with the concept of *core* (Fig. 1). “The term “core” which was introduced by the MARS group of London in the place of “civic centre” (whose meaning has become too closely restricted to administrative building) may soon come into general use. Since 1300, according to the Oxford English Dictionary, the word “core” has meant “the central innermost part, the heart of anything” and it was defined by the MARS group as “the element which makes a community a community and not merely an aggregate of individuals” (Giedion 1958). There was much controversy in Congress about the “symbolic” meaning of the *core*, i.e. bringing things back to life through modern forms. However, the interest this concept aroused was as cultural as it was experimental. “The danger I see is that words (such as core and Habitat) could become worn and diverted in the future […]. Of course up to now we have not clarified the meaning of Habitat either. We have to wait until the end of CIAM 9. But now we know clearly what Core means”.[1]

At the 1951 meeting, from the term *core* a new interest that would relate to the concept of *habitat*, emerged. It was about the problem of listening to context and seeing a project both as dialogue of territorial strengths and as a historical record of the formation of a specific place. Here, the members of the Board[2] launched an “environment humanization process”, as a result of both human awareness and the course of current events. By doing so, they recognized a trend that was present in all Western countries: “Our current interest in the *core* is part of this human scale and it is part of man’s rights against the tyranny of machinery” (Giedion 1951).

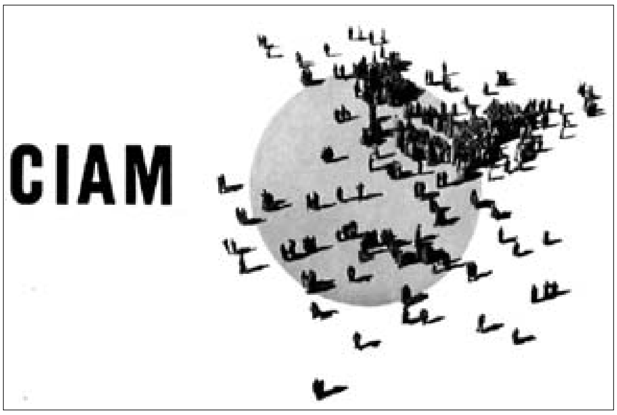

Fig. 1, The Core. Source: Tyrwhitt J et al 1952.

3. The cellular design principle

Finally, in 1952 in Sigtuna (Sweden), the Congress confronted the concept of habitat in its entirety. During the meeting a debate on the terms habitation, habitat and dwelling was initiated, together with the difference in their meanings in English and French. Meanwhile, the instrumental value that the Charte de l’Habitat would take was being discussed within the “Committee of Five”: Le Corbusier and Sert assigned to it the value of regulatory support for urban planning and a practical tool for architecture (Bosman, 1992). The Board intended the relationship between the Charte d’Athénes and the Charte de l’Habitat to be very closely knit. In fact, when reporting about the charter’s project, Jaap Bakema says: “The Charte de l’Habitat is the logical and direct complement of the Charte d’Athénes” (CIAM 1952. Note sur le projet de Charte de l’Habitat). However, an essential difference characterised the approach of the two documents: “[…] while the Charte d’Athénes is a charter of Urbanism and prepares the framework of human life for generations, even centuries - that is to say it is committed to long term - the Charte de l’Habitat interests the cells of the Body organised by Urbanism”. Moreover, a forward note, with clear References: to biological and scientific terminology, sets out: “However, these cells are born, live and die. […] these cells may not be accurate for other places and other generations. Therefore the Charte de l’Habitat addresses the precarious, temporary and variable aspect of construction, while the Charte d’Athénes considers their permanent and durable appearance”.

The *habitat* of Sigtuna was the result of a relational system of cells which are continuously changing. They were designed to last over the time of a single generation and to survive the debate on the space and time isolated artefact. In finishing, the note concludes “The Habitat is not a human shelter. It is a cell of a socially organised body. The cell depends on the body of which it is part. By contradiction, the cell without a body loses all meaning in the sense that we understand”. This was the first hypothesis of the definition of *habitat*. The concept of its context expanded, it encompassed new temporal (adaptability and transformability of the cell) and spatial (relationship between cells and body) dimensions which ledto the idea of a holistic and sustainable transformation of landscape and territory. The *Charte de l’Habitat* revealed itself as being highly conscious of “the other”, a concept acquired during the Second World War, and CIAM’s “mission” from this moment on would be “to search for the happiest compromise between basic needs and universal constraints” (CIAM 1952. Note sur le projet de Charte de l’Habitat).

4. Non-Western cultures and the role of traditional architecture

At the 1952 Congress, French architect Michel Ècochard, head of the *Service de l’Urbanisme* in Morocco between 1946 and 1952, produced a report entitled “Housing for the greater number”.[3]

It provided a detailed reflection on the concept of *habitat*. In particular, Ècochard concerned himself with the characteristics of minimum standards within *habitat*. Until that moment city design and planning had only been influenced by urban *habitat*. It was thanks to architects like Ècochard that research on design broadened its horizons to the study of rural architecture, spontaneous settlements, traditional houses and even urban slums (Fig. 2). “Where do the rules of habitat begin? Is it when man is able to live in the *minimum* house? Can we allow douars, slums and compounds to be shelters?” (CIAM 1952. Housing for the greater number).

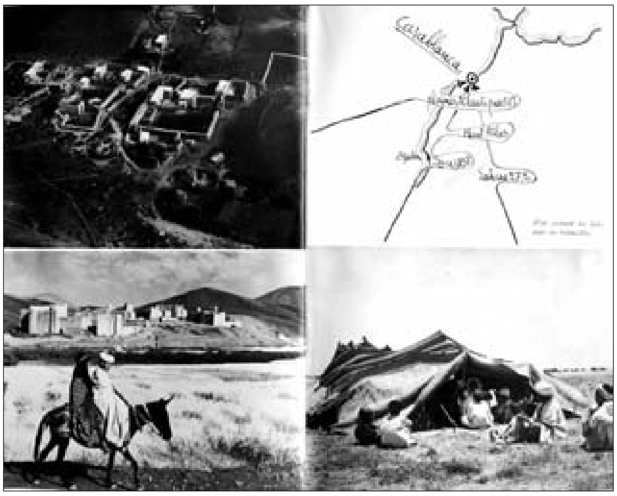

Fig. 2, Images of Arab traditional and nomadic architecture. Source: Ècochard M 1955.

A turning point in the definition of the concept of *habitat* came about during the Aix-en-Provence CIAM (France, 1953), acknowledged by historians as being one of the most successful CIAMs of all time. CIAM 9 was already renowned as having enriched architecture in countries on the periphery of Western civilization. North Africa, Brazil and the Far East are just some of the places where the Modern Movement had worked after the war. During the ‘50s, the problem of “technically underdeveloped areas”, mainly concerning tropical and some temperate regions of the world (i.e. Canada), had uncontrollably appeared over a short period of time. Only during CIAM 9 were issues tied to the traditional architecture of these regions explicitly mentioned. As a result, modern architecture extended its sphere of activities and area of interest by relating to traditional realities, just as it had done by referring to the great civilizations of the past. “We do not regard primitive civilizations from the point of view of an advanced technology. We realise that often shantytowns contain within themselves vestiges of the last balanced civilization – the last civilization in which man was equipoise. We realise that they can teach us forms that can be used to express specific social, territorial, and spiritual conditions” (Giedion 1958). Reflection on local specificities reaffirmed the need the Modern Movement had for obtaining a holistic and ethical attitude towards *habitat*. "The habitat for the greater number poses three problems: quantity, quality and spirit" (CIAM 9, 1953. Comm. n.1). In Commission 6's report of CIAM 9, chaired by Pierre-Andre Emery and Georges Candilis, they write: "The community that took charge of building homes for mankind is still unprepared for this role" (CIAM 9, 1953. Comm. n.6). In order to define the new human *habitat* they will have to study the traditional forms of land ownership, territory design and the right of land occupation linked to the past, seeing as "the present form of land and habitat ownership, and right to occupy and build on land, obstacles the habitat's evolution and transformation first and foremost" (CIAM 9, 1953. Comm. n.6).

5. The environmental factor and the human factor

In Aix-en-Provence, the Modern Movement explored the principles that guide the design process of the *habitat*. The central theme in this quest was the relationship between man and nature, that is to say "the human factor" and "the environmental factor".[4] The terms and the issue were addressed by Commission 1, chaired by Le Corbusier and Sert, and organised by Bakema. Since Paris (April 1953), the French group had reflected on the importance that the environment had for architecture. "The constructions which man creates to LIVE in are not passive. The "all organised" that they form is the physical environment, the "material container" where he "lives". There is a constant action and reaction between the container and the life which develops" (ASCORAL, 15 April 1953). In the new regionalism of Aix-en-Provence (Giedion 1954), architectural design was forced to express its aesthetics by remaining consistently parallel with the study of the "living climate" of a place. Only by doing so would it have been seen as having the "contemporary spirit" (Giedion 1958) of that particular territory. According to Commission 1, architectural forms and construction techniques had to "adapt" to the environment and to the natural and cultural realm of places. "Adaptation of forms and techniques to the environment, defined by a geographic and climatic study. […]Adaptation of the thought of the architect to the real needs of the greatest number for a spiritual understanding and exchange" (CIAM 9, 1953. Comm. n.1). The *habitat* had to be defined through a study of geography and climate. At the same time, architects had to study people's needs, habits and customs: only through dialogue between "the human factor" and "the environmental factor", considered to be of equal importance, would the necessary way of defining new modern *habitats* emerge. Finally, at the end of CIAM 9, the first collective definition of the concept of *habitat* was laid down in a supplement of the *Architecture d'Aujourd'hui*. The article reads: "Habitat is not only a human shelter. It is a cell of a socially organized body". And, it continues: "When the content (man and his needs) and the container (the dwelling and its prolongation under environmental influence) are organically joined to their social and productive environment, they become Habitat" (Bodiansky *et al* 1953).

The *Charte de l'Habitat* still appeared as the continuation of the *Charte d'Athènes*. "The Charte of Habitat will therefore deal with the precarious temporary and variable aspect of the building field, while the Athens Charter treats its durable, if not permanent aspects" (Bodiansky, 1953). However, the differences between the profound renewal and the original 1933 document laid the foundations of a new holistic approach to architecture: "[…] the putting into practice of the Charter for Habitat will consist of a series of researches to bring the most favourable compromises out of a host of contradictory factors" (Bodiansky, 1953).

6. The end of the research on *habitat*

In order to carry out this task a small research group was formed at the end of CIAM 9, composed of Alison and Peter Smithson, Georges Candilis and Shadrach Woods, Jaap Bakema and Aldo van Eyck, Rolf Gutmann, William Howell and John Voelker. The group, called the "young people", was involved in the organisation of the 1956 CIAM X of Dubrovnik (Yugoslavia) and was to become known as the "Team for the Tenth" or "Team Ten". Le Corbusier was considered their spiritual leader and appointed as an *ex officio* member of the group (Fig. 3).

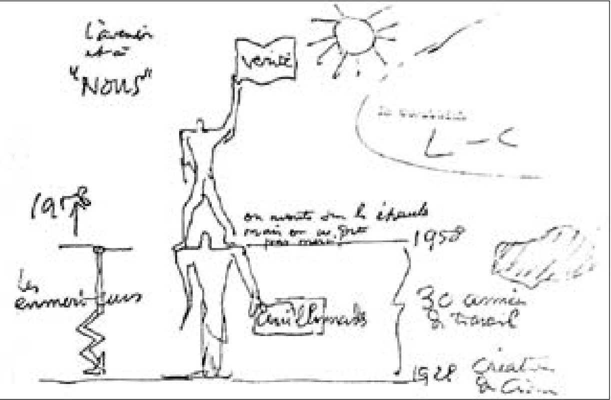

Fig.3, Le Corbusier sketch. The emergence of Team Ten out of CIAM, 1958. Source: Risselada M et al 2005.

Initially, not really interested in becoming an alternative organization, Team Ten pressed for the renewal of Congress and continued in the attempt of specifying the concept of *habitat*. In 1955, documents prepared by the group show: "HABITAT: the function living becomes "the habitat" when it is organically integrated in an environment".[5]

Later that year the definition further specified that: "The HABITAT is the condition of life in the total environment". In the meantime the word "human" had appeared next to the word *habitat* in the Candilis and Le Corbusier versions.

Despite their efforts in discovering a new post-war approach towards architecture and landscape transformation, a general feeling of unease and dissatisfaction grew among the young architects responsible for inheriting the CIAM. Team Ten's goals grew very distant from those of the old Board, a distance which soon became unsustainable. "If we are to create a Charte de l'Habitat, we must redefine the aims of urbanism" (Bakema *et al*, 1954). These young people came to breaking point in the late '50s when CIAM's glorious past manifestations of cultural generosity and solidarity were weakened and compromised by latest events. The young people had become intolerant about not being able to participate in any decision making, and finally in 1959, Team Ten brought about the dissolution of the Congress.

As we already know, Team Ten never gave birth to a real architectural movement. With the end of CIAM, their research on References: to environmental and social realities and distant or rural civilizations had only found expression in isolated attempts. Even though the study of habitat and cellular design principles, capable of engaging the sustainable development of cities and territories continued, the lack of a holistic attitude towards landscape, so fundamental in the research of habitat, would result in its unsustainability. It would be the beginning of a period of upheaval and great unrest in the discipline of architecture.

7. In Retrospect

All of the events discussed in this article – the use of new terms such as *core* and *habitat*, the new role of traditional and rural architecture, and the search for a cellular design process – were led by architects who were supporters of the idea that a reformulation of post-war modern principles in architecture was necessary. These leaders, along with their colleagues, worked hard to implement and develop the concept of *habitat*. The various stages demonstrate how the meaning, character and scope of the term *habitat* have been shaped, not only by man's practical needs after World War II, but also by the role of a theoretical reflection that has affected each event. Moreover, the source of the term, linked to the numerous fields of study (biology, sociology, etc.), together with the choice of meaning given to it, shapes different conceptions of what architecture should encompass and how it should be undertaken. But what of the future? Nowadays, architectural concepts such as environment, landscape, place and territory are once more a topic of discussion and consideration in the ideology of sustainable development. Daily in an increasingly globalised and virtual world, the European community and its institutions work to define the terms capable of describing the essential components of people's surroundings, the different expressions of the diversity of their shared cultural and natural heritage, and the foundation of their identity (Council of Europe, European Landscape Convention, 2000). As such, discussions become more elaborated and concrete; we need to look back on episodes like the one of the term *habitat*, and others of the post-war period. Most importantly, we need to recognize and understand the influence of other disciplines on the Modern Movement and the different perspectives adopted to solve problems connected to changing social and physical conditions. A definition of sustainability, and landscape, that does not take these realities into consideration will produce an unreal implementation of the terms and concepts that could encourage sustainable development and design. It is is a good idea, then, that we leave the door open to such a discussion.

Notes:

[1] Thought expressed by J Tyrwhitt in a letter sent to JL Sert (December 2, 1952) and partially published in Bosman 1992.

[2] The joint participation of Le Corbusier, Walter Gropius and Sigfried Giedion in the CIAM personifed the "masters" of Modern Architecture. Within the CIAM, and together with José Luis Sert (Chairman) and Jacqueline Tyrwhitt (Secretary of the Council), they formed the "Committee of Five" or the "Board".

[3] The document was addressed to the United Nations and the Economic European Commission. After World War II many European countries still had colonial powers, together with the United States.

[4] In the original French language "le facteur humain" and "le milieu naturel".

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On the Beginning of Design

Hypothesis of a Mesological Approach to the Project

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Abstract: One of the most important questions in teaching landscape is how to transmit knowledge and experience of projects. But above all, it is essential to know "how to do the project". The project is meant to materialise intentions, to make visible what is not measurable by measurable means. How does the transition between immeasurable and measurable happen? This article aims at answering this question, based on Augustin Berque's theory of mesology.[1]

Keywords: immeasurable, measurable, project, mesologic, trajection, silence, light.

1. Introduction

How do we define the *unmeasurable*? For Louis I. Kahn, physical nature is measurable, but feelings and dreams have no measure, no language. "unmeasurable" designates what is not quantitative, such as the soul, imagination, order, cosmicity, absolute truth, divinity, etc. The "measurable" concerns the physical universe, that is, material and quantity. According to Louis I. Kahn, "the project is the realization of the form in order", (Kahn 1996: 19). It is a concrete act: a building should begin in the unmeasurable state, and then go through the measurable state, in order to be materialized. The only way to build it and to bring it into existence is to make it become measurable. At the end, when the building becomes part of life, all its parts are united and call for unmeasurable qualities. Thus, a good project might begin with the unmeasurable, be formed in the measurable world and be accomplished through the unmeasurable. Although, in reality, most projects are likely to divert their axis from unmeasurable→unmeasurable to unmeasurable→measurable. This phenomenon, referred to as "moving away from reality" in the article, is the root cause of the unsustainable development of our society. How do we explain this drift? The project process generally includes two stages: conception (disegno interno) and realization (disegno externo). In each phase, the designer faces the transformations between the unmeasurable and measurable. How can we represent the unmeasurable by the measurable? The cause of diversion is covered in this question. The quality of a project's result depends on the designer's consciousness and on the ability to bridge the gap between the unmeasurable and the measurable, and between objects and human subjectivity. The key question is: how can we gather both awareness and a capacity that will allow us to bridge the gap between measurable and unmeasurable? Above all, the mechanism of a project's procedure and its potential problem must be understood. The project is a way of anticipating the result of the creative act. We will imagine a general project process from an assumed designer, who strives to exceed the material limit for achieving the most sublime result of creation: the work of art.

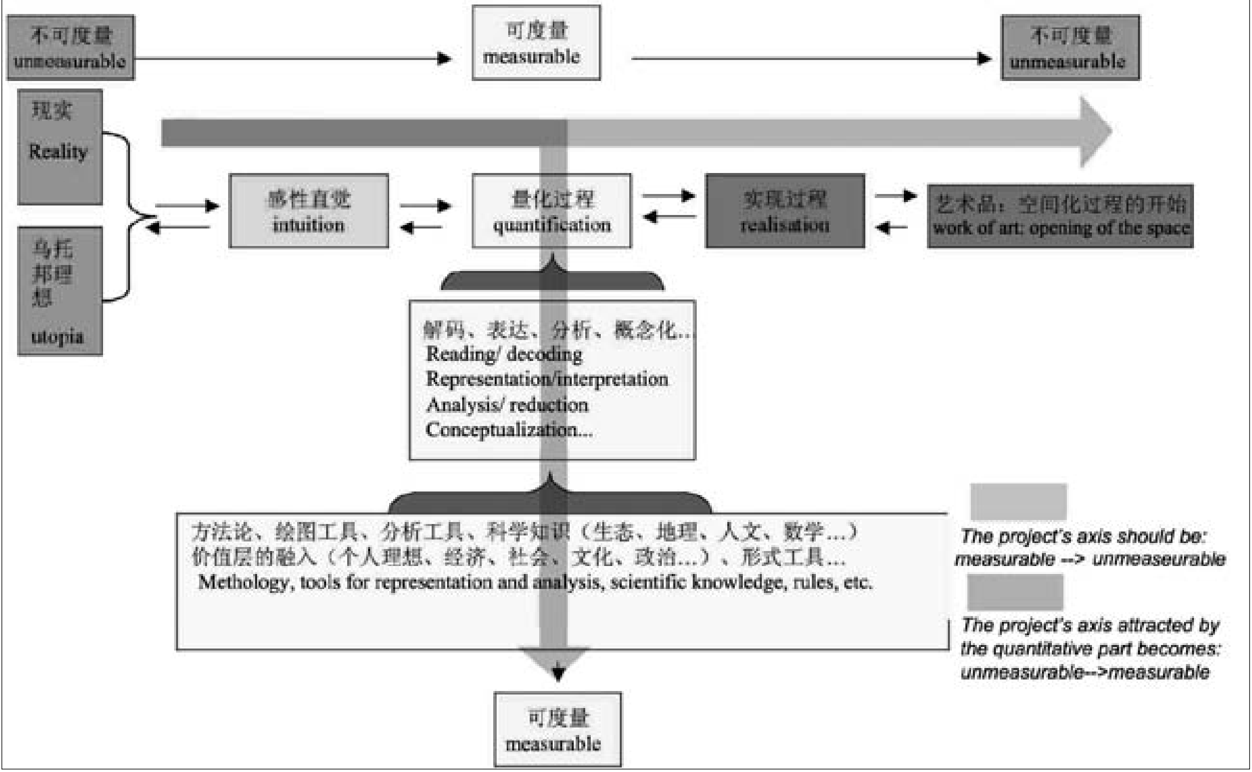
2. Project process

The project starts with two unmeasurable worlds: external reality and internal utopian desire. Guided by his intuition, the designer first enters the quantification step through the reading, the analysis, the conceptualization and the representation. This step is the materialization of data. The following steps are the re-formalisation of order and the realization of the form in the order. It is the moment when the concept is incarnated into a work of art that joins the unmeasurable- opening of the space and demonstration of its existence. (Fig.1)

The work of art is not the end of the project, but the beginning of another process: the speciation.[2] For example, the Xiangshan Campus of the Chinese architect Wang Shu[3](王 澍) integrates its construction in the existing hill chain to form an artificial valley. After the construction, the hills, which were once almost invisible, appear from now on in a harmonious atmosphere. Through light, shade, air and openings, artificial and natural spaces seamlessly merge. Their appearance is so natural that they seem to be attracted to each other. Once the spaces are built, the designer becomes invisible, as if he had only been an intermediary during the project, so that the communication could be possible (Fig.2). The creation is just like good cooking which brings together the flavours of the world. During the creation process, we face two phases of transformation between the measurable and unmeasurable worlds: the phases of decoding and of materialization. The decoding phase is a quantification step which multiplies the forms but reduces the meanings; the materialization phase is when we reduce the forms but multiply the meanings. In this way, the human being creates. At any time, difficulties arise from the feeling of it being impossible to fully represent the unmeasurable by measurable means. But creation is necessary for human beings. We have never ceased to create, because creativity makes us feel human. However, a project does not necessarily lead us to the unmeasurable or to creation. Today, increasingly complex social organization, multiple techniques and knowledge have changed the project process. The study primarily focuses on the risks of this change, initiated by the rise of modern development.

3. Separation from reality: foreclosure of the medial body

For a long time, the project has meant handicraft creation, which would include two steps, often mixed up: conception and realization. The improvisation, often consisting in trials – and sometimes


不可度量
unmeasurable
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unmeasurable
现实
Reality
乌托邦理想
utopia
感性直觉
intuition
量化过程
quantification
实现过程
realisation
艺术品：空间化过程的开始
work of art: opening of the space
解码、表达、分析、概念化...
Reading/ decoding
Representation/interpretation
Analysis/ reduction
Conceptualization...
方法论、绘图工具、分析工具、科学知识（生态、地理、人文、数学...）
价值层的融入（个人理想、经济、社会、文化、政治...）、形式工具...
Methology, tools for representation and analysis, scientific knowledge, rules, etc.
The project's axis should be: measurable --> unmeaseurable
The project's axis attracted by the quantitative part becomes: unmeasurable-->measurable
可度量
measurable

Fig 1. Project processes and drift of project's axis

errors, would play a large part. In 1420, in Florence, project methodology was introduced by Filippo Brunelleschi in its architectural design as a method of *disegno*, which consisted in representing the proposed construction through drawings: the design. Then this design would guide the realization. By then, improvisation was replaced by a methodical preparation embodied in design work.

Faced with increasing complexity - due to the diversification of materials, and to the increasing number of professional associations ever more specialized - today, methodology has become a major research field for various scientific communities.

Very often, it is assumed that the quantification step only concerns methodology: tools, techniques, scientific knowledge, etc. In fact, it also contains a round trip between the measurable and unmeasurable. When the mind focuses on things, it first tries to capture them through the eyes and then though reasoning to finally interpret them. This process is part of the human world's deployment, which can be represented by the mesological formula: $S/P=r$, which reads: r (reality) is S (substrate) taken as P (predicate). Here, the substrate (S) is a thing in itself, and the predicate (P) the way how the thing appears to us through our senses, mind, words and actions. Every way to grasp the thing is a predication. The human world is made up of all predication, i.e. all the transformations carried out by human creativity.

Thus, the analysis can be inventive because it already contains the choice of how to look, the interpretation of the context, and the idea of "what the thing wants to be".[4] The freedom expressed by choices is the beginning of human creativity, but also a reduction of intuition. The quantification step consists of many predication cycles. It establishes the milieu (or reality) for the project, where creativity appears through our eyes, our feelings, our thinking, our analysis, etc.

What is the nature of a project's milieu? André Leroi-Gourhan considers the emergence of the human world as an interaction process between the "animal body" (individual) and the "social body" (collective). This process consists in externalizing and deploying certain functions of the animal body, through technical and symbolic systems.

But from the mesological point of view, the human milieu (or human reality), which arises in this deployment process, necessarily takes root in the ecosystem. At the same time, the engagement of the human body generates an energy field which inversely influences its environment. Thus the human milieu is not only technical and symbolic, but also ecological. In other words, the project's milieu, which is a part of the human milieu, is eco-techno-symbolic. We call this human reality *the medial body*.

Currently, the eco-symbolic nature of the medial body is often overlooked by scientific methods, which treat things as objects in themselves and try to understand them intellectually, through quantitative means. Therefore, rather than developing the medial body, people focus on the expansion of their animal body through tools and techniques. This phenomenon is a foreclosure of the medial body (Berque 2010).

Today, not only does the emphasis on scientific methodology indefinitely extend the volume of the tool system in the project process, but it also gradually makes us lose sight of the "what" and the "why" (questions asked at the beginning of the project): they are replaced by the "how", which is the methodology.

Thus, because of the excessive importance attached to techniques, tools and scientific knowledge, we neglect the not-quantitative means related to the feeling, the intuition, the body, the sensitivity or the psychology. The project may divert the axis from "unmeasurable → measurable → unmeasurable" to the part quantitative measurable. (Fig.1) In that case, the project cannot return to unmeasurable, and there is no creative dimension. The designer moves away from sensitive reality where the universal order and the vitality of human existence remain. This deviation of the project's axis is split

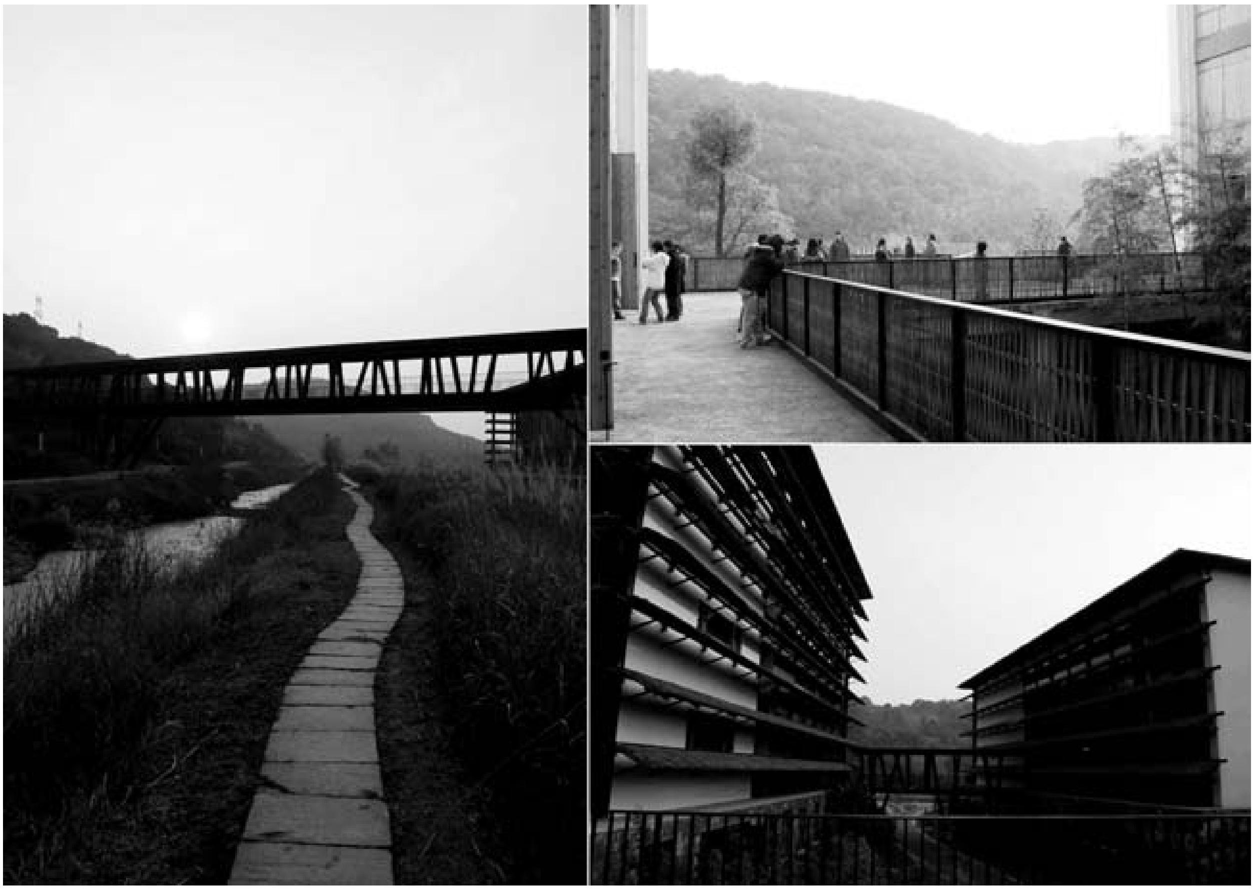

Fig. 2 Xiangshan Campus, Photographer :Xiaoling Fang

between the body and the soul - a symptom of the medial body's foreclosure.

Thus, the major challenge for the project is to prevent the diversion and to stay on the line "unmeasurable → measurable→ unmeasurable". This axis enables the movement of the project to stay in its sensitive reality and to awaken creativity. But how? It relates to restoring the project's principles directed by the "meso-logic (Berque 2011).

4. Beginning the project with the three principles inspired by mesology

Louis Kahn believes that nature relies on the "why", order relies on the "what", and the project relies on the "how". The project is not a product, but it means: where, when, how and with what. What humans do is a manifestation of the universal order. The project is actually a fight or a way which brings us from a disordered world to an ordered unmeasurable world.

Thus, a project does not begin with the question of "how" but "why" and "what." Louis I. Kahn would cut the project into two phases: the search for *formal principle* and design (Kahn 1996: 43). The first phase plays a large part in the project process. The *formal principle* is actually the concept of the project, the "what". According to him, the quality of a project depends on this research, which is the very beginning of the design. It is therefore important to go back to the beginning: "Since the beginning of any established activity of man is the most wonderful time: this is where the soul and resources are, this is where we need to constantly draw inspiration for our present necessities" ("*car le commencement de toute activité établie de l'homme est le moment le plus merveilleux: c'est là que sont l'âme et les ressources, c'est là que nous devons constamment puiser nos inspirations pour les nécessités présentes.*"[5]), (Kahn 1996: 44).

"How to initiate a project" is the key to a creative project.

4.1 Concrete grasp of a thing

A project starts with two elements: environmental data and intentions. A project is a set of human actions affecting an existing reality. It is therefore part of the predication and can also be represented by the mesological formula: S/P=r. The project is a reality which consists in S (substrate, objective data) taken as P (predicate, intentions...). However, this "taken-as" contains the deeply unstable external data input, which is the root cause of the diversion.

How do we best capture the thing, when we can never really grasp the way it is in reality?

From the Japanese poet Bashô's (1644-1694) precept, Augustin Berque suggests: "It is the concrete grasp of the thing in its irreducible singularity […]."(« *c'est la saisie concrète de la chose dans son irréductible singularité* […][6]»), (Berque 2011). He continues to define what the "concrete grasp" of something is: "It is to respect its relationship with others in the situation where it is actually the speaker, that day. It is to take advantage of the contingency of this singular encounter in 'growing-together' (cum-crescere gave us concretus), the concrescence of people, words and things in human reality." (« *C'est respecter son rapport avec les autres choses dans la situation où se trouve effectivement le locuteur, ce jour-là. C'est valoriser la contingence de cette rencontre singulière dans le croître-ensemble (ce cumcrescere qui nous a donné concretus), la concrescence des personnes, des mots et des choses dans la réalité humaine.*[7]»), (Berque 2011).

But how can a project, from creative will, come to "take advantage of

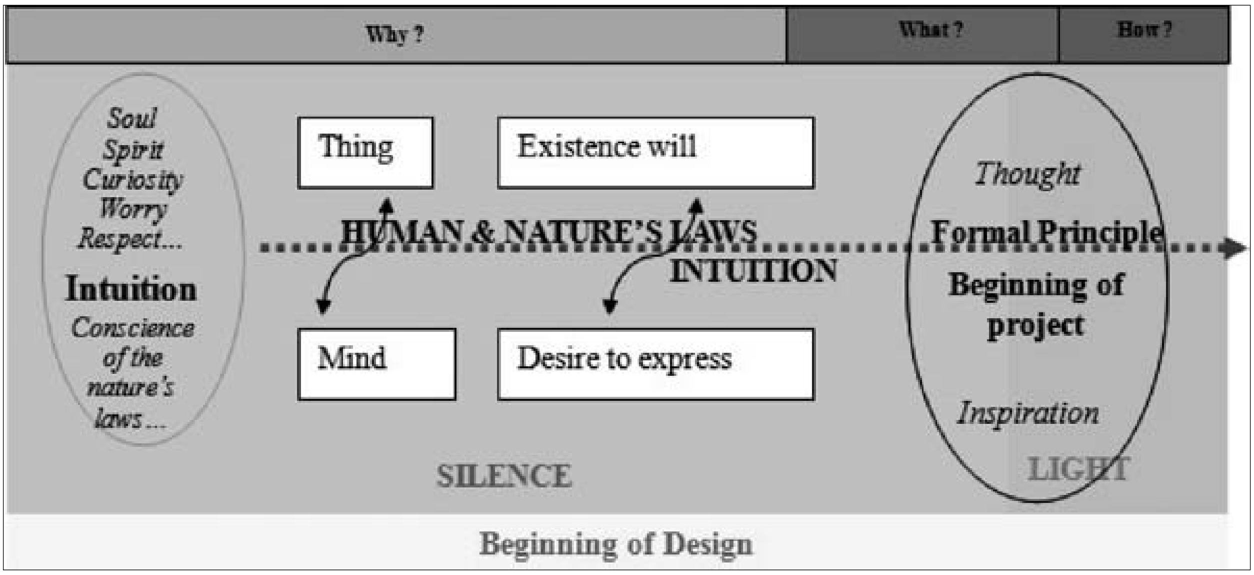

Fig. 3 Beginning of project

the contingency of this singular encounter in "growing-together"? Unlike the scientific method, which attempts to understand the thing as an object in itself, defined by its physical shape, and determined by causality discovered by science, the "concrete grasp of things" is primarily an openness, not only to the thing but also to "what is not the thing," known, unknown, or even invisible. Through this openness, the thing shall be grasped through research oriented towards its reality, as authentic as possible. That reality is still a human reality (not absolute), but it tends to come as close as possible to the world of things. "The concrete grasp of thing" is a trend that is directed towards the substrate, specifically to the unmeasurable part.

The response to "take advantage of the contingency of this singular encounter in 'growing-together'" lays in the openness and the trend towards the thing, which Augustin Berque considers as a way of evoking things. He borrows this idea from the Chinese and Japanese precept – "Confide his thoughts to things" *(Ji Wu Chen Si* 寄物陈思*)*: i.e. "evoking things consists in evoking the feelings that go with them, with no need to tell them explicitly." ("*confier sa pensée aux choses*[8]": "*c'est-à-dire qu'évoquer les choses revient à évoquer les sentiments qui vont avec elles, sans qu'il soit besoin de dire ceux-ci expressément.*[9]") (Berque 2011).

This round trip between the mind and the thing leads to another notion from Louis I. Kahn: the *Existence-Will*: according to him, the existence-will precedes the existence of things. The existence-will is what a thing wants to be. In fact, it is the desire of human (designer's) existence, which evokes what may be the *Existence-Will* of things. The latter is reflected in a sense of co-existence and co-dependence in humans, which is the essential condition of growing-together. Moreover, the idea of evoking the thing echoes Heidegger's "bringing the earth" ("*faire-venir la terre*"). He wrote: "Bringing the earth means: to bring it into the world as what takes place within." ("*Faire-venir la terre signifie : la faire venir dans l'ouvert en tant que ce qui se renferme en soi*"), (Heidegger 1986 : 51). This opening remains in the idea of what may be the *Existence-Will* of a thing.

4.2 Grasping reality in its continuity

According to Roland Barthes, our inability to reproduce reality in its totality is a major cause of the loss of the meanings of human actions. So, is it possible to grasp the whole reality? Most of all, it is important to understand what reality is.

Augustin Berque considers that it relates to the trajection which manifests itself as a "tension towards" («*tension vers*[10]»). I.e. that in the human eco-techno-symbolic milieu, the material forms tend to the mind. The source of this thinking follows the work of Zong Bing (375-443), *Introduction to Landscape Painting* (*Hua Xu Shanshui* 画 山 水 序*)*, which begins with: "As regards the landscape, while having material substance, it is to the spirit." (Zhi yu shanshui, zhi you er qu ling 至于山水，质有而趣灵[11]).

Where does this "*tension to*" moving force come from? According to Chinese thought, strongly influenced by the Book of Changes *(Yi jing* 易经*)*, the trend of transformation was born from an opposition.

The Book of Changes considers that the world is made up of five elements: metal, wood, water, fire, earth. The five elements are in a relationship, both opposite and complementary, in the sense of growing-together: They are the mutual relations of birth and domination (*Xiang sheng xiang ke* 相 生 相 克) - earth conquers water, water conquers fire, fire conquers metal, metal overcomes wood and wood overcomes earth; on the contrary, metal emerges from the earth, the earth emerges from fire, fire emerges from wood, wood emerges from water and water emerges from metal. The relationships between these five elements are embodied in a mutual causality of perpetual transformations: the opposition evokes the tension from one to the other, which generates the movement of the breath of life (*Qi*气) energy, creator of life. The trend of transformation between two elements is intrinsically contained in their opposition.

Thus, reality manifests itself as a constant transformation. In that movement, nothing lasts forever. The opposition is only an ephemeral phenomenon. Capturing reality by a static distinction is insufficient, because what is grasped is a momentary phenomenon. In order to approach reality as a whole, it must be seized in the continuity of its movement. This continuity is not only spatial but also temporal. It includes past, present and anticipated future.

How do we capture reality in its continuity? According to Louis I. Kahn and many others (Bergson, Merleau-Ponty, etc.), this complete vision of reality remains in our unconsciousness, and manifests itself in intuition.

Intuition plays an important role in the thought of Louis I. Kahn. He considers it as gold dust in the nature of man, because it comes from a power inherited from nature. What we want to create is rooted in intuition, where the complete laws of nature reside. It is where the soul remains: the source of what a thing wants to be.[12]

Contrary to reasoning, which constantly stops at punctual recognition related to habit or utility of the object, intuition is an undivided continuity. If we divide reality into juxtaposed elements and then transform them into words and separate independent objects, it is precisely because we broke our original intuition. Yet, to anticipate the possible future of a project, it is necessary to stay within the movement of its reality in order to know its continual tendency. However, this power inherited is not immediately accessible. It is a passive ability, and the challenge is to awaken intuition in order to grasp reality in its fullness.

4.3 Projecting in front of oneself as participation in world

Another essential question for a project is: once reality is grasped by consciousness, how do we turn it into a concrete concept?

The first meaning of the term "project" is to project (as in throwing ahead): projecting ahead of oneself. The Heideggerian concept « *ENTWURF* » explains that "what defines man is what he is able to throw in front of him, in extricating himself." (« *Ce qui définit l'homme c'est ce qu'il est capable de jeter au-devant de lui, en l'extirpant de lui-même.*»), (Boutinet 1993:13). In reality, the act of projecting ahead of oneself can be understood as a predication that tries to seize the conscience of reality and the intentions by reason, words and concepts. This prediction is not a passive, but a creative act, because it is on a dynamic moving toward the future. For Louis I. Kahn, this dynamic is animated by the desire to be/express *(le désir d'être/ d'exprimer).*

In his quest for the beginnings of the project, Louis I. Kahn starts with "diagram - naming silence the desire to be / express, and light the other desire. The movement from silence to light, and from light to silence, has many thresholds and each threshold is a singularity. In each of us there is a threshold where silence meets the light. This threshold, the meeting point is the place (or the aura) of inspirations. Inspiration is where the desire to be / to express meets the *possible.*" ("*diagramme - appelant silence le désir d'être/ exprimer; et lumière l'autre désir. Le mouvement du silence vers la lumière, de la lumière vers le silence, a de nombreux seuils; beaucoup, beaucoup, beaucoup de seuils; et chaque seuil est en fait une singularité. En chacun d'entre nous il y un seuil où a lieu la rencontre du silence et de la lumière. Ce seuil, ce point de rencontre, est le lieu (ou l'aura) des inspirations. L'inspiration se situe là où le désir d'être /exprimer rencontre le* possible."), (Kahn 1996 : 264).

"The possible" lies in the answers of three questions: why (nature), what (order) and how (project). The search for answers is a process of formulating intuition, conscience, intentions and awareness through formal languages. This is to seize the inside of man by signs. It is to throw oneself ahead by words, drawings, etc.

According to Plato, the relationship between the intelligible world and the sensitive world is "participation" (in Greek μέθεξις / Methexis). The best way to understand something is to participate in its world and follow its transformation movement. Participation is a human voluntary engagement that begins with valuing the unique encounter between the thing and the mind and continues throughout the project. This action automatically creates a project milieu based on a previous cycle of predication. Every moment of predication must be a participation in the previous reality that is S'. The process of the project can be represented by the extended mesological formula: ((((S / P) = S '/ P') = S" / P") = S" '/ P"' ...)

Thus, the project begins with an unmeasurable human reality, which is the external reality trajected by the mind. As Heidegger says: "Setting up a world, the work brought the earth." (« *Installant un monde, l'œuvre fait venir la terre.* »), (Heidegger 1986: 49). In other words, for the work to "bring the earth", we must set up a world. The "world" is a constructed reality (S / P) owned by the work. The installation of the world is the beginning of the project.

Therefore, through three questions (why, what and how), the desire to be/to express is materialized in thought; the external reality changes into human reality; and the universal emerges from singularities. Guided by intuition, the quest for the *formal principle* (concept) occurs in the most intimate relationship of the mind and the soul and is expressed by the presence of the verbal order of the universe. The meeting of the *Existence Will* and of the *desire to express* leads to inspiration, which is the doorway of the project. Inspiration is the beginning of the possibility to express the *Existence Will*. The diagram below describes the birth of a project. (Fig.3)

5. Conclusion

The project process is a key question for current research. Our way of driving projects affects not only the transformation of our world, but also the content of future designers' training.

This article is based on ongoing research about the teaching of landscape, whose intention is to establish a sound theoretical basis for the project based on mesology, which would allow us to conceive concrete applications of theories proposed in education, including the training of landscape architects. For this, the study has identified five key principles for the project, only the first three, dealing with the beginning of design, were discussed in this article: 1. Concrete Grasp of the thing; 2. Grasping the reality in its continuity; 3. Projecting ahead as participation in world; 4. Regular return to previous reality (designated S') as infra-significant trend; 5. *Calage trajectif* (abutting relationship) by hierarchical laws.

Notes:

[1] Mesology– the study of *milieux* (ambient worlds).

[2] With reference to the Heideggerian notion: Räumung.

[3] Wang Shu is the winner of the Pritzker prize of 2012.

[4] With reference to notions: "Analyse inventive" of Bernard LASSUS and "formal principle" of Louis I. KAHN

[5] Kahn Louis I., *Silence et lumière,* traduction de l'américain par Mathilde Bellaigue et Christian Devillers Paris, Linteau, 1996, page 44

[6] http://www.mesologiques.com/2012/01/comment-souffle-lesprit-sur-la-terre.html

[7] Ibid.

[8] Ibid.

[9] Ibid.

[10] Ibid.

[11] French traduction by Augustin Berque: «*S'agissant du paysage, tout en ayant substance matérielle, il est vers l'esprit.*»

[12] Louis I. Kahn said that the soul is in intuition.

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Landscape from Context to Object: Visual and Noetic/Noematic Dimensions

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Abstract: The main problem with landscape design and planning is that 'landscape' has been mainly used in visual terms. There is a need for a conceptual paradigm shift from landscapes as global aesthetic visual images to local functional entities and a consequent shift from ethically neutral aestheticism to ethical responsibility. Towards this end, this paper revisits the notion of intentionality in Husserl and more particularly its noetic/noematic structure. It addresses a suitable approach for comprehending landscape as an object, and the interpretation or/and re-constitution of our intervention in it. This conceptualization has to be creative in both its noetic and noematic dimensions if it is to justify the multifarious and infinite facets of landscape as an object of phenomenological analysis.

Keywords: Nature, Landscape, Context, Object, Phenomenology,, Husserl, Intentionality, Noetic, Noematic, Ethics.

1. Landscape

The notion of landscape in this essay is considered as that part or aspect of the natural environment that is culturally constructed and becomes culturally meaningful through this particular cultural construction process.

Cultural construction of a part of the natural environment encompasses all kinds of interventions that have a physical impact in transforming the natural environment into a built one, from its transformation into arable land to substituting it with urban land.

Cultural construction or vision of nature relates to the imposition of cultural meaning to the physical environment without altering its physical characteristics.

In both cases, physically or virtually, the natural environment is considered here as culturally constructed and represented as a cultural image (Casey, 2004).

2. The 'Classical' Paradigm: The Landscape as Context for the Object

In architectural, urban and landscape design, at all levels of intervention, the predominant paradigm of Modernism has focused exclusively on the creation of the designed object, whether a single building or a new city. This paradigm has been formulated within the wider philosophical premises of the Enlightenment and Cartesian dualism between the sovereign human subject and the whole word as an object or a collection of objects, as an object of inquiry and for intervention by the rational human mind.

Within this paradigm, the landscape, the part of the environment – natural or/and built – that surrounds the object, has served as the background for the architectural object. The landscape, at its best has been represented as background or context, for the sole purpose of highlighting and enhancing the object in the foreground, which is supposed to reign supreme as the pure rational product of the human mind against natural disorder and wilderness.

With the same paradigm of valuing the predominant object, landscape gradually evolved from secondary background to the foreground as an object of inquiry in itself. Thus we have the designation of areas of natural beauty, isolated and framed parts of nature considered as objects created by the aesthetically educated eye of the beholder, that beholder being a gifted individual such as an artist or society, if this part of nature represents and conforms to its aesthetic ideal. Moreover, guided by this ideal of discriminating between areas of natural beauty, the next step would unavoidably be to simulate such beauty by incorporating it into design, most particularly landscape design.

The very term 'landscape' has been used in all kinds of metaphors to denote aesthetic qualities of buildings and cities. The very terminology used to justify architectural merits has shifted from well-articulated built objects to their contribution to the streetscape, the roofscape, the townscape and so on.

Landscape, culturally considered part of the natural environment or part of the built environment – metaphorically termed – has been extensively used as an all encompassing generic term to embody all kinds of relations between environs, individuals and their creations. This came about as a consequence of the relativity and skepticism concerning architectural works as objects. Yet, the paradigm of objectifying the natural environment is still dominant and landscape design is mainly taught with the same principles and methods of architectural design. At its best, landscape design is considered as architectural design by using plants as architectural elements and tools. Even what used to be a purely natural environment has not escaped from being rapidly culturalized and termed as landscape.

3. The 'Picturesque' Paradigm – Landscape as Image of Contrast

In theoretical and ideological opposition to the Classical paradigm, which is centered upon the object, the Picturesque movement celebrated the disorderly and bizarre conglomeration of objects. The image of landscape was considered as the new aesthetic ideal pertaining to all levels of design, from the design of parks and estate gardens where it started from, to domestic wall paper. Only this time, the landscape is not a new object of a bigger scale but an image of the bizarre, evaluated as a new aesthetic and actually loading the term in its pictorial sense which is currently dominant. This new aesthetic has nothing in common with the original aesthetics, as coined by Baumgarten in order to acknowledge the cognitive value of the senses on an equal pedestal with the all mighty logic. It seems that of the many senses and diverse ways of apprehending reality, the picturesque only singled out a shocking pictorial contrast. Thus the apparent disorder of natural environments became the dominant pictorial analogy for architectural, urban and landscape design. Repton's red books, one for each particular landscape project, are quite indicative of this new aesthetic ideal which singled out the pictorial aspect of the natural environment, preferably the most diverse and seemingly incomprehensible one, in order to use it later for interventions in the natural environment, considered as gardening or landscape design. (Loudon, 1840). For the picturesque, the main issue is the coexistence of contrasting elements as a source of aesthetic pleasure and 'landscape', as a term, is not treated in either a literal or metaphoric sense but in an altogether different way, in a painterly matter, as a painted image. Used literally as cultural landscape, or more often metaphorically (as urban landscape, landscape urbanism..) it has always been considered as an all encompassing picture composed of disparate, unrelated and opposing parts. The visual, an heir of the picturesque, celebrates the aesthetics of the static image and enjoys the assemblage of disparities. It emphasizes personal taste, is ethically neutral and defies criticism and dialogue, thus defying its status as an educational subject. This paradigm of design is mainly responsible for the production of architecture as a market commodity worldwide. The contemporary deification of the visual is the dominant cultural premise upon which 'anything goes anywhere' provided it produces a shocking visual contrast. It goes without saying that in such a situation there can be no teaching of architectural, urban or landscape design lest it risks being accused as being dogmatic.

4. The 'Romantic' Paradigm – The object and the landscape as means to the sublime experience

For the Romantic Movement, neither the architectural object nor its natural environment as a visual collage, are ends in themselves. Architectural objects such as ruins of churches and peasant huts, as well as vast landscapes surrounding them, are just the means of going beyond the dissolute places to spiritual states of memory, imagination, longing and aspiration. Expressed mainly through poetry and the painting of landscapes, the Romantic Movement sought to go beyond the object painted, as was the case of the Picturesque, or even the real one – as was the case with Classicism.

Romantic landscape painting, such as the series by Caspar Friedrich, uses the surface of the canvas, but unlike the picturesque it is only used to transcend the reality of the depicted landscape and the real landscape to reach the relationship between man and nature. Emphasis is on the external but also on the internal, quite likely the contemplating figures which gaze at the far horizon. So, for the romantic paradigm, the focus is cast upon the landscape as an environment of man only as a means to enhance the sublime aesthetic experience. The consequence of such a paradigm in architectural, urban and landscape design is that neither forms nor images are enough and an esoteric content should be sought after if we are to acquire meaning. The ruin is more important than the complete form, the real is more important than the image and the imaginary, through and beyond reality, is more important than the real.

5. The New Objectivity of Landscape

In our days we witness an intense focus on landscape, which surpasses that of an extended object, a depicted image or a means for contemplation. Landscape in its contemporary use encompasses nearly everything but without a vantage point, whether classical, picturesque or romantic as cited before.

Landscape is used as an umbrella term, not generic to explain multiple phenomena but a cover in the sense of an alibi, a politically correct inclusiveness for the sake of inclusiveness.

In one of its forms the landscape is used to describe, encompass and subsume the historic environment with the term Historic Urban Landscape (HUL) which seeks to justify contemporary global development in local architectural and cultural idioms in terms of an all-encompassing contrast, , as a legitimate way of expressing cultural evolution. In this sense, HUL assimilates the picturesque paradigm which justifies just about anything, especially any form of skyscraper to Chinese, Korean, Indian or Azeri cities.

In its second, complementary, mode, the landscape is the natural environment as a whole.

The main issue is: is this new landscape paradigm a new vogue characterized by a shift of focus from the object to the context, from the architectural object to the landscape at greater and greater scales, or is it an indication of a much needed shift of paradigm from the so far dominant anthropocentric prejudice of the self-indulged self (individual, society or humanity as a whole) to an ecocentric one, which would consider and give space, metaphorically but also literally, to the natural environment as an expression of the 'other', the beyond the human creation and interest? (Thompson, 2000)

This ecocentric approach calls for a new objectivity, which marks a new sensitivity and a whole new set of values that we have to consider.

This shift, which betrays an underlying shift of values, has been generated from two main sources. The first is the architectural object itself, again in all possible levels of analysis and consequent interventions, since architectural works can no longer sustain meaning unless in relation to their physical and cultural context, in a relational way.

The second reason for this new objectivity of the landscape comes from a much wider sensitivity and need, the need to respect nature in nature's way. In the contemporary dominant framework of ecology and sustainability at all levels of reference from the immediate place we live to the planet as a whole, there comes an urgent need to think, interpret, comprehend and manage the natural environment in different terms from the culturally created built one.

6. What kind of Object is Landscape?

What is at stake in both cases that have converged in the contemporary situation is the need for a new way of intervening not according to our taste of design aesthetics but according to an ethics that comes to us as a necessity.

So, in a nutshell, not our aesthetics but nature's ethics, with the main problem being if and how we could step beyond our aesthetics as the means to design a pleasant and socially pleasurable environment and, above all, if and how we could possibly escape our anthropocentrism towards nature in general and towards designing landscapes in particular.

One possible search for this new objectivity would be the good old way of dealing with the environment and the design of landscapes in a scientific way. Actually, the first approaches to landscape design as a profession, were mainly following the scientific model by extensive analyses of the various environmental parameters that constitute the environment. But even these scientific approaches could not but betray, unavoidably, the major cultural and philosophical premises on which they were based. Additionally, they could not escape being expressed in a manner which has been criticized for being unattractive in trying to be scientific and unscientific in trying to be attractive. Aesthetics, reflecting the dominant cultural images of the day, is the unsurpassable obstacle to this.

An alternative way to deal with landscape design is in terms of aesthetics. Landscape design today is considered as an architectural or art design at an even larger scale. That may be pleasing, but certainly, culturally determined aesthetic beauty cannot be a sign of appropriateness in dealing with natural environment management, part of which is landscape design.

7. A Philosophical Approach to Landscape as Constituted by ourselves Object

After reaching such an impasse concerning the appropriate, and thus ethical, way of dealing with the natural environment, in the following part of this essay an attempt is made to revisit Husserl's conceptualization of the constitution of the object as a sound basis for building up a theory that could address the other in its own terms, as is most urgently needed concerning the natural environment and its sustainability (Mohanty, 1954).

There is a need for a conceptual paradigm shift from landscapes as global aesthetic visual images to local functional entities and a consequent need for a shift from ethically neutral self–indulged aestheticism to ethical responsibility towards nature as the other par excellence. This is to address an adequate approach to the comprehension of landscape as an object, in its ontological terms and not as a projection of ours, in our interpretation of it or/and intervention in it. This approach has to be creative if it is to justify the multifarious and infinite facets of landscape as an object of phenomenological analysis and additionally treat this landscape in its own terms. Such a conceptualization calls for a revisit of the Husserlian constitution of objects, necessary in order to recast both our analysis of landscape as an object of inquiry and additionally provide new tools, a new aesthetic that this time could work within environmental ethics. The main reasons for following Husserl in such a solution to the problem are:

a) Husserl deals with the constitution of objects in terms of human intentionality, in order to avoid the dualism between subject and object. In terms of intentionality, subjectivity is not presupposed nor predominant but constructed on equal terms and in a similar way with that of objects, the subject being yet another object.

b) In dealing with the process of constitution of objects, he deploys both an empirical approach based on the experience of the object which is rendered by reasoning as transcendental in relation to the ways in which it is being experienced and also a intuitive mode in rendering the object under inquiry as immanent in addressing its essence.

c) By focusing on the constitution process, Husserl manages to avoid aesthetic considerations. Aesthetics can only make its way, as a result of this procedural ontological constitution.

d) In dealing with the constitution process, he also avoids relativism such as externally imposed cultural significance and focuses on the significance emanating from the object itself. Although cultural construction of meaning is unavoidable, it is important that this cultural meaning is anchored in the ontological status of the object and not some arbitrary projection upon it. Thus he can speak about the 'other' in its own terms.

The natural environment, considered as our context, is multidimensional and complex, but mostly is considered as 'ours', not as an 'other'. Considered as a constituted object in Husserlian terms, the natural environment is approached on an equal basis with us and is constituted on equal terms as ourselves.

This approach is based on the notion of intentionality which in turn is structured in a reciprocal noetic/noematic scheme. Noetic/Noematic denotes, in accordance with Husserl, complementary aspects of intentionality, which carry ethical dimensions of intentions envisaged, including the adoption of proper means and care for a coherent constitution process. Intentionality for Husserl is the very consciousness of things and as such it is a prerequisite in grasping any object. Intentionality is directed towards an object. Although consciousness may have intentional and non-intentional phases, intentionality nevertheless is the sole responsible agent for giving an object its objecthood, its meaning in its own terms (Gurwitsch, 1967).

Within this constitution process, noetic refers to continuity in the procedural constitution of meaning, while noematic denotes the outcomes, the interim results, of this process at different stages of the noetic process. It occurs when we attempt to approach cognitively by reasoning the diversity under which an object appears and thus noetic refers ultimately to a transcendental object discovered by reason, beyond the diversity of its appearances in our experience of it. Noematic, within the same constitution process, refers to intuitively grasping and comprehending the object as an immanent one, an essence, a concrete 'other' identity. This latter refers to acts of consciousness that are immanently directed at an object and are in the same stream of consciousness directed towards ourselves which is also an intentional object (Schuhmann, 1989).

The difference between transcendent and immanent perception reflects the difference between the experience of the object as 'other' and this other as a thing in itself. The difference between immanent and transcendent perception also reflects the difference in the way in which things are given or presented to our consciousness. Givenness may be adequate or inadequate in terms of its clarity, distinctness and intuitability. For our purposes, this latter intuition of the immanence of landscape as an intentional object of our consciousness is close to Kantian imagination.

The constitution of landscape can thus be considered as being constructed by experience, reasoning and intuition alike. Experience and reasoning could enable the constitution of a given landscape as a transcendental object through its various means of perception, while intuition as imagination could enable us to grasp its essence. What is more important in this approach is the establishment of a direct correspondence between the noetic and noematic aspects of our intentionality in constituting the landscape as an object of inquiry, an object of consciousness, an intentional object and finally a co-constituted object. This correspondence calls for a dialectic approach which acknowledges the landscape as an 'other' despite the unavoidable fact of this inquiry being conducted within our consciousness and following our intentionality. This point marks a diversion from the orthodox Husserlian approach which held the noetic part as being supreme. In our approach the relationship between noetic and noematic is more important and ensures that the natural environment as 'other' is being taken into consideration in its own terms.

The constitution process is a dialectic process that could enable us to understand, relate to, come in to dialogue with, interpret and finally intervene in order to express our relationship with the natural environment as a cultural construct which acknowledges the intrinsic worth of its interlocutor.

This approach may ultimately reconcile what has been the unsurpassable rift between man and nature and bridge the seemingly logical paradox of our being part of the natural environment, while also being responsible for its preservation and sustainability. It seems that after a long time of intervening in the natural environment and briefly shifting towards design with nature, it is perhaps worth trying to treat the natural environment in its own terms, alongside designing ourselves, on common premises and common methodological tools generated out of these premises.

8. Landscape Design: from object of inquiry to object of teaching

One way of teaching landscape design is by transmitting and encouraging theoretical inquiry, which mainly criticizes current approaches and indirectly shows some directions apophatically, i.e. by showing what not to do. The main issue, which is how to teach landscape design, is part of a much broader issue which relates to how we could adequately express our conceptualization of landscape and how we could visualize our interpretation as a token of our attitude. What could possibly be the image of such an approach that would be able to do justice to the natural environment in its own terms, in its own worth and for the sake of its own values?

There has to be a new paradigm of rationale, not a new aesthetics. In this approach we have to shift the focus from the visual to the noematic, from our visual interpretation to its own noematic content, from our conception to its own constitution.

This broader issue perhaps cannot be predetermined, but can only be part of a common ongoing task with our students. Suffice to say that we have to encourage imagination not in terms of visual aesthetics, visual imagery, or even in terms of representational images, which only do justice to the noetic part, but rather in terms of intuition.

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A Philosophical Meeting in the Greek Garden

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Abstract: Philosophy aims to deal with the environment of the world in which one finds oneself. We associate the Greeks with the birth of the *agora*. This text will encourage us to move towards the outside, forgetting the city walls, their well established place, and all that lies dormant within. Throughout various texts, the Greek garden changes its costume in accordance with the different theories or cultural spaces in which it is present; yet it never becomes invariable and permanent.

Keywords: Garden, agora, Greek philosophy, nature, landscape.

"Τᾶς φύσιος δ'ὁ πλοῦτος ὅρον τινὰ βαιὸν ἐπίσχει," *(the riches of nature contained in a small enclosure) – Epicurus.*

Philosophy aims to deal with the environment of the world in which one finds oneself. We associate the Greeks with the birth of the *agora*. This text will encourage us to move towards the outside, forgetting the city walls, their well established place, and all that lies dormant within. The city - the *agora* which we consider as the model for the universal flow of things - objectifies our thoughts. One must make a movement towards the outside, leaving the *agora* and going out into the garden (ὁ κῆπος). The idea of the garden's boundary should be considered in its entirety; it is not a dividing line, but a mobile horizon. The term garden - which applies to a conceptual vocation - confirms that the notions of *revolutionary garden, Dasein, sojourns, lines of flight, heterotopia*, and *khôra* are stages along the path of thought[1]. Naturally, one should seek the origins of Western gardens in Greece, in keeping with Pierre Grimal's philological optimism. It is time to return to the textual source of their origins and adhere to philological analysis so as to be able to reassess our interpretation of Antiquity. For several reasons, that interpretation has left us insensitive to the presence of the Greek garden, and has insisted on attaching familiar labels to categories such as paradise or a garden of pleasure. Being aware that texts never stand alone in philological investigations, and that contemporary hermeneutics allow one to evaluate a reality such as a garden, I will keep to the texts as closely as possible without referring to ethnological, ancient sociological, or archaeological sources. Throughout various texts, the Greek garden changes its costume in accordance with the different theories or cultural spaces in which it is present; yet it never becomes invariable and permanent. The vocabulary concerning gardens is what is mostly given as proof. We can project ourselves into the space of a Greek garden to explore a few concepts: κῆπος *(kepos)*[2], λειμών *(leimon)*[3], ἄλσος *(alsos)*[4], περίβολος *(peribolos)*[5], παράδειδος *(paradeidos)*. The main focus of our investigations should concern the word κῆπος, which served as a framework for the school of Epicurus. The reality of the garden is already a result which appears only as a perspective or structure. The thought of a garden is therefore a thought of reality as an interpretation, assuming that *any interpretation may exist only as a perspective*. Based on this perspectivist argument, the question which arises - as it did to Protagoras (cf. Plato's dialogue) - is whether all perspectives (or interpretations) of the garden are equal.

My long philological study revealed all kinds of gardens: some mythical, such as the garden of love, the utopian paradise garden, or Homer's garden; and some real, like the Athenian gardens associated with Plato, Aristotle, Epicurus and other philosophers. Greek cities were small, with little space to create sumptuous private gardens. Nevertheless, the first public parks with tree-lined paths, benches, and playing fields were discovered there.

Trees were an overall part of the Greek environment (except for the holy treeless areas - ἄλσος), and were inhabited by gods and men: prairies λειmών, forests ὕλη *(hulé)*[6], orchards ἀλωή[7] *(aloé)*, gardens κῆπος, and paradise ραράδειδος. The forest (ὕλη), dwelling place of the god Pan, was transformed from a complete, universal form into a localised one that could be adapted to various human uses for gardens. Xenophon wrote that, before it became a divine plantation, *paradise* was a place planted with trees. Heavenly places such as the Garden of the Hesperides and the Garden of Eden, with their trees of knowledge and life, are always sacred, ancient places which preserve memory. Their sacred origin has never disappeared, even if all that remains is an ambience created by purely material remnants. During my investigations, I also discovered funeral gardens, animals in gardens, the sterile Gardens of Adonis, and the garden of writing. As Plato used to say, writing bears no fruit or truth, for it is as sterile and short-lived as the gardens of Adonis. Writing is like tending the gardens of Adonis, time spent enjoying oneself. In this respect, it concerns the connection between entertainment and the beauty of gardens, which start to be defined as places of relaxation, not of harvest. The gardens of Adonis are gardens of writing, not philosophical gardens (cf. Détienne 1972). The philosophical garden appears last, like a prefigured version of the garden of Epicurus. Although not exactly the gardener, a philosopher may still be compared to one, though not a gardener of fertile soil but of the mind, cultivating thoughts instead of plants. He evokes working with the earth, as well as the labour and patience involved in planting and upkeep. After Plato, it was Aristotle and Theophrastus in particular who expounded on the figure of the scientist collecting, classifying, and recording the sum of botanical knowledge. With Epicurus, the garden of the mind became the garden of reality. All these passed through the image of the ephemeral Gardens of Adonis. Water is one of the basic elements of the world and life itself. It is a substance rendered sacred by divine manifestations, yet it is also essential to life; a substance which is both sacred and profane. Water circulates within the earth. Water is also the clouds which inhabit two gardens situated on opposite boundaries. (One water garden known in Greece is the garden of their father, the Ocean, and the other is that of their mother, the Earth).

Watering is a key concern for gardeners. In order for things to grow, they must be watered, and fresh water is extremely precious as supplies are never abundant. However, let us note Aesop's remark that wild plants grow better than ones grown in gardens tended by

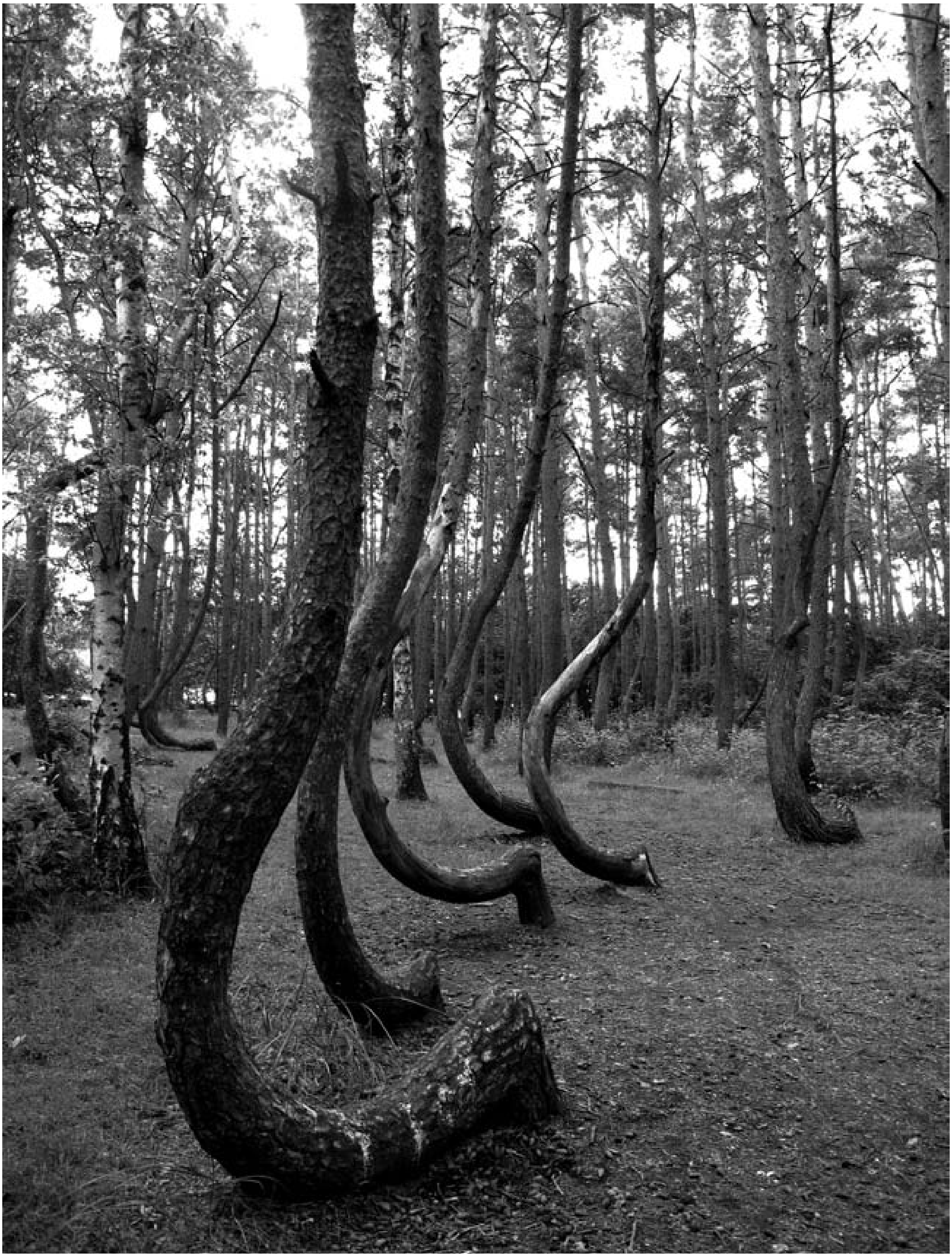

Fig. 1 The Crooked Forest (Polish: Krzywy Las), Nowe Czarnowo, Poland (photo M.G.).

gardeners anyway. For him, gardens were like an orphanage for children he compared to plants, abandoned by their mother.

Springs of water symbolise veins with blood flowing through them. Plato and Aristotle offer us the interesting idea that the creation of mankind represents the creation of a garden, which must also be watered. The genius of *Greek synthesis* was reflected in all these investigations. In Greek culture, all human actions formed a unified whole. Gardens were part of nature and culture. Their demarcations and contradictions were defined gradually. Even during the Hellenistic period, works of Greek literature showed signs of original unity of nature and culture, ethical and aesthetic order. The fact that this literature mentions gardens proves the religious origins of literature and, hence, art. In fact, religion shaped the garden's original form. Never having known alienation, mankind's search for unity was revealed in the creation and rediscovery of the garden as a symbol of primordial harmony that has been irretrievably lost. Mankind's intuitive return to unity was accompanied by drawing closer to nature, and was always linked to the desire for change. This change of perspective demonstrates a desire prevalent in society: to revolt or radically reform the current social regime. That desire is reflected in the resurgence of idyllic poetry, so significant during turbulent periods in history. The issue of seeking potential paths in Greek literature, inspired by the image of the garden being an attempt to create a *new synthesis*, is a hypothesis. We inherited it from the Romans, for whom gardens were already a well-defined, more uniform concept than for the Greeks. Pliny the Elder wrote: "Nowadays in Rome, we even have recreational areas which go by the name of gardens, with fields and villas. This custom was instigated in Athens by Epicurus, a true master of the idle life: before him, nobody had been able to bring the countryside into the city"[8].

The first mentions of Greek gardens were always in a religious context, with gardens linked to two opposing realms: nature and culture. This demarcation is obvious, because gardens would not exist as such if every form of human culture were a garden. The form of the garden is such that we must constantly extend it and try to understand its relation to the other world of the ever-present garden. The further we move away from the garden, the more it remains with us. We must contemplate this relation to the garden. Gardening makes us think. Initially an enigmatic object, despite the immediate References: to Epicurus, it deconstructs the space defined by architecture, sculpture, painting and poetry that Hegel interpreted as forming a history of the spirit in the Greek world. He led us to define - starting with the difficulty in identifying what he names in this space and what seems not to correspond to anything that we would call a "garden" in our own structuring of places for living and thinking - as yet undiscovered original situations with which ancient Greece was experimenting at the dawn of our own gestures. The *garden* enables us once again, freed from reference to the *agora,* to experience that immersion in the Greek beginnings of thought, undertaken in entirely different ways by Nietzsche and Heidegger. It enables us to reconsider the spatialities underpinning the redeployments of the public space of antiquity undertaken by Hannah Arendt. The *garden* asks more profound questions. As Foucault said: "The garden is a carpet in which the entire world attains its symbolic perfection, and the carpet is a kind of garden that moves through space. The garden is the smallest parcel of the world and the whole world at the same time" (Foucault 1994: 182). Philosophy aims to deal with the environment of the world in which one finds oneself, with its neighbourhoods and relations built up to provide meaning to a given neighbourhood. It allows us to imagine this environment and give it form. The garden envelops us, and is also the path. It is a road which closes and encircles, but which may also open. One must therefore gain a foothold and find one's place, while taking flight and leaving at the same time. Simultaneously going and staying.

The garden envelops us, it is our garden, our gardening. We cannot leave it, it accompanies us everywhere. Literally all of us are gardeners. We must grow plants on our own skin, while harvesting and reading the words, feelings, and plants on the skins of others. We are always part of this relationship of the garden's exclusion and interiority. The interior and the exterior stay together. The idea of the garden's boundary should be considered in its entirety; it is not a dividing line, but a mobile relationship, a mobile horizon, a mobile perspective πέρας *(péras)* in Greek.

We associate the Greeks with the birth of the *agora*, a central place in the city where citizens would meet to talk. The space opened by politics is a space for shared words: it only exists in public discussion among citizens, which transforms subjective opinions into elements for objective reflection on the common good. The Greeks invented the city, or *polis*, to preserve the political conditions of existence. The *polis* with its central *agora* is the first space of politics. Deleuze wrote: "If philosophy is Greek in origin, so to speak, it is because cities, unlike empires or states, invented the agon as a rule for a society of friends, a community of free men as rivals (citizens)" (Deleuze 1990). It was within the framework of an *agon* (contest or meeting) that tragedies, satiric plays, and comedies were played out. The model can be found in the Iliad and the Odyssey. The games held for the funerals of Patrocles (Iliad XXIII 507, 685, 710, 799) and Achilles (Odyssey XXIV, 80–89) were part of an *agon*. But there is obvious continuity between assembled warriors, a citizens' assembly in the oligarchic state, and the democratic ecclesia assembled at the *agora*. After all, political debate is a standardised struggle similar to that on show at funeral games, whose avatars were the various contests organised by the city. The city of the Greek *polis* was nevertheless founded on persuasion, not violence; turmoil was kept outside the *polis*, as well as outside the garden. The dialectical art displayed in agonistic combat gives rise to rhetoric which is still agonistic, but more indirect. Rhetoric is dialectic plus an emotional element, which equals persuasion. Epicurus said that one must also persuade nature in order to produce a garden. Life harmonised with the nature of the garden brings a new ethos to fruition. In order to grasp it, one must make the atmosphere of the garden palpable. One must persuade nature: "We must not force Nature but persuade her. We shall persuade her if we satisfy the necessary desires and also those bodily desires that do not harm us, while sternly rejecting those that are harmful"[9]. Epicurus domesticated nature so as to end up with a *garden*. The Greek's invention lies in preserving the memory of how the sceptre of the archè was brought to the fore. Man is not a political being by nature, since the *agora* and politics define him as a creation of a human world which is not part of nature. If removed from politics, man somehow reverts to an animal state, but on the way he stops in the garden, where his human nature grows. The creation of a political space is not the only true means of expressing mankind's human qualities to allow the foundation of a common world governed by the *nomos*. Alongside the *agora*, where men recognise one another as citizens, is the garden, where men stand together beneath the horizon of a common world of *being-together*.

In Plato's last dialogue, the *Laws*, which concerns the issue of the best political constitution, three characters, an Athenian (Socrates is never mentioned by name), a Lacedaemonian named Clinias, and a Spartan named Megillos, leave Knossos, the city of Minos, to go and visit the garden of Zeus on Mount Ida. This mythical place refers to the paradigmatic marriage of Zeus and Hera. The sacred garden of marriage and the temple of Zeus are presented as a goal to be reached. The friends leave the city and journey to the garden in order to seek the truth.

My text encourages an expedition outside. The Greek city is replaced by inner citadels, spiritual exercises, philosophical sects, and rambling predications. The research I propose fits into the study of this journey. By latching onto the question of the garden from the outset, it defies the most common categories so as to embrace the theme of supporting centrality indicated by a re-evaluation of the subject of the *agora* through the spiritual internalisation of the place of thought, or its social and geographical externalisations along the open roads of the Hellenistic world.

We must forget the walls of our cities and their well established place, as well as all that lies dormant within: institutions, laws, certainties, and acts committed in legal safety. The city - the *agora*

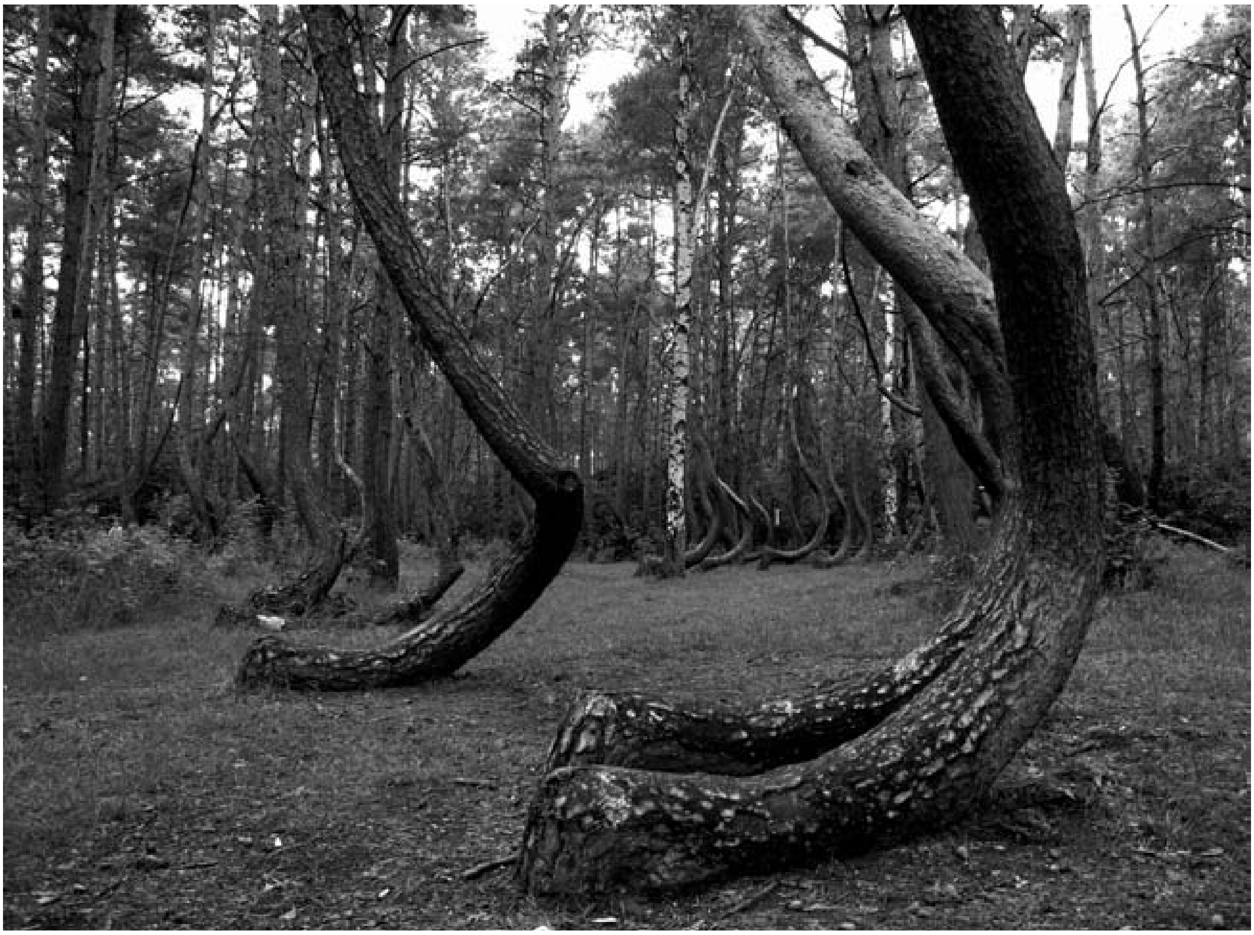

Fig. 2 The Crooked Forest (Polish: Krzywy Las), Nowe Czarnowo, Poland (photo M.G.).

which we consider as the model for the universal flow of things - objectifies our thoughts. Therefore we must once again do what we feel is necessary, *i.e.* move out of the city, leave the *agora* and go out into the garden. Epicurus taught: "τᾶς φύσιος δ'ό πλοῦτος ὅρον τινὰ βαιὸν ἐπίσχει" (the riches of nature contained in a small enclosure)[10]. The idea of the garden's boundary should be considered in its entirety; it is not a dividing line, but a mobile relationship, a mobile horizon. The Greeks observed that the πέρας (limit) is not a place where something stops. On the contrary, it is a point where something starts to exist. Ancient Greek thought was based on the fact that a boundary marked the beginning of an intellectual path, not the end.

Gardens as we imagine them today (*i.e.* closed) seemed open to the Greeks, as their limits did not play the same role they do today. They are more of a denial of enclosure; they defy their function which limits the visual field. Here we mean to say that a Greek philosopher *enclosed* in a garden may look into Places where vision is no longer capable of seeing. He staggers out of Plato's Cave because he is not chained to its walls. His garden has no walls. We can only think along those lines; to think is to travel, approaching Nietzsche's wanderer following his shadow. Travelling without moving, without crossing the threshold of life. Philosophical concepts such as *revolutionary garden*, *Dasein*, *sojourns*, *lines of flight*, *heterotopia*, *khôra*, and *uncultivated garden* are stages along the path of thought, and they bring us closer to the form of the philosophical garden. These foundations of a spatial, temporal, solitary place make it possible to open oneself to others and meet others; a philosophical encounter to be considered not necessarily in terms of relentless conflict, but rather in harmony in a range of different tones. Let us recall that to ask questions of the Greeks is, paradoxically, to learn to differ from them, and to invent things of our own; to invent conditions of the actual which is, as Nietzsche put it, not actual and misplaced. Like Ulysses, who is πολύτροπος *(polutropos)*,[11] holding all knowledge in his hands, with Greek cunning, he risks deviation, he flails around, he gives himself over to harsh reality, which he will never make into a system so as to avoid seeing it vanish in the norm. That implies thought as an event unrelated to stability and constant tranquillity. Thinking means risking a shift from the centre, a movement, a departure; in short, a move away. The most important thing is to move away, always towards the unknown, so as not to be on land that is already occupied; the most vital point is not to *recognise* anything. Let us accompany the *katabasis* of Ulysses and Orpheus, two exceptionally ingenious and powerful characters, capable of commanding the winds or bringing back the dead from Hades. As Jean-Pierre Vernant wrote: "In divine people, as diverse as they may be, it is human individuality which takes the initiative, calls the tune, and crosses over to the other side. Thanks to exceptional powers they have managed to acquire, they may leave their bodies abandoned, as if in a state of cataleptic slumber, to travel freely into the other world and return to Earth with full recollection of everything they saw on the other side" (Vernant 1987: 111).

So let us return to the earth of the garden, where philosophy, transposing the travel theme into its own register, will lead us to a meeting; where thought is not aligned to conformity or anything which implies value judgements or recognition. Instead of adjusting, judging and recognising, the concept of the garden can discover, fly and encounter. The essence of thought is meeting. A philosophical meeting in the Greek garden is a meeting outside in order to be outside. In conclusion, I will quote the Polish philosopher Leszek Kolakowski, who poked fun at the garden with an ironic attitude: "In spite of many attempts, no satisfactory definitions of 'garden' and of 'gardening' have been found; all existing definitions leave a large area of uncertainty about what belongs where. We simply do not know what exactly a garden and gardening are. To use these concepts is therefore intellectually irresponsible, and actually to garden would be even more so. Thou shalt not garden! Q.E.D." (Kolakowski 1990).

Notes:

[1] The milestones of postmodern philosophical reflection in Grygielewicz 2011.

[2] κῆπος, Dor.κᾶπος (also Inscr.Cypr. 135.20 H.), ὁ, garden, orchard, or plantation, Od.7.129, 24.247, 338; πολυδένδρεος 4.737; of any rich, highly cultivated region, as Ἀφροδίτας κᾶπος, i.e. Cyrene, Pi. P.5.24; Διὸς κ., i.e. Libya, ib.9.53 (but Διὸς κῆποι, also of heaven, S. Fr.320 (lyr.); Φοίβου παλαιὸς κ., of the eastern sky, ib.956, cf.Pl.Smp. 203b; cf. Ὠκεανοῦ κ. Ar.Nu.271) ; Thesaurus Linguae Graecae, the Packard Humanities Institute, The Perseus Project and others. Diogenes (version 3.1.6)

[3] λειμών, ῶνος, ὁ, any moist, grassy place, meadow, Il.2.467, etc.; ἀμφὶ δὲ λειμῶνες μαλακοὶ ἴου ἠδὲ σελίνου θήλεον Od.5.72; μαλακὸς λ. Hes.Th.279; βαθύς A.Pr.653; λ. βούχιλος, βουθερής, Id.Supp.540 (lyr.), S.Tr.188: metaph., λειμῶνα Μουσῶν δρέπων Ar.Ra.1300; ἐς λειμῶνα ποταμίων ποτῶν into the smooth river-water, S.Fr.659; χυτῆς λειμὼν θαλάσσης, of a sponge, AP6.66.7 (Paul. Sil.); πλούτου καὶ νεότητος λειμῶνας ἀφθόνους Pl.Sph.222a, cf. Phdr.248c

[4] ἄλσος, εος, τό, grove, Il.20.8, Od.10.350: pl., Phanocl.1.3, Theoc. 1.117, etc. esp. sacred grove, Od.6.291, Hes.Sc.99, Hdt.5.119, Pl.Lg.761c, etc.: - hence, any hallowed precinct, even without trees, Il.2.506, Sch.Pi.O.3.31, cf. B.3.19, S.Ant.844; Μαραθώνιον ἄ., of the field of battle, viewed as a holy place, A.Eleg.4: metaph., πόντιον ἄ. the ocean-plain, B.16.85, A.Pers.111. (Perh. for ἄλτ-ιος (cf. Ἄλτις), i.e. alq-ios, cf. Goth. alhs 'temple'.)

[5] περίβολος, ον, (περιβάλλω) compassing, encircling, στέφεα E.IA 1477 (lyr.) ; κάνναι Pherecr.63. as Subst. περίβολος, ὁ, = περιβολή, ἐχίδνης περίβολοι spires or coils of a serpent, E.Ion993: in pl., πλάϊνοι, of a tomb, Id.Tr.1141 : sg., enclosing wall, Hdt.1.181 ; of a town wall, Th.1.89 ; wall of the heart, Hp.Cord.4. area enclosed, enclosure, π. νεωρίων E.Hel.1530 ; of a temple, precinct, π. ἱεροῦ Ma.6.4, 4 Ma.4.11 ;

[6] ὕλη [ῡ], ἡ, forest, woodland, Il.11.155, Od.17.316, Ep.Jac.3.5, etc.; γῆν . δασέαν ὕλῃ παντοίῃ Hdt.4.21; ἀπ' ὕλης ἀγρίης ζώειν Id.1.203; ὕλα ἀεργός virgin forest, Berl.Sitzb.1927.167 (Cyrene); τὰ δένδρα καὶ ὕλη fruit-trees and forest-trees, Th.4.69 (cf.δένδρον); not only of forest-trees, but also of copse, brushwood, undergrowth (cf. ὕλημα), directly opp. to timber-trees ;

[7] ἀλωή [ᾰ], Dor. ἀλωά, ἡ, (ἀλέωA, cf.Att. ἅλως) poet.: threshing-floor, ἱερὰς κατ' ἀλωάς Il.5.499; μεγάλην κατ' ἀλωήν, ἐϋκτιμένῃ ἐν ἀλωῇ, 13.588, 20.496, cf. Hes.Op.597. more commonly, any prepared ground (cf. Sch.Od.1.193), garden, orchard, vineyard, etc., Il.5.90, Od.6.293,

[8] Pliny the Elder, Histoire Naturel, Emile Littré's edition; Plinius Secundus, Naturalis Historia, according to: the Thesaurus Linguae Graecae, the Packard Humanities Institute, the Perseus Project, and others. In Diogenes version 3.1.6, publisher unknown, book 19,VI: *"Iam quidem hortorum nomine in ipsa"; 19.51.1: "Urbe delicias agros villasque possident. Primus hoc instituit Athenis Epicurus otii magister; usque ad eum moris non fuerat in oppidis habitari rura".*

[9] *Epicurus*, Sentences Vaticanes, No.21: Οὐ βιαστέον τὴν φύσιν λλὰ πειστέον· πείσομεν δὲ τὰς ναγκαίας ἐπιθυμίας ἐκπληροῦντες, τάς τε φυσικὰς ἂν μὴ βλάπτωσι, τὰς δὲ βλαβερὰς πικρῶς ἐλέγχοντες.

[10] *Diogenes Laertios: 10.12.1. in:* Thesaurus Linguae Graecae, the Packard Humanities Institute, Diogenes (version 3.1.6)

[11] Πολύτροπος (adj.) – πολύ-τροπος, ον, *(*τρέπω*) much-turned, i.e. much-travelled, much-wandering, epith. of Odysseus, Od.1.1, 10.330. turning many ways: metaph., shifty, versatile, wily, of Hermes, h.Merc.13,439;* τοῖς ἀσθενέσι καὶ π. θηρίοις *Pl.Plt.291b; and in this sense Plato took the word as applied to Odysseus, Hp.Mi.364e (Sup.), al.;* τὸ π. τῆς γνώμης *their versatility of mind, Th.3.83;* τὸ π., *of Alcibiades, Plu.Alc. 24.*
fickle, ὅμιλος *Ps.-Phoc.95. of diseases, changeful, complicated, Plu. Num.22; also* πόλεμος τοῖς πάθεσι ποικίλος καὶ ταῖς τύχαις πολυτροπώτατος *Id.Mar.33;* στρατεία *Eun.Hist. p.223D. turning many ways, much-travelled, versatile, wily.*

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The Landscape of Interfaces: Painting Outside the Lines

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Abstract: Current land use dynamics show the emergence of landscape features and uses that do not fit well the conformal categories such as agriculture, forestry and urban land use. Different kinds of transitional categories and their corresponding landscape features can generally be put under the concept of "interface". We provisionally categorise them as hybrids, gardens, reaches, buffers, commons, guests, fallows and residuals. In two cases the landscape has been read according to these interface categories, in order to evaluate whether they support dominating ecosystem and landscape services, or whether they assume a matrix role both spatially and functionally. The concept of landscape interfaces invites to rethink the epistemology of landscape, environment and land-use, but also to develop complementary schemes of landscape diagnosis, planning and design, and not in the least landscape education.

Keywords: interfaces, land use, services, landscape.

1. Introduction

The customary land use categorisations are a heritage of the historical interplay between territorial strategies (like food production, defence and industrial development), cartography, tenure systems, socio-ecological systems, natural conditions and many other expressions of the linkage of people and communities to their territory. Current land use policies, and more specifically spatial planning policies, keep on articulating their strategies and plans in terms of clearly defined sectoral land use categories and in corresponding allocations and zones (Larsson 2006).

The upper divide of this categorisation is the classical triplet of urban/industrial, rural (agriculture, forestry) and conservation (nature); at the lower level subcategories are defined such as types of forest (deciduous, coniferous, etc.), types of tenure (private, public), types of land use environment (urban, rural, semi-urban, etc.), and a mix of categories. Landscape planners, for as far they have a stake in the organisation and management of territories, rather focus on morphological (Wilson and Gallant 2000), visual (Bell 1993), landscape-ecological (Dramstadt *et al* 1996), or cultural characteristics (Tengberg *et al* in press). Place identities, patterns, aesthetics and other characteristics gradually come in the picture. Other landscape experts focus on land cover characteristics, for instance from the perspective of terrain survey and vegetation science, or as output of remote sensing based classifications (Van de Voorde *et al* 2008). So in practice the landscape expert faces him/herself with a rich array of paradigms of land use and landscape to bring order in this complex area of education, research and policy.

There are however shifts and changes within current land use categories, whilst new land use alliances are formed. Not at the least we are faced with the challenges imposed by climatic and other environmental threats. This asks for new integrative "grammars" of areas, landscapes and their uses. This paper presents an innovative categorisation of "interfaces", broadly defined as spatial and functional interactions between customary land use and landscape categories, and particularly useful in complex and fragmented areas. The concept will be presented by means of two landscapes case studies: Asbeek in Belgium and Castelfidardo in Italy.

2. Challenge tackled

How uniform are our customary land use categories? Particularly in 20th century culture, disciplines of territorial planning tended to narrow the range of targets, products, actors, etc. within each of the land use categories. This facilitated clear zonal demarcations and specialised policies, administrations, and rules. For instance, agriculture was associated rather exclusively with "food production", whilst farther back in history it was part of an integral survival and lifestyle in patterned communities and landscapes. Urban land use was considered in the first place as "living" and "working" in soil-sealed places and buildings, whereas in former times it was expressed as a mosaic of buildings, infrastructure and open spaces. For some time already, cultural and policy drivers of a different kind tend to make renewed differentiation within each of the standard categories. Foresters rediscovered the many services of forests, and also agriculture is now increasingly seen as a producer of not only food, but also fuel, fibres, landscapes, recreation and even biodiversity. There are inevitably also "noisy" land-uses that cannot be placed well in customary categories for different reasons. Some of these cases are in a stage of transformation (e.g. farmland being abandoned), or are some "weird" or unconventional use such as wind turbines.

Other categories show a functional mix, such as agroforestry. Also initiatives like the Millennium Ecosystem Assessment have thoroughly shaken the customary categories of land use, in emphasizing a wide area of functions and services, which hitherto were not accommodated in land use policy.

Cross-boundary aspects ("painting outside the lines") should be accommodated within land use definitions. For instance planners should acknowledge functions and services across legal and customary boundaries, and operate according to alternative spatial units like basins, biomes, bird migration routes, climatic zones, traditional landscapes, etc. Such developments and observations certainly ask for altered and innovating "readings" of actual landscapes and territories.

This paper has two specific objectives:

- Develop an alternative comprehensive scheme of land use categories in order to expand the epistemology of our humanised terrestrial systems both in research and in planning and management practice
- Test this innovating scheme in concrete cases, to assess whether such a scheme is "mappable" and leads to useful complementary images of landscapes.

The alternative scheme will be developed around the central concept of "interface". "Interface" is a useful concept to help project the expanding roles of standard land uses as well as new use and service concepts into spatial or landscape reality. The interface concept in landscape and land use science is certainly not new. In landscape ecology, interfaces are implicitly or explicitly recognised as important landscape categories, as ecotones, edges or other forms of spatial and functional interaction (Forman 1995). More explicit References: are found in literature about, amongst others, the "urban-rural" interface (Westphal 2001), the "wildland-urban" interface (McGee 2007), "agriculture-forest" interface (Fox and Macenko 1985), etc. Interfaces can have negative connotations, as zones of conflict between land use categories (Henle et al 2008). The term interface has also been used in a more metaphorical way, as the linkages between different disciplines and cultures in landscape research (Palang and Fry 2003). Also the interaction of the environmental and the socio-economic pillars of sustainability is an "interface" issue (Lehtonen 2004).

3. Categorisation of interfaces

In their challenges to seek order in land use analysis the authors encountered bottlenecks when defining quality and sustainability in landscapes of high complexity both in terms of spatial occupation and in terms of stakeholders. Such areas of complexity are to be found, among other places, in peri-urban zones, in areas of high land use dynamics, and in areas of intricate forms of neighbouring complementary as well as conflicting forms of land use.

The naming of interfaces presented here is an attempt by the authors to cope with realities in landscapes and land use complexes that often are "beyond the lines" of customary schemes. The letter codes are useful for making combinatory categories, in field survey as well as in mapping. The names of the categories should be interpreted within the theme of this paper, even if these interpretations may not fully correspond to conventional meanings.

3.1 Hybrids

Hybrids or hybrid uses (H) are a land use category without any explicit spatial linkage. A suggested definition is the following: 'any type of land use that can be seen as a deliberate "offspring" of two or more contrasting parent land use types'. "Hybrid" often has a quite pejorative connotation, but in this case it is not meant to be so. A hybrid is not just a mix of parent uses, but develops an identity and emergent properties of its own. A typical example is agroforestry. There exists a long tradition and a vast literature on agroforestry, and in some parts of the world it is a very customary land use type (Rachamandran Nair 1993). In many countries however, agriculture and forestry are highly separated sectors. Initiatives of agroforestry may have to seek appropriate locations, and may have to overcome obstacles and gaps of legal, cultural, technological and other kinds. More types of hybrid uses include ecotourism, nature conservation in flood protection zones and solar panels on house roofs. Some of these types find preferential allocation in specific spatial settings, such as ecotourism in attractive areas with high nature values.

3.2 Gardens

Gardens (G) form a category of greenspace intimately linked to a dwelling or an urban unit. This category includes domestic gardens, but also public parks and street greenery. A general definition can be: 'any type of mainly unsealed tract of land, intimately linked to a built unit, or to an urban neighbourhood, and which has a range of functions of direct and indirect benefit to the occupants of these built or urban units'.

Gardens have an ancient history and can be considered as an interface *par excellence* between urbanity and rurality. Historically developed out of a food production rationale, they gained other functions like amenity and sport, recycling, cultural and artistic expression, social contact, sun-drying of laundry, rainwater collection, etc. There is hardly an ecosystem service that does not take place in some garden, as is illustrated in the case of Flanders, Belgium (Dewaelheyns *et al* 2011).

3.3 Reaches

Reaches (E), in accordance with the general definition as "extent or range of application, effect, or influence" (Oxford Dictionary), can be defined in this context as 'zones of influence because of neighbour effects between two contrasting land uses'.

Reaches can be natural, such as coastal beaches and cliffs, or river banks, but they can also have a human origin or imprint. Some reaches are predominantly one-way influence zones, for instance because of a strong visual impact of a prominent feature. 'Edges' can be seen as a special case of a reach. A classical example is the edge zone of forests or nature reserves, influenced by actions such as wood or timber collection, forest management, hunting, fire, illegal clearing, etc. A reach can be narrow but also very broad, such as the band of noise emitted by a busy highway, or the visibility reach of a tall wind turbine. This clarifies why this interface category is the fuzziest of all.

3.4 Buffers

Buffers (B) can be defined as 'strips or zones intentionally allocated and designed to mitigate the negative effects from one land use on a neighbouring land use or landscape element'.

Stream buffers are a good example of this type of interface (Correll 2005): vegetated strips, ranging from a few metres to several hundred metres wide. At broader scale levels, we include conservation areas between urban and rural areas, or between other major land use categories (Sullivan *et al* 2004). Other subcategories are soil protecting terraces, noise buffer structures, visual buffers, etc. Unlike most other interface categories, buffers can easily be imagined at specific locations and for specific buffering purposes, for example to protect fragile zones, rivers and streams, residential areas, soils, etc. So they can be defined by normative principles more easily than the other categories.

3.5 Commons

Traditionally, commons (C) are places of usage by communities (Short 2000). A general definition of commons could be: 'any type of open space characterized by relatively unconstrained right of use by members of a community'.

A traditional example of a "physical" common is the former outfield around villages (often heath land) in the sandy areas of Western Europe, water wells in rural areas, market places, public recreation parks and other public places. Such areas are interfacial in many perspectives, even if their basic role may be specific such as wood or water collection, washing laundry, selling products, social meeting, public parks and sport fields, etc. They are interfacial in the socio-economic domain, and are thus the nodal points of linkages between different spatial and landscape units through the intermediation of human agents. In relation to ecosystem services, climate change and other issues, the concept of common in a landscape context could also be envisaged across the boundaries of properties and public domains, in which case the right of use and access shifts to service to the community.

3.6 Guests

There are definitely types of land use that exist despite allocation rules, and sometimes also at the cost of the customary use. A general definition of guest (U) is: 'any type of land in which an activity occupies the place of another land use type that is allocated to this place by rule or by convenience'.

The use as guest may be reversible. An example is the keeping of hobby horses on pastures within the demarcations of farming land (Bomans *et al* 2011). This is an interface category in the sense that it is apparently rural or agricultural (pasture management), but more linked to a living and urban function (recreation) than to farming in narrow sense. When a broad definition of "agriculture" is used, as any form of managed ecosystem with a certain profit for people, hobby-horse would just be a standard category. With a stricter definition of agriculture as forms of "biological production" (food, feed, fibre, fuel etc.), hobby-horsing occupies the place of regular agriculture and makes regular access to farmland for farmers more difficult; then it becomes "parasitic". Explicit parasitism occurs when practices exist under the appearance of agriculture, by lack of control, such as illegal intake of farm buildings by non-agricultural enterprises (Verhoeve *et al* 2012), or the illegal conversion of forest to agriculture.

3.7 Fallows

Fallows (F) are known since old times as fractions of land temporarily taken out of production. In EU agricultural policy, it has been recuperated as a tool to restrict overproduction. Here, we define the term fallow as 'any tract of land that shows some sign of under-use, lack of management, temporary abandonment or severe degradation'.

Slopes with heavily washed-away soils, farmland out of management for a long time, vacant building plots, etc. are "fallows". This category is interfacial since it may develop an ecological transition stage with potential for nature recovery, or it can be considered as an "outfield" with specific but extensive use. Also there may be potentials for development as public parkland, reforestation, and soil restoration. In urban and industrial contexts, brownfield sites are extreme examples of fallows.

3.8 Residuals

Even an exhaustive analysis of a landscape according to customary land use categories leaves some compartments of the landscape idle. Residuals (R) can be defined as 'the margins of actively used land'. Take the example of arable land. The productivity comes from the managed part of this land. At the edges and at other locations, there are margins (grass strips, etc.) that do not contribute to the net production. In agricultural landscapes we call this subcategory "tare land". For Flanders this has been estimated to be 7 % of the total allocated agricultural area (Bomans *et al* 2010). Tare land exists also as verges and other "residuals" (grass strips, tree lines, ditches, etc.) bordering the "net" infrastructure elements (the carriageways, etc.). These all together may cover a considerable area.

4. Scale and integration issues

4.1 Macro-interfaces

Seen at a broader spatial scale, interface conditions tend to be assembled in a number of structures of higher order.

'Frontiers' typically exist as transitional conditions both in space and in time, such as the progress of agricultural colonisation in the Brazilian Amazon and Cerrado areas. Urban expansion zones are also within this macro-category, leading to the emergence of rural-urban interfaces. Within such zones there are many hard edges, leading to margins of ecological and other impacts. This is for example the case of abrupt forest edges as a consequence of massive logging.

'Blue-green networks' are structures of more or less connected elements of which many have an interface-like character like rivers and their banks, green urban areas, buffer strips, etc. These networks are compensatory and reconnecting structures in landscapes that are highly fragmented by agriculture or by urban development (Werquin *et al* 2005).

'Complexes' are landscape units with extreme heterogeneity and fragmentation, in which contrasting land use units exist very close to each other, and inevitably influence each other. Such areas are full of contact zones. Sections of peri-urban areas may display such complexity: gardens and small relic agricultural parcels exist next to buildings and infrastructures.

4.2 Micro-interfaces

Interfaces can also be defined at the finest of scales. For example in gardens one finds hedges as a living interface between properties, warm walls covered with trained fruit trees, green roofs, terraces, shaded areas, etc. In this paper we will not deal with these categories, important as they may be at fine scale.

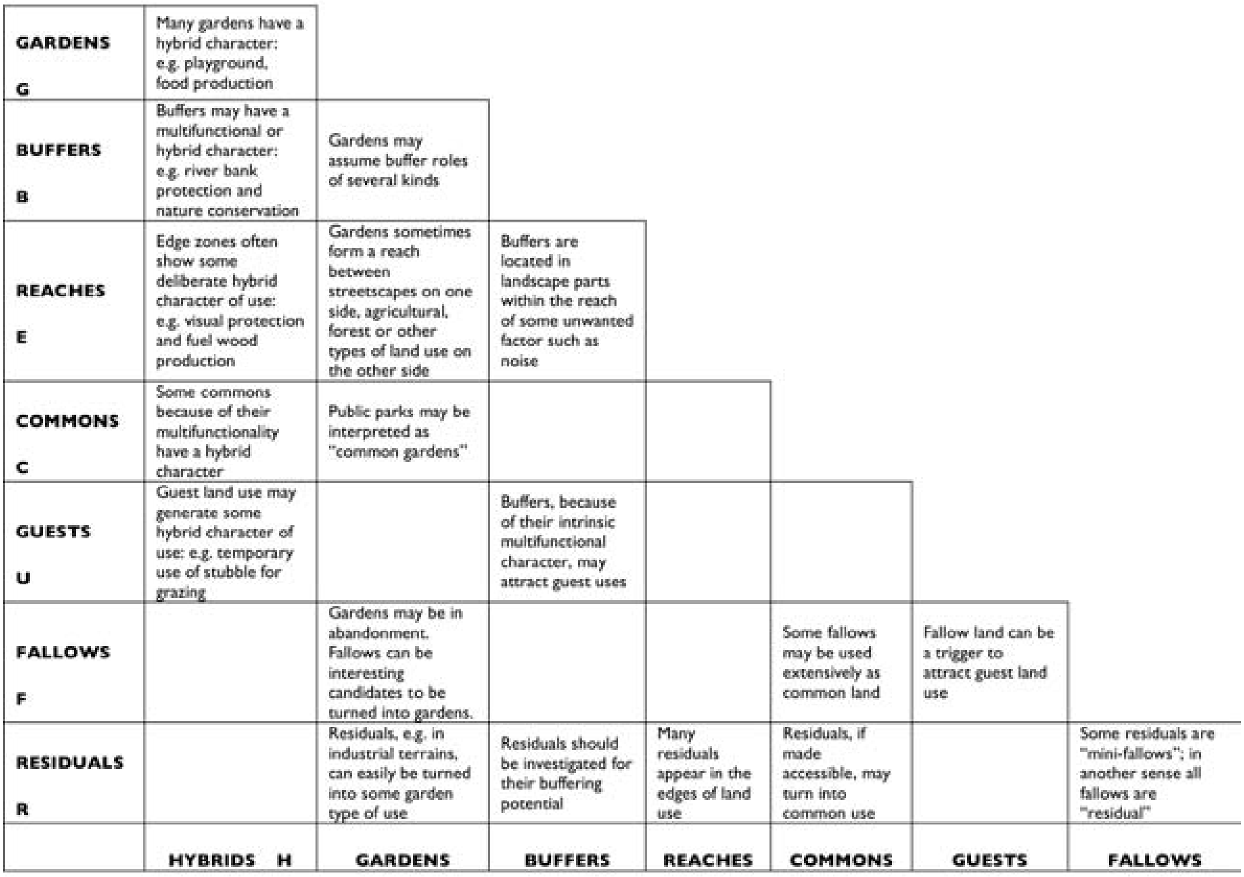
4.3 The interface of interfaces

A complementary way of synthesis is to see the different types of interfaces not as independent, but rather as overlapping categories: the "interface of interfaces" (Table 1). Buffer strips for instance, are situated at the edges of streams, forests, reserves, etc. Community gardens in urban areas are often allocated into residual areas, such as sides of major infrastructures. Public parks are multifunctional areas with a commons characters. Commons are often areas which,

from utility interpretation, may be categorised as residual, because of low fertility, accessibility, etc. Guests may be detected as deviations from statutory land use. They may also be considered as a temporary interface between two land use regimes, for instance, horse pasturing as a transition between regular agriculture and urban development. Guests like solar energy or wind energy operations in the open space cause dramatic emission interactions with their surroundings. Some examples in code form:
- GF: garden with signs of abandonment, hence a fallow character.
- UB: extensively used horse pasture as guest in a valley bottom, hence also with some stream buffering function.
- HCB: orchard and pasture combination as hybrid, with right-of-way as common, buffering e.g. woodland from arable land.

Of course interface codes can also be combined with customary categories like "timber production forest" or "arable land".

Table 1. Generic table with examples of "interface of interfaces"



	HYBRIDS H	GARDENS	BUFFERS	REACHES	COMMONS	GUESTS	FALLOWS
GARDENS G	Many gardens have a hybrid character: e.g. playground, food production						
BUFFERS B	Buffers may have a multifunctional or hybrid character: e.g. river bank protection and nature conservation	Gardens may assume buffer roles of several kinds					
REACHES E	Edge zones often show some deliberate hybrid character of use: e.g. visual protection and fuel wood production	Gardens sometimes form a reach between streetscapes on one side, agricultural, forest or other types of land use on the other side	Buffers are located in landscape parts within the reach of some unwanted factor such as noise				
COMMONS C	Some commons because of their multifunctionality have a hybrid character	Public parks may be interpreted as "common gardens"					
GUESTS U	Guest land use may generate some hybrid character of use: e.g. temporary use of stubble for grazing		Buffers, because of their intrinsic multifunctional character, may attract guest uses				
FALLOWS F		Gardens may be in abandonment. Fallows can be interesting candidates to be turned into gardens.			Some fallows may be used extensively as common land	Fallow land can be a trigger to attract guest land use	
RESIDUALS R		Residuals, e.g. in industrial terrains, can easily be turned into some garden type of use	Residuals should be investigated for their buffering potential	Many residuals appear in the edges of land use	Residuals, if made accessible, may turn into common use		Some residuals are "mini-fallows"; in another sense all fallows are "residual"

4.4 Relation to other categorizations

The interfaces are not exclusive towards other categorizations. They can be fitted perfectly between classical categories such as forest, agricultural land, densely built urban land, etc. The interfaces can also be seen as categories linking visual, environmental, ecological, utilitarian, and many other approaches to landscape.

They perfectly blend into schemes of land use allocation. For instance, the interface type "buffer" is highly suggestive as both an environmental category and a land use planning category. Likewise hobby-horse grazing as a "guest" category links to issues of recreation, landscape character (typical fencing, infrastructures, the horses themselves), economy, land cover (pasture), environment (manure), etc. From this exercise we conclude on the "mapability" of interfaces in different contexts, hence also on the possibility to deduce quantitative information next to mere qualitative descriptions. A deliberation is made among landscape/land use experts on the dominant interface category, and on eventual subdominant categories. For each of the cases, we describe the surplus values of this approach in understanding a landscape, compared to analyses according to customary categories.

5.1 Asbeek

The first case study focuses on the hamlet Asbeek (part of the municipality Asse) and its open space surroundings. Its centre (N50° 54' E4° 09') is located about 15 kilometres west of Brussels. It was a farming community in the past, but nowadays it is the residential area of commuters to the neighbouring cities. This site is a representative example of spatial and functional interactions between uses linked to living, farming, recreation, conservation, and other services. Figure 1 shows a map with the different legally or politically approved allocations and functionalities in this area. The map in Figure 2 shows the same area with the different interface categories. It is striking how this interface "grammar" draws original information from this landscape, that in all land use policy related investigations and documents so far is missing to a large degree. Especially, the "guest category" is well presented by hobby-horse pastures. Also the category "gardens" shines through the urbanised parts of this landscape as a complementary green network. Extensive forms of land use could be qualified as buffers of flanking streams. Fallows appear here and there, often as qualifications of agricultural land or gardens. Places with public or semi-public character were identified as commons. A few patches were interpreted as hybrids because of their explicit multifunctional character as e.g. orchard and pasture. One dramatic feature stands out: an animal husbandry operation with contrasting

buildings and other infrastructures in an open landscape, responsible for a substantial reach of influence.
The overall picture of these interfaces suggests many possibilities for strategic interpretation, such as a redefinition of blue-green networks, the search for a new sense of commons for green services across many stakeholders, the analysis of bio-energy potentials and the implementation of different types of additional buffers.

5.2 Castelfidardo

The second case (N43° 27' E13° 32') lies in Central Italy, less than 10 kilometres distance from the Adriatic coast. The case study encompasses part of the historical hilltop city of Castelfidardo. Suburbs have sprawled into the surrounding agricultural setting towards the valley plain of the Musone river. In the last decades farming in the fertile parts of the area has progressively changed from mixed operations to monocultures. Cottages, houses and small industrial settings sprawled in the rest of the territory. A set of policy and allocation maps featuring several aspects, such as flood and erosion potential risks (Hydro-geological Structure Plan, PAI) as well as the allocation of landscape and heritage values (Heritage conservation and Landscape Plan, PPAR), and the General Town Plan are joined in Figure 3. Figure 4 shows a map with different interface categories. Also in this case the official maps miss the nuances shown by the "interface grammar" of the place. The deeply rooted sectoral approach behind the reference maps for planning and policy in the area makes them unable to grasp the meaning of different ongoing features and processes within the case area. An important process of the last five years is the intake of arable land for photovoltaic solar mirrors modules. This is well highlighted in the interfaces map within the Guest category. A second example is that of the buffering elements along the river banks, which are under a constant risk of flooding. Gardens and Commons form a phenomenon of interest, since they nuance the sealed character of urban fabric and of the impact of the industrial settings which have sprawled in the countryside. Bearing in mind the uncontrolled urban expansion and the abandonment of several industrial settlements due to the recent crisis different creative lines of action can be inspired by the interfaces map. For instance the complex of Gardens and Hybrids together with a large set of Commons has a pluripotential character of reconversion and therefore forms a key reference for the future planning of the area.

6. Discussion and conclusions

Landscape researchers, planners and designers have always had an eye for 'interfacial' categories. The task of spatial planners is rather to allocate and structure land use within customary socio-economic, sectoral, technical and policy categories and constraints. Nowadays planners more and more realize the multifunctionality of customary categories, the interactions between categories, the inevitability of climate change etc. The field diagnostic procedure based on the interface grammar strengthens the link between the notions of landscape and land use. It triggers imagination about the dynamic relations between services, morphology, history and stakeholders. The coding of the interface types, and particularly the combinatory coding possibilities, allow for an enriched interpretation and epistemology of landscapes. As the demonstration cases show, this analysis adds meaning to parts of the landscape that tend to be ignored by customary interpretations. So this approach contributes to the principle of the European Landscape Convention to acknowledge all landscapes irrespective of preconceived value rankings. The procedure is qualitative and sensitive to subjectivity of the analyst but not more that of any customary methods of categorisation and mapping. At the contrary, it allows for much nuance in the interpretation of landscapes. Many, if not most, customary categorizations of land use assume a top-down approach starting with clearly defined "homogeneous" reference categories, and steadily coming down to more intricate categories. Reading interfaces goes the other way. It starts with the "confusing" land use characteristics, which can be found typically in nodal sites of complex structure such as village centres. From this complexity the procedure proceeds "outwards" and blends in more customary categories. The interface principle is rich in educational qualities, since it respects any of the existing approaches in

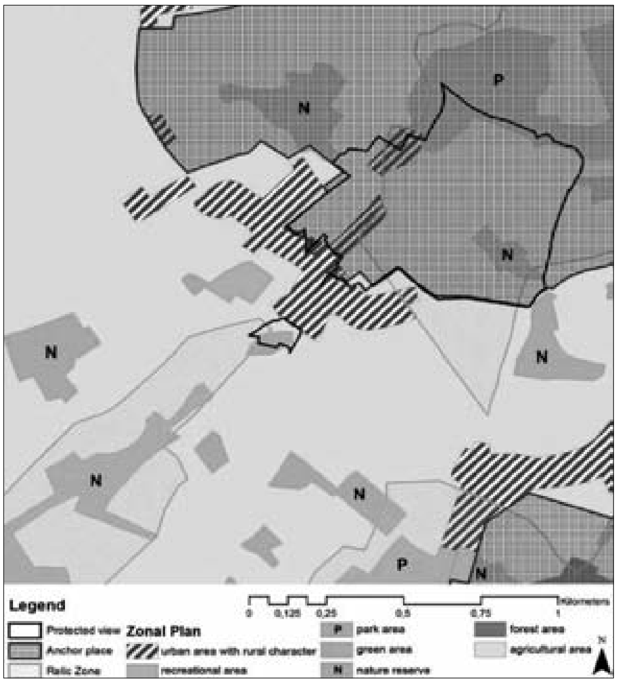


Figure 1. Customary categories in Asbeek

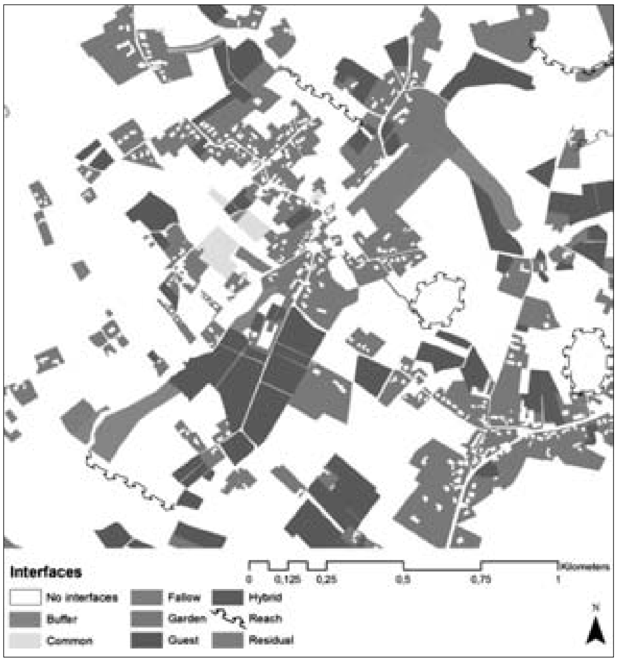


Figure 2. The interface categories in Asbeek

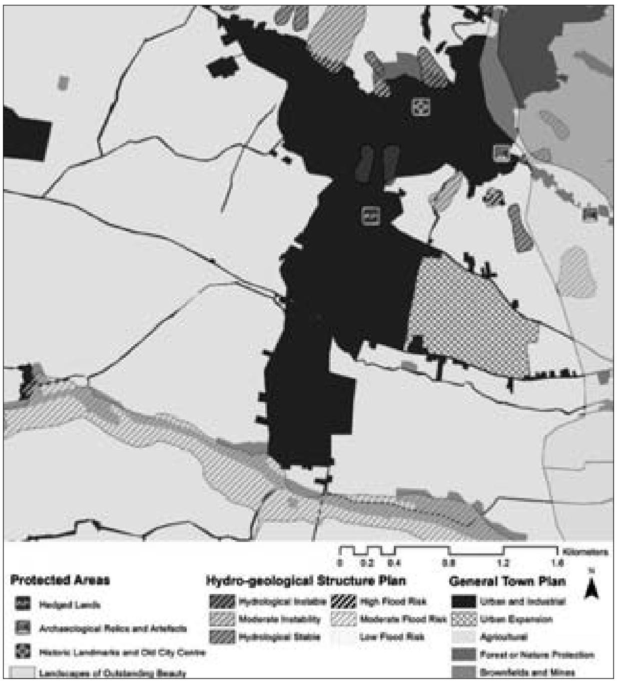

0
0.2
0.4
0.8
1.2
1.6
Kilometers
Protected Areas
Hedged Lands
Archaeological Relics and Artefacts
Historic Landmarks and Old City Centre
Landscapes of Outstanding Beauty
Hydro-geological Structure Plan
Hydrological Instable
Moderate Instability
Hydrological Stable
High Flood Risk
Moderate Flood Risk
Low Flood Risk
General Town Plan
Urban and Industrial
Urban Expansion
Agricultural
Forest or Nature Protection
Brownfields and Mines
N

Figure 3. Customary categories in Castelfidardo

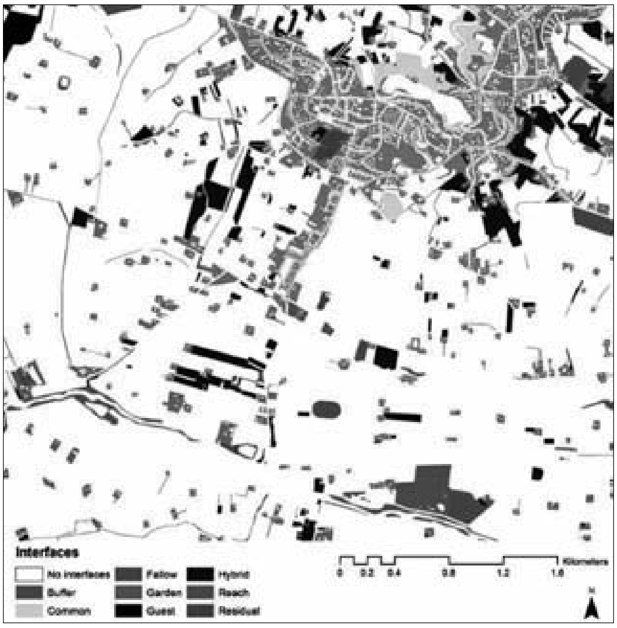

Interfaces
No interfaces
Buffer
Common
Fallow
Garden
Guest
Hybrid
Reach
Residual
0
0.2
0.4
0.8
1.2
1.6
Kilometers
N

Figure 4. The interface categories in Castelfidardo

landscape and land use definition, but more clearly brings dynamics, driving forces and likely further evolutions of the landscapes into the picture. The scheme as presented here does not pretend to be mature. Its critical application in a broad range of sites and landscapes will allow its refinement. Yet, it is already helpful in soliciting strategic interpretations of outdoor realities for resilient land use, rural development, sustainable cities and climate adaptation.

For instance, horse-keeping pastures not only invite for new styles of outdoor design adapted to the local and regional characteristics, but also entail reflections on resilience matters like reclamation to standard agricultural practice in times of need, to think about the extraction of pasture from the visual 'commons' due to fencing or to adapt management practices that allow such pastures to become high quality and part of blue-green networks.

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Landscape Planning in Different Cultural Spheres

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Abstract: Intriguing issues arise during landscape planning works in foreign countries. The following issues are little cared for in domestic work conducts: 1) differences in the valuation of landscape within respective cultural contexts, 2) lack of landscape concept, and 3) underdeveloped educational system with regards to landscape and urban planning. The presenter was involved with landscape planning and design projects in developing countries such as Syria. During the planning process, great efforts were made to attain understandings in the concept of landscape, to design landscape in line with local culture while, concurrently, gaining local acceptance as affirmative engagement, and to share newly created spatial values in their urban context. These experiences have fostered awareness of the essence of landscape education among us and have provided implications on new directions for the advancement of landscape education. This paper aims to share knowledge acquired from actual working experience and to discuss the prospect of landscape education in different cultural spheres.

Keywords: landscape, planning, participatory, landscape values, Syria

1. Introduction

Intriguing issues arise during landscape planning works in foreign countries. The following issues are little cared in domestic work conducts: 1) differences in the valuation of landscape within respective cultural contexts, 2) lack of landscape concept, and 3) underdeveloped educational system on landscape and urban planning.
This paper discusses the prospects of landscape education in foreign cultural spheres through the revision of a practical example in Syria. Its commendable educational themes and prospects are discussed by the following two concepts: 1) introducing the landscape concept, and 2) creating new landscape values. Based on these results, the paper discusses necessary subjects for education, planning and design activities in foreign cultural spheres.

2. Scheme of Technical Cooperation for Landscape Planning

2.1 International cooperation programme of JICA for urban / regional development
This paper takes up cases of urban development studies which were conducted as an international cooperation project by the Japan International Cooperation Agency (hereafter referred to as JICA). JICA is an incorporated administrative agency which aims to contribute to the promotion of international cooperation as well as the sound development of Japanese and global economy by supporting the socio-economic development, recovery or economic stability of developing regions.
JICA's efforts to support urban and regional development in developing countries include urban master planning and comprehensive regional planning. It also offers various technical assistance and cooperation programs/projects to facilitate the implementation of these plans, which are expected to contribute in economic growth and improved standards of living. The scheme supporting urban and regional development includes the following types of projects and programs:

- Studies on urban master planning: Formulation of urban and regional development master plan
- Urban rehabilitation project: urban master plan formulation and associated implementation of key construction works
- Human resource development: Capacity development activities through training workshops, training lessons, organizational/institutional improvements and collaborative work (including OJT: On the Job Training)
- Training in Japan and other countries: training courses for administrative officers and engineers who are working for the project in collaboration with expatriates (hereafter referred to as the "counterpart").

2.2 Technical cooperation programme for regional / urban development for the Damascus Metropolitan Area
This paper discusses the activities carried out under a technical cooperation programme for regional / urban development for the Damascus Metropolitan Area.
The project began in 2006 as a study for a regional development master plan for Damascus Metropolitan Area (Damascus city, capital city of Syria and its surroundings) which prepared a urban and regional master plan for the area. The program was formulated to seamlessly support the local authorities in their implementation of the prepared master plan. Under the program the supporting activities necessary for master plan implementation were smoothly transferred to the technical cooperation project which treats the specific areas' planning and design.
The Ministry of Local Administration (MoLA, previously the Ministry of Local Administration and Environment at beginning of the project), the Damascus Governorate and the Rural Damascus Governorate are involved in the project. Under the program, approximately 50 personnel members collaborated in planning works, including administrative officers and engineers. The two phases of the programme are discussed as follows.

2.2.1 The study on urban planning for sustainable development of Damascus metropolitan area (2006-08)
The study was conducted on three levels: 1) Syria as a whole; 2)

the Damascus metropolitan area (DMA: about 4,700 km^2); and 3) a district within the DMA.

The following planning issues were formulated as the results of the study.

- Long-term scenario for sustainable socioeconomic development of Damascus and DMA
- Urban development master plan for the DMA
- Preliminary district plan for nominated areas, which faced typical urban problems, with proposed countermeasures.

After analysis of current urban space of the whole city and its districts, the following two areas were selected for detailed study for planning on the district level.

- Qanawat area: The area (27.27 hectares) is adjacent to the old town. Historical buildings and monuments are located along shopping streets, which are part of historic main road. Symbiosis of historic urban spaces and modern spatial development was a challenge for the planning.
- Qaboun area: The area is located in the periphery of Damascus urban area. The formalization of informal buildings was a major planning issue.

2.2.2 The project for urban planning and development in Damascus metropolitan area (2009)

The project aims to implement district plans, which were proposed in the master plan study. The following two areas were selected as target area.

- Qanawat area: A detailed implementation study was conducted for the area. The project includes sub-programs such as rehabilitation of historical buildings, modification of district master plan, townscape survey, traffic control and so on. The area is adjacent to the old town.
- Ghouta road area: This area (853 hectares), where the majority of land use is agricultural, is located in the periphery of the Damascus urban area. The project intends to realize a symbiotic spatial management that is able to preserve local agricultural activities and the modern urban facility, in provision toward informally urbanized areas.

The project includes sub-programs such as the formulation of a district landscape plan, the introduction of a water-saving irrigation system, and so on.

3. Planning approach

The applied landscape planning approaches in the project are described in this chapter. The situation of landscape in Syria and the notable planning process are discussed below.

3.1 The situation of landscape in Syria

Most of Syrian counterpart engineers who have been engaged in urban / district planning and related issues in administrative office are university graduates with degrees in architecture or civil engineering. For them landscape planning and design works were mostly focused on gardening, the exterior design of the building / structure site and their elements. This means that the concept of landscape is narrowly applied in very small spatial extent. This tends to hinder the application of the concept of landscape in vast area spatial planning.

In landscape planning, traditional building style seems to be the sole guideline for these engineers. The landscape values of unregistered historical buildings and deemed unremarkable landscape elements are likely to be ignored.

3.2 Survey method

3.2.1 Problem analysis

Before commencing planning and design work, the areas' problems were enumerated and analysed. The relations amongst them were structuralized in a hierarchical manner. Problems were grasped through observation during site visit survey, preliminary analysis about urban planning information and relating statistics, and the results of interviews with the residents. These problems were not only physical planning related, but also involved various aspects as a living place of people, such as industry, legal system, and social conditions.

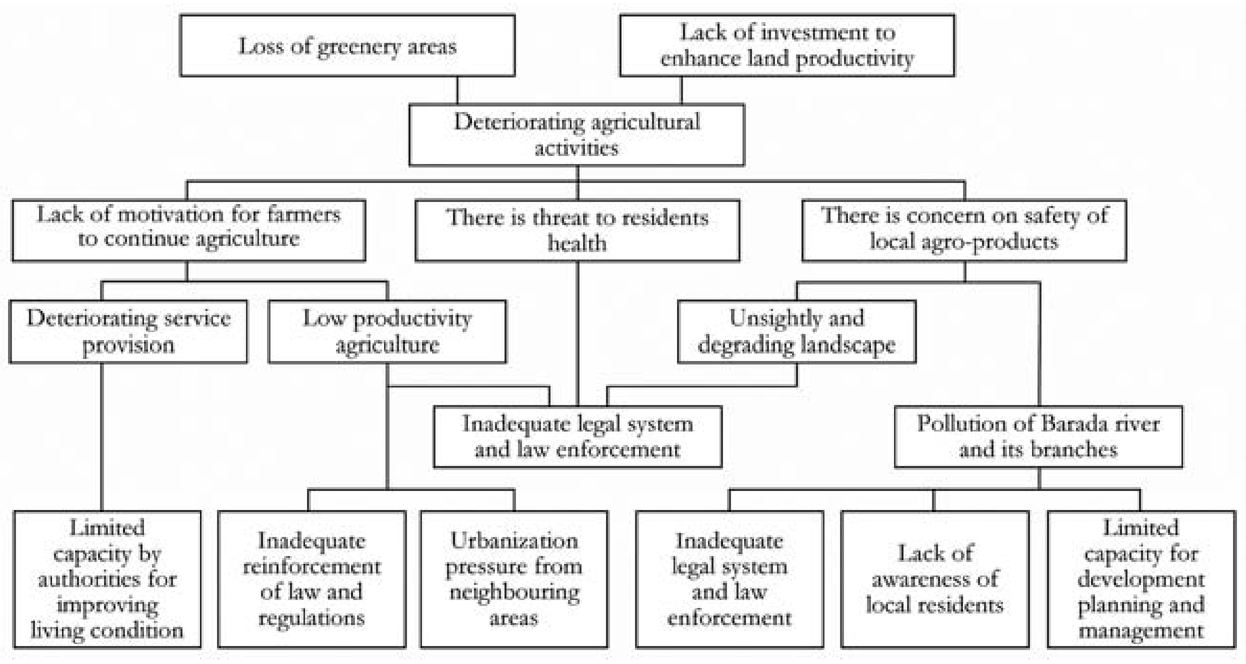
Loss of greenery areas
Lack of investment to enhance land productivity
Deteriorating agricultural activities
Lack of motivation for farmers to continue agriculture
There is threat to residents health
There is concern on safety of local agro-products
Deteriorating service provision
Low productivity agriculture
Unsightly and degrading landscape
Inadequate legal system and law enforcement
Pollution of Barada river and its branches
Limited capacity by authorities for improving living condition
Inadequate reinforcement of law and regulations
Urbanization pressure from neighbouring areas
Inadequate legal system and law enforcement
Lack of awareness of local residents
Limited capacity for development planning and management

Fig. 1 Result of problem analysis of the Ghouta road area

Relationships between spatial problems in aspects of landscape and relating problems in other aspects (such as environmental and social problems) were clarified through this analytical work. As a result, improvement of landscape became one of the major activities of district planning.

3.2.2 Photo voice survey

In order to understand residents' sense of landscape, a photo voice survey was conducted in 2006 for planning in the historical district. The planning team invited the residents in the planning area to photograph their favourite scenes and collected the pictures taken.

Through this survey the engineers became cognizant of citizens' various senses and perceptions of landscape, and their interest in landscape elements. This experience helped planning staff distinguish between personal pReferences: and the objective appreciation of landscape. This enabled better attention in the following spatial investigation and observation.

3.2.3 Rural heritage inventory survey

A rural heritage inventory survey was conducted for the planning in the rural area. Candidate rural heritages were listed in accordance with information provided by residents during workshops and individual interviews. Data / information required for the planning such as location, background, past and current status, owners, conditions, possibility of public use and other relating information was confirmed through site-visit surveys and interviews, being filed for inventory. This survey result was intended to be utilized in the district management system relating to the improvement of landscape, such as Eco-Musée. A listening approach towards residents made the identification of small and minor heritage sites easier.

Through the survey experience realistic and adequate landscape improvements were framed more specifically. This also helped surveyors to recognize the identity of rural landscape in Syria and its elements to be preserved.

3.3 Planning process

3.3.1 Planning concept and References:

The following planning concepts and References: were utilized for the analysis and formulation of landscape plan.

1) Category of landscape view

Characteristic landscapes in the area were identified through site visit surveys and they were classified into three categories of landscape view (panorama view, sequence view, close view). After plotting positions of viewpoints and visual objects on map, landscape elements, obstructing elements and improvement idea were identified and examined.

2) Planning documents of ZPPAUP

Planning documents and drawings of ZPPAUP were referred in the process of analysis on current landscape and formulation of landscape plan. Combined with the above mentioned classification into three categories, these helped in the understanding of the relation between landscape and spatial structure, as well as in the formulation process of the landscape plan.

3) Eco- Musée

Eco-Musée was referred to establish a general planning concept to be applied on the district plan. In consideration of spatial conditions and problems in the district, the project established its planning objectives as preservation of regional culture and life style, and practical use of rural heritage. The concept of landscape improvement through the preservation of rural lifestyle was easily comprehended by the residents. Moreover, it encouraged the residents' participation in planning and implementing the plan.

3.3.2 Planning workshop with residents

Recognizing that residents' collaboration for preservation, restructuring and maintenance of landscape is indispensable, this project held several workshops with residents to attain their participation in the planning and decision making process. During the workshops, the planning process and situation were fully explained to residents before discussion sessions to obtain their opinion. The opinions

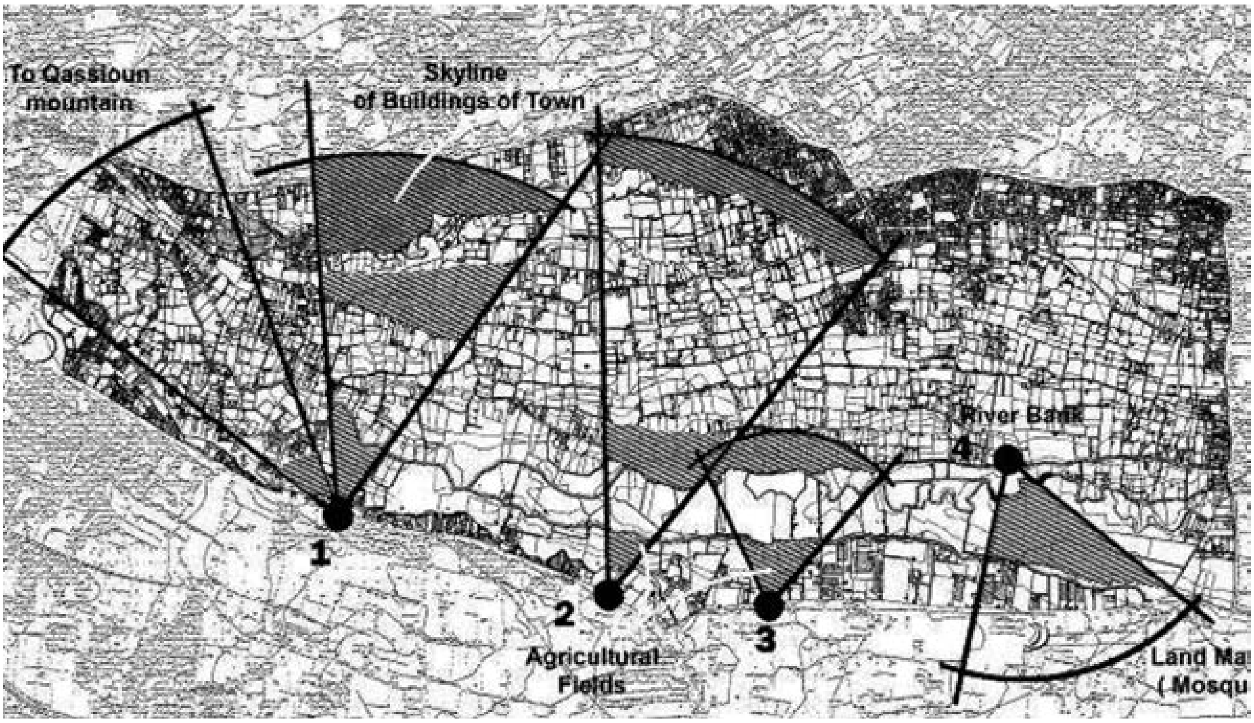

Fig. 2 Landscape analysis drawing by counterpart engineer

were reflected to the plan with necessary arrangement. In the Ghouta road area, residents and farmers are expected to play a role in relating activities of rural landscape preservation through their own daily activities. In Qanawat area, residents are expected to be the main operators and users of the town management centre which will be opened in a renovated historical building.

3.4 Design process

In the Ghouta road area, a landscape structure plan for the whole district has been formulated in March, 2012. The following planning works were designed and are being implemented now.

1) Formulation of conceptual development design of core area (Ecological park design)
2) Formulation of guidance plan for improvement and preservation of district landscape
3) Formulation of design guideline for district landscape design

The practical use of existing rural heritages, the utilization of traditional construction material with traditional construction methods, and the preservation of rural vegetation were all part of the basic design philosophy applied in landscape design work in the district. There was insufficient information about the rural building style, vegetation, spatial design, and landscape elements in rural areas. The formulation of a functioning inventory system for the collection of landscape design elements is a challenge for future implementation.

3.5 Other considerations for landscape planning

The purpose of this project is to improve the spatial and social systems of the district through the formulation of a district / landscape plan and its consequent implementation. The following issues are considered to have indirectly contributed to accelerating the formulation of the landscape plan.

3.5.1 Selecting issues related to the restructuring of civic life

The landscape plan and the district plan are two of the means to achieve the project goal. Other urban planning issues and social factors were chosen and studied in parallel. Although it seems excessively complicated to adopt a comprehensive approach, this should contribute in gaining citizens' and engineers' adequate recognition of the landscape plan, in order to comprehend the plan as part of a spatial and social improvement programme. Without taking into consideration these additional issues, the implementation of planning ideas which require residents' participation may be difficult.

With regards to the implementation of the landscape plan, individual spatial improvement activities must be treated as a part of the environmental improvement process, which would resonate with the improvement of citizens' lives. For example, the landscape project includes the introduction of a water-saving irrigation system for agricultural land.

3.5.2 Selection of project site in periphery area

The historic 'Old town' of Damascus is a prominent historical area with many historical buildings and heritages. Spatial improvement and building construction / renovation is strictly controlled according to traditional forms. The concept of preservation is based on spatial "freezing" and restoration. Therefore, there are limited possibilities for applying a landscape plan for spatial improvement.

The project selected two areas as study and implementation sites for spatial improvement. One is located in an adjacent area of the Old town (periphery area on the district scale), and the other is located on the boundary of urban and agricultural area (periphery area on the city scale). In these areas, the symbiosis of different spatial values and demands is a critical issue for spatial improvement. The landscape plan is believed to be an effective tool to reveal the future direction of spatial improvement, including preservation, renovation, and creating new spatial values.

4. Disseminating the concept of landscape: value-creation and challenges

In this chapter, the findings derived from practical experiences in the technical cooperation project for landscape planning are described. The discussion intends to provide implications for promulgating the concept of landscape and its education in a different cultural sphere.

4.1 Introducing the landscape concept

4.1.1 The landscape concept

A narrower cognition of "landscape" hindered counterparts from perceiving both the panorama view and the sequence view, and from integrating these views into the landscape structure under the framework of landscape.

In order to overcome the abovementioned situation, it was necessary to foster a common understanding of the concept of landscape among the counterparts and the expatriates. At the beginning, categories of landscape view, landscape elements, and planning / design criteria had to be introduced.

The introduction was initiated by exchanging views on the concept, and discussing interesting points or aspects of the urban sphere during site visits to the subject areas as well as referential foreign areas. It was helpful for the expatriates in understanding the interest and sensibility on landscape, and to foster a common comprehension of "landscape".

At the same time the photo voice survey and the workshops revealed different views and valuations of landscape on behalf of citizens.

4.1.2 The relationship with the environment

From their narrower landscape concept perspective, visual spatial structure and environmental issues were independent phenomena, even though they are closely interrelated in reality.

Through the processes of analysing district planning issues and of the following landscape planning, the counterpart personnel and citizens realized the interaction between environment and landscape. In addition, the understanding of landscape as the visual synthesis of relating spaces was fostered.

In addition, the local people became conscious of the visual aspect of negative environmental conditions. Before engaging in landscape planning, the pollution of river in the area was treated as a water quality problem for agricultural production. After the introduction of landscape planning, however, engineers and residents began taking greater care of the question of illegal dumping on the river bank, in addition to water quality in general. This indicates that they became conscious of visual environmental aesthetics and its obstructing elements.

4.1.3 Introducing consciousness of aesthetics and landscape value

It was very difficult to attain an understanding of local personnel and resident's concept of a beautiful village. Due to the lack of an appropriate landscape concept based on the cultural context, the notion of beautiful village has no References:, such as planning documents of other villages, research materials, or other spatially improved villages.

During the initial period of collaboration, a rural village with famous religious buildings and a summer get-away resort village with many country homes were designated as beautiful villages. However, interesting and valuable landscape elements – as deemed by societies in developed countries – which include traditional stone walls, canals, pavements of path with rural materials and design, were not highly regarded as they should. The establishment of an appropriate method to introduce these landscape values to the foreign cultural sphere is still a challenge.

The experiences of the training tour in Japan, however, showed a certain degree of acquisition of shared values in landscape objects. It seems this result was achieved by formulating a thinking framework for appreciating landscape values in different cultural sphere. It did not simply understand the Japanese way of valuing landscape.

On the other hand, discussions on the concept of "rural landscape" demonstrated that this is a completely new concept in Syria. It is imperative to collect information of landscape elements such as the rural design of farmhouses, construction materials, rural vegetation, geology and land preparation techniques, and so on. Surveys and studies on these aspects are subjects for future landscape planning practice in these areas.

4.2 Creation of new landscape value

4.2.1 New landscape value

In Syria much attention is paid to the spatial design of the courtyard, its form, and its gardening design under the Islamic culture. On the other hand, attention is hardly heeded to the visual aspect of exterior spaces, such as building facade design or streetscape. Under this value system, it was a time-consuming effort to attain the counterpart engineers' comprehension of the renovation of streetscape, which is frequently done in European cities. They placed significance on renovation of internal courtyards but not on streetscape renovation, since value is not thought to exist in facade of ordinary buildings, resulting in the negligence of streetscape renovation.

The project-identified area consists of streets and narrow paths as important public spaces. This space became the subject of studies to increase the special value of streetscape. This type of activity in spatial improvement was seldom conducted in Syria, except for a few cases in historical old towns. This study and design sub-project was taken over by the municipality as the spatial restoration programme for further study and design on improving street pavement and buildings along main streets.

4.2.2 Landscape of the living environment

This project regarded landscape of the local living environment as rural heritage and studied its preservation and active use for landscape planning. In this planning process, its concept was shared by referring to the practical example of Eco-Musée. Finally, support for agricultural activities and local production activities were discussed in the context of district / spatial planning, after understanding the interrelationship between conservation of local landscape and conservation of local life.

In some countries other than Syria, value of landscape of local villages is popularized and shared among citizens. But for Syria, the value of rural landscape of the study area would be newly recognised, leading to the reorganisation of the site's district planning and its spatial structure through landscape composition.

4.2.3 Reinterpretation of cultural context for district planning

In Syria, after the appointment of particular streets as tourist paths, the landscape value of streets was rediscovered in the field of landscape planning.

In the Old town of Damascus and its adjacent area, the value of traditional hammam (bath room) along the street was recognized. This recognition resulted in hammams' acceptance of foreign tourists after their renovation. This example shows that the landscape planning approach prompted the discovery of new spatial value through the reinterpretation of the cultural value of historical buildings and facilities. In this case, appointing a certain area as a tourism route, instead of assigning particular buildings / structures, induced the renovation of historical buildings, the utilization of historic elements in district design, thus resulting in the conservation of spatial culture.

This is an extensive issue, in pursuing practical ways to utilize created landscape value by means of the reinterpretation of cultural context in landscape planning.

4.3 Appropriateness of landscape planning for spatial recognition, planning and education

The project first studied the visual construction of the area as landscape planning. Based on the outcome, district planning will be conducted. The approach of conducting district planning based on visual structure study by landscape planning facilitated an understanding of the planning concept by both the engineers and citizens of the district.

District planning issues of the subject area include transportation network, informal settlement, local agricultural activity and irrigation water, land use normalization, support of local industry, and so on. The extensive and complicated relationships in between these planning issues resulted in difficulties in comprehending the situation of the district in an issue-oriented and structural manner. The landscape planning approach enables us to comprehend these factors in their spatial context, with particular attention paid to their impacts on landscape. For engineers and citizens who are not accustomed to the urban planning process, landscape planning could be a good tool to structure district planning issues, thus facilitating decision making in planning.

Based on the experience of this project, landscape planning is suggested to be an appropriate planning tool in countries where an urban planning system has not been established. This implies that abilities to shape the connections between visible phenomena and urban planning issues are important. Consequently, training to foment this capacity and the promulgation of these practices is important.

This experience indicates that this planning approach seems to be effective in district level planning. The approach enables participants (engineers, citizens, etc.) to comprehend spatial structure. Its applicability in planning on a larger extent than the district, including urban and regional planning, is still subject to verification.

5. Conclusion

This paper examined the prospect of landscape education in different cultural sphere based on experiences. The key findings are as follows:

1) Promulgation of the concept of landscape:

For the promulgation of the concept of landscape in foreign cultural spheres it is necessary to comprehend the indigenous social value system and its form of cognizing landscape elements in relation to landscape value. A practical method for comprehension has to be developed for educational and planning practices. Landscape planning and research have a potential to link urban planning and other spatial planning fields (e.g. environmental planning).

2) Creation of new landscape value:

The reinterpretation of spatial value from the specific view of the foreign cultural sphere (context) may prompt the creation of new landscape value in the process of spatial design and planning. In order to materialize this practice and promulgate the landscape concept, it is necessary to clarify ways to accommodate these value and views in landscape planning.

3) Appropriateness of landscape planning for spatial recognition, planning and education:

The appropriateness of landscape planning for analysis and planning on the district level was examined.

The interpretation of the value of landscape is one of the research themes in field of landscape geography. The relationship between space and cultural context has been discussed for an extended period. On the other hand, using and practising this issue in the educational field is yet to be pursued.

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A Resilience Strategy: the Case of the Waterfront Landscape Along Beibin Road, Chongqing

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Abstract: Chongqing is a typical mountain city along a waterfront. Since the implementation of the Three Gorges Reservoir Project, a 30-meter-drop fluctuation zone has become a serious challenge to the spatial organization and ecosystem maintenance of the city's public waterfront. This paper illustrates a resilience strategy through the case study of the waterfront landscape along Beibin Road in Chongqing, namely: how to create a landscape infrastructure with the ability to repair itself, and which can undergo the change in high water level without collapse. The paper includes the following aspects: the building of a dynamic waterfront space in response to space and time, recovery of the city's functioning system, organization of a multi-scale network system, selection of adaptable plant communities.

Keywords : resilience; waterfront landscape; fluctuation zone; landscape infrastructure

1. Introduction

Over the past few decades, the word *landscape* has begun to appear in geography, landscape ecology, information systems, visual studies, urban planning and other scientific areas and subjects. However, in the specific transition of nature and the city , the word is still failing to cast off the limits of traditional landscape knowledge and to embody the effect of landscape education. During the rapid urbanization process of China, the conflict between the city and nature leads to a series of negative environmental consequences: the heat island effect, air pollution, soil erosion, flooding, the extinction of species. In tackling these problems, landscape planners with professional and technical education, stakeholders, and city managers usually adopt measures which have more control and compulsion. These measures, which are considered as efficient and optimal management strategies, could greatly save on cost and expenses, but are insufficient to deal with unexpected events, often resulting in greater ecological disaster.

Early sustainable theory emphasized the establishment of stability, effective practice as well as control of growth and change. However, from the point of view of the non-equilibrium principle, unforeseen changes take place in all systems while maintaining resilience – namely the ability to keep basic structures functioning after disturbance – is the core of sustainable development (Ahern 2011). Resilience is defined as "the capacity of an ecosystem to tolerate disturbance without collapsing"(Holling 1973). It later becomes the capacity of a system to absorb disturbances and reorganize itself while undergoing change so as to retain the same function, structure, identity and reactions (Carpenter et al 2001, Folke et al 2002, Walker and Salt 2006, Folke 2007). Resilience is not a series of fixed principles or norms, but if combined with a resilient landscape system, it can endure interference from the natural system and the city system, produce significant changes and reflect the harmony of human values between the natural and artificial environments. This changing world needs interdisciplinary landscape planners who can use better and more techniques to solve issues such as city infrastructure, the ecological system, cultural heritage and regional regeneration and so on. In this respect resilience provides a good platform for regeneration projects to create and maintain ecological systems, historical sites and industrial forms.

2. Current challenges

The city is a dynamic ecological system whose components interact and affect each other. Each component part has its own development capacity. However, when outside interference breaks the stable state of the system structure, it needs to adjust the system to adapt to the change.

2.1 Study on the regional situation

Chongqing is a typical mountainous city in south-western China, with two main rivers – the Jialing River and the Yangste River pass through it. The landscape experimental area in Beibin Road is located in the centre of the city and by one side of the Jialing River waterfront. It is 78.3 hectares large and 1.98 kilometres long. As early as 1500 years ago, it was a prosperous commercial dock with three city gates. Later, as the means of transport changed and waterway transport gradually declined, it became an emerging region of culture and tourism industries (*Fig. 1*). As an interlaced zone between nature and the city's artificial environment was affected by the operation of the Three Gorges Dam downstream of Chongqing, the water drop of Jialing River in Beibin Road is very high, forming a 30-meter water-level and 400-meter-wide fluctuation zone (*Fig. 2*). Annual variation of the water level is divided into two main periods:

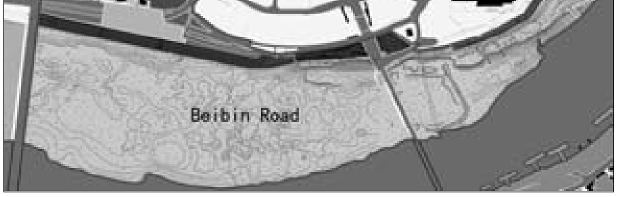

Fig. 1. Map of BenBin Road districts studied

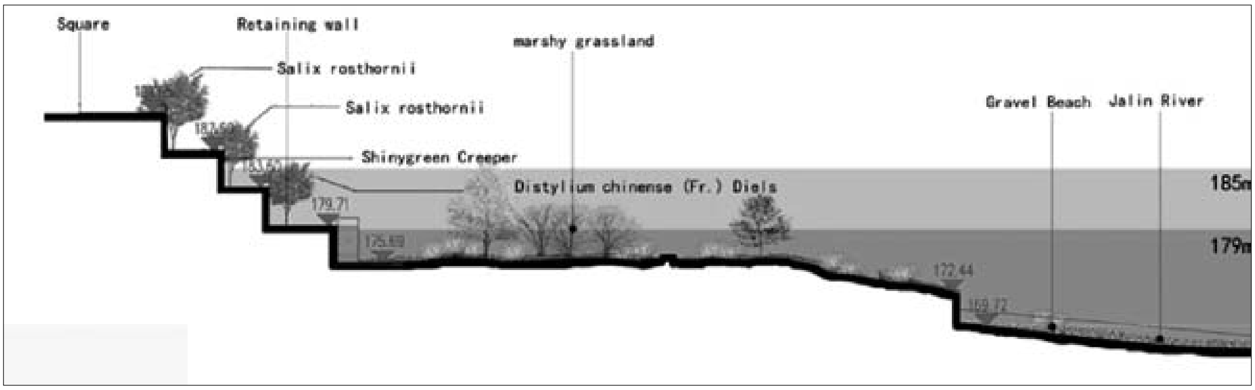

Fig. 2. The typical fluctuation zone on BenBin Road, Sources: Modified according to BenBin Road design schemes

the first period is from November to April during the dry season, affected by the storage of the Three Gorges Dam, with the highest level of up to 175 meters; the second period is from May to October, with the lowest level down to 145 meters due to sluice of the Three Gorges Dam.

2.2 Challenge analysis

The city's waterfront is a public space with highly regional characteristics and multiple municipal functions. Under the interference of extreme changes of water-level in the fluctuation zone, maintaining the waterfront space in a stable condition while preventing its collapse requires the following challenges:

2.2.1 Predicament of the landscape's ecological system

How do we deal with the environmental problems brought on by the off-season and high water drop, such as the geological instability of the reservoir, the destruction of vegetation, soil erosion, and frequent natural disasters? The fluctuation zone's aquatic ecosystem cannot adapt to a 4-month land period, while the terrestrial ecosystem can hardly survive in a 1-month flooding period, as this causes the gradual death of aquatic and terrestrial plants as well as damage to the soil structure. Therefore, universal soil erosion has appeared. Washed over by the wind and ships, the bank continually erodes, which causes mountain and bank landslides and collapses with other frequent geological disasters in the rainy season and flood season.

Meanwhile, the expressway, viaduct, retaining wall, embankment and other concrete facilities occupy the natural shoreline and river course, cutting off exchange and transmission among nutrient, biomass and energy, destroying the migration corridor and the habitat environment for birds and waterfront animals, leading to the extinction of common waterfront species.

2.2.2 Demand for a functional municipal system

At present, Chongqing is undergoing rapid urbanization. From 1996 to 2011, the resident population and urban population grew from 29.5% to 53% (Chongqing 2011). The growing public demand for residence, transportation and recreation produces enormous pressure on municipal facilities. At the same time, the complex structure of the mountain city's terrain produces difficult organizational choices for the municipality. On the basis of the adaptation of the water level in the fluctuation zone, the organization of the waterfront's public space needs to face the problem in the following respects: How can multidimensional urban spatial pattern be organized in the waterfront space of a mountain city, while adapting to the water level change in the fluctuation zone? The city's pattern is mainly affected by the shape of the mountains and flow of the water so the mountain city has obvious regional characteristics. How is it possible to respond to regional features, historical sites and site context on the basis of maintaining the existing basic municipal functions such as flood drainage, transportation and water supply?

How can public urban green space and the river corridor be combined together with urban ecological network? How can we make use of the visually rich landscape to meet the public needs of recreation and education, while maintaining landscape diversity?

3. Application of a resilience strategy

The resilience concept was introduced into the waterfront space of the mountain city to solve the conflict between the city's functionality and the natural environment. In fact, it combines the water, land-water ecotone and land as the resilient buffer system for the city and surrounding nature, namely it is a landscape infrastructure adapting to dynamic space-time changes. When dealing with the significant water level changes in Beibin Road, the landscape infrastructure is able to withstand and absorb interference without any influence on the waterfront landscape's functioning and the city's ecological structure. More importantly, this resilient landscape infrastructure has extendable internal features, which can combine upgrades of system feedback, tolerate the new functions and components and accept innovations and changes *(Fig. 3)*.

3.1 Adaptability to space-time dynamics

At the core of resilience theory is the system adaptive cycle, which describes how multiple components in a system change with time, and how the system's resilience changes according to the particular stage of the system (Walker and Salt 2006). The stability of ecosystems depend on the space-time scale and spatial heterogeneity (Peterson et al 1998, van Nes and Scheffer 2005). Building an adaptive landscape infrastructure requires consideration of the link between the land, land-water ecotone, water flow, ecological corridor and landscape view, in addition to carrying out layering according to the ecological sensitivity of the slope area, building a horizontal ecological corridor parallel to the river according to the topography, slope and regional water trends and building the longitudinal ecological corridor connecting the water, the floodplain, the creek, the hillside and the ridge together to protect the animal and plant migration channel and biodiversity. Consideration must be given to the connection between the city development path, the water cycle

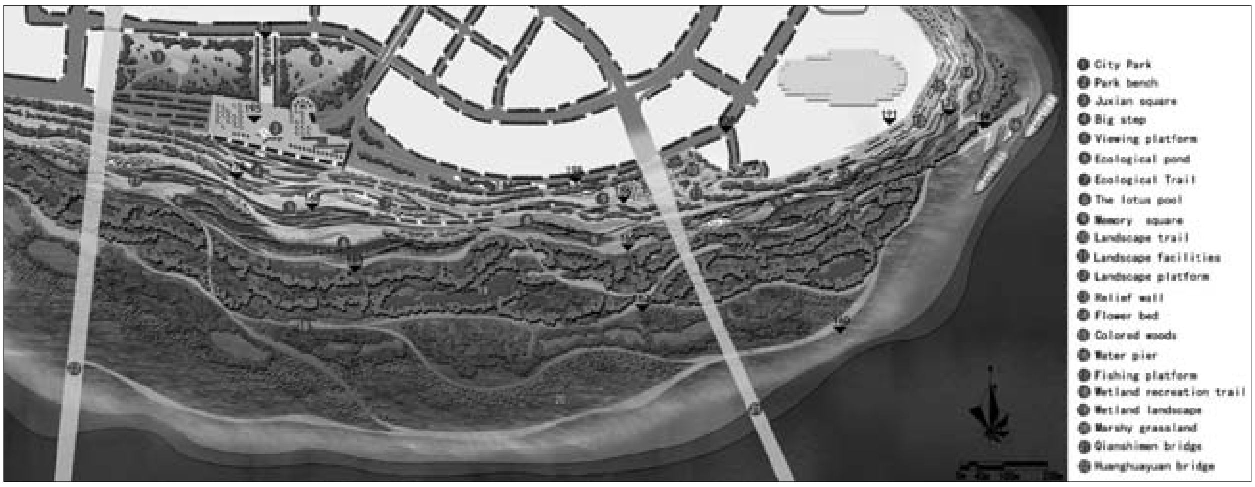
City Park
Park bench
Juxian square
Big step
Viewing platform
Ecological pond
Ecological Trail
The lotus pool
Memory square
Landscape trail
Landscape facilities
Landscape platform
Relief wall
Flower bed
Colored woods
Water pier
Fishing platform
Wetland recreation trail
Wetland landscape
Marshy grassland
Qianshimen bridge
Huanghuayuan bridge

Fig. 3. The typical fluctuation zone on BenBin Road, Sources: Modified according to BenBin Road design schemes

of the waterfront's fluctuation zone, city patterns, historical texture and characteristics in view of time.

In the landscape project of Beibin Road, through the reasonable use of exposed cyclical land (especially the river floodplain in low water), the cyclical symbiosis of the riverside landscape and natural hydrology has been achieved. Due to the ecological protection of the waterfront and its landscape view, combined with the topography and water level changes, a walking system of a resilient waterfront in a public space has been established, including the floating water affinity platform which can adapt to water level changes and terrain height differences, the water-permeable waterfront pathway, temporary service facilities, identification systems and so on.

3.2 Multiple city functional system

The establishment of comprehensive city landscape infrastructure must integrate environment, ecology, and social and economic driving forces within a related standard, so as to avoid resilient damages caused by excessive efficiency improvement and structure optimization (Walker and Salt 2006). The function system formed can adapt to the water level changes of the fluctuation zone and the city's demands for facilities. Recent years in the development process of the city waterfront in China, many tall residential buildings occupy the city's waterfront on both sides. These dense buildings not only influence the waterfront landscape's view but also hinder the citizen's water-enjoyment rights. Therefore, in the landscape planning of Beibin Road, to meet the demands for water supply and drainage, ecological and environmental protection, traffic, flood control and drainage, landscape, recreation and other multiple functions, the following measures can be adopted: With the aid of the waterfront's environment and location, through the city footpath, to line up shopping, exhibition, conference, entertainment, recreation, accommodation, protection of historical relics and many other industries. This mixed- development, industrial structure contributes to changes in the single social structure in the waterfront area, providing adequate employment opportunities and promoting the sustainable development of economy and industry. To plan the waterfront park as a square, green wedge according to topography of the riverside, to combine the city's flood control system with the green belt and blue belt, and to optimize the landscape and ecology of waterfront's green corridor (*Fig. 4*). To decrease the interference of fast traffic with the waterfront area by sinking roads and to increase the waterfront's bike lanes; to build the waterfront walkway without effects on the ecological water cycle, while maintaining the walkway that is naturally developed from the fluctuation zone. By taking full advantage of historical and cultural resources such as the Grand Theatre and Museum of Science and Technology, to line

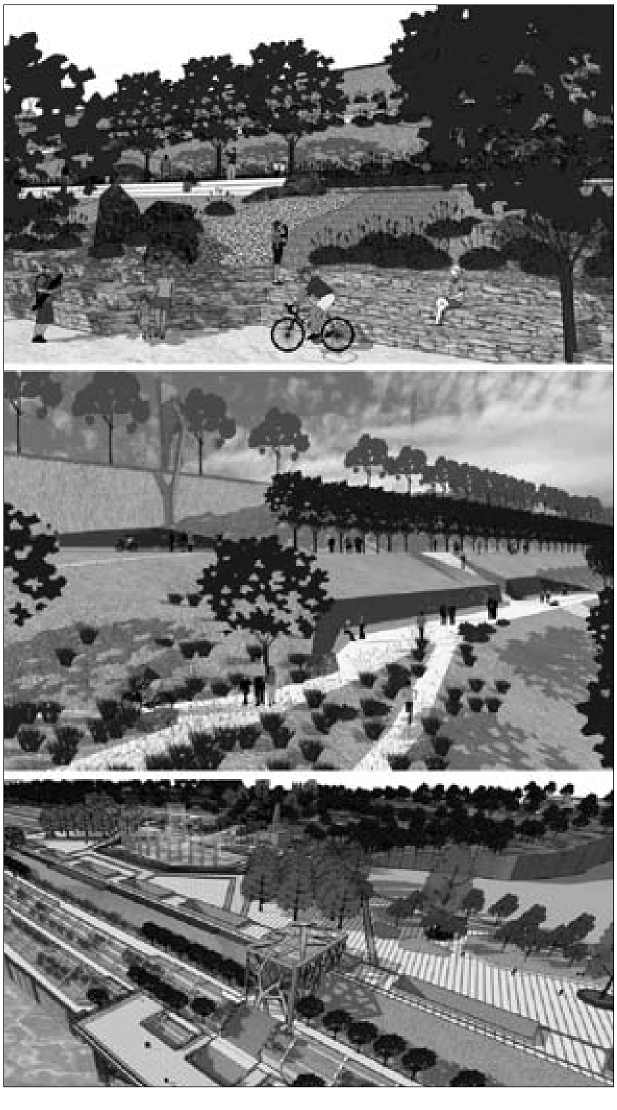

Fig. 4. The green corridor on BenBin Road
Sources: Modified according to BenBin Road design schemes

up historical sites with modern architecture through recreating routes, to show the waterfront culture of Chongqing, to improve tourist facilities, to develop water tourism and to establish ecological education bases.

3.3 Multi-scale network system

A landscape infrastructure adapting to dynamic space-time changes, needs to consider all the forces and factors within the city, and to regard them as a network formed by their interrelations. A multi-scale network system is to coincide with and integrate green and blue belt systems, a transport system, an ecological network, the cultural heritage layout, the city's infrastructure system and so on, on the basis of adaptation to changes in the water level. In the landscape planning of Beibin Road, the original historical context fuses with the waterfront's open space, forming the tourist route alongside the historical heritage corridor. During the flood period, according to seasonal variation and elevation of water level in the fluctuation zone, the connection of rivers, lakes, ponds and city land, non-construction land, and depressions constitutes the seasonal ecological corridor, storage space and wetland. Through topographic and visual concessions, sinking and lowering the elevation of Beibin Road's expressway, and a combination of slow non-driveway and footway, a perfect three-dimensional waterfront transportation network can be formed to reduce the barrier between the viaduct and riversides, in order to achieve the best landscape view.

3.4 Selection of adaptable plant communities

In the waterfront fluctuation zone, the resilient landscape infrastructure also has the ecosystem's ability to withstand water level changes. Through micro-topography reconstruction, selecting the plant species, planting density and communities which are adaptable to the change of water level is the most important factor of ecosystem stability. In the landscape project of Beibin Road, recovering the river's straight coursedeep ponds and shallows, reducing hard materials of the embankment at the river's edge, such as concrete and stones, and changing abrupt slopes into eco-embankment can contribute to forming a rich aquatic habitat. For the distribution of plants, flood-resistant herbaceous plants shall be arranged in waterfront areas. In waterfront platforms and corridors of the fluctuation zone, or in short-term flooded areas, shrubs and trees shall be planted. Diversified plant communities can be selected and cultivated in the different heights of the waterfront bank to absorb and break down eutrophication and pollution in the earth brought by river flood. In promoting green mass and beautifying the waterfront environment, the root systems of these plant communities can fix sand, and effectively reduce soil erosion, landslides and other geological disasters *(Table 1)*.

Table1 The plants of adapt to the change of water level of the hydro-fluctuation zone

Species	Adaptable area	Plants
arbor	embankment, hillside	*Distylium chinense (Fr.) Diels, Salix rosthornii Seemen, Pterocarya stenoptera C.DC., Taxodium distichum, Taxodium ascendens, Populus deltoides, Subgen. 3. Prinos (L.) Loes., Fraxinus pennsylvanica,(Gleditsia triacanthos, Acer nigrum Michx, Coriaria nepalensis Wall, Carya aquatica, and etc.*
shrub	embankment, floodplain, wetland, hillside	*Myricaria laxifflora (Franch.) P.Y.Zhang et Y.J.Zhang, Campulotropis macrocarpa, Debregeasia longifolia (Burm. f.) Wedd., Bougainvillea spectabilis wind, and etc.*
herb	Water area, floodplain	*Vetiveria zizanioides L., Phragmites australis, Juncus ohwianus, Hemerocallis fulva (Linn.) Linn, Saccharum spontaneum Linn., Phragmits karka (Retz.) Trin,*

Sources: Modified according to BenBin Road design schemes

4. Conclusion

Resilience entails adding new knowledge, carrying out experimental research, exploring partial regularity of outbreaks and willingness to accept the change. From the case analysis of landscape planning in Beibin Road, although the theory and practice of the resilient landscape is relatively young, at present it only stays at the level of a series of ideas and specific projects, still relatively deficient conceptually, in the construction of the theoretical system, the specific operation and other aspects. However, it is an adaptive landscape theory that comprehensively considers all factors of space, emphasizing dynamic space-time adaptability. It can endure disturbance and changes in the aspects of overlying protection of the ecological corridor, maintenance of natural processes, improvement of infrastructure, control of natural disasters, retention of history of industrial heritage, inheritance of local culture value and so on, and can keep the structure and function of the city's landscape system, providing a direction for landscape education.

Acknowledgment:

This research was financially supported by the National Natural Science Foundation of China (Grant No. 51278505), the Specialized Research Fund for the Doctoral Program of Higher Education of China (Grant No. 1020607220100067), the Programs for Science and Technology Development of Chongqing, China (Grant No. cstc2012gg-yyjs20011) and Project No. CDJXS12 12192250 supported by the Fundamental Research Funds for the Central Universities.

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Discovery and Invention: Landscape in the Light of Ecology and "Milieu"

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Abstract: The contemporary landscape (Magerand-Mortamais, 1981), on the boundary between natural and artificial, has to deal with environment and ecology. However, the current power of ecology as scientific knowledge may quash it. At the same time, landscape is attaining a sort of museal value. The present aim, borrowing from Anne Cauquelin's theory, which considers landscape as eikon and ecology as a part of eidolon, is to look at the landscape as a human cultural artefact that has to continue contributing to the emergence of the collective individuation (of beings and "milieu"). Our task, as designers, is to traverse and strengthen the links between discovery and invention, conveying the best concepts of ecology.

Keywords: Milieu, individuation, eikon, eidolon, discovery, invention, knowledge, design.

1. Introduction

Landscape is in the age of environment but landscape is not environment as the famous sentence goes: a home is not a house (Banham 1965). Nonetheless, even if environment does not replace landscape, what could environment do for landscape? How and why? First of all, we need to note an ambiguity: we can consider the landscape as a visual result of various phenomena (including natural and artificial actions), and at the same time a reference for defining and studying a certain state of our environment: it is one of the interpretations. The end and the beginning. What is first? What is second? Historically, the landscape probably forced us to look at nature as a *visible* object. In this way, Alexander Von Humboldt wrote *Les influences de la peinture de paysage sur l'étude de la nature.* (Von Humboldt 2002) *[The influence of landscape painting on natural studies]* This supposes that landscape, as painting, could be the beginning of some way to understand nature. Nowadays, the hypothesis may become the inverted: natural studies affect landscape design due to the great development of scientific knowledge on this subject. How did this sort of inversion arrive? First, we need to sketch some of the main aspects of both environment and landscape, and how they could be relinked in a new way.

2. The nature of landscape: some considerations on technologies and invention.

2. 1 Landscape as Εικον.

How and when was landscape born? Anne Cauquelin explained in *L'invention du paysage* (Cauquelin 2003) that the concept of landscape did not exist during Antiquity; the Greek world was one of the *logos*. For the author, it is the invention of perspective that provokes the birth of landscape. The *logos* is *« ... cette raison langagière qui traverse les choses de part en part et qui instaure une entente, une écoute plutôt qu'une visualisation des objets de ce monde.»* and she precises « *l'image n'est pas dirigée vers des manifestations territoriales singulières, mais vers l'évènement qui en sollicite la présence(...) La narration est première et sa localisation est un effet de la lecture.*» For the Greek people only the narration was natural and important, even if it needed some descriptions of the territory where an event was happening. The author developed the question of natural and artificial imagery, a debate in the Byzantine period that clarified the difference between *eidolon* as natural image and *eikon,* as artificial one. We will come back to this difference between the two concepts. It is the painting, as *eikon*, associated with perspective, as a new and powerful tool exploring depth and colonizing distance which finally generated the landscape. Indeed after difficult beginnings, perspective was adopted by painters in the Renaissance period and prompted a new perception of surroundings for painters. As Anne Cauquelin said, from now on, people *saw* in perspective. Phenomenologically, perspective revolutionized the relationships with "what we look at". We can keep this as an important point: landscape has strong links with the artificial. Landscape is situated on the side of eikon.

2.2 The nature of landscape - technologies and invention

Landscape is on the side of interpretation, art, and sensitive perception, subjectivity, on the boundary between natural and artificial. It is built with imagination, and technologies. Even in the two ambiguous acceptances: • the landscape *we see*, as the result of both natural and artificial, in very complex combinations: for example, the Mount St Michel (le mont St Michel), the Bridge of Gard (le pont du Gard) the Mountain Ste Victoire (la Montagne Ste Victoire) etc. • the landscape we "build", we design (paintings, or parks and gardens designs...). One borrowing from the other and reinforces the other: for example the Mountain Ste Victoire as a "motif" [pattern] for Paul Cézanne paintings, and the paintings as the legitimation of the "motif". Even if the selection obeys to rather rational aesthetic criteria, each case is influenced by subjectivity, even collectively accepted.

Landscape is a sophisticated blend of discovery and invention. It is the result of processes made of *borrowing, "do it yourself" and poaching* (Lévi-Strauss 1962). The farmer who sows seeds of wheat borrows the seeds from nature. The forester who plants young trees uses the ancestral observation of how and where the trees could grow. The engineers who design a dam know the physical characters of water and rock, etc. Technologies, as ways to use natural elements, to transform a realm, are pervasive in the identity and the existence of the landscape, from the birth of the notion: painters used natural tinctures, mineral powders, vegetal oils and varnishes, diverted from their original state or goal, contributing to fixing an image on canvas. Curious artificial devices divert substances and create artificial images. Parks and gardens were built with equivalent processes: all of the vocabulary of parks and gardens is due to a mix between natural elements and technical borrowings and diversions (ponds, fountains, lakes, waterfalls, groves, rocks, terraces, hills etc.) This observation is also available for landscapes on large scales: famous ones, such as the Mont St Michel, but also more ordinary ones as such a forest, a little valley, a prairie, etc. The nature of landscape is deeply artificial, this word taking on a positive interpretation.

2.3 The nature of invention in Gilbert Simondon's theory

For Gilbert Simondon, invention takes place in every living creature's evolution and continuous individuation. And invention is closely linked with technologies. For Gilbert Simondon, inventions are generated due to a braking situation, when it is not possible to solve the problem with old methods, and when there exists the premise of new knowledge. Invention is a sort of mediation between "le système d'action du sujet et le régime de réalité du résultat." ["...the subject's system of action and the possible reality of the result"].

In Simondon's theory there exist three successive stages1 of technology. The first is to stabilize natural conditions. The tools and instruments operated a mediation between organism and environment, a sort of intermediate element linking the human being and the world. During the second stage, the inventions related to scientific knowledge developed rigorous correlations between human beings and the environment, often using engines and automatic systems, provoking transformation and managing energy. The third is the stage of information. The issue is no longer energy but the ability to treat the question of the signal (information). Of course, Simondon was not the only one to develop these points. A lot of contemporary scientists have had similar analysis. What is original and interesting in Simondon's theory is that he insists on the question of technological inventions as a strong link between human beings and environment (he invented the concept of "milieu associé"), as a complex system provoking, at the same time, the "individuation" of human beings and their productions and notably their environment. And so, this individuation follows the different and specific steps of technology. The genesis of the technological "object" (the word object used in its broad acceptation), of its invention, and its inventor(s) are related in a continuous and coherent stream. In this sense we may accept the word "technology" in its broad interpretation as the fruit of tekhnè, notably existing in every human activity, as something inserted between human beings and nature. Probably in this specific interpretation, the landscape, as invention, could not exist during the first stage of technology, and this could confirm A. Cauquelin's theory. The character of the landscape, strongly linked with the question of interpretation and re-presentation, could naturally appear with the stage of transformation: it is the human being's awareness to be able to adapt the natural conditions of the environment to his own aspiration. In this sense, the correlative emergence of landscape and all new technologies invented during the Renaissance period is really clear. A contemporaneous problem is probably the relationships between the landscape and the third period.

2.4. The notion of network in technology and the landscape

If we accept the previous hypothesis, landscape is something within a network that connects various types of information and knowledge: those forming sites, or their transformations, those of different types of representation such as paintings, photos, maps etc., those of imagination and perception, and those of invention, all fields in which technologies and technicality play a major role. These considerations, in our mind, move the landscape closer to Gilbert Simondon's thesis, notably the one concerning the mine. In his lectures regrouped in the book *L'invention dans les techniques, cours et conférences* (Simondon 2005) he explained the strategic role of the mine, as a place that gathered various types of knowledge and technology, specifically invented or adapted to this very artificial place, answering many problems generated by this special situation. The mine was a very interesting place for inventions: rail and transportation in general (horizontally and vertically), bringing fresh air, evacuating water etc. The mine is the complex result of a very good coordination of various technologies. It is an extreme example, and the comparison is not to be strictly considered. The goals are not similar. But we can recognize some homologous characteristics. The landscape is also structured in a *body* of technical actions and knowledge, including the double acceptation of the word itself, as evoked in the first paragraph. This is why the landscape, as human activity is so rich and interesting, is a result at the crossroads of various other activities. The question of the network exceeds a simple metaphor: the network is key to understanding the more developed levels of technologies and inventions, and the landscape itself. It supposes a great coordination between heterogeneous elements, their mutual adaptation for a common goal, and the acceptation and the consciousness of a complex system ordered by information. The result is the creation of a changing organism, a "milieu" (a word that doesn't really exist in English), which is "more" that an "environment". The German word *Umwelt* (Von Uexküll 1934) is also really adapted. The landscape transcribes this rich and complex reality.

2.5. The nature of landscape

In Simondon's thinking, the *milieu* is an indispensable term in the interaction between a living creature and its surroundings. Individuation of everyone is not the result of a simple connection, where the subject would be "informed" by the surroundings or vice versa, but a mutual trans-formation into a milieu, the third complex term, as "in the middle of". For him the "milieu" and the "being" (or the object) co-exist, and more than that, they co-emerge. No being without milieu, no milieu without being. If we accept the previous information, and following G. Simondon's thinking, we may consider the landscape as a special *eikon,* expressing a step of individuation and expressing some part of the "milieu". So, the present hypothesis is that landscape is the visible manifestation of the anthropological "milieu", illustrating both actors' level of individuation. In an anthropological context, there is a co-emergence of the living organism and the "milieu". Landscape is the *representation* of the co-relation, the co-existence of an organism and its "milieu". As we wrote in *Vers l'Hyperpaysage* (Magerand-Mortamais 2009) landscape could be considered as the (decoded-recoded) nature *for* human beings.

3. The paradoxical situation of landscape today.

3.1. Some historical elements to define the relationships between ecology and landscape (eikon and invention - eidolon and discovery).

As A. Cauquelin said, landscape is on the side of Eikon, on the side of invention, as defined by G. Simondon.

Is environment on the side of eidolon? It is not so clear. As a scientific discipline, it tries to gain knowledge about nature. But as all sciences, it follows different paradigms, according to different periods and different cultures. Paradigms are relative (Agamben 2009). For example, historically, the European way of ecological analysis is different from the American one. Briefly recalled at the beginning, European scientists were botanists, educated to classify. They travelled, as did Alexander von Humboldt, and discovered the diversity of plants and their numerous associations according to climate, altitude, character of seasons, latitudes, and grounds, etc. They built rigorous and meticulous taxonomic tables. Nonetheless their analyses were static, but in a number of various places, including a lot of exotic ones. The American way, by contrast, was based in the American territory only, and the scientists, studying their own country, did it in several periods. They were sensitive to the question of time, and the evolution of the places they observed. Cowles[2], at the end of the 19th century, observed the dunes of Lake Michigan: as movable and unstable settlements they generate a permanent adaptation of their vegetation. He developed the notion of ecological succession. Clements[3], in the same period worked on the Grand Prairie and its disappearance due to several phenomena: the extinction of buffalos, industrial cultivation. He built the notion of climax, that is, the complex of several favorable factors for each group of vegetation. The disappearance of the Grand Prairie, as other archaic formations, was non-reversible. This dynamic conception of ecology had a significant impact on the consideration of the nature of nature (Morin 1980). Still today different theoretical currents co-exist, less static or more dynamic, protectionist or long-term, less scientific or more social etc. The relative knowledge about very complex natural living phenomena does not reduce the great importance of ecology, but just allows its situation and does not regard it as absolute. Ecology and the knowledge attached to it will probably still evolve, and our legislation will also evolve in the future, according to new information. Everybody knows that and accepts this fact. Ecological knowledge is "in process". Ecology remains an uncompleted eidolon.

3.2. The present academic position of landscape: out of the network.

The evolution of our relationship with the environment has deeply accelerated in the last thirty years. Probably due to mutations in our way of living and to scientific knowledge, that, finally, after a rather long time, a very new feeling about nature, and the awareness that it is becoming precious and rare has emerged (Magerand-Mortamais 1980). After a very long period of industrial development destroying numerous natural resources, the new social credo is the environment and sustainable development. Everybody *seems* to be responsible. The industrial sectors of biotechnologies and organic foods are increasing everywhere. Ecology itself is creating new dynamic sectors of activity. Scientific and technical activities around the questions of sustainable development are on the increase. Ecology generates a new way of thinking: people are beginning to understand and accept the complexity of phenomena and the interaction between all living creatures in a biotope. This is a positive evolution in thinking, even if it also has many drawbacks. People are becoming conscious that the environment is a sort of complex machine (Morin 1980), with non-reversible phenomena, in an ever dynamic movement. In this context landscape appears as the model of a sort of ideal, in the relationship between human beings and nature – a sort of stable landmark, a sort of unmovable, purely aesthetic figure, for our pleasure and entertainment. The landscape loses its real links with the network and "milieu" that produced it, (and that it produced in return), to become an academic figure of our good consciousness. Paradoxically, at the same time, we are accepting that real nature is complex, unstable and dynamic, and we are unable to translate this to guide the evolution of the landscape as a *presentation* of this knowledge. Of course, it is easier to protect than encourage its evolution which needs to take risks. So we can attest the beginning of a dichotomy: the ecology and environment on the side of science, technologies, economics, and complex evolution, and the landscape on the other side, as a sacred static thing, but also a past one - becoming just an *icon*, a spoiled, de-natured *eikon*. So landscape is leaving its position, as a relevant and creative figure of an evolutive human "milieu". It is starting to lose any real meaning.

4. Ecology: an opportunity to provide a new network for landscape

(Ecology as a step of discovery and inspiration to invent a new stage of the landscape - comparable to the perspective phenomenon?)

4.1. Ecology as a methodological model.

During the fifty past years the questions of environment have become increasingly popular and strategic. It is integrated in our mind. It is modifying our way of living, our way of eating, what to wear, to move, to produce. It is creating new types of management and organization, according to the discoveries of the mechanisms of natural life, natural phenomena etc. In this context, it is probably time to invent new links between eidolon and eikon, between discovery and invention. This is the opportunity to seize this original phenomenon and use it to invent the corresponding landscape. The present hypothesis is this: can we consider ecology as an authentic model for landscape design? Comparable to the power of perspective? What characterizes this contemporaneous model? Briefly, first, ecology is a consciousness of time working on a complex system composed of various molar and molecular elements (living creatures, inanimate ones, continuous and discontinuous ones combined into a very rich but always unstable network) always reacting to some event, in very specific contexts. This system admits that everything could happen as a flow, (or flows), which always makes it move, and always changes it. All the elements need to collaborate to get a new and ephemeral balance, in a complex system. The question of information (specifically the signal, as previously seen) and its treatment is at the heart of this system. The question of scale is not really important: one tiny phenomenon may provoke very huge consequences. The question of "in" and "out" has to be considered in a new way according to the question of information, ordering the balance of the system. What is IN(side) is not separated from what is OUT(side) (traditionally understood dialectically as something IN a box, separated from the exterior and with few communications with it). As developed previously, the "milieu" is a complex living system, in a topological context. This model has numerous consequences: formal ones and organizational ones. In this sense, ecology proposes scientific and technical knowledge but also more intuitive and sensitive elements that could actualize the landscape as eikon. This model can enforce and densify the landscape as a network, as a re-presentation of "milieu" as required in the individuation process (in this case, particularly the one of human beings). The levels of complexity and interaction discovered with ecological knowledge are ready to be used for the invention, required to provide new tasks and new goals for the landscape as a cultural medium. We may express a frame. Provisionally we will accept Pierre Lévy's classification (Pierre Lévy 1981) proposing four anthropological spaces : the first is land, the second is territory, the third is trading and flow, the fourth is the space of the knowledge. If we agree with the fourth definition, and place ecology in it, we can say that: ecology, in our contemporary period, (specifically "space of knowledge"), could be equivalent to the perspective appeared in the second period (territory). It could be the engine that enables us to invent new landscapes (in both acceptances: the ones we see, the ones we design and build). If this hypothesis sticks, at the end, our contemporaries will see "in ecology", as previously they saw "in perspective".

4.2. A new stage of individuation for the landscape

In a period when technology began to transform reality and the way people understood it, topos and perspective co-invented the landscape. In return, the landscape transformed the real and made it evolve, as it evolved human beings who invented it. The complete hypothesis is that if the knowledge and technologies developed by ecology are transforming reality, they could invent new conditions for the landscape - a new step of individuation for the landscape, and, in return a new step for the individuation of people (and so for ecology!). From now on, complexity, uncertainty, moving stability, living phenomena, feedback, molecular scales, topological geometry, dissipative structures, and information theory are the ingredients to invent the basis of original issues for the landscape. The "milieu", as G. Simondon explained, is not outside or inside the person, the being, the object; it co-emerges with it, him or her.

4. Conclusion

The individuation of landscape is co-produced by the milieu-being duo. At the same time, however, the individuation of landscape leads to the individuation of milieu-being. The role of the landscape is to translate in a sensitive way the development of ecological knowledge. If the environment is becoming the *motherly model* for today's landscape, then landscape as *eikon* can continue to play a part in the individuation of people and their understanding of present phenomena. The only condition to maintain this role is to take risks and invent new layouts suggested by contemporaneous connections with the ecological model, accepting its peculiar relationships with technologies strongly linked to knowledge, understanding and development. Education has a strategic role: first to develop the question of invention, essential to maintain the landscape as an authentically contemporaneous one, and second to clarify the specific nature of landscape and environment, and their various relationships. This has great consequences even in architectural design and urban design, for landscape. A huge field is in front of us: the molar and molecular scales are simultaneously called in a complex, instantaneous system. The challenge of the period is probably to realize this evolution at the risk of a fossilized landscape. But it is also an exciting one for the new generations of landscape architects, architects and urban designers.

Notes:

[1] The French word "phase" as used by G. Simondon is more than "step" or "stage" but still unsatisfying, I didn't find the right one and I decided to use these ones.

[2] Henry Chandler Cowles, 1869-1939.

[3] Frederic Edwards Clements, 1874-1945.

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Harmony between Humans and Nature

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Abstract: In order to find an answer to the question of how to create a built space without disturbing the natural environment, we shall investigate the meaning and function of landscape. In Farsi language, landscape is translated as "Manzar", a word with two meanings: one is the location from which the view is being observed and the other is the view itself. Therefore, the "viewer" and "the viewed" both become important. Before the industrial revolution, interference with natural environment would take place with an understanding of its nature, taken from a long-lasting coexistence between humans and nature. Such an in-depth look at natural environment highlights the importance of local knowledge and the identity of place. Over time, with the advent of technology, human's connection to its surrounding nature has diminished. This paper explores the historical transformation of environment in the city of Yazd, throughout time, from a city with vernacular architecture to a place with the inability to create a pleasant living space. We conclude that with reduced understanding of the surrounding environment, the natural cycle was disturbed in such urban spaces. Direct attention and education on sustainable development is required when dealing with the surrounding landscape. Not only information about the local climate and the geographic nature of the place, but also its historical identity and local character become vital to the practical need of establishing a link between students and place, so human intervention may begin to sound like nature's symphony from the heart.

Keywords: landscape, natural environment, education, identity, human, Yazd.

1. Introduction

It is necessary to think about what landscape is and how it is formed in order to find an appropriate response to the question: "how is it possible to intervene in the environment without any damage to its nature, while moving toward the promotion and development of sustainable development?"

The definition of landscape includes the concept of perceiving the environment, which indicates the effect of human perception on his/her manner of intervention upon the natural environment. In Persian literature, landscape has a dual interpretation; one refers to "a place from which to watch" and another is the past participle form which means "what to look at". Therefore, "the person" who is looking and "the thing" which is looked upon are considered simultaneously important. So, the main difference in how humans intervene in the environment throughout history may be attributed to the difference in who s/he is and what his/her attitudes are towards the environment.

In general, two approaches towards the universe can be identified in the trends of evolution in human history. The first one considers work authentic and, as a result, assumes architecture as a component of the universe which is harmonious, and seeks architecture in duplicating the primordial samples. Another approach analyzes and identifies the universe solely from the perspective of human perception; therefore, human thoughts and whatever is perceived by him/her are considered authentic (Jamalpour, 1975).

Western philosophy towards nature has something in common with the latter approach. In this point of view, nature is defined as a perceivable world that encompasses all the elements and forces of the world which are perceivable by human beings. This common description of nature is an outcome of the Materialistic and Realistic theories of the universe describing the universe in the scope of perceptible materials for the human being, and denying all Meta-perception issues. This view offers a real description of nature. The approach of Old western philosophy towards nature was that of recognizing the human being as a resident of a world filled with comprehensible phenomena. Here, the world is free from any super natural or transcendental force, as Diderot has said: a naturalist is a person with no belief in God. He believes in material substance. The word "naturalist" in French culture philosophically refers to someone who seeks the reason for everything in nature. In the definitions given above, the focus is on the corporeal aspect of nature; everything that can be seen, heard, touched, smelled and tasted. Anything apart from these categories would be recognized as supernatural (Falahat and Shahidi, 2011).

This paper tries to investigate the one who looks and the effect of his/her individuality on what is created by him/her. Then, this approach is examined and its results are considered in practice in order to consider another training model, which is training a "landscape architect", instead of "landscape architecture". Also, it should be admitted that a landscape architect will create landscape architecture.

2. The history of the subject

Before the industrial revolution (before humans were awarded indeterminable intervention power by technology), human intervention in the built environment was along with nature and in line with its inherent limitations and capabilities, since humans knew the environment as a result of centuries of coexistence. The artist's job was to understand the language of the universe and make it objective; this understanding was not obtained during the short life of the artist him/herself but was the result of centuries of human-nature coexistence. An artist exhibited this eternal truth in his/her work and shared the discovered truth and uncovered hidden meaning with the building's residents and reservoirs. Thus, the language of truth was enriched by handing down from one generation to another since the creator found and presented a transhistorical issue as history and, consequently, the creation was connected and unified with the culture of human life which narrated their manner of existence on the earth. The product of this attitude was a local landscape that included people's knowledge about the world and introduced local identity of location and society (Ansari and Moazzami, 2005).

The difference between "cognition" of nature by traditional humans and the concept of "discovering" nature by modern humans can be considered the source of different manners of intervention upon the environment. The relationship between nature and humans in the modern era is similar to a stranger who studies and explores the world as an object. The stranger considers him/herself as an outside discoverer or superior to the discovered object while, in the past, humans looked at the world from inside, not outside. From this perspective, humans were separated from the entire universe and tried to discover natural rules and principles by looking at it. Gradually, mathematical and geometrical notions were replaced with the notion of mystery (Irani Behbahani, 1999).

In modern thinking, the human mind becomes the center of the universe. This change of attitude is followed by changes in human learning from the world, and consequently in training method. Traditionally, a major part of the designing process took place in the human unconscious while, in modern thinking – in which the human mind is the center of the universe – the source of creation of an architectural work is also transferred to this position and unconscious presence is replaced with acquisition and conscious understanding (Coomaraswamy, 2005). In other words, a designer is similar to a scientist that tries to discover the governing disciplines and rules of nature and, therefore, designs became a set of designer decisions which are adopted consecutively with the conscious thought of modern humans. The promotion of this viewpoint, which is the result of human capability in dominating nature, led to serious damage to the environment in the past two centuries. Here, the designer started the formation of a design as "one" person with limited personal capabilities and, unlike the past when s/he used traditions of the past, experienced everything again and made his/her desired changes in the nature with the imagination of being able to modify natural environment using the power awarded by technology (Pourmehdi ghaaem maghami, 2008).

Many of these interventions left a great number of undesirable effects on their ideological contexts or forcefully underwent many costly changes for survival. The emergence of sustainable development is the product of these unsuccessful experiences. The main disease of the contemporary human is a sense of segregation and fragmentation from the universe which is assumed as a stranger since we have not considered and recognized it during our changes and now it does not recognize man-made environments and rejects them; thus, nature, which should guarantee human life, leaves his/her living environment and is a threat for his/her survival (Ansari and Moazzami, 2005).

3. The role of education

Humans gradually noticed the damage which was inflicted on the environment and found a solution that is creating lasting changes. That is why the sustainable development approach has specifically considered the principle of balance, which requires a trade-off between the natural environment and human artifacts. Cooperation and coordination are the requirements for establishing harmony between these two environments; therefore, designs that are harmonic with nature become valuable and important (Golkar, 2000). Achieving a desirable result in the field of practice requires the modification of our attitudinal approach. Therefore, considering the training and theoretical systems, the difference in the cognitive science of past and contemporary humans is studied in order to obtain an appropriate solution.

Today, field specialization has some advantages for the progress of science, but it also unfortunately imposes some threats on the body of knowledge. Most of these threats are caused by ignoring the priority of knowing the human environment before any intervention in any field. It is not possible to expect a proper movement along the knowledge path without having a comprehensive attitude towards the universe (Ansari, Shahidi, and Yalpanian, 2008). Having a comprehensive attitude to the universe requires cognition. Cognition requires awareness of the beginning and end of the phenomena and their causes. This type of awareness is called "knowledge" in the Eastern culture. Knowledge is not related to individuality and expressing personal conflicts. It emphasizes human commonalities and focuses on their instincts that determine their relationship to the universe. Connection of this viewpoint to the area of creation is the function of this rule (Homayoun, 1974).

In contrast, what is discussed today as the stage of cognition in the design process and also multilayered method, which is the basis of all environmental analyses of landscape, is in fact the expression of human discoveries from the environment in order to be aware of the factors which should be overcome.

Since the human relationship with his/her nature was reduced, with the growth of industry, s/he used the power awarded by industrial tools to change the environment without considering its characteristics. For instance, s/he learnt how to make a Japanese garden in a desert by overcoming natural limitations!

Unaware of the fact that this unknown creature would gradually injure the natural environment and reveal its own mismatched face by making inappropriate patches, destruction of natural resources in an unprecedented scale presented humans with a new situation. While s/he thought that, after centuries of subjugation to nature, s/he had finally gained its control, s/he suddenly understood that s/he had disturbed the world's balance by his/her improper management, and that s/he would in the end suffer from the threats of this mismanagement!

The prevalence of this attitude and the change of human position in nature reduce the relationship between humans and the natural environment. This alteration gradually changes the training system. As a result of this change in the training system, which formerly tried to fully train people to be "creators" who create full "creations", a kind of system was followed which aimed at developing a one-dimensional expert by providing a large volume of data without any intervention in his/her other perceptual and cognitive aspects.

Entering the era of Post-Modernism has put a philosophical and educational dilemma in front of the architecture schools:

"What is the task of these schools? Which principles and basics should be taught at these schools?"

The scope of education in architecture and landscape can be divided into two separate and distinct branches:

1-Educating landscape *architecture*: achieving this goal needs a comprehensive and exact definition of architecture for its teaching. Schools such as Bozar and Bauhaus are examples of places with the ability to offer and teach such a definition. The approaches might be different but achieving and offering that definition was their common goal.

2-Training landscape *architect*: this goal means without focusing on a specific type or definition of architecture, there should be efforts to discover and train the talents of the student. This will end up introducing an architect but not architecture, knowing that the architect himself will be able to establish the architecture. This approach will also have its own parts such as:

Education: Obviously, studying only the visions, theories, and experiences of the past and present era cannot be enough for the curious mind of a young student who wants to experience the real version of architecture after practicing the abstract studies for some time. For this purpose the school should equip the student with an appropriate amount of knowledge in philosophy, sociology, art, technology... Here the student should have the opportunity to become familiar with different styles.

Creation: In this stage, which is the highest one in the process of educating a landscape designer, the student is able to create his own piece of work using the intrinsic talent, experienced events, and lessons taught during the training period.

As a result, schools should adopt an approach of training landscape architects and building the architect not the architecture (Hojjat, 2003).

This text believes that the solution for modification of the current situation is changing the management attitude of modern cosmopolitan humans to an epistemic viewpoint. We try to show that every phenomenon with deeper and more authentic origins is stronger in terms of its connection to the universe body and the world of living and surviving. Training "nature's mother tongue" goes along with creation. The concept of mother tongue has changes in the viewpoint of modern humans at its heart (Pourmehdi ghaaem maghami, 2008).

Undoubtedly, a major change of attitude is followed by changes in training policies since today's specialty-centered world needs up-to-date studies to preserve its dynamism. Relating architectural experiences to the architect's lifetime and not to architecture is the achievement of modern training which has produced the aforementioned threats.

4. Case study

In order to explain this concept, the experience of Yazd is investigated and the quality of life of this desert city is studied over time considering the human-nature relationship (Hojjat, 2005).

Yazd is studied not as a different city in Iran but as an example of Iranian culture. The universality of the issues raised in this section is not to be denied in other environmental areas of Iranian culture. Exhausting heat, lack of sufficient water, dry weather, and shortage of vegetation are among the factors which have threatened the lives of residents in this desert city throughout history (Fig. 1 & 2).

Meanwhile, the city as a single living body has emerged so that it not only has the ability to survive in these conditions but also provides optimum living quality. The built environment, like a harmonious whole in the outer face, unifies itself with nature (Fig. 3).

Continuous surfaces of adobe walls rise smoothly from the desert and end at the end of the city. Thus, Yazd, this vertical desert with impenetrable soil walls, ignores the outside world and considers the internal world in which a different scene of the environment is revealed (Fig. 4).

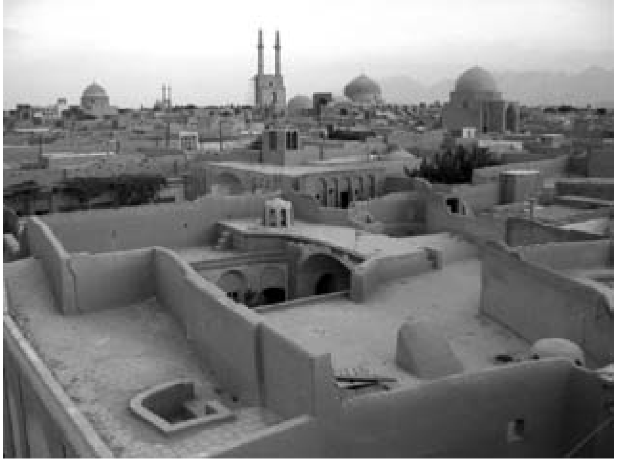

Fig. 1 Historical texture of Yazd
http://www.irangashttour.com/en/citypic/

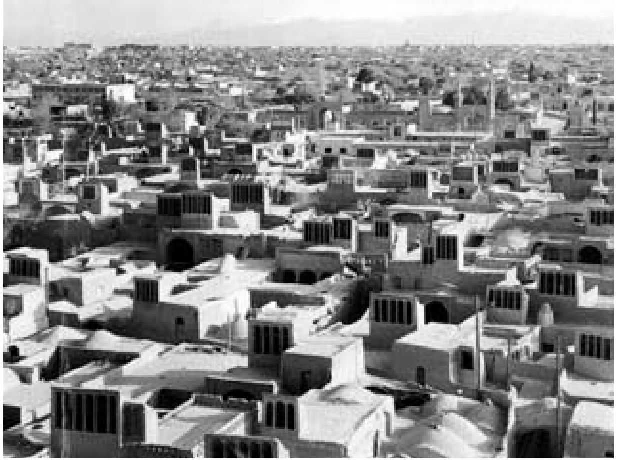

Fig. 2 Historical texture of Yazd
http://www.allempires.com/Uploads/Meybod.jpg

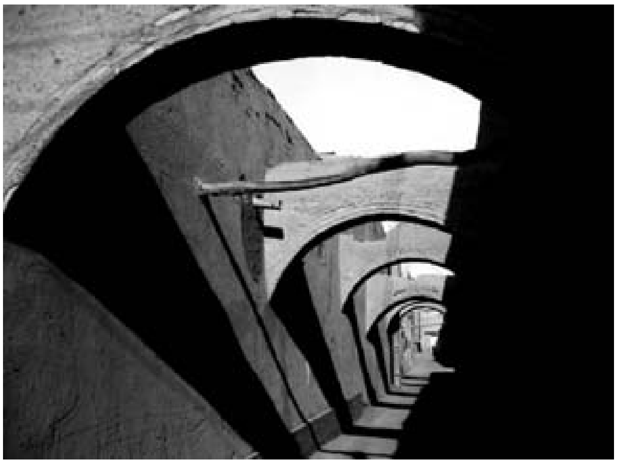

Fig. 3 Historical texture of Yazd
http://www.aventuresbicycletales.org

Here, green yards besides water ponds and trees depict a world independent from the external one. Narrow pathways are interwoven with high walls to create extensive shaded surfaces for passing under the scorching sun of the desert. The city, which has closed its eyes to the desert, welcomes and absorbs pleasant winds by its various wind catchers. It meticulously saves water in underground water storages and reveals it for gardens in order for the internal

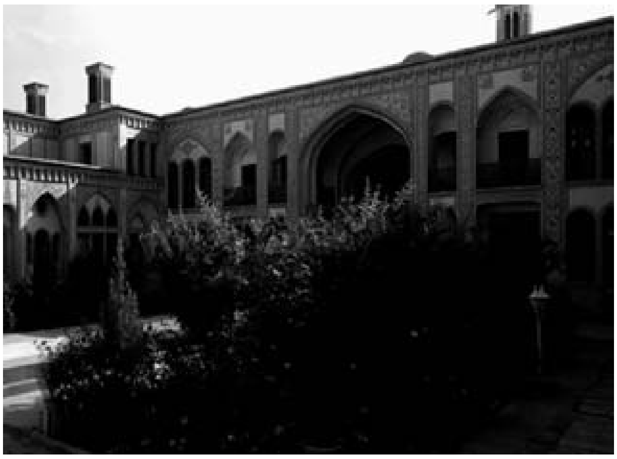

Fig. 4 Laari's house, Yazd
http://img.tebyan.net

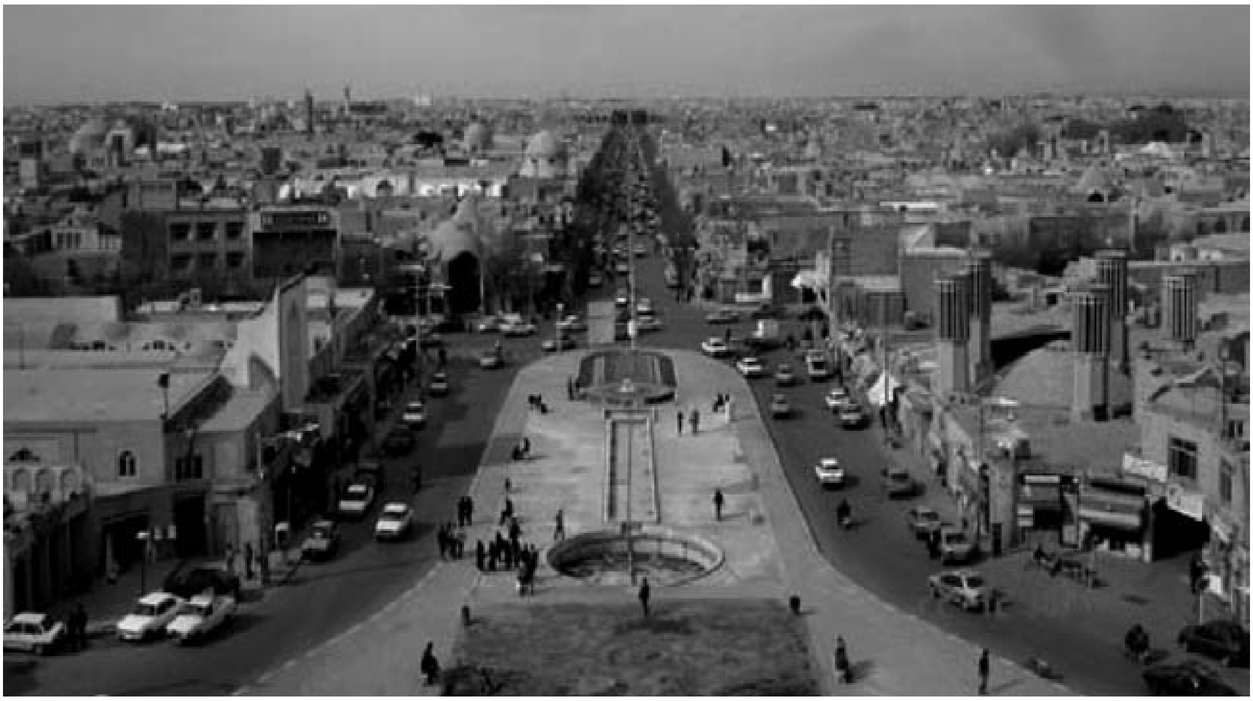

Fig. 5 Main street, Yazd
http://developmentalidealism.org

world to portray a world independent from the external one. Thus, a unique response is given to the unique need of optimum living in this geographical context. It seems that the man-made environment is like a unanimous society made from gathering harmonious people and seeks an equal demand, giving birth to an offspring who belongs to this place and has a consistent body. The permanence of this response over centuries shows its good performance over time (Golkar, 2000).

Despite what has been mentioned, the new urban context of Yazd is not consistent with its hometown. Unlike the traditional context which was unified in the outside and independent in the inside, the new city is entirely outside without feeling any need for making inside and outside worlds. Windows that overlooked the yards are now looking everywhere (Fig. 5).

Alleys are wider without any traces of past pleasant shadows. Asphalt sidewalks and streets absorb heat and become hot furnaces. Grass fields make green deserts that waste the city's limited water resources. Glass structures intensify heat. Exchange of matter and energy between members of a set is one of the stability principles and the city as a place of human life can gain stability when it is considered a healthy organ in the area's environmental system by playing an active role in this exchange. New Yazd's environment has an improper function and also is fed by the nature to satisfy its unilateral interests in surviving itself (Fig. 6).

This new context is similar to an alien immigrant that feels homesickness in this geographical area and does not know its lifestyle. This alienation is the result of a lack of understanding and of observing the issues from the outside. Generating cognition and identification is only possible by proper perception and recognition.

Thus, in the reduction in human cognition from the environment, landscape took distance from its meaning which included the "conversion of the environment's perceptual aspects to physical aspects" and led to the formation of trends against the context which altered its natural trend (Fig. 7, 8 and 9). By thinking and finding the appropriate methods for utilizing landscapes in order to achieve sustainable development and assess "humans' cognitive environment" as one of the effective factors in this issue, the role of training in establishing the relationship between students and their attitude toward the surrounding environment can be researched. It is obvious that cognition is not just knowledge about the area, but also attracting students' attention to the topic of geographical identity and sense of belonging. Generally, creation is affected by two categories of knowledge and cognition. The first category belongs to acquired knowledge (Azemati, Bagheri and Feizi, 2007).

Humans experience some affaires due to living in this environment and use them for different purposes. This knowledge is variable and mostly deals with invention in the creation of works. However, the second category is the prior knowledge that everyone has. Prior knowledge which has emerged with the presence

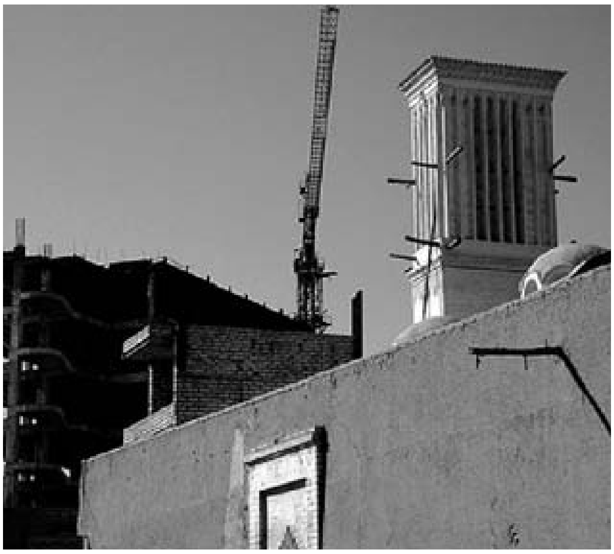

Fig. 6 New construction, Yazd
http://www.mehrnews.com

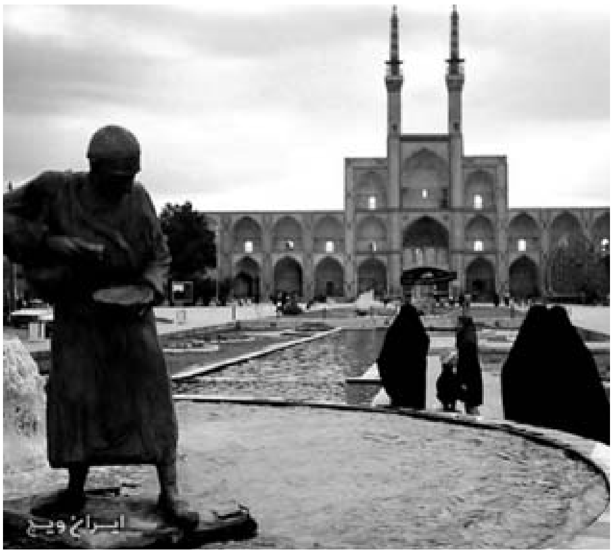

Fig. 7 Amir Chakhmagh Sq., Yazd
http://www.iranvij.ir

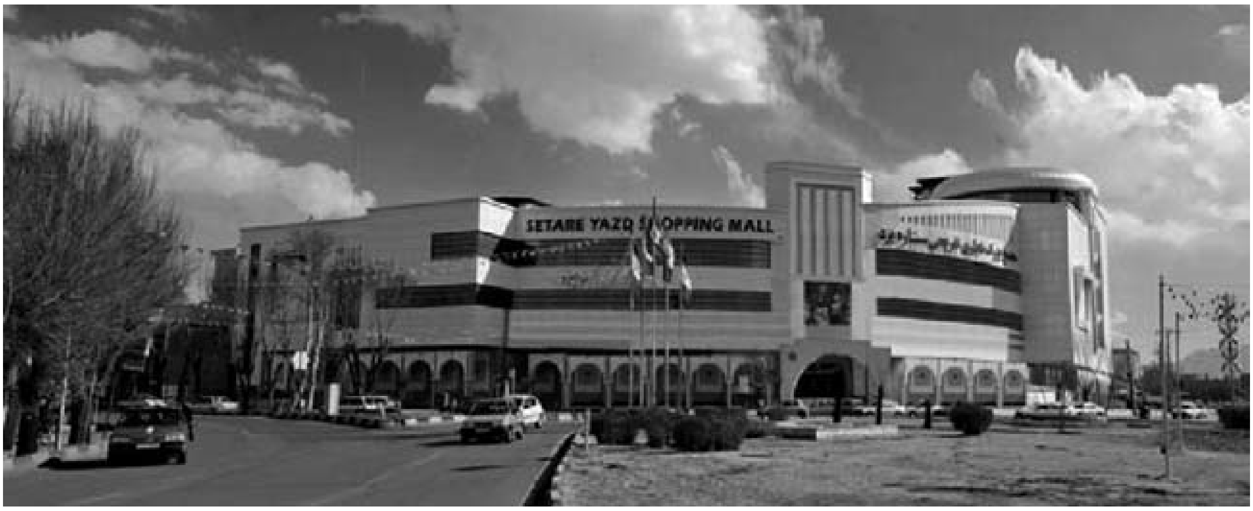

Fig. 8: Shopping mall, Yazd
http://setareyazd.com

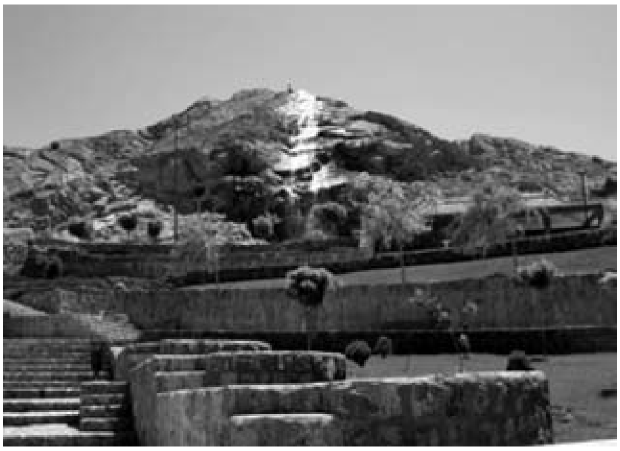

Fig. 9 Urban park, Yazd
http://yazd.ir

of humans in this world can be considered the unifying factor of a landscape with its field, which can create a kind of unity and integration in landscape works to harmonize human intervention with nature's symphony.

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A Study on Socio-Ecological Cultural Complex in Urban Milieux

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Abstract: Japanese cities used to be landscaped fields integrated with a labyrinthine stream network similar to capillaries. However they have been lost with the growth of urbanization. Based on a number of on-site studies, the authors came to generalize such a tradition and to conceptualize a socio-ecological cultural complex without barriers between "nature" (ecosystem) and "society" (community), traditionally known as "*Fudo*" in Japanese. Beyond objective landscape, appeared to be opposed to subjectivity, we came to understand the importance of the combined sphere of body-field-language. In this context, the study was carried out and expanded into epistemological dimensions to suggest a revised concept of landscape, akin to the symbolic expressions of "*Fudo*". The socio eco-symbolic landscape is attributed to the sense of life, stemming from human engagement in an expanse of field and society. Keeping its ambivalent structure in mind, the paper also intends to propose concerned aspects of landscape and the role of landscape management and education.

Keywords: Labyrinthine stream network, eco-symbolism, *Machiniwa*, field, place, body, *Ma*, meta-landscape, self-reference.

1. Introduction

1.1 Background

Since the 1960s, the close relationship between nature and society has been destroyed due to rapid urbanization in Japan, leading to the weakening of traditional community norms concerning the waterside and, in turn, to a loss of regional identity. A socio-ecological cultural complex refers to a system in which people can feel familiar with nature including water and greenery in an urban milieu, thereby advancing the establishment of more vivid culture with a sense of life through a combination of ecosystem and society. With importance placed on the interaction between "nature" and "community" through the mediation of "people," nature in this paper is assumed not to be wild nature, but to be symbolic nature integrated in the community. We analyzed the background of the integration of nature into urban culture and studied the reconstruction of the socio-ecological cultural complex without barriers between "nature" and "artificiality." The analysis of complex structure will lead to a concept of a socio-eco-symbolic city or "landscaped city," within a sustainable society, which the contemporary world longs for, beyond modernity.

1.2 Research on notable types

Our research was based on the basic recognition of examples with high value placed on watersides and stream networks in Kyoto City (Kyoto Prefecture), Hino City (Tokyo Metropolis) and Edogawa Ward (Tokyo Metropolis), which have succeeded in maintaining the socio-ecological cultural complex system even in the face of modernization and urbanization.

1.2.1 Realization of amenity space in harmony with urban modernization

In Japan, a controlled labyrinthine capillary stream, for example in Takase River and Gion Shirakawa in Kyoto, is called "yarimizu". The advancing spirit of waterside utilization concerning the improvement of Kamo River flowing down across an alluvial fan in Kyoto is worthy to note. The improvement of the river in the early Shōwa period (1930) modernized "*Noryoyuka,*" (a riverbed terrace enjoying evening-cool), successfully preserving the summer amenity up to the present, so as to keep the waterside nearby. Around Gion, the water of Biwa Lake Canal was introduced into the Gion Shirakawa capillary riverbed, integrating it with the streets, inviting an elegant flavor of remote mountains in the town (*Fig. 1*).

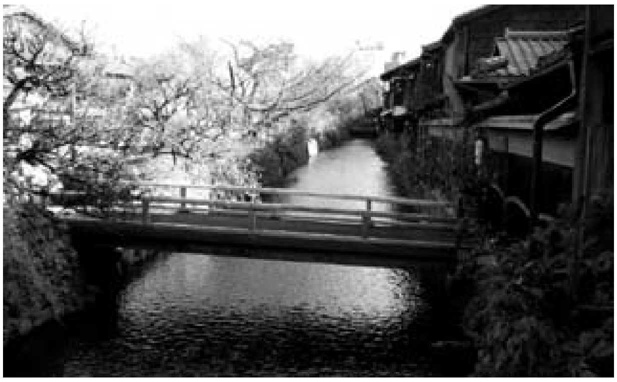

Fig. 1 Gion Shirakawa introduced from Biwa Lake Canal

1.2.2 Introduction of new value to water rights of channels

Hino, in a suburb of Tokyo, is a city blessed with abundant water from the Tama River and Asakawa River and used to be the largest rice field in Tokyo. The channels running across the alluvial fan to the urban area have been eliminated with the development of urbanization, but there still remain 126-km of channels, though most of them are provided with concrete walls.

There is a wide range of civic activities in progress, for example - the amount of water flowing in the amenity channels is maintained throughout the year. People have close cooperation with experts and academics to develop the research on the "multifaceted value of channels."

Future issues to be considered include: (1) the partnership and division of roles between the administration and citizens, e.g., by whom and how maintenance and management should be conducted; (2) further development of the "Ordinance for preservation of the environment," settled prior to the rest of the country; (3) approaches including "scenic value," "historical cultural value," and "environmental cleanup functions" for the multifaceted value of channels.

1.2.3 Renewal of amenity channels in the alluvial plain

The agricultural channels in the suburbs of Edogawa Ward in Tokyo had decreased sharply in agricultural use until the 1960s, and have been used as sewers with the progress of urbanization, resulting in water contamination. Edogawa Ward, which settled the "Plan to create beautiful water and greenery" in 1972, has been working on projects focusing on the theme of revival of amenities in city life. The plan is featured by simultaneously planning rainwater drainage and the realization of amenity channels. Since then, it has been executed for over 30 years to realize an amenity channel network, by renovation of culverts across the entire region of the ward. There are few wards with such amenity channels in the densely-populated urban center. It should be noted that the waterside and stream network plan in a low-lying area requiresenormous expense, *e.g.*, cost for securing a water source and setting a channel gradient, and also requires a system equivalent to that for park management in terms of maintenance and management.

2. Design study of the socio-ecological cultural system

A study was conducted to extract design elements in the "socio-ecological cultural complex" system, in which a labyrinthine stream network is integrated in a populated urban milieu, so as to flow among the houses.

2.1 Preservation and utilization of the stream network as urban infrastructural heritage

"Yamagata-goseki" in Yamagata City (Yamagata Prefecture), which was built about 400 years ago for the purpose of securing daily water and irrigation water, used to have a close relationship with civic lives and industries, as it was mentioned that "There were two water mills at Gotenseki, one of which was at the corner of Jyozenji, where the first factory was located, …" (record from the early Showa period). The stream network across the alluvial fan of the Mamigasaki River runs down while threading among houses (*Fig. 2*).

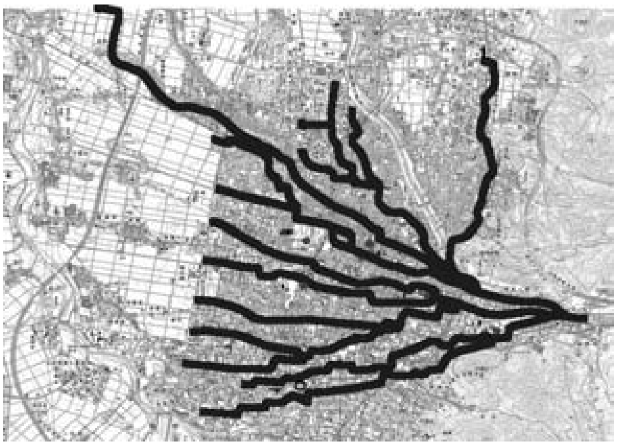

Fig. 2 Stream network in Yamagata-goseki

The channels were changed into culverts or concrete channels in the postwar period, in order to prevent accidents, but there was a growing civic demand for the revival of the former stonework channels. In a private redevelopment project of the city center several years before, , Gotenseki was restored to revive the city center, for "passing the heritage from the previous generation down to the next generation" (*Fig. 3*). The project involved: (a) reconstruction of stonework channels by changing culverts into open channels, (b) construction of a multipurpose facility called "Nanokamachi - Gotenseki" in the style of a traditional building integrated within a square, and (c) creation of cozy semi-public space - "*Machiniwa*" around the channels (see section 3).

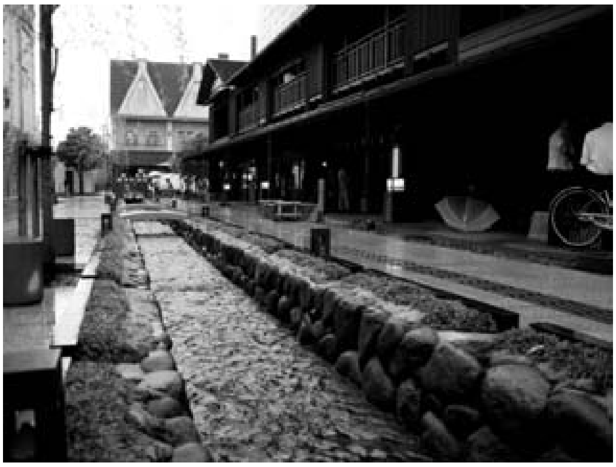

Fig. 3 Stream running among houses (Yamagata City)

2.2 Stream threading among houses to enter private gardens

Kaneyama-machi in Yamagata Prefecture is a town, which is in "development of a scenic town over 100 years", based on the entire park-town plan, with houses using the excellent building material of Kaneyama-Cedar. The town spreads over a small alluvial fan among the mountains and keeps a labyrinthine stream network taking water from the skeletal river - Kaneyama River, which is used as snow melting ditches in winter as well (*Fig. 4*). The "labyrinthine capillary rills" are situated all around the town and integrated into premises across the boundaries between public and private, forming the fundamental basis of life and culture in the town.

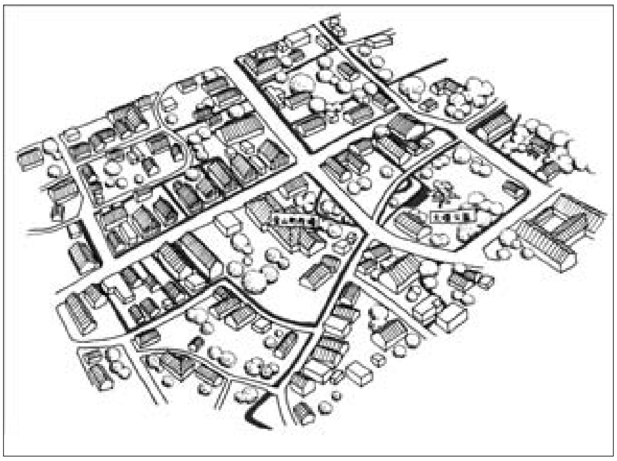

Fig. 4 Stream network in town center of Kaneyama-machi

Water is distributed like a hierarchical network - from the skeletal river to narrower channels to symbolically draw the breathing deep mountains near from the background of nature to the neighboring of nature.

The stream network functions as capillaries in the ground to breathe life into the "field" of the town. This "labyrinthine-networked stream town" is the archetype of the socio-eco cultural complex (*Fig. 5*).

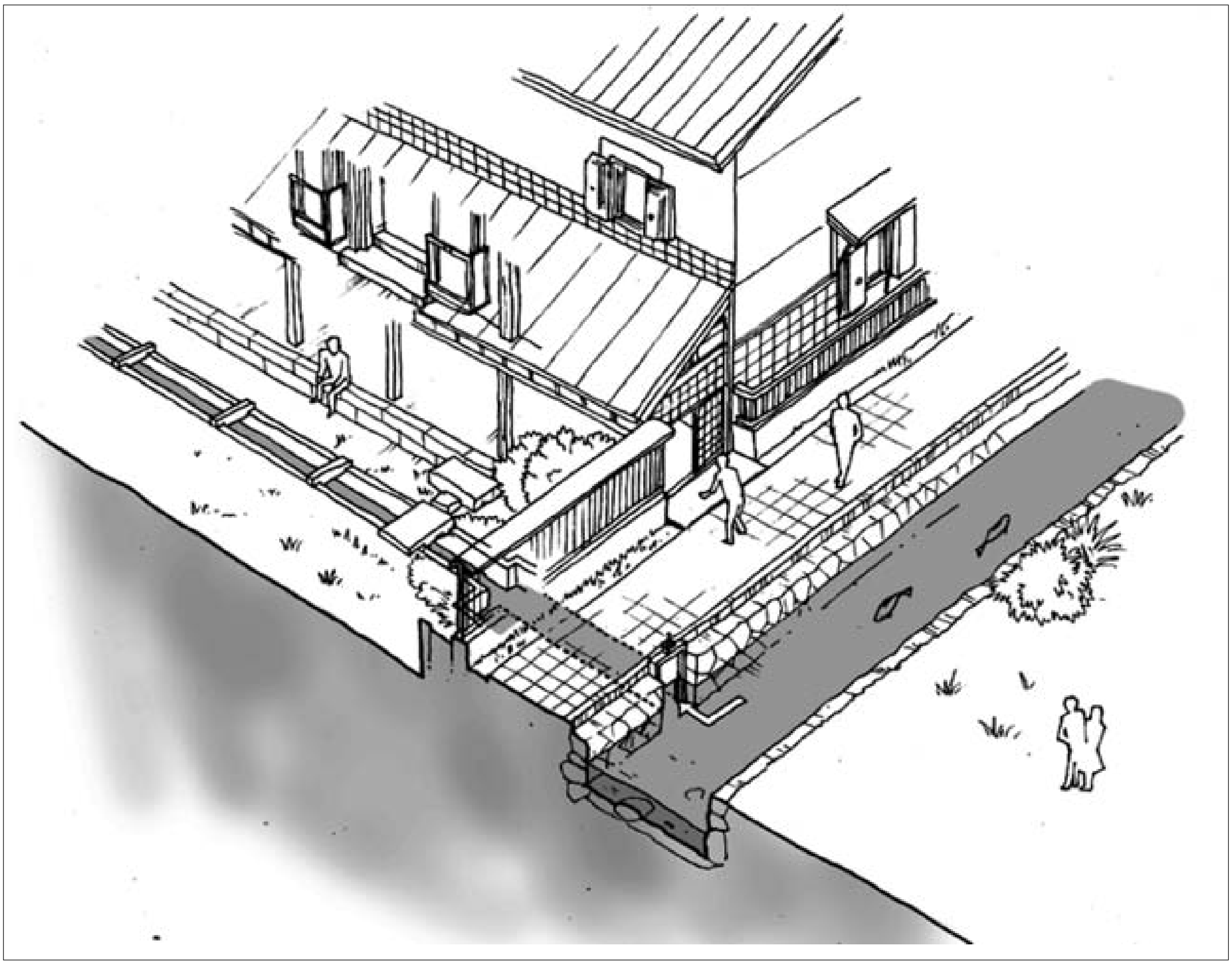

Fig. 5 Channel passing through premises

3. Cozy eco-symbolic corners - "*Machiniwa*"

*3.1 Ambiguity of "*Machiniwa*"*

This neologism consists of two words: "*Machi*", which means a town, and "*Niwa"*, which means Japanese modern private garden. Nevertheless, the latter was etymologically a semipublic and open free field in an urban milieu, used for community events, street performers, markets and different kinds of collective works, and it used to be seen as an "alley", "crossroads", "firebreak open space", "*hashizume*" (bridge end), "waterside", or "shrine or temple precincts". Among those, a place facing the waterside and stream network, with nature deep in an urban milieu, yields a "cozy" field, as a result of deep interaction between nature (ecosystem) and community (society). Let us call it "*Machiniwa*". With this neologism, we expect our public space to regain the animated vitality of the etymological sense of medieval "*Niwa*". With ambiguous irregularity in form, its fundamental properties are as follows: (a) There is an inspired interval "*Ma*" which blurs boundaries between "public" and "private" both in space and time. (b) An enchanting view can be enjoyed from a cozy niche for body, like an "eave" or from outdoor benches forming the blurred boundaries between public and private. (c) Nature in "*Machiniwa"* integrated within a water channel is the archetype of the socio-eco cultural complex; *e.g.,* here nature juxtaposed beside artificiality, through the mediating symbolic manner of "*Ma*" (an inspired interval) is not ecological but highly eco-symbolic (*Fig. 6, Fig. 7*).

*3.2 Sign of "field" in "*Machiniwa*"*

Another aspect of "*Machiniwa*" relates to a flavor of a "field." It is noteworthy in this connection that Japanese "*Ba*" (field) is believed to be derived from the above mentioned etymological use of "*Niwa*". "*Machiniwa*" is characterized by an embracing atmosphere and dynamic expressiveness of the field, rather than solid shapes or rigidly outlined forms of things.

When one places oneself in "*Machiniwa*" integrated with a shallow rill, in a closely built-up city, he or she can hear a babbling sound of a stream and, with clouds flying, wind breezing, and moonlight, he or she can perceive the subtle signs of mountains and valleys

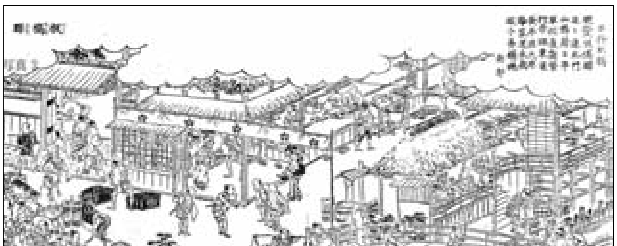

Fig. 6 Animated "Machiniwa" at bridge end

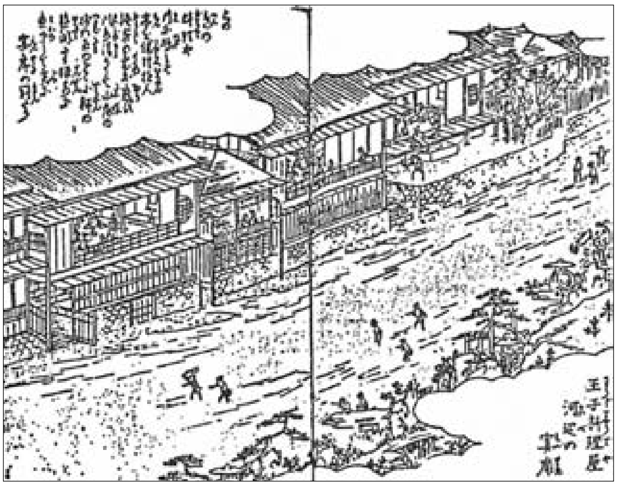

Fig. 7 "Machiniwa" with tea-houscs facing a waterfront

and changes of seasons around the city, even with no view of the mountains. Furthermore, he or she may sense signs of human life from flowerpots under eaves or a wind-bell hanging on a verandah, or from well-trimmed branches of pine trees seen over a wall.
Such "*Fubutsu*" (seasonal symbols), through their symbolism, change the milieu into a poetic ambiance.

3.3 Community formation

The existence of a stream network in an urban milieu fulfills the following community formation functions: (a) Communal execution of maintenance and management; citizens' self-management, *e.g.*, management of snow melting ditches in Kaneyama-machi, and a rotation system of cleaning duty for washing places in Gujyo City; (b) Learning of history through festive rites in the waterfront area; *e.g.*, at the river in Hiroshima a traditional event of river cleaning carried out by citizens as a rite; (c) Cafés and restaurants in the waterfront, serving as community social places; (d) Communalization of private gardens around entrances of houses along channels; *e.g.*, in Edogawa Ward; (e) Naming of channels, *e.g.*, in Kaneyama-machi; (f) Use as collaborative workspace for dishwashing, cleaning of vegetables, and washing of clothes; *e.g.*, in Gujo City and Kaneyama City..

Because of the activities and uses described above, the spaces along the channels form the foundation of social interaction and communication places, through exchanges such as rites, entertainment, tasks in daily life, cleaning and maintenance works. Thus it may be said that the landscape and atmosphere resulting from encounters of the "field" along the stream network, "bodies" and "language" come to acquire sociality or sociability. "*Machiniwa*" is thus the core of the townscape.

4. Epistemological reflections

Socio eco-symbolism attributed to the sense of life

A labyrinthine stream network spreading like capillaries in an urban milieu is neither a thing as substance or nature, nor an object detached and opposedtous, but rather it creates a vital "field" in sympathy with human bodies, while producing a socio-ecological cultural complex without barriers between nature and society. This section summarizes the epistemological features of the eco-symbolic landscape expression inherent to the sense of life, or the symbolism of nature.

4.1 "Field" and "body"

4.1.1 Sense of "field" against "thing" as object

An object is the appearance of a substance emerging from its visual outline, whereas a "field" has little outline but is lived by our body with the rhythm of time. The human lives within the bosom of the "field". The depth or the fluctuations of the "field" are rather close to an interior sense of the body abundant with the sense of life. However in the world of landscape, a "thing" is an ambivalent figure that can also act as a part of the "field". It is not a self-sufficiently complete form but is integrated in the "field" appearing as an expressive figure. Here, the word "field" is applied in the sense of physical sciences, e.g., "gravity field" or "electromagnetic field". It is an expanse of space supporting propagation of some effects, instead of a substantial thing.

4.1.2 Expressive appearance and comfort

Our "field" is full life's scent in terms of "comfort" imprinted there with traces of a body. Such a body – traced experiences named "affordances" by James J. Gibson – has also an aspect of "usability" reflecting the virtual conduct of the body (Gibson 1979). The former may be referred to as "passive affordance", while the latter as "positive affordance". Jay Appleton also manifested body-related landscape experience in terms of the refuge-prospect principle (Appleton 1975). Both theories are based on ecological or biological thinking.

Our perception world is a "field" with depth imprinted with a corporal kinesthetic image. The human interests typified by people, houses, trees, roads, and bridges appearing in the "field" are not necessarily substantial "things" but rather like mediator signs, inducing corporal behavior of selves.

The "field" experienced as depth, which is discriminated from spatial distance, is imprinted with the trace of body. In fact, the conversation between them is not causal but yields an inspired situation generated spontaneously by the ontologically co-susceptive complement of them, which is referred to as "*Ma*" (Nakamura 2012).

A place is a structured "field" described by such previously mentioned lived traces of body inscribed in a field or also by other types of cognitive scientific mapping with orientation, edge of domain, path, node, animated district, etc., typically illustrated in the Lynchian cognitive map (Lynch 1965). A "*Machiniwa*" is here a distinguished example.

However can these structured images of a place given by ecological or cognitive sciences be sufficiently identical to the "landscape"? For further discussions, refer to Section 5.

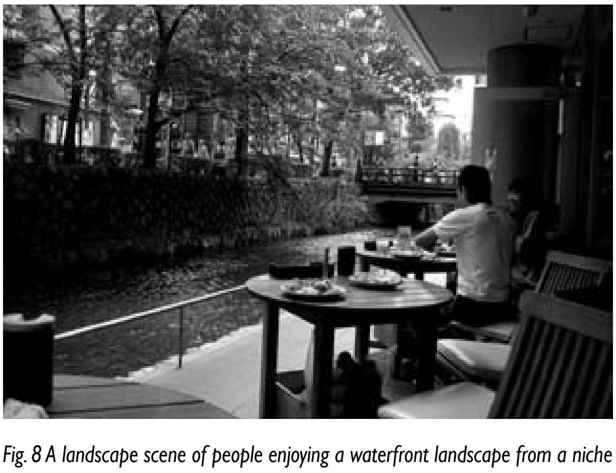

Fig. 8 A landscape scene of people enjoying a waterfront landscape from a niche in a café

4.1.3 Meta-landscape

As described above, the landscape elements reflecting traces of the body of the self are self-referential and thus are not objects isolated from the self. In this context, persons appeared in a scene as human interests are of particular importance, because they induce and enhance affordance power as a substitute observer.

A person viewing a landscape can act as a substituted ego inviting us to enjoy landscape. This scenic situation is therefore designated as "landscape on landscape" and can be called a "meta-landscape" (*Fig. 8*). The site is desired to be arranged so as to draw people to be settled in cozy corners to enjoy landscape. This type of meta-landscape promotes powerful animation of the site.

4.2 Time-space inherent to "field" and its landscape expression

Firstly, the experience of the field is featured by "*Ma*", as the corporal perception, or the sense of depth, as described in Section 4.1, and secondly, it is induced by a temporal fluctuation of the field as well.

4.2.1 Symbolic expression of the depth of "field"

The experience of depth discussed in the corporality paradigm called "affordances" can also be extended to the following problem. A panorama and a "borrowed landscape" ("*shakkei*") of mountains are classical techniques to symbolically emphasize or modify the depth of the "field" or "*Ma*". Moreover, the familiar gardening techniques, such as *bonsai* (Japanese art of cultivating miniature trees) and *ikebana* (Japanese flower arrangement), symbolically suggest the depth or, "*Ma*", as an interval between body and wild nature. In the same way, the capillary channels in the urban milieu originating from deep mountains and wetting the ground around citizens in front of their houses, are also a symbolic expression of depth or "*Ma*", to induce the body living in the urban milieu to imagine the deep mountains. A historical heritage can be construed as an expression of the depth in time in a "field".

4.2.2 Fluctuation and flickering in "field"

(a) Circular promenade in a field-time

Japanese circular promenade gardens may possibly follow the mystic tradition of esoteric Buddhism, as an attempt to be bathed in an ethereal atmosphere of a land, while circulating through it. Such a tradition can also be found in pilgrimages in early-modern cities. Many painters, e.g., Hokusai left many series of pictures of typical circular promenades. It can be said that, while "things" are perceived by their appearance from a fixed outside point of view, the atmosphere and sign of the field, emanating from internal depth without outlines, can only be experienced by the circular promenade. Cyclic temporal structure inherent to such circular promenades is also observed in repetitions of annual events highly developed in classical gardening.

(b) Flows and ephemeral flickering in "fields"

The closest temporal variation in "fields" are changes in weather conditions, due to atmospheric circulation and the cycle of the seasons. It results in fluctuations of wind, rain, snow, cloud, and temperature. The second variation may come from shallow streams flowing down from mountains. Japanese gardens involved methods of changing a faint aerial flow into the rustle of bamboo leaves or, converting and amplifying it into a tinkle of a bell under the eaves to create an atmosphere of coolness. It is expected to further develop and generalize the methodology of sensitively capturing and amplifying the signs of fluctuation in "fields" to symbolically express them.

All of these experiences of time, tied with space fluctuation or movement, seem to be more or less leading us to a symbolic sense of life.

5. Concluding remarks

5.1 Revising the philosophy of landscape

The socio-ecological cultural complex involving nature, society, and the individual corresponds to the vernacular anthropological system traditionally called "*Fudo*" in Japanese. The importance of its "mesological" or intermediary character has been often stressed by Augustin Berque (Berque 2012).

This system might be called the "universe of *Fudo*". The above three elements are neither independent nor opposed but mutually intertwined. Moreover, in more practical steps in design, "*Fudo*" must express itself more concretely as "place" in the fused sphere of body-field-language. "*Machiniwa*" is one of the important "places" or episodes of "*Fudo*", like architecture and gardening. In fact, "body" is at the same time natural and of individual subjectivity. Language connects society with the individual. Society organizes itself in the bosom of the field, embraced by nature.

Landscape is an experience and reading of a place through intervention of a "body" (all senses) and "language" (knowledge). In order to make this synthetic and symbolic process more effective, sensitive and persuasive, a landscape design is needed.

Without this refinement or poetical process, reconnaissance of cognitive maps and arbitrary assignment of ecological or biological symbols might fall into mere chaos and bad taste.

The socio-eco cultural complex becomes a reality and could be sublimated only through these interpretations into the supreme relm of landscape with human dignity, beyond scientific thinking whether ecological or cognitive.

To do so, landscape management and design need personal creativity but always with careful reference to the framework of scientific suggestions and phenomenological insights. Summing up the above discussions for attempting to revise the concept of landscape, the following points can be made:

(a) Beyond substantiality, landscape should be understood rather as socio-eco symbolic.

(b) Landscape is not independent and detached from us but is self-referring. Our body is tightly engaged in the surrounding field. In this field-body compound and interactive system, even a mountain is not always an object to be seen, but gazes at us.

(c) Our body tends to be well integrated in the "field", when it moves and goes around.

(d) Both the collective (our landscape) and individual aspect (my landscape) must be taken into account.

(e) Landscaping process is to be considered as an infinite process initiated by management and/or design, followed by endless reading and experiencing conducted by community members.

(f) Synthetic experience of all corporal senses must be mobilized. For people enjoying landscape at a table, even culinary art is relevant, if it is conveying indigenous flavor.

(g) Semiotic or hermeneutic reading and knowledge is also an important dimension in enjoying landscape, in addition to sensual and phenomenological experiences.

(h) Based on body-field synthetic principles, the design process must be conceived not only to manipulate objective environmental elements but to induce metamorphoses in the sense of value among citizens.

Landscape research and education systems might include a wide range of issues as listed below:

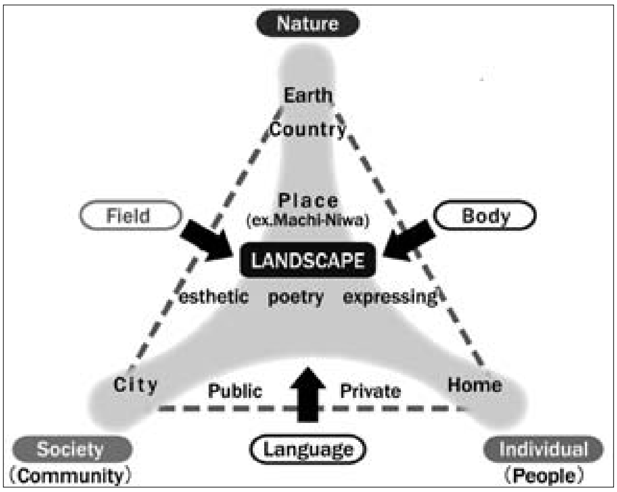

Fig.9 Sochio of Fudo(Socio-eco Cultural Complex)

(a) Hermeneutic reading of "*Fudo*":
1. Semiotic reading with regard to historical and social meaning of places;
2. Text analysis of landscape-related materials including names of places and /or other distinguished geographical interests;
(b) Adjustment of field – body relation as exemplified in preparing observers' comfortable body niche and other affordance related issues.
(c) Symbolic expressions of fluctuation in field and depth ("*Ma*"), including symbols of seasonal changes and also management of circuit promenade.
(d) Re-editing or weaving cognitive context of towns, as a story of lived traces of citizens before designing visual expressions of its strategic points.
(e) In order to promote community formation, it is expected to encourage on site engagement of citizens in a process of handling all the above mentioned issues, not only in the decision-making process, but in joining together to animate meta-landscapes by them.

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Engagement with 'Place' in Han Tümertekin's Architecture

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Abstract: In architecture, 'place' is a complex and abstract yet equally rich concept. This research proposes to study this concept through the works of the architect Han Tümertekin (Winner of Aga Khan Price at 2004). It starts with the review of the related literature on the subject, which offers a body of concepts to explore, and with particular focus on the concept of place. The study then focuses on the significant role that the imaginary – incorporating the architect's own sense of the place - plays in the development of his work. It proceeds with the role of built architecture in the very construction of the place. The specific analysis of Tümertekin's selected projects provides a means to reveal and understand the processes involved in the construction of place. The study concludes that for projects with different space and time dynamics, Tümertekin managed to concretise a peculiar relationship between place and building, which gives his architecture its unique character in relation to the concept of place. However it is necessary to be cautious in order not to generalise this argument and to read his whole architectural edifice through the lenses of the concepts proposed here.

Keywords: Place, Construction, Han Tümertekin, Imaginary, Simplicity, Tectonic.

1. Introduction

The 'place' has been a serious object of research across disciplines including social sciences, geography, urbanism, landscape design and architecture. Both history and architectural theory have shown that the meaning of place has changed over the course of history. The questions, which are considered to be most relevant for the purpose of this paper, can be formulated as follows: Is 'place' still a valid and useful concept to make sense of contemporary architecture and address the problems it poses? Is it meaningful to talk about and study place as such, while the very concept of space is dominating the vocabulary of contemporary architecture? Can the notion of place respond to the challenges and critics in 21st Century architecture? What is the meaning of learning, teaching, practising architecture, urbanism and landscape 'here' (at this particular place) rather than 'there'? Put differently, does the specific place where architecture is experienced in various forms (as built, as taught and as lived) matter at all? Although a significant number of architectural projects and buildings would emphasise the importance of space rather than place, this paper will argue that architects remain whose design approaches take place seriously. Han Tümertekin is one of those architects designing with and through the concept of place, and according to the paper, he is doing this in a peculiar way, without falling into the trap of regionalism or traditionalism.

The main objective of the paper is to build a conceptual framework related to the notion of place and enable a specific reading of Tümertekin's architecture through the lenses of this framework. The underlying intention is not to 'reinvent' a generic term, but be aware of its strategic value in the creative processes of architectural design.

2. The Place

The semantics of place are multiple. The basic definition of place is a defined area; a distinct locality. According to Burra Charter, place is a site, area, building or other work, group of buildings or other works together with pertinent contents and surroundings (Cowan 2005). But today, the concept of place is understood beyond its old morphological connotations.

Place and context describe the relationship between buildings, their location and their users. In physical, geographical, topographical and social terms, the place indicates 'defined relationships'.

2.1. Conceptual Framework

Space, territory, environment, nature, topography, site, and location are some of the terms with similar connotations to place. Architecture belongs somewhere; it will rest on a particular place: a site. The site will have distinguishing characteristics in terms of topography, location, climate and historical definitions. In architectural terms, context refers to the setting or placing of the architecture. Yet it includes information about more than a location. Space became the most important paradigm of architectural theory at the turn of the twentieth century. 'The term 'space' ('espace') is in itself more abstract than the term 'place' ('lieu') which is based on an event which happened (took place; 'qui a eu lieu'), as myth (a field name; 'lieu-dit') or as history (scene of history; 'haut lieu')." According to the anthropological approach of De Carlo (2004), "A 'place' is an inhabited space. Without space there can be no place, but space itself is not enough to make a 'place' because space becomes place if and when it is exercised, used, consumed and perennially transformed by human presence. A 'place' is all the more a place the more it is plural, and not specialised because specialisation dries up the capacity to change, to adapt, to balance and consider its own consumption and to acquire further meaning beyond that attributed to it." The Dutch architect Aldo van Eyck, wrote in 1961: "Whatever space and time and mean, place and occasion mean more, for space in the image of man is place, and time in the image of man is occasion. Split apart by the schizophrenic mechanism of determinist thinking, time and space remain frozen abstractions. Place and occasion constitute each other's realisation in human terms. [...] A house should therefore be a cluster of places, and the same applies no less to a city" (Jones and Cannife 2012).

2.2. On the Theory of Place

In the literature, there exist various approaches to the concept of place. It is plausible to argue that Martin Heidegger, Aldo van Eyck, Christian Norberg-Schulz, Kenneth Frampton, and Herman Hertzberger share a similar assumption that "space is transformed into place as it acquires meaning". In Heidegger's conception of place, which is essential for the general discussion of place in architectural theory, place is defined by being distinguished from the mere geometrical continuum of space. Just thereby, does place gain its meaning. Place replaced the concept of space within the debates of certain architectural circles in the early 1960s, through the influence of the German philosopher Martin Heidegger. Heidegger believed that mankind's 'situatedness-in-the-world' is inextricably tied to the question of 'dwelling'. Opposite to Newton's notion of neutral, abstract and infinitely extensible space; Heidegger's space was manifested through lived experience, and therefore 'space' was linked to 'being'. Norberg-Schulz (1980: 12-13) connects the concept of place explicitly with the enclosing of space: "[w]hereas landscapes are distinguished by a varied, but basically continuous extension, settlements are enclosed entities. [...] Any enclosing is defined by a boundary [...] The enclosing properties of a boundary are determined by its openings, as was poetically intuited by Trakl when using the images of window, door and threshold. In general the boundary, and in particular the wall, makes the spatial structure visible as continuous or discontinuous extension, direction and rhythm". A place is "a space which has a distinct character", according to Norberg-Schulz (1980). And the term 'genius loci' refers to the spirit or essence of place. Place is a "totality made up of concrete things having material substance, shape and colour. Together these things determine an 'environmental character' which is the essence of place ... environmental totalities that comprise the aspects of space and character." Phenomenology in architecture has a close interest in the concept of place and embraces two related themes: the sense of place or engagement of the site, and tectonics (ontological and representational qualities in constructional elements). The phenomenologists have mostly addressed the first theme, with the exception of Norberg-Schulz (guided by Heidegger) and Frampton. Finally, the place is also cited as one of the six resistance points defined by Critical Regonalism.[1] In the reading of 'Critical Regionalism' in regards to the universal and the local, several key points such as place-context, tactile, tectonic-poetic and defamiliarization stand out. According to Frampton, the place is about setting limits in a conscious way and being sensitive to local material, available labour, local climate, light and topography. Besides these materialistic potentials of a region, this entails the Heideggerian view of 'belonging' (Frampton, 1987).

3. On the (Re) Construction of Place in Tümertekin's Architecture

The relevance of the concept of place in examining Tümertekin's architecture lies in its capacity to understand in what ways his work differs from his contemporaries. In fact, Tümertekin is positioned differently in the current context of what is called hypermodernity. The choice of studying Tümertekin's contemporary architecture is deduced from the privileged relation of the architect with place. It is important to note that Tümertekin himself does not necessarily define his own work with respect to the concept of place and the conceptual framework drawn in the previous section. But the paper still argues that there is a value in evaluating his contribution to the field of contemporary architecture by using this framework. The concrete examination of very different projects, designed and built in different times and spaces, and yet sharing all certain common characteristic features in relation to 'place' is shown as evidence to make this argument. Tümertekin was born in Istanbul in 1958. He studied architecture at Istanbul Technical University, between 1976-1982. He received his master's degree from Istanbul University with a thesis entitled 'Historical Preservation and Recent Examples of Applications in Istanbul'. After graduation, he went to work in Paris, then came back to Turkey in 1986 and opened his own studio, 'Mimarlar Design and Consulting Services', combining his professional activity with teaching and lecturing. His work, in various countries including the Netherlands and Japan, covers all design areas: museums, offices, shops and above all houses, in the city or in holiday resorts.

3.1. Tümertekin's Selected Works

In order to ensure a diversity of case studies and thus, to strengthen the relevance and validity of the analysis presented here, a variety of projects on different scales, dates, in different places, contexts and with different functions is discussed. These subjectively chosen projects hit us at first glance with their direct relationship to the object of inquiry. Some other projects, which did not have direct correspondence to the notion of place as defined and explained above and which were considered to follow other design strategies were excluded from the analysis. This is compatible with the premise that the architect does not need to adopt one single perspective to be repeated in each single work he produces. Why are the projects depicted in more detail below selected in the first place? It is because they are sensitive to topography, local materials, climate and nature as place. They may differ in size, content and morphology, yet their design logic underpins a similar strategy vis-à-vis the place.

3.1.1. B2 House

B2 House (like SM House in the same region), and its relation to place is relatively easy to analyze because it is set in a rural context in a very small Aegean village in Turkey. This weekend house of two 'urban nomad' brothers[2] sits on the slopes of Büyükhüsün Village (Ayvacık, Çanakkale) overlooking the Aegean Sea and olive groves.[3] The house got extensive publicity abroad after being the winner of the domestic category of the Aga Khan Price. The rural site has a physical history that informs the architectural concept. Surrounding buildings have their own important characteristics like the use of materials, their form and size, their type of details, and so forth. The house is situated precisely at a location where the village ends. A prism is conceived to create its own space and landscape; the boundaries of the house are defined by the site topography. The site has been terraced from north to south to form a platform for the prism. The platform provides an ideal ground to make the exterior on the continuity of the interior. Low-maintenance materials were preferred, as the house will not be used frequently. Basically, the building is in reinforced concrete and masonry. The stone building material is used similarly for the other houses in the region. Natural, local materials were delineated by manufactured materials of worked contours: stone by exposed concrete, wood by steel, wickerwork by aluminium. Thereby the irregularity of local labour techniques was controlled in this way. Regarding B2 House, Korkmaz *et al* (2005: 37) writes the following: "B2 brings out the pre-existent potential of the 'place', and the potential of the 'place' defines the position and plan of the house". "B2's secret is very simple but also very architectural: perfect mediation between design, desire of place, and the logic of construction." Acoording to Al-Hiyari (2004), "The conceptual premise was to transform this transient rapport with space into a place – or an architecture – that reflects their fluctuation between association and disassociation, presence and absence, public and private."

3.1.2. Optimum Residential Complex

The 84-house complex is built on hilly Ömerli (İstanbul), on the edge of woodland, bordered by the former Şile road.[4] At the beginning of this project, we could talk about placelessness, the absence of distinct identity, and lacking qualities of local distinctiveness. The Optimum project presents an alternative to the themed and gated communities that are sprouting up everywhere in the Istanbul suburbs. According to Sarkis (2007), "[t]his project abounds in layout innovations, from the relationship between the houses and the club, to the relationships among the units, to the way in which the commercially driven flexibility of the unit is transformed into architectural openness". "There are a number of specific design goals: […] integrating inner/ outer living through spatial organization; focusing on architectural solutions that facilitate an experience of nature for those living in the house; and applying specialized orientation and spatial design, taking wind and sun orientation into account" (Sarkis, 2007:43). The character of the place is less evident than the case of B2 House. So, Tümertekin chose to construct the place himself by creating a pattern with a specific typology and by the use of tectonic of materials. The complex features a series of different residential typologies which all have their own garden. The version for a family with children is designed around a double-height entranceway that provides the link between two independent buildings that are connected visually by a single roof. The choice of materials (copper for the roof, plaster and glass for the fronts) helps to blend the constructed space into the natural surroundings. In the words of De Sola-Morales (1997: 47), "The space of dwelling is not a geometrical but an existential one, resulting from our phenomenological perception of place. Its construction is grounded in experience."

3.1.3. Çatalhöyük Archaeology Museum and Visitor Center

Tümertekin designed a museum, a research center and shops next to the archaeological site in Konya Plain, Çumra.[5] With this project, he makes a different interpretation of leaving a trace in the nature. This landscape site has a less obvious history and surrounding artefacts compared to the previous examples. However, its physical qualities, its topography, geology serve as indicators for architectural design. The project is about making an incision by erasing itself. According to Sarkis (2007), "His incisive treatment of the site neither celebrates its idiosyncrasies expressionistically nor ignores them. In the Çatalhöyük Archeological Museum of Konya, for example, he creates both the site and the building by introducing a dent into the flatness of the terrain, but then complements it with a curved floating roof. [...] This double operation of marking and then erasing allows him to propose new contexts by carefully transgressing the original context". The project, by storing its volumes under the ground, adapts a pre-historic scale of the surrounding area. Elements corresponding to the level of the roof above the ground remain appropriate to the landscape. While putting the building underground, the architect loses the view of the flatness, the emptiness of Konya Plain and the horizon. The elements/tools of the architecture are "movement, journey, stop, transition, space, flatness, silence, underground, changing light, wind, earth, incline, ventilation, artefacts, archaeological site, access" (Tümertekin 2000a: 86). Emptiness, flatness, silence are concepts that define the absence of a thing rather than its presence. And those elements, which appear to be unrelated to each other at the first sight, are connected through architecture. With the presence of the building, this emptiness gains more value. Tümertekin's commitment was to search for a solution by reducing the elements and materials of architecture to their minimum.

3.2 Tümertekin's Approach to Design

This study of various project cases leads us to discern three specific features characterising the approach of Tümertekin to architectural design: i) simplicity in design, in construction and in detail ii) tectonic approach in design and iii) search of different methods for the re-construction the place.

3.2.1. Building simply

Tümertekin reads the place's subtle cues, understands its significances. The place holds an accumulation of meanings in the imaginary of the architect. A memory he holds from a wedding he witnessed on a beach helps to understand his understanding of simplicity and minimalism: Families put four high brackets on the sand and then puts a canvas on top and a platform below. Then all the ceremony, dances and activities take place in the space defined by those four brackets. When everything finishes, families take the canvas and brackets and leave the area. This simplicity in the use of place and tectonic construction impresses Tümertekin who wants to adopt a similar approach in his own architectural design. In this example, which responds modestly to a temporary function (like a nomadic tent), the architect finds the founding myth of his own existence. Dictionary definitions of 'simple' include; easy to understand or do, plain or unpretentious, not combined or complex, pure, complete, sincere or frank, expressed honestly and clearly, without decoration or pattern. In terms of architecture and for the purposes of this paper, building simply is described in the following way: To build simply means to design and construct in a direct but refined way, producing buildings of simple form and visual calm often constructed with the appropriate use of local materials. Tümertekin's buildings are designed with quiet appropriateness in mind, rather than the louder formal manifestation of other contemporary architecture. Building simply is not concerned with purely visual simplicity; it is concerned with minimisation to give tectonic clarity and not minimalism as an aesthetic style. Autonomous forms and techniques of construction are modified in accordance with the archaeology of existing conditions. Primary forms appear to be bound up with site. The forms are not imposed on the site as if defined a priori. Tümertekin's architecture is mostly made of simple, elemental forms, constructed in a logical, legible and resourceful way from local materials, like the case of B2 House which he humbly describes as "another one of the prisms in the village" (Tümertekin 2000: 92). In some cases (like Çatalhöyük Center), Tümertekin reaches simplicity by 'subtraction'6. That's how its buildings have a sense of timelessness.

3.2.2. Tectonic

In Tümertekin's architecture, the simple, basic forms are communicative while remaining tectonic and material in their essence. Tectonic construction isn't detached from the design of space. It is a means of spatial design as well as a means of the building of space. Referring to Semper, Frampton's (1995) theory of 'Tectonic Culture', discusses both a specific mode of construction (the tectonic frame) and the poetics of construction. The definition of tectonic according to Frampton can be interpreted as follows: "[s]upporting structures in a building are necessary elements. Nevertheless, the expression of that building requires something more than simply exposing these elements. Since expression requires a coherent relationship between parts, a certain poetic addition is needed for this purpose" (Aycı, Boyacıoğlu 2012). Tümertekin re-establishes the contemporaneity of historically persistent forms by tying them to new modes of construction. The opposition between archaic and modern traditions (in aforementioned projects) is achieved by the method of construction itself. B2 House, for example, has a tectonic expression through the poetic articulation of the construction. The inorganic abstract space of modernity is re-actualized between opposing tectonics of past and present. Architecture's relationship with materials is complex and immemorial. Before global industrialisation, there was a continuity of a vernacular architecture based on local materials taken from or made in the immediate vicinity. A building culture was sustained with a connection to place. Materials embody perceptual alchemy. In experiential terms, materials can evoke feelings, trigger connotations and address deeper levels of our understanding and imaginary. As Juhani Pallasmaa postulates, materials can speak evocatively and even pleasurably of the passing of time. Some of Pallasmaa's sensitivities are embodied in the work of Tümertekin who has a deep understanding of the nature and language of materials. He uses materials with an appreciation of their innate sensory qualities as well as their technical potential. He engages with the specificities of place, tectonic and tactile experience. His buildings are part of contemporary tectonic architecture. The natural texture and colour of materials are used as part of the composition. Structural and cladding systems are formed to create distinct impressions in the viewer. Tümertekin gives technical functions to representational elements and differentiated cladding systems form structure. Studied buildings are part of the architects' search for the tectonic.

3.3.3. (Re) Construction of place

Tümertekin's architecture turns a locality into a place by 'constructing' it. However there is no pre-given formula to construct a place. Tümertekin's concepts accomplish that task by starting from their own point zero: "[t]he point zero requires the absolute memory loss. The architect must begin from problems not solutions. The problem is to define the relation to establish with the 'other'. The design context gets clearer while the relations to be established with the 'other' increase. The architect should imagine the life in a place before he constructs the place (Tümertekin *et al* 1999)". For Gausa (2003: 480), a place is an "incomplete situation to be restimulated". Simple constructions of Tümertekin stimulate the site to fulfil its potential to become a place. Heidegger argues that the existential purpose of building is therefore to make a site become a place, that is, to uncover the meanings potentially present in the given environment.

4. Conclusion

These works characterise qualitatively, not quantitatively, Tümertekin's architecture. The scale and the typologies of the projects vary, but they all are shaped by a meaningful engagement with the place. As Sarkis (2007) said "[t]he methodology is to answer each question as it arises, applying design solutions to localized problems with global as well as local tools". Architecture sits in a place or context, in a 'site', which will affect its design, in terms of climate, orientation, topography, and so forth. A place has physical definitions; it exists somewhere and can be described as geographical coordinates and map References:. Architectural object has always been positioned in a land, but architecture, one can understand, is about defining the 'place' in different ways. It is possible to observe aspects such as: not ignoring the trees, plants or existing buildings, and adapting to the topography in every decent project attentive to details. Yet it is one thing to define an architectural problem within the context of place; quite another to problematize place as such in the process of design. In Tümertekin's case, place is about establishing the character of a location or site, describing abstract aspects of the site such as spiritual or emotional. It would be incomplete to finish this analysis without referring to some more critical views regarding Tümertekin's approach. According to Uğur Tanyeli (2010), Tümertekin (among other Turkish architects) "shares the radical denial of traditionalism and historicism. On the other hand, they all prefer to discuss their works as mere architectural realities without theorising them within supra-architectural contexts." Tümertekin, as said by Tanyeli, is one of those architects who speak about their projects without reference to some form of theoretical framework. He leaves his buildings alone to speak for themselves. It would be premature to say the final word on the relation of Tümertekin's architecture with the place. His production, both in terms of theory and building, has not reached, quantitively speaking, the necessary sufficiency and variety to make an exhausting statement on the subject. Yet it is plausible to argue, on the basis of the projects examined in this paper, that he is able to 'construct the place' in his own work, which gives his design quite a peculiar character in a context which so far underestimated the concept of place.

Notes:

[1] Frampton's (1983: 16-30) Six Points of Resistance are "Culture and Civilization, The Rise and Fall of the Avant-Garde, Critical Regionalism and World Culture, The Resistance of the Place-Form, Culture Versus Nature: Topography, Context, Climate, Light and Tectonic Form, and The Visual Versus Tactile".

[2] Tümertekin designed another house for Selman and Süha Bilal brothers, worthy of attention in 1998, in Kemerburgaz, Istanbul.

[3] Site area: 600m^2; Construction area: 150 m^2; Project Date: 1999-2000; Construction Period: 2000-2001.

[4] Site area: 80000m^2; Construction area: 24000 m^2; Project Date: 1999; Execution: 2000-2003.

[5] Project Date: 1998; Client: Ian Hodder.

[6] Tümertekin (2007) uses the word subtraction himself while he tells about another one of his founding myths: "As a student of architecture, I encountered a scene that fundamentally shook my perception of space. Until that day, I thought that the only way to create space was to build, to add things to what already existed. The example that led me to rethink this idea reached a solution by subtracting; it created space not by filling but by emptying.
It is about two people playing backgammon. A very hot and sunny day. Noontime, the sun is directly above, shadows have shrunk. They are seated on low stools, facing each other, knees touching. Both just fit in the shadow cast by a sign. They are playing gaily, the board resting on their legs. Everything is fine. Real, mundane, simple, easy, and incredibly poignant."

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A New Alliance, Environmental Tourism and Cultural Landscape

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Abstract: The existence of an environmental heritage recognized by the contribution of the different sciences leads us to the concept of "landscape ecology". Simultaneously, the recognition of another intangible heritage translates into "metaphysics of landscape". These two concepts are extremely important to define the new tourism paradigm, environmental tourism: nature tourism and cultural tourism, with rural tourism, shaped in the cultural landscape.

Keywords: Paradigm, landscape, environmental ethics, environmental reason, ecology, metaphysics.

1. Introduction

The general definition of paradigm comprises "a disciplinary matrix", a constellation of beliefs, values and techniques shared by a community (Kuhn 1962).

The existence of an environmental heritage recognized by the contribution of the different sciences leads us to the concept of "landscape ecology". Simultaneously, the recognition of another intangible heritage translates into "metaphysics of landscape". These two concepts are extremely important to define the new tourism paradigm, Environmental Tourism: nature tourism and cultural tourism, with rural tourism, shaped in the cultural landscape.

In this paper we will use the two methodological frameworks, a negative heuristics and a positive heuristics, in order to revisit those concepts within the framework of sustainable development and Environmental Philosophy throughout our exposition.

2. The environmental reason

If the object of science is to explain the world's machinery, then scientific laws are amoral, and the answer to the categorical imperative of "how to live in the world" belongs to the domain of philosophy and ethics. It is in this sense that the environmental ethics questions the value of science and the value of social development, not only in an anthropocentric dimension but also according to and beyond modern science: Life before Man and Earth before Life.

As in the philosophy of Spinoza, which opened the "universe of reason", the fundamental impulses for environmental philosophy reflect ethical and moral issues (Spinoza 1988).

2.1 Ethics and Morality. The philosophical approach

We return to the main questions that Bento de Spinoza's work placed on the advent of our modernity: how to think about the rational explanation of the existence of man and the universe, how to adapt the philosophical thinking to the *raison d'être* of everything that exists, and how to transform the spiritual life in full understanding and peaceful enjoyment of life itself to the limit?

The struggle to distinguish ethics from morality – e.g. normative ethics (what we ought to do) from philosophical or meta-ethics (what is the nature of good) – is not exceptionally simple. If normative ethics are something the general public may call "ethics" and meta-ethics may be what the common sense notion of morality is… it is important to point out that this happens in the framework of anthropocentrism.

Morality is a cultural expression determined by social domination and a historical context, which gives it a sectary character. We need a moral theory that can be universal, timeless and that is able to guide the individual conduct, science and political ideologies, without considering man in the zenith of Life.

However, in the last century, moral reflection has turned itself to a new object: the environment

The UN environmental conferences are the focal point in the development of the environmental consciousness in the modern world.

Some principles emerged from the first conference, held in Stockholm in 1972: the principle of a "common house" ("man has two homelands, his own and planet Earth"); the principle of a planetary Community and solidarity – founders of a new international order (ethics) – and the principle of defending life on the planet and its biodiversity (UNCHE 1972).

These principles build a first line with the cultural and political perspective of ethnocentrism.

The critical perspective of environment philosophy toward ethnocentrism claims the following: "Ethnocentrism is an emotionally conditioned approach that considers and judges other societies by their own culture's criteria. It is easy to see that this attitude leads to contempt and hate of all ways of life that are different from that of the observer" (Dias 1961).

The critique of ethnocentrism not only justifies the respect for all national cultures and all forms of classical and popular cultural expression, but also rejects any notion of superiority from a certain model of society, race or ethnicity. In this sense, it expands the concept of products of cultural goods far beyond the great museums, master oeuvres, classic heritage. This includes cultural landscape.

Biocentrism (as expressed by Earth first!, Greenpeace, the Wilderness Society, etc.) assigns an intrinsic value to any living entity, whilst Aldo Leopold's Ecocentrism focuses on our duty towards the biotic community, which we are part of (Larrère 2007). This is not about applying pre-existing moral theories to new objects, such as nature. Nature shall be included in our field of moral reflection, our duties, which were previously limited to human beings, and will now be extended to other natural beings - the concept of an enlarged community of natural beings. This is the perspective of the critique of anthropocentrism.

The "environmentalist reason" formulates a new categorical imperative for human action. Beyond the Kant maximum of forming individual ethics of acts with the principle of a universal law, a new ethical framework emerges, which stems from the need to configure the human conduct within the limits that safeguard the continuity of life and its diversity (Jonas 1984).

However, scientific discoveries only allow us to be sure that the balance of ecosystems favourable to life depends on a multitude of physical, biological and geological factors, as well as to recognize that the higher the position occupied by organisms in the food chain, the more vulnerable they will be. Science has also identified some species whose destruction would dramatically affect the entire system.

However, what is dramatic today is the rhythm at which biodiversity is being lost. The destruction of natural resources, energy and the multiplication of polluting effects that reach not only the whole lithosphere, the hydrosphere, the cryosphere, the atmosphere and the biosphere, but also, with unpredictable consequences on the fundamental genetic material, the DNA, which conserves and reproduces the codes of life.

If we consider the emergence of our ancestors of the human species from 4 to 5 million years ago, inside the framework of the biological time, which is immense, nothing can assure that, as happened to the dinosaurs in the past (sixty-five million years ago), the kingdom of mammals will not come to an end one day and other forms of more adapted life will continue to perpetuate the music of life in the sidereal spaces.

However, imagine the extinction of *Homo sapiens sapiens* and species associated with our evolution, a world of plants, microbes and insects. It would unlikely give rise again to the human species or even to mammals.

In this perspective, nobody can imagine today what will be the link in the chain of life where the evolutionary leap will occur, as nobody dreamt before that the grandfather of our human condition was an insignificant rodent that survived the widespread extinction of dominant species at the end of the Mesozoic Era (67 million years ago). But, at the same time, the preservation of the human being returns to the centre of environmental ethics, in a new ethical perspective, without unlimited domain and privileges against "the other" nature (thus assuming a critique of anthropocentrism).

To be coherent with this environmental ethical perspective, we must consider that the multiple links between all forms of life (and even those within the non-biotic environment) require, in addition to the duty of preserving our species, a duty of conserving the diversity of beings and their environmental niches, since everything depends on their dynamic equilibrium, as in Aldo Leopold's biotic pyramid (1947).

3. From the conservationist Nature paradigm to the concepts of environment and sustainable development

The acknowledgment of the economic value of using biodiversity is still a way to refuse the autonomous land ethic values: "The land-relation is still strictly economic, entailing privileges but not obligations" (Leopold 1947).

This usually leads to confining nature conservation to parks and reserves, to the species potentially useful to humans and to the action of the State, while giving complete freedom to private enterprise. This comes from the scientifically false premise that the elements with economic value of the biotope can exist in nature without the presence of other elements.

This is the scientific base of ecological consciousness - to recognize the "duties towards nature":

"A land ethic then reflects the existence of an ecological conscience, and this in turn reflects a conviction of individual responsibility for the health of the land. Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve the capacity" (Leopold 1947: 258).

3.1 Tourism economy: changing the paradigm

Up to what point can the idea of landscape serve the intentions of sustainable development, and in what forms? What might be the conditions for a possible encounter between the concepts of landscape and sustainable development that neither uses nor reduces one at the expense of the other or vice-versa?

This new vision of the landscape, multi- and interdisciplinary, which is at the same time an instrument operating its hermeneutics and a category in the field of Environmental Philosophy, can be named: "Landscape ecology (humanized). In our definition it represents a structural and systemic view that encompasses the large natural landscape, characterized and differentiated not only by the various fields of science (environmental sciences and exact sciences), but also because it was created with the help of Man in his daily effort as a farmer, a shepherd and a landscape architect" (Queirós 2003).

Natural history, served by earth sciences, geology and geomorphology in particular, reveals the diversity of geological heritage and its natural monuments.

Life sciences, especially biology and botany, teach us the size and value of biodiversity, and also the value of new biotopes created by the humanization of the landscape.

Social history, in its archaeological and artistic trends, along with ethnography, allows us to take advantage of the built heritage, works of art and literature, as well as ethnographic objects.

And when discussing these, we cannot forget their immaterial size. The metaphysics of landscape represents the domain of aesthetic emotions and feelings and their cultural representations.

Ecotourism is about conserving the "natural areas" which improve the well-being of the local population. According to this perspective, we continue to follow a path of anthropocentrism. But, what is the definition of "natural areas"? Especially when we take into consideration that every landscape is a cultural landscape!

The concept of the "tourist industry" has led to search for local resources - biological and geological, livestock and forestry, etc. – as their raw material. Indeed, the first are used and processed by other industries, and in many cases their conservation is required. And as for the second, its consumption is shared between residents and travellers.

What constitutes a tourist resource is a humanized cultural landscape. Reading and interpretation of the cultural landscape is the basis for the creation of the tourist product and its first metamorphosis of value. It is the ecology of the landscape (material heritage) and its metaphysics (immaterial heritage), which constitute the essence of tourist resource, but only when their interpretation and reading gives it a new increase in cultural and economic value.

The landscape is not an open book, intelligible empirically. The transformation into a tourist product goes through its readability, which gives it a used value; it is a metamorphosis that generates economic value. It is also a process of cultural literacy, mediated by the construction of a language for tourist communication. The result of this process changes the shape and the essence of traditional concepts of resources and tourist products.

3.1.1 Parallel–Aesthetic Categories

We can find in the landscape a set of elements that we call "parallel-aesthetics", carrying an intrinsic moral value and capacity to attract tourism: "the unique", setting this concept as susceptible to express the landscape attributes of an uncommon Place. "The single", defining the particular identity of a common landscape object. "The authentic", an attribute applicable to the conservation of objects and original landscape contexts. "The genuine and rare", objects and places of humanized landscape, that in its process of evolution tend to disappear or be corrupted.

This category can be differentiated from "Systemic Parallel-Aesthetics Categories".

The discontinuity of forest stands and the sustainability of an agro-forestry "mosaic" are supported by mountain terraces, with an amazing hydrological systematization: erosion control, drainage and reduced dispersion of full tips. Here we can find the use of the traditional culture and the simplified use of the land: the polyculture and permanent pasture, terraces with trench irrigation and drainage ditches, the walls supporting the land, winning against the slopes. Furthermore, this is assisted by the use of the sheep's herding and the use of manure from their beds to fertilize the fields.

"*Prados de lima"*, the drought irrigation system in the winter, with pressure refills of aquifers and summer irrigation.

"The *Bocage* landscape", a concept shaped from the French *Bois*, a continuous hedge. With woods at the top of the slope, live fences and lines of trees linking plaids and armed pasture wisely under the slope lines, without supporting walls.

"The Oak and the river forest", that preserve traditional agriculture, constituting a privileged place for avifauna observation.

"The Water Gardens", landscape places covering rivers and streams beds.

"Moss-Gardens": micro-flora and micro-fauna. Etc.

The landscape has become the sediment of life and death of all beings, from the non biotic and biotic community, crossing their cycle of birth and death, recycle and reutilize.

3.1.2 Mass tourism versus ecotourism, the controversy

The debate among ecotourism and its critics (Butcher 2011) has initially been focused on opposing mass tourism to ecotourism, identifying a small niche of customers, with limited financial size and market needs. Another argument, of moral and politic dimensions, is the choice of local people not for the artisan and natural side, but to choose freely new productive technologies, infrastructures, jobs and commodities, etc.

The democratization and socialization of education and culture, as well as the evolution of big markets around the world, solved some of the opposing issues: Cultural Tourism has become a mass tourism.

3.1.3 A new educated and cultured middle class that is changing social taste

The weight of this middle class and its instruction and cultural level, in parallel with the emancipation of the working woman, a contemporary youth increasingly educated and the anticipation of an active retirement in segments of the middle class, generated a change in the social weight of this class and in the categories of "taste" and traveling "motivation".

The modern social taste of the middle class includes a new global concept about Art and Aesthetics. New moral and ethic values face nature, heritage, environment and landscape, with influences from the Environmental Philosophy in every scientific domain and development process.

3.1.4 A new alliance, environmental tourism and cultural landscape

The growth of competitiveness in the tourism economy will be sought particularly through the ability to integrate circuits and routes in all patrimonies, which gradually will link the current urban attraction poles to dynamic regional visits, inter-regional and even cross-border. With these routes and circuits we can promote the upgrading of the economical status of excursionist to the status of tourist, increasing the time spent in certain places and the desire or need to return to them. This will help surpass the problems linked to seasonality and promote a quality consumption, which will increase productivity.

The routes and circuits will be integrated in their destinations. These destinations will generate the main profit, but it will not be the structures that organize these routes and circuits (the museums, monuments and parks) to collect the greatest profit; the profit from tourism will come from the aforementioned external value chains (accommodation for visitors, restaurants, transports and so one). The misunderstanding of this economic paradox is the cause of the historical conflict between tourism and development, but it is also at the same time the key to overcome it. This is important particularly in our time, in which a new paradigm of tourism is emerging – environmental tourism, which means cultural tourism, nature tourism, and rural tourism, with their specific products and renewed environmental sustainability requirements, for all other tourist products.

To achieve the "good employ of nature" we need to apply a new ethical perspective to the economical and financial world, and to the political categories.

3.1.5 Terroir and cultural landscape

The expansion of the human species to all regions of the globe and its adaptation to the diversity of habitats in the modern age has spawned a new relationship between humanity and nature: it ceased to exist as pure natural countryside and the whole landscape has become what it is by direct or indirect influence of human activity, producing either unspeakable destruction or new cultural landscapes. The moral and ethical reflection emerges from those issues.

Nowadays, ecology and landscape aesthetics depend even more on the labour of farmers and peasants, if we aspire to a full conservation of the landscape ecology and its aesthetic. With more and more people leaving the countryside, innumerable biotopes, which are the result of the interaction of human action with the original biodiversity, will be lost. With its ruin and emigration, the risk of these biotopes disappearing from many cultural landscapes can become a reality.

Augustin Berque (1993), has developed philosophical theories about European and Japanese human societies and space/landscape/nature, and established a unique academic concept, *Écoumène,* introducing a new concept called *trajection*, which means the interactive relationship between culture and nature, the collective and the individual, and the subjectivity and the objectivity in actual societies in Europe and in Japan. The landscape concept, born in 4th century China and in the centuries of the Western Renaissance, encompasses a collective sensitive and symbolic cultural subjectivity from the higher classes, engaged in an aesthetical contemplation different from the perception of the peasants, which occupy and transform the land as part of their daily struggle. (Serrão 2012).

But, when we discuss the concept of cultural landscape, we cannot forget their immaterial side, which can be found in the erudite and popular imagination and in their creative expressions in literature, dance, philosophy, music, etc., in which a moral vision of landscape is included.

3.1.6 Peasant ethics: Enlarging Land Community concept and Animal Ethics

The Iberian peasant culture in the first half of XX century – maintained in the relationships with the land, the animals, the humanized landscape, customs, and in magical and religious imagery – is an age-old ethics that the struggle for survival and the empirical knowledge of life shaped in contradictory manners.

- Ethical dilemmas: The "fojos", or wolf traps, dating back to prehistoric times, allowed the systematic extermination of wolf packs, but pregnant females were banned to hunters; the large birds of prey, such as gryphons, true health agents that cleaned the mountains of corpses and sick animals were respected, but smaller ones such as buzzards, accused of preying on the chicken coops, were exterminated in their nests.
- The rural community and urban alienation: the proximity between neighbors, as between the breeder and consumer of animals, when subsistence economies resisted even the capitalist globalization market, led to the permanence of social solidarity and links of affection with the animals, today totally unheard of by city dwellers who barely know their condominium partners and who consume the iconized flesh (hamburger, hot-dog etc.) from completely unknown animals.
- Moral dualities, Celebration-Mourning-Sacred-Profane: Paradigms of those lost (and contradictory) ties of affection are, for example, the social sharing of the pain of death, or the joy of marriage with the funeral rituals and memorial service, or the offering of sweetmeats to neighbors. It is the tears of the woman who bred the pig when it is taken to be killed, even knowing that this sacrifice is essential for the family livelihood and the handing over of that task to an expert outside the family, called in to carry out the fatal incision. It is the songs of encouragement to the oxen when tilling the ground and the fresh grass cut daily for the farm animals, but also the use of the whip and the goad only when there is no other means of driving the animal. The processes of domestication led to an empirical animal ethic which modern production disdains completely.
- Practical ethics, ethical precepts and moral action: the rule of feeding first the domestic animals and then serving the supper to the family; the practice of raising animals in large compounds, allowing them to use these spaces according their needs and biological rhythms, of feeding, mating and moving around; the duty to help in the birth of young animals and assist them when travelling long distances; the care in renewing the straw in the animal's sleeping quarters regularly; the cleaning, care and affection, rendered to the working animals every day; the preoccupation with the well-being of aged or frail animals, which no longer earn their keep; the mercy killing of seriously ill or wounded animals, in order to put an end to their suffering. These are all concrete examples, among many others, of these immanent ethics.
- Affection and community memory: in fact, it is not only strictly economic reasons or functional pragmatism that explains the secular creation of these practices. Animals have communication codes and affective responses that interact with humane treatment. And it is this affective capital, entwined in memories and attitudes of the collective consciousness of rural communities, which has been handed down from generation to generation.
- Ethical transcendence: ethical transcendence of these facts is stamped in the mind and it is not just to meet the religious imperative that the old enemy takes off his hat at the passing of a funeral and the hardened peasant, on burying his dog, is unable to hide the feelings of grief.
- Comparative ethics, amorality and indifference: the mechanization of anonymous city life with its consumer practices and the massive urbanization of rural areas has resulted not only in the decrease of the biogenetic heritage of the open spaces but also in the decline of secular ethic heritage, favouring amorality and indifference at this century's end.

Arnold Berleant's approach to environmental aesthetics considers the human being as an active contributor in a context where it is a continuous participant, distancing himself from the Kantian perspective of a contemplative subject and a contemplative object (Berleant and Carlson 2004). A person is the perceptual centre, both as an individual and as a member of a socio-cultural group, of his or her life-world, whose horizons are shaped by geographical and cultural factors (Serrão 2012).

In their aesthetical perspective, the concept of landscape can be reduced to a visual direction and includes several dimensions: admiring the landscape embraces the tactile appeal, the kinaesthetic pleasure, the natural songs, the taste... These rich dimensions are forsaken when admiring the landscape and are relevant to cultural tourism and nature tourism.

"The concept of landscape has had to be stretched in many directions: from an object to an area, from a visual experience to a multi-sensory one, from natural scenery to the whole range of human-made transformations of nature. This expansion of the idea of landscape is further complicated by the fact that landscapes are never stationary but are constantly in transition" (Berleant 2011).

Re-thinking landscape means that every landscape is a human artefact: the historical human presence brings value to the landscape, not only the positive categories of the beauty experiences in nature but also the negative sublime, to recognize "if such practices also offend our sensibility; that is, they have aesthetic as well as moral consequences" (Berleant 2011).

It is not the end of nature or the end of wilderness. The geodiversity and biodiversity of the land - the cultural landscape - are dynamic and dialectic. The natural process of recycling and metamorphosis remains universal in the urban and rural land.

But the knowledge of the humanization of landscape, from the perspective of the philosophy of nature and the environment philosophy, would be incomplete without the use of another category of elements, which we define as:

"Metaphysics of landscape. It represents the domain of the 'spirituality', 'soul' of things, the categories of aesthetic emotions and feelings, 'beauty' and 'beautiful', the 'sublime', 'wonderful' and 'mysterious', 'monumental', 'epic' and 'tragic'" (Queirós 2003).

All these categories can be linked with wilderness, but also with the human labour in the land. This includes the negative categories: the disgusting, the ugly, the repulsive, and the abhorrent.

We can talk about the "irrationalism" of environmental ethics (Ferry 1992), but in reality, we should talk about an environmental reason.

4. New kinds of governance that combine several ecosystem services

The result of this process changes the shape and the essence of traditional concepts of landscape as economic and cultural product resource (material and immaterial), and puts the question of the ethics of duty to preserve the cultural landscape, by its double economic value and aesthetic.

The cultural landscape, built by the peasants, shepherds and foresters, give them, beyond commodities, an additional aesthetic and cultural value as a tourist attraction.

But also, cultural landscape combines several ecosystem services:

- Sustainability of agriculture, silviculture and pastoral mosaic - soil improvement, groundwater recharge, renewable energy sources, carbon-capture.
- Public health and safety in production / functional food (healthy)
- Multifunctional rural areas / conservation and valorisation of intangible and tangible heritage of bio and geodiversity.

The cultural landscape needs measures and funds to avoid environmental risks such as soil erosion, desertification and drought, forest fires, water scarcity resulting from climate change.

Consequently, the new Common Agricultural Policy (CAP) must recognize the need to strengthen the environmental and landscape issues by supporting the management of "land". The CAP should promote the competitiveness of agriculture in the context of ecological transition of its economy and therefore allow for the recognition of the irreducible diversity and intrinsic values of different cultural landscapes from the North to the South of Europe.

5. Conclusions

The main terms, such Culture, Nature, Environment and Landscape, as "milieu" and Heritage are far from being neutral scientific objects. They are academic constructions which need to be understood as they emerge across their historic contexts.

The general definition of paradigm comprises "a disciplinary matrix", a constellation of beliefs, values and techniques shared by a community (Kuhn 1962). The presence of some anomalies is not enough to abandon the previous paradigm. This happens only when, in the context of the phenomenological study, you can observe multiple, unexplained or unexpected events and when a rival paradigm emerges. This does not happen suddenly.

In this paper we use the two methodological routes identified by Lakatos (1970), a negative heuristics, which indicates the search paths to avoid, and a positive heuristic, which leads us to develop the "not forged" scientific propositions, those scientific propositions that cannot be corrupted. Revisiting those concepts within the framework of sustainable development and Environmental Philosophy was the itinerary of our exposition.

Re-thinking landscape means that every landscape is a human artefact: the historical human presence brings value to the landscape, not only the positive categories but also the negative categories. It is certainly not a question of the end of nature or the end of wilderness. The complexity of the cultural landscape, the geodiversity and biodiversity of the land, their material and immaterial heritage, including an ethical peasant, are dynamic and dialectic.

In the last century, moral reflection has turned itself to a new object: the environment. Scientific laws are amoral and morality, on the other hand, is a cultural expression determined by social dominance and historical context, which gives them a sectarian character, and not a universal one. The two principles, the critique of anthropocentrism and the critique of ethnocentrism, could create a new ethical theory, with a universal value and practical content applicable to all the social fields and the correspondent moral, political and legal rules, including re-thinking the concept of sustainable development.

The critique of environmental philosophy queries our mode of civilization, in the perspective of environmental reason. Each new fundamental scientific discovery postulates the construction of a new environmental ethics, with practical moral value.

Scientific discoveries only allow us to be sure that the extinction of *Homo sapiens sapiens* and species associated with our evolution - a world of plants, microbes and insects - would unlikely give rise again to the human species or even to mammals. So, the preservation of the human being returns to the centre of environmental ethics and in our time, ecology and landscape aesthetics depend even more on the labour of farmers and peasants.

The existence of an environmental heritage recognized by the contribution of the different sciences leads us to the concept of "landscape ecology" and, simultaneously, the recognition of another intangible heritage translates into "metaphysics of landscape", two concepts that are extremely important to define the new tourism paradigm, environmental tourism: nature tourism and cultural tourism, with rural tourism, shaped in the cultural landscape.

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Fumbling for Light in Forested Areas

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Abstract: Important events happened in Sweden for landscape in 2012: *Nordregio* and the CoE/CEMAT published texts calling for increased connectivity between European territorial knowledge fields. Nationally, many related texts got wide diffusion after a seminar of the *Royal Swedish Academy of Agriculture and Forestry* in Stockholm City on the European Landscape Convention, by two journalists at Swedish *Dagens Nyheter.* The article displays that the two text categories, however, do not seem to meet at European and national level. This leaves a gap of conflicting interests and misunderstanding in the Swedish landscape, which remains undefined. Citizens seldom meet the more *over-arching* and *determining* landscape terms – merely their diffuse and largely *dependent* counter-parts. Knowledge about this dilemma, however, also began to spread, for example in three published books in Swedish this year. Thus, a debate may emerge concerning less hegemonic and frustrated communication - and a more shared, epistemic community on landscape in Sweden.

Keywords: CEMAT, heritage, citizens, determining-dependent, conflicting interests, hegemony, epistemic community.

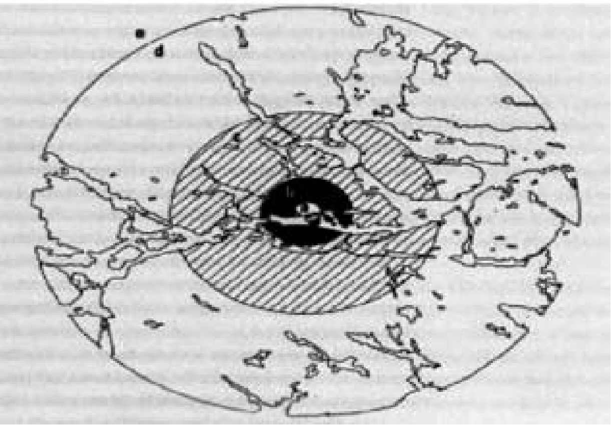


Fig. 1 © Ola Andersson. "Stockholm outside the inner City is National Roads through the Forest and Stately thorough-fare traffic rather than Municipal streets. Since the middle of the 1960s we tried to get ourselves up and out of Modernism's deep ruts, unsuccessfully". Stockholm City is in a) in the absolute middle.

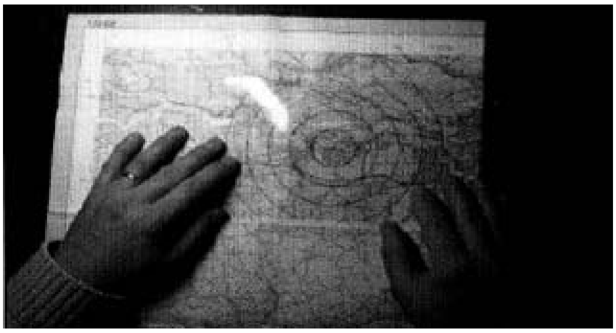


Fig. 2 © Terry O'Regan. When Andersson rather severely analyzes the spreading of an urban periphery around Stockholm, with a built-in dependency from the hinterland of the power- and commercial Centre, he uses the same kind of Landscape Circle Study as does Terry O'Regan for Ballincollig, County Cork, Ireland, with all its named places.

1. Background

International conventions are like a spray for a red nose in a cold autumn: omnipresent because they are created to support and heal – yet irritatingly slow to work. This is also the case for the European Landscape Convention, ratified by Sweden in 2011. Here, we see *Nordregio*, which lifted the need for better interrelationships between CEMAT and EU knowledge fields, from a Nordic perspective (although, still mainly proposing more *"evidence"*-based research, and going from EU to CEMAT, as a means). There: CoE/CEMAT, putting forward more action for a *human* environment, when considering the landscape and all its values. CEMAT underlined *"all the territory"*-perspective, easily forgotten when all the lobbies meet behind their closed doors, talking money. CEMAT, instead seems to prefer talking of *complementary* roles of democratic support for a public perception of landscapes, which also includes *"emotional associations and personal identity: like sense of belonging, pride, self-confidence, security, recreation and coping with stress"*, thus also making it urgent to also consider how market economies work, when *"land is mostly property"*:*"Property developers exploit the land and sea (from surface to bottom), normally with the objective of making money and profits in market circumstances. For that reason, market forces alone do not supply common goods for the citizens."* In this way, CoE/CEMAT actually supports a more active role for the Convention and for citizens engaged in their landscapes and sometimes dying to "*reassess*" their everyday landscapes, where most of them live and work (Moflag *et al* 2012).

However, as of November 2012, when I look around me from north to south in Sweden, I must confess that this is hardly what I see. Far from an emerging European *"epistemic community"* (Fritsch 2012), in this case concerning the notion of landscape, I see people from all over the country coming together to demonstrate, not for landscape, but for *"Our land, our waters - our future"*[1] in the most basic way; groups (vaguely, including governmental ones) in favour of forest (or mining) exploitation (and jobs) but against other groups that are in favour of endangered plants and animals (and jobs), instead. Still, it was during 2012 that all these conflicting interests on the ground all of a sudden became much more apparent in the national media (papers, radio, television, books), so that a name – some sort of a place name! – also got labeled upon this long-lasting *malaise,* upon this frustration that many people clearly recognized and understood: *"Jokkmokk Syndrome. On one side cubic meters of timber, on the other a list of threatened species. And in the middle, between this clear-cut area and that Nature reserve: a muttering citizen, whispering something that nobody hears"* (Zaremba 2012). But actually, these worries and claims were not so much about timber, nor about red lists: they were the expression of a special Swedish sorrow, where "*beauty*", as one nature activist said, *"is lost within tabular forms"*. This sorrow can also be traced: It goes back to The Committee for sustainable development of *The Royal Swedish Academy of Agriculture and Forestry* and the scientific journalist of *Dagens Nyheter*, Jenny Jewert, whose *Essay on the Beauty in Nature* was presented in the very same official building, in the heart of Stockholm City, in 2005, that saw the presentation of the *Suggestion of a Landscape Bureau.*[2] It was this Seminar,[3] called the *Role of Beauty in the Landscape* and the series of articles presented shortly afterwards in *DN*, under the heading *The Forests that we inherited,*[4] that created this large turmoil and veritable uproar surrounding Swedish nature and forests and what is happening to them, right in front of our eyes, in 2012. So, what did her essay at KSLA change concerning the landscape as a notion, at epistemic level around the ELC, and perhaps practice? This is now the problem to tackle.

2. Problem

Questions and method

It is easy to give up hope for Stockholm, writes Andersson in *Postcards from Utopia*. He sees an eminent obstacle for normal urban life at Northern latitudes close to the North Pole. Here, is their role as power centers perhaps more apt for the towns than vital urban life? He compares the city of Stockholm to that of St. Petersburg, which, although larger, even changes names according to shifting powers *(Andersson, 2012).* Does this mean that the two knowledge worlds we discuss: that of European policy-making and that of the small, *"therefore often centralized State"*, facing its implementation of landscape in Sweden according to the ELC, do not belong to the same sphere? In his eminent study on political epistemology, democracy, and the Swedish EU-debate, 1990-94, political scientist, Peter Strandbrink[5] pertinently analyzed the Swedish intellectual context - and beyond - when Sweden joined the EU in 1995. Concerning the still common EU-themes, he found two essentially different levels in this debate, valuable, and both absolutely relevant to our discussion on the foundations of an epistemic community around the notion of landscape. The Swedes, then, would either listen to thoughts and arguments, conforming to an "*applied, practical and dependent level*" - they were the more numerous - or to the more *"over-arching, theoretical and determining"* one (Salevid 2006). But he also found a third argumentative level, which could "*decide what is possible to claim within the framework of an accepted rationality. Knowledge is thus a powerful weapon. Who possesses it, needs no other.*" So: How are landscape and its corollary notions according to the Conference's theme on epistemology being *"reassessed"* respectively in Jewert *et al*, here called KSLAT and in Moulias *et al*, here called CEMAT? My method has been to synthesize data, after due translation (in the KSLAT-case) and collection through a simple enquiry procedure, using the Search-tab in the Adobe program, which has allowed me to see how the eight notions are distributed within the two texts (primarily) and in what contexts.

3. Results

3.1 KSLAT

"In the government's office nobody will explain how the ELC can be implemented without constitutional change (—) But it was"

MILIEU, ENVIRONMENT, NATURE. These notions quantitatively dominate. Natural milieu, cultural milieu, life environment (Sw. [naturmiljö, kulturmiljö, livsmiljö]), are terms often mixed together in the text and in the direction of the "ecological issue". The main duality is between man's heritage/inheritance vs. his/her environment/milieu. [Miljö] thus "colonizes" the heritage-term [Arv], much like in the National Encylopedia,6 where [Arv] simply concerns legal rights of the individual when property is inherited. The author, a "former professional nature protectionist", is tasked "to investigate the conditions of beauty in modern [Swedish] land use and landscape planning". Her answers dwindle along 35 pages, resulting in a final "no" (yet "paradoxically hopeful") to the question "whether beautiful landscapes have any powerful defender in a time when land and forests are expected to deliver bread, planks and fuel in an unprecedented degree". Although Europeans are frequently cited, the tone is slightly doubtful concerning the human effects on the physical European continent and its nature. Instead, positive and abundant References: go to nature aesthetics, nature critics, environmental medicine and last but not least: social nature Care, within an American School of thought. Another conclusion is: "without sinking down to a scientific critical discussion, I can only state that my own intellectual home is closer to Carlson than the postmodernists. At least all aesthetic landscape evaluations are not as useful, talking about Nature protection in practice, nor in different of exploitation projects." Allen Carlson is an admired US professor of philosophy and nature aesthetics at Alberta University, and claims that: "Aesthetics ought to make itself more relevant, and it will, in our time by connecting to environmental issues." Or ecological? one may ask. Anyhow, the poor results for beauty should also be seen in a Swedish context, where beauty is said to be difficult "because very few people are occupied with philosophical aesthetics in Sweden." Nor does KSLAT ignore that milieu, which historically, is close to the Renaissance's central perspective. Very typically, this information is delivered by a citation from Lars Jonsson, a famous Swedish bird painter.

LANDSCAPE, SUSTAINABLE DEVELOPMENT. In this context, especially the latter term also becomes reduced: *"A landscape is sustainable only if it is both aesthetically and ecologically sustainable"*, cited from another scientist of the nature critic school. Although, the *"picturesque"* dimension of nature is central in theory, in practice, it is not. The two-worded SD-concept is absent in the essay and only figures in the Forward, signed *"The KSLA Committee for Sustainable development and the Committee for Environmental issues"*. On the other hand, Jewert does wholly support the view that was later vigorously echoed by her journalist colleague Zaremba: a general *"fear of touching"* of an emerging Swedish landscape architect profession; I chose the more crude citation of the latter: *"They dare not claim that a power mill is visual noise, because this would be seen as subjective. Jewert doesn't expect [landscape architects] to define "beauty". But at least they could be quarreling about what it might consist of, now since everybody else has an opinion? No, it's safer sticking to the technical terms."*

PLACE, TERRITORY. I found these to be most special here: Vaguely neutral expressions like working place, place of repose, pausing place, magical places, or even the House of Nature at Oset-Rynningeviken (created by a communal biologist Mats Rosenberg of the Örebro Municipality), abound. But the rather few named geographical places are only the most nationally invested and famous ones, those with a solid economic value as trademarks. No References: to local or regional places, which may be important for people living in those areas, or territories, were found.

HERITAGE. As for this key-word in all CoE/CEMAT contexts, surprisingly, this long text uses it: thrice! I cite the most important example: *"A long time before the UK had rallied to the Landscape Convention, people worked in its spirit: holistically, participatory and future oriented but still with a consciousness of a common natural and cultural heritage."*

3.2 CEMAT

"Teaching us what landscapes are and what they mean to us as human beings"

HERITAGE. Since the Council of Europe is a European political organization, which has the task, via CEMAT, of evolving *"doctrines and policy images"* (Fritsch 2012), no wonder that this basic notion is at the heart of a *European Rural Heritage Observation Guide*… The definitions are indeed *"over-arching"*. Examples of this notion recur throughout the book of 100 pages, often hierarchically presented in definitions/under-definitions, thus demanding the participation of the reader's common sense and/or the desire to bind concepts together logically, within *"an accepted reality"*. On top of that one is *"territorial cohesion"* – another well-known EU-theme: Within this, (rural) heritage is: *"The landscapes carved out over centuries by people who lived off the land and, more generally, through the exploitation of natural resources, (…) in accordance with design logic and aesthetic of the buildings/environment/landscape as a whole."*Besides the spatial dimension, there is also a *"temporal"* and *"societal dimension of heritage"*. This theoretical but *"determining"* use of the term should provide very good support for a common *corpus* of landscape knowledge, binding interested parties together, logically.

PLACE, TERRITORY. These two notions work in a way that is interrelated with heritage: *"Heritage elements assume meaning and value within a specific territory. In return they assume that territory's identity and strengthen it."* Also: *"You can choose a locality that allows for comprehensive social, cultural or economic approach, such as a municipality, which is the most convenient research unit, since it corresponds to long-standing human communities."* Used this way, place becomes close in meaning to milieu in the original sense of *man in the middle*. This facilitates understanding various structural projects at local and regional levels, and binds local populations closer to their own possibilities of *valorization* of places important to them, e. g. natural or cultural environments, which would otherwise perhaps be "forgotten".

LANDSCAPE, SUSTAINABLE DEVELOPMENT. Landscape is given the whole first section (of four) called *"Reading a landscape"*, in a chapter called *"Heritage's component parts"* and is frequently used – certainly indicating *beauty* just as often as *change*. The SD concept is also treated voluminously, but in the latter section of the Guide, where the last chapter is reserved for this original UN notion: *"Rural heritage, a key factor in sustainable development"*.

MILIEU, ENVIRONMENT, NATURE. These notions, so central to KSLAT, are here given almost a help status, where milieu is close to the place concept centered on man and his activities. Environment(s) and nature are notions rather more used as auxiliaries: *"It is important to break out of the format of formal meetings and advisable to hold additional on-site meetings, so that space and environment can be taken in account."* Or: *"step back from the project to analyse the potential of the environment, by evaluating the territory from the perspectives of tourism, culture and social questions."* Nature can become part of an entire social/political organization and more like an important "spatial auxiliary" to place, or territory: the *Regional Nature Park (of Morvan)*, where it works like an amplifier of the other words of a geographical name.

4. Conclusion

In this comparison between a CoE/CEMAT-document, first translated for the 8th Workshops of the ELC in Malmo/Alnarp, in 2009, and a Swedish *Essay on Beauty in Nature* related to the ELC, which Sweden has ratified, it is time to sum up. The latter was circulated by agricultural and forestry interests of the Royal Swedish Academy and then further echoed by the Swedish newspaper, *DN*, in 2012. Has the use of some of the most important notions of this conference brought new light to the discussion(s) of landscape, in a small, often centralized "wooden" country? Or, indeed, are most of us doomed to keep on walking in the dark in the vast Northern Forest Belt?

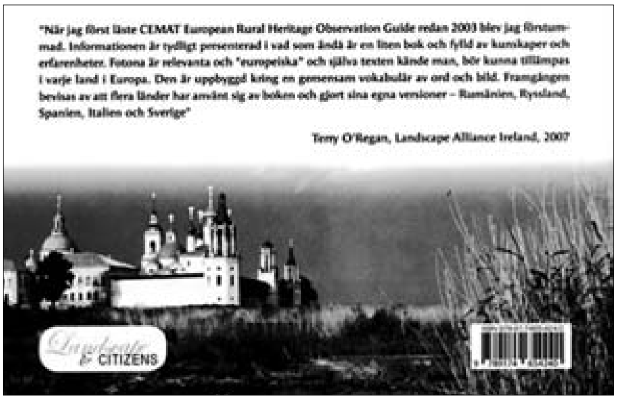
First, the basically civilizing idea of a common *landscape with its heritage values* as present in CEMAT from 2002 to 2012 , must be said to be rather absent in the Swedish debate, still two years after the ratification of the ELC. I see it to be more than a sign that in the follow-up article of the essay, we found an emerging debate, not really about landscape, but about a Swedish nature and living environments on the whole in the northern County Norrland, which has since been spread among many citizens via the media.

This is a debate concerning how the forestry industry and the State actually work together and was called the *Jokkmokk Syndrome* from the Municipality of Jokkmokk - which thus got a highly political place role in our ELC-context. It has revealed crucial *controversies of the forest.*[7] We must thus conclude from how landscape and its collateral notions have been used in the texts of KSLAT (I) and CEMAT (II), that landscape, in its civil aspects hasn't even got a language yet, especially among those most concerned. Not only are land-owners and local populations opposed in this veritable drama concerning clear-cut-areas in the forests close to people's dwellings, but also land-owners and national nature protection interests are quite opposed, so that "Jokkmokk" actually displays a deep political frustration of a very long duration concerning that omnipresent but diffuse issue of ecology that was mentioned in the beginning (called *"the Mucousity"* issue, by local inhabitants). Thus, the Swedish text(s) express a certain kind of abandonment by the State. In fact, what was actually displayed by the reading of both Jewert and Zaremba, for me, was a feeling that landscape is in practice side-stepped by the large group interests concerning what the ELC defines as the *everyday landscape as perceived by people.* Zaremba: *"May a reporter feel melancholia? Or is wrath the better word?"* Searching for its reasons in *The Forest we inherited*, he runs into something rather compelling in a small traditional state: *"Swedish corporatism, i.e. a system where groups of interests ('movements') have more influence on politics than the people's representatives in Parliament. It is then no longer important with arguments and public contest (…) When did we last hear in the Swedish Riksdag a serious discussion on conflicting values in forestry politics?"*

Second, these texts also display the still troubling relevance of Strandbrink on how "*EU-Rhetoric*" is still discussed in Sweden. Thus, the landscape of the ELC is still far from being *"reassessed"* among the Swedes.

Theoretical and "*determining*" concepts of landscape and heritage are left to the happy few to ponder – while a long row of applied and *"dependent"* issues are left to the people, to argue about, giving us some utterly sectional "forest debate(s), "mining debate(s)", "red-listed-species-debate(s)", and so on. The knowledge weapon thus seems very efficient in the small centralist State, indeed… for how long?

Fig. 3 © Terry O'Regan His Landscape Circle Study (back cover), exposing Place, where people live and are concerned in a Territory; it is much inspired by the European Rural Heritage Observation Guide – CEMAT, Council of Europe, 2003



"När jag först läste CEMAT European Rural Heritage Observation Guide redan 2003 blev jag förstummad. Informationen är tydligt presenterad i vad som ändå är en liten bok och fylld av kunskaper och erfarenheter. Fotona är relevanta och "europeiska" och själva texten kände man, bör kunna tillämpas i varje land i Europa. Den är uppbyggd kring en gemensam vokabulär av ord och bild. Framgången bevisas av att flera länder har använt sig av boken och gjort sina egna versioner – Rumänien, Ryssland, Spanien, Italien och Sverige"

Terry O'Regan, Landscape Alliance Ireland, 2007

Fig. 4 © European Rural Heritage Observation Guide –CEMAT/Sw.transl.: Eva Salevid/Landscape Citizens (back cover). This book about a notion far too easily forgotten – and with a proper display of its method – would help many more deserving inhabitants of named localities and places in the Swedish "stretched-out" territory to understand their surroundings from a European Landscape Convention perspective.

Notes:

[1] http://17nov.se/

[2] http://www.ltj.slu.se/lar/skarback_erik_pub01_10.html

[3] http://www.ksla.se/aktivitet/inte-av-brod-och-brador-allena-ett-samtal-om-skonhetens-betydelse-i-landskapet/

[4] http://www.dn.se/Stories/stories-kultur/skogen-vi-arvde

[5] http://webappo.web.sh.se/p3/ext/content.nsf/aget?openagent&key=sh_personal_profil_en_380791

[6] http://www.nationalencyclopedin.se Articles: [Arv], [Miljö], [Kulturmiljö]

[7] See: Beland Lindahl, K, 2009.

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Re-Reading the Landscape: for a New Humanistic Dimension of the Landscape Concept

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Abstract: In the context of the current economic crisis, landscape is a fragile concept, over-used by the pragmatic language of new information technologies, causing it to lose the humanistic substance which it had for decades. This paper focuses on the possibility of adapting our knowledge by illuminating the perceptive side of landscape-reading, both in real and virtual worlds. From rhetoric to metaphor, from palimpsest to hypertext, how should we read the landscape today; how can we cope with the new forms of communication between man and landscape? My approach will outline some possible answers, based on working with landscape architects and urban planning students over the last ten years.

Keywords: language, lecture, metaphor, creativity, becoming, virtual, hypertext.

1. Introduction

As a continuous process of the city's identity crystallization, the urban landscape reflects the most prominent human relationship with technology, designed to support and develop it. Within the new concepts related to architecture and urbanism, landscape has a link-position (landscape-urbanism, landscape-architecture), showing the idea of fusion between nature and artifice, between technology and metaphor, between tools and ideas. Blurring such oppositions is somehow a "natural" trend, based on a new sensitivity of the urban world. Properly used, "the machine" knows better how to enhance and to re-define the most important values of humanity, and not "to usurp" them. The technology embedded in the landscape is sometimes more-than-architecture: a new type of intelligent landscape, as *the machine* tends to be *in-corporated* to human body and to *his desire of becoming* (Deleuze & Guattari 1980: 65).

Today, the urban landscape is defined by the paradox of increasing material processes, while we take part in the continuous (and discrete) de-materialization of urban life. In this context, several paradigmatic changes affect the landscape's language: from individual to social, from product to process, from micro-scale to macro-scale, from history to becoming.

Thus, there clearly appears a need for re-defining the language of landscape in its main conceptual terms, relating to the emergent ambiguity of languages from other domains, through the fusion of different environments (real-virtual).

The present study proposes some guidelines for a necessary re-reading of the urban landscape, seen through the filter of its specific language.

The main question for this article is how we should adapt our perception, reading, understanding and interpretation of the urban landscape in the "hypertext era"?

2. Methodology

To answer the question above, it is first necessary to address the theoretical background of 'becoming' landscape. I found it appropriate to start from two different approaches of becoming: i) as a linear, chronological evolution, the succession of ages and stages (similar to *transmutation of species,* following a Darwinian pattern), and ii) as a non-linear suite of events and situations, having *creative behaviour,* closer to the Bergson theory, which tried to explain why *life evolved in the direction of greater and greater complexity* (Bowler, 1990).

Extrapolating the two directions of the general interpretation of 'becoming', I found that the landscape could be understood by the same two patterns: first, as a multi-layer structure ("palimpsest"), with a linear evolution through successive stages and second, as a multi-branched process (both in space and in time), reflecting a creative human relationship with its environment and life.

The hypothesis for this approach is that, faced with the actual context dominated by the informational paradigm and by the new forms of communication, the old archetype of *landscape palimpsest* is no longer appropriate for its language.

In the structure of this argument I emphasize the important role of understanding the humanistic side of landscape becoming. For this, the mobilization of sensitivity is necessary, for that which is not visible, for everything that is lost in the functioning of city mechanisms (Marshall 2005).

On the other hand, to be fully understood, the acceptance of the new language of landscape requires an experimental approach, the same as any language needs a practice in everyday life; only this experimental way of learning the landscape's language is suitable, because it comes with all cultural and social physiognomy of that space, and only by this can one arrive at an intelligent articulation of that language. As a human culture is imprinted by the way in which language is practiced, so the landscape is a mirror of how language is practiced: ignoring its poetics inevitably leads to the impoverishment of its cultural expression (Codrescu 2008).

3. The Becoming of Landscape–conceptual framework

Analyzing more closely *the landscape palimpsest,* I found that its structure is consistent with all layers that form it in an organic way, making it impossible to detach them without affecting the assembly (Nash 1997). These layers, sometimes partially deleted, or inoculated by intention, compose in their totality what we might call "landscape being": more than one form, more than an image, but a whole body of process, which shows a becoming from the very "shells" of always imperfect ages, to something always new and creative. Thus, landscape can be accepted as "a becoming being" (process), that hatches from its own history and *whose beauty is distributed without dividing itself* (Noica 1985). This process is based on the ability of those who shape it and of those who live there, to understand it from the higher level of creativity.

In this process including landscape and its language, becoming is addressed here in a verbal sense, and not in a substantive one: so, dynamic, and not static. Thus, landscape becoming is a becoming *in order to be* (Noica 1985), so it has a purpose, a meaning, not as an end-goal or an endpoint located on a map, but a constantly moving ideate target, always somewhere else, always different.

Understood as an open, *actativ* process, through which small mutations can account for a macroevolution (Bergson 1998), the landscape becoming is proved to be a *deleuzean rhizome*, a development from the middle, an auto-generated, non-hierarchical order (Bell 1999:21). Reading the landscape becoming through a rhizome-pattern, a new generation of terms-concepts emerges: limits, pleats, fringes, zippers, holes, voids, de/re territorialization, over-exposure, etc. All these key-words (and many others) are co-existing in a dynamic environment, expansive and regressive at the same time, in which "communication is spectral, proliferating and invading" (Baudrillard, Guillaume 2001). Within this environment, the landscape is not just a backdrop or a stage for different processes, but it is simultaneously actor and director, creator and practitioner of its own language (Fig.1).

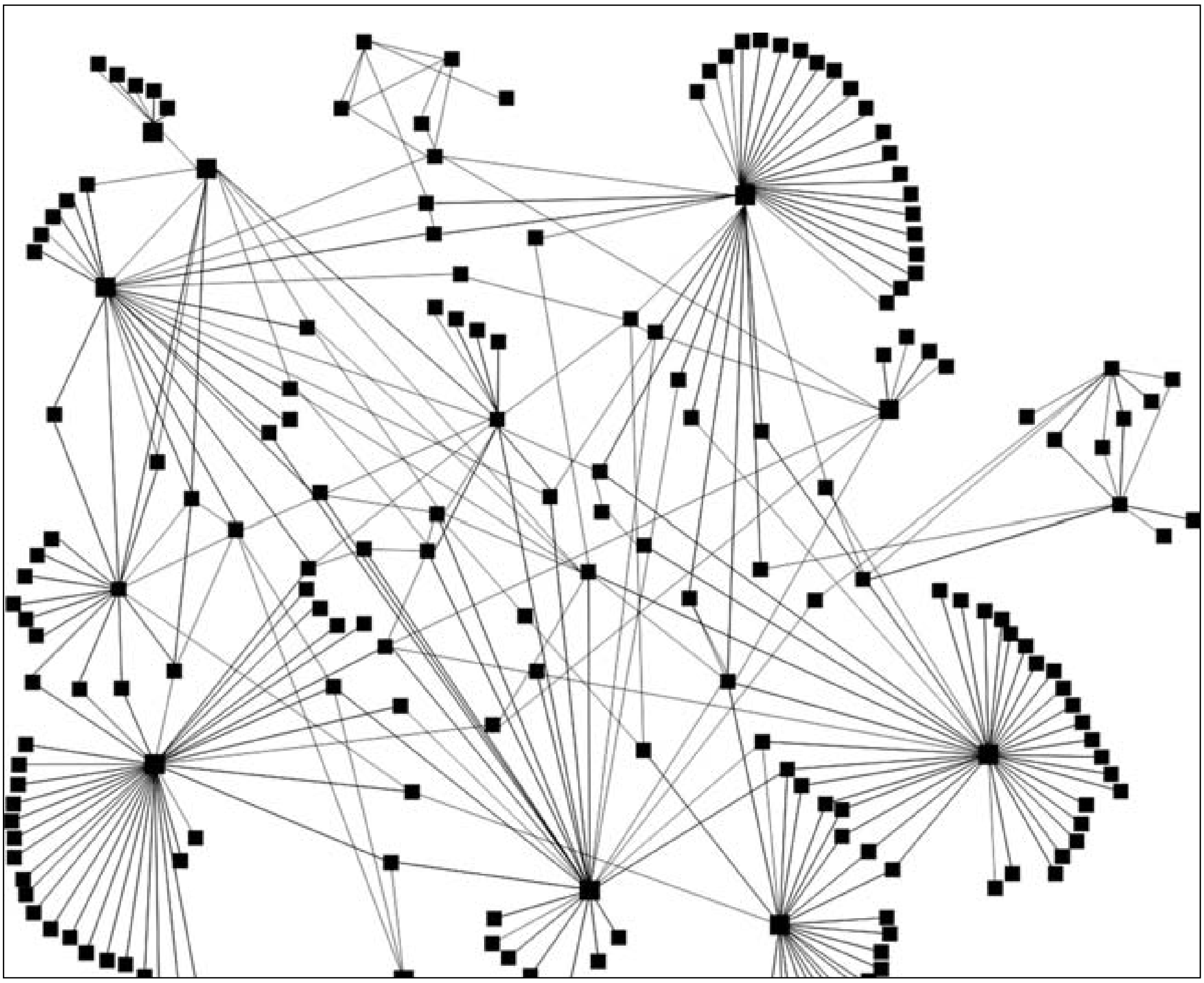

Fig. 1. The Question Shouldn't Be Where are the Network's Virtual Appliances but Where is the Architecture?

4. Creative ambiguity of landscape language

The language with which the everyday world is written is like a mosaic of languages, such as a wall full of graffiti, written one on the other, a palimpsest whose pergamin was scraped and re-written several times, a collage by Schwitters, a stratification of different alphabets, of heterogeneous quotations, of jargon terms, of snappy characters as they appear on the screen of a computer (Italo Calvino, 2002).

Adapting the conceptual framework to the reality and adopting a bottom-up perspective, the landscape embodies a real human need for communication with its increasingly complex environment (Schachtel 1966), and this essential need is reflected in the creative ability. Humanists regard creativity as a general human potentiality. Environmental factors have the role of updating these potentials, which are specific to each individual. There exists a "tolerance of ambiguity" as a condition of creative thinking (Schachtel 1966). Metaphorical language would not be possible outside this tolerance, which could accept even the mistake as a source of creativity (Codrescu 2008).

Without a doubt, current landscape language is ambiguous - both at the conceptual, experimental and operational level. But the ambiguity of actual landscape language is not a formal defect; it is a characteristic of its "being", part of its essential becoming.

This specific ambiguity comes from the fusion of several concepts that can no longer be placed in the drastic Heidegger opposition as *poesis / techné*. Already infiltrated in our subconscious, technology is part of the everyday landscape and a part of us, undermining the traditional opposition between authenticity and non-authenticity, between appearance and essence, between content and form. Today, the fusion of virtual-real environments - once different and opposite by meaning - makes technology *poetically acquired* (Leach 2006), because it is no longer a source of alienation, but rather, a source of multiple connections. So, the ambiguity of landscape is positive, beneficial, and it defines the human potential to integrate the new, the ineffable and unusual in its symbolic structure (Leach 2006). It is, in fact, similar to the *degree of freedom* that man can afford in his becoming, without compromising other more stringent resorts (such as labour, education, health, etc.) (de Certeau 1980).

From a semiotics perspective, it is possible to consider landscape as a set of signs, symbols, practices and messages that structures the instincts and guides the emotions (de Certeau 1980). Landscape's rhizomatic complexity is noticeable in the movement of its own limits overcome: by urban sprawl, by tourist exploitation of exotic places, by globalisation of cultural products, by all unsustainable development, landscape is considered to be *under attack* - economically, culturally, and ecologically.

This situation creates a normal reaction: virtuality is increasingly considered the best environment for re-creating the landscape as each of us desires. In the non-places logic (Auge 1992), accepting congestion and hybridization, the urban landscapes of this age seem to move permanently from the real image field to the virtual image-text field. In this mutation, the language of landscape is reinvented starting from a different interaction between the text, the image and the meaning: now, they are intelligent enough to connect each other by themselves, using the support of the global network. Moreover, the image, the text and the meaning are in real time adapting to our own options, gestures, and emotions. By all these attributes, landscape language proves that it is in search for a new poetry.

5. The need for poetry in landscape language

Understood as the practice of a specific language, closer to the "nomadism" of actual internet users and to the features of our global capitalism (Deleuze & Guattari 1980), landscape is engaged today in an exhausting movement of crossing, transfer, translation and difference (Leach, 2006). But this exhaustion is not inevitable; the minimal condition to overcome the language crisis at the limit between real and virtual is to introduce into precise digital mathematical parameters, one inaccurate, ambiguous, and ineffable aspect: *the poetry parameter.*

The poetic language of landscape is (should be) one of direct expression - simple, but suggestive. Whether or not linked to various sophisms arising from the continuous mutual contamination between arts and sciences, it is (should be) a connotative language, both symbolic and metaphorical, creating the element of surprise and invention. The language of landscape must to be able to uncover the transmission of ideas and emotions, based on an alliance (rather than a competition) between sensitivity and rigor. If poetry is missing from the foundation of the landscape concept, it is hard to believe that someone can re-install it later, no matter how spectacular (or expansive) the intervention in terms of aesthetics.

This "seed" of poetry should be planted with the first line that defines a concept of landscape intervention, otherwise the landscape becoming for whom it was built is impossible.

In other words, as has been said on several occasions, for instance, by Pierre Sansot, known as anthropologist of everyday life, the author of the already famous "Poetique the ville" in 1973, that *"landscape is an interface between the sensible world and the meanings",* claiming that the city is an entity to be "maintained" *by* our sensitivity. Sansot speaks about the *creative generosity* that comes to us in the way it reveals itself by its every day appearance, by the impression it produces and by feelings which awaken us.

Poetry itself is a universal way to seduce: in literature, with words, in architecture, with volumes and interior space, in urbanism, with patterns and textures. Jean Nouvel said that "for seduction to exist there must be consensus (...). An architect's job is a job that, by force of things, revolves around the way of seduction". The consensus is that a very fragile line of conciliation between constraint and freedom (Nouvel, 2003), between budget and poetry.

This approach of manmade landscape poetics as a building process has an indisputable starting point in Heidegger's philosophy, in his discussion on a verse of Hölderlin: *"Full of merits, but yet poetically dwells the man".* In the Heideggerian regard, the poetic is the original space occupied by man, a gateway to truth. The writing mentioned above does not refer to the need for the generalization of poetry by all people, but to the poetic construction, "poetic" architecture and building. Any building intervention-whether architecture, landscape or urbanism - should not remain just a building, just a design, with services and utilities embedded.... all these are undoubtedly *merits* which man acquires by practical, pragmatic activities. But poetry "builds" the essence of edification and the essential dwelling it needs. Heidegger, around 1930, in the middle of the economic crisis, deplores the fallen condition of dwelling; he talks about the *dwelling nullification*, and the necessary distinction between accommodation and housing, the same as the difference between *animation* and *being* (*Dasein*).

Fig.2. Metaphorical landscape (virtual); artistic expression in the project "Aurora-the drawn spirit of metahumanity"

The current period reiterates the same deficiency, deepening, by even more perverse tools, the gap between being and non-being, between spirit and commercialism, between "singing" (poetic) architecture and "speechless" architecture…"The difference be-

Fig.3. "The city is the choreography of life, and it can be used as a resource for artistic practice; it can form a productive and substantial input for the creative mind". An experienced urban landscape through dance performed by Beatrice Jarvis.

tween housing, building and creating poetry is neither reversible, nor conciliated, it is essential (...)" (Heidegger 1995).

6. The metaphor as a vehicle of landscape ambiance

The classical rhetoric of landscape takes into consideration both the immediate human interaction with the environment (reflected by concrete actions), and the spiritual dimension of it (reflected by a *state of mind*). It brings to light not only needs for different spaces and conveniences required, but an entire universe - of hopes, dreams, and ancestral imaginary formed in each of us, mentally extended from individual to social, beyond the project design. This extension involves a certain state – the state of *reverie* (Bachelard 1960, 2005), which contrary to classical psychology is not a state of abandonment and relaxation, but a state of concentration on the relationship between inner self, and the external environment, able to maintain this relationship (Bachelard 1960, 2005). "No matter how strong we are employed inland of intellectualism, we shouldn't ever lose that sight of a background psyche where images germinate," wrote Gaston Bachelard in 1953, convinced that *reverie* is able to recover the being.

The risk in this approach is to slip into what enough works have already demonstrated: landscape, especially the natural one, contains the "ingredients" of poetry which, over time and with the contribution of painting and literature, have cemented its own symbolism, historically verified. Mountain, sea, trees, water, clouds, sun, light, moon, stars, etc.… are very difficult to re-invest elements of language, after how much symbolic weight (and wear) was placed on their shoulders.

In classical poetry, the intrinsic landscape is considered a source of lyricism or a projection screen for the feelings expressed in the lyrics.

Modern poetry, and then post-modern poetry, radically changed landscape prevalence. Landscape became a binder of poetry, refusing sentimentalism, mimicry, naturalistic expression and even the ludic state. In modern poetry, as Mallarmé said, "hazard is defeated word by word"; poetic construction is conscious, rational, although deeply interiorized, and the landscape is part of this construction, part of the experiment and adventure. Therefore, in modern poetry landscape is composed in the reference system dictated by the self (Fig.2).

Metaphor has always been an element of landscape creation, whether painted or built.

Considering the Aristotelian meaning of metaphor as a *de-placement of sense to another* ("epiphora"), metaphor aims to handle surprise, managing emotions discovering states and setting its composition (Fitter 1995). For the most natural landscape, poetry uses some classic (romantic) metaphors that have become archetypes: time is metaphorically suggested by this ruin, movement by water, knowledge by labyrinth compositions, glory by the gate or arch form, hope through the obelisk, etc.

But the aesthetic due to these patterns is already poor and no longer recognized by poets themselves, considered as superficial and anachronistic (and rightly so, as the metaphor is defined by its freshness, novelty, invention).

7. Reading the landscape as hypertext

Today, landscape poetry should resonate with the advanced idea of heterotopias, in which landscapes are sophisticated hybrid "devices", always open to "individual variation, and thereby to diversity" in a "plural and dynamic joint information" (Cross 2003).

In the hypertext age, the urban landscape is understood in terms of flows and networks, changing both the perception, and human experience in relation to the city and to the entire changing urban environment. Between the self-receptor of physical reality and the global network are established relationships that encourage an omnipotent self-autonomy, but also a strong versatility (Ascher 2001). The imagination – as a mental image sensor for a designed landscape - is intrinsically limited by the hypertext options. A new rationalism emerges from this relationship running - one that is more liberal, more individualistic, and multi-apparent (Castells, 1996), but increasingly lacking in depth, more bound to specific actions in the moving field, without consciousness of the assembly. Landscape poetry must recover precisely this holistic view, the breath hovering over fields and streams in which we move... It cannot be a "simple" text, because *meanwhile, all that we are became text* (Codrescu, 2008). As such sophisticated language, landscape requires a proper tool for an appropriate reading, to know in advance which is the code used, to know all its vocabulary, both official (say professional - from laws, to design methods and techniques) and those related to the free practice of any language (dynamic expressions, slang term, etc).

The urban landscape in particular shows a growing gap between official language and the free, non-professional one, mirroring a split from the concrete reality of the field itself.

This fact is placed in correlation with an increased tendency of people to spend their time indoors, in front of a screen, rather than in the real landscape, connected to the virtual world, rather than walking through urban public space. This change in homo sapiens' behaviour is actually a universal paradigmatic shift and we have to accept that the landscape cannot be denominated as before, by local and cultural nouns such as trees, grass, mountain, water, horizon, street, place, etc, but rather with universal words such as - link, tag, status, web.

Reading the landscape as hypertext is not only a tool in the investigation, but even a method. This need to connect, to relate the components of a simple landscape "reading" is denoted by the etymological structure of the word "reading". It comes from the ancient Greek (*lèg-ein*) that preserved the Indo-European root "leg" in the sense of *togetherness, reunion*; in Latin, there is also *lectum / lectionis*, derivative forms with the same sense, which in French turn into the term *lecture* (Cornea, 1998).

And if *lego* in Latin meant primarily *to gather, collect, assemble*, a second sense is that of *choice*, which provides us with some evidence: lecture is not only reading, not just perception, what you see as a significant body of components and details that compose the "big picture", but it is choice, selection, option.

Lecturing the landscape is already an oriented activity, shaping a field of options. I go further, saying that this type of hypertext-reading invites us to choose and educate the choice system, supposing a mobility of thought and a sensitivity guided by its own mechanisms - stock of information, training, related readings, tastes, experiences, mentalities.

8. Conclusion

To conclude on the previous assertions, I note some basic necessities in approaching the landscape as language, highlighting its metamorphosis, from palimpsest to hypertext.

1. It appears that the landscape is not a homogenous and only-real-entity, physically embodied in material or immaterial artefacts, but a tripartite structure, consisting of physical/ real landscape (landscape), mental landscape scenery (mind-scape) and virtual landscape (cyber-scape). Among all these plans exist interdependencies.
2. The landscape is a social and environmental construction (Bourdieu, 1997), a result of attitudes and human actions, showing fragments of layers of life, allowing the transmission of values from one generation to another. The first condition is the respect of the context in which we read the landscape. The context of a landscape is not only understood as the broadening frame of its view, but the entire associative system of objects, types, archetypes, populations, architectures, features, etc., all providing the necessary information to understand its meaning and function.
3. Landscape as a whole can be considered a complex adaptive system, as defined by Leigh Tesfatsion (2005): "a complex adaptive system is a complex system that includes reactive units, so units able to provide different systematic attributes as response to environmental conditions change." Its poetic structure is related to the fact that landscape hypertext metabolised the previous palimpsest: old mixed stacked "writings" are now entities that refer to other entities- in the past, present or future. The poetic landscape is totally "referential", making possible unexpected connections between these layers, "disturbing" the natural order of its language elements. The syntax of a landscape-hypertext is abolished in the name of freedom of choice, ambiguity, enabling the birth of metaphor.
4. The landscape is an active (and not passive) semiotic structure. Landscape language is a practiced language, spoken (and written, drawn, danced ...) (Fig. 3) and the function it performs for the observer is an invitation, an implied interest for participation, a seduction. Metaphor provides mediation between abstract and real, between sign and sign-practice, between idea and experience. Surprisingly, the metaphor is ubiquitous in everyday life, "not just in language, but in thought and action" (Lakoff & Johnson 1980:3). The metaphor enables all spiritual interaction between people, objects, actions and events that may occur together or separated, scattered in the landscape.

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Landscape Ontologies. Permanence, Discontinuity and Dynamics

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Abstract: Teaching landscape under the schema of a project needs the identification and the interpretation of its ontologies, integrating the dialogue between history and geography. The analysis of historical, ideological and aesthetical breaks provides an understanding of its structure throughout history's long timeframe.

Keywords: discontinuity, aesthetic, forest, geography, governance, history, memory, nature, permanence, process, representations, rurality, society, technique, urban.

1. Introduction

In order to identify landscape ontologies so as to provide project skills to students, both history and geography sciences are useful in the aim of understanding the evolution of context; the complex substrate upon which are built social practices regulated by the State's action. But the evolution of aesthetic categories allows understanding contemporary reception of reality which is the integration result – or refusal – of endogenous or exogenous collective schema (Descola 2005: 152).

The main steps of agricultural civilisation, starting from hunters and gatherers to nomadic breeders then sedentarization (Luginbühl 2012) to nomadism due to mobility (Jackson 1997) allow to work on the project but also to sketch research and prospective issues[1]. Representations are then built up upon historical ideological and aesthetic continuity break-down which draw landscape understanding schema. In order to specify the contribution of human science to landscape pedagogy, this paper draws from the two fields of history and aesthetics taking examples which illustrate the contemporary reception of nature in High Limousin and the evolution of two aesthetic categories: urban sprawl using vernacular evolution and the identification of rhetoric skills using contemporary picturesque. First, we are going to analyse the contribution of history to contemporary reality of the High Limousin landscape which involves a consideration of over 150 years starting from the second half of the 19th century. Then, we are going to explore the evolutions of aesthetics categories and their transformations within our contemporary world. To do so, we are going to describe two of them: vernacular reception using John Brinckerhoff Jackson's thesis and the picturesque according to Philippe Nys' work within the 2005 seminar: "Le pittoresque aux limites du moderne".

These three positions, which each are decisively based on history, notify each in their own way and in their contemporary emergence a useful critic sight within pedagogy and landscape understanding.

2. High Limousin's contemporary landscape

The transformation of High Limousin landscape and the productivist model of conifer forestry running on that territory today is due to: first, the haussmannian bubble burst; second, the gap of local forestry praxis. There is a time correlation between hausmannian work period and Limousin seasonal emigration (Pinon 2012: 200-201, Corbin 1999)[2]. However, prior to this conjunction of economic events, the transformation of the Plateau de Millevaches' throughout a period of 150 years results of an ideological action (Terracol 2010). In order to truly understand the causes and effects of that landscape's transformation, 19th century State politics aiming at regulating nature's aporias, developing its territory and strengthening its institutions, must be taken in consideration.

2.1 Forest and republican ideology

After the 1789 Revolution, the evolution of grazing rights and the changing status towards Sectionaux municipal property (Ministry of Interior 2003)[3] creates an economic imbalance in use between plains and mountains, forcing mountain dwellers to rent their pastures to owners of the Rhone valley. Following the events of 1848, forest management becomes a strategic tool that fits in a logical reconstruction of the territory, along with the development of transport and industry. The reforestation of mountain lands (known as *Restauration des Terrains de Montagne* – RTM) allows the political power to assert its presence in the territory through its institutions such as the Ecole Polytechnique, the Ecole des Mines, the Ecole des Ponts et Chaussées and the Ecole des Eaux et Forêts. Recognized in 1842 by Adolphe Blanqui (Blanqui 1846)[4], the effects of the mountain streaming locally involve floods that devastated the plains of Vaucluse, Gard and Bouches-du-Rhône. Under the pressure of people living in these departments, the laws of 1860 and 1864 have been enacted and the State has set a target of 1,333,743 hectares to be reforested over the ten coming years. A 10 million Francs is taken as grants for those reforestations.

Similar measures have been taken in the Pyrenees, Massif Central and the Cevennes to overcome the flood devastation and ensure the lowland populations' relative serenity.

Later, forests became a structuring element of society and these regions were classified as suitable areas for forestry. The legal framework established through legislation in 1860 and 1864 defines the State policy of reforestation in accordance with the work of Frédéric Le Play (Kalaora, Savoye 1996[5], Adolphe Blanqui and Alexander Surell (Surell 1841)[6].

To achieve the goal of reforestation the administration has assigned to itself, secondary schools are created to give manpower for the reforestation of mountain lands (RTM). The Universal Expositions of 1878 and 1889 served to promote this policy. Work perimeters are extended to correct mountain streams by planting conifers to stabilize the slopes degraded by the transhumance routes of shepherds.

2.2 Incomplete territory

The Millevaches' plateau, this area located halfway between Limoges and Clermont-Ferrand, appears left outside of this reforestation policy. But despite the prefects' injunction to local officials to identify the list of lands that can be improved, the government faces local opposition produced by disturbing the agro-pastoral balance that had until then maintained the local economy. Indeed, this marks the end of haussmannian works and the peak of the seasonal migration (1845-1880), which regulates the local economy in the Limousin. Masons from La Creuse go home and in this economically sensitive context – affecting between 65 and 80% of able-bodied men of each town – the State unfolds its willingness to take possession of sections' property of villages.

It would not be until the twentieth century that a major player involved with the transformation of the local landscape appears. In 1913, the forest keeper and guard Marius Vazeilles is put in charge of the development of plateau's heathlands. In 1909, Vazeilles graduates with honour from the Secondary School of Silviculture des Barres (Loiret). Recognizing the need for a link between agriculture and the forest – called the pre-wood model (Vazeilles 1948) – he convinces the farmers with his publications and his constant presence on the ground to plant the communal property of the plateau.

To follow this period, at the end of the Second World War, a new phase of planting, funded by the National Forestry Fund (FFN[7]), will cause the decisive economic transformation of the Limousin landscape, which up until then had no forest tradition. Unlike other jurisdictions such as Jura or Morvan which have an older forest tradition, the diversity of social relations in the Limousin countryside required accompanying measures from public representatives to regulate a lack of political consciousness which is materialized by the range of facilities often imposed by the market.

3. Vernacular and urban sprawl emergence

Jackson traces the evolution of the concept of vernacular based on a historical perspective that leads to an interpretation of contemporary public space North America (Jackson 1997). It recalls the etymology of the word vernacular – '*verna*', the slave born in the house of his master – and then bases himself on Scythian civilization and the Hamaxobienne tribe (Trevoux 1771)[8], living in tents placed on carts. He develops after the fall of the Roman Empire a landscape ontology of Europe in the 7th and 8th centuries in which mobility is the rule. He describes the daily life of families living independently in the middle of pastures where housing, land and resources are managed jointly. Thus livestock, hunting, fishing and war constitute the bulk of the daily occupation.

When fodder and firewood resources are exhausted on a site, or during a meeting with an unfriendly group of people, this type of village moves in search for new amenities. Then Jackson establishes a similarity between barbarian habitat and medieval settlement. He describes a set of rules for life given to these middle class people; migrants temporarily sedentary living mostly outside; the local authority or the nobility gives them free access or access without payment to a range of amenities such as flour mill and press, brewery, bathhouse, public laundry and market place. The villagers have the opportunity to raise a herd of cattle, they have the right to collect dead wood and to repair their habitat they may cut tall trees according to strict rules. This set of philanthropic measures seem to have been designed to provide this type of vernacular community a satisfactory set of amenities while discouraging any attempt at real emancipation.

Jackson repositions the notion of public space with an ontology of use and property: "We have forgotten that these spaces once served to supplement domestic life with all its needs and desires, just as we have forgotten the ancestral belief that all empty spaces were the property of local families" (Jackson 1997: 150).

3.1 Public space mutation

At the end of the Second World War, Jackson finds instant accessibility to facilities (including some words the name of which have been Gallicized): *supermarché*, *station-service,* supertruck stop; great motel, great service for automobiles. The role of the street and public space replaces the domestic and relational functions. The notion of public space is no more quiet and respectable, but turns into a space of political debate, informal contacts, business transactions and exchange of ideas. Vernacular habitat is characterized via the link between the internal use of the dwelling and the immediate outdoor environment: Jackson here refers to the reign of the ubiquitous car that has emptied the house of its occupants in favor of what he called auto-vernacular landscape: "Nevertheless, I continue to look for some visual clue to the nature of the contemporary American vernacular house, and I think I have found one. I think a vernacular house is one that is surrounded by a large number of cars. They are parked on a driveway that leads to the garage, in the back yard, sometimes on the front lawn, and along the curb. The husband has a car to go to work in (often his car is a truck or van, that he uses all day long – delivering, collecting, hauling, servicing and transporting people and freight). The wife has a car to go to her job in. One of the children drives to school in his or her own car" (Jackson 1997: 151-152).

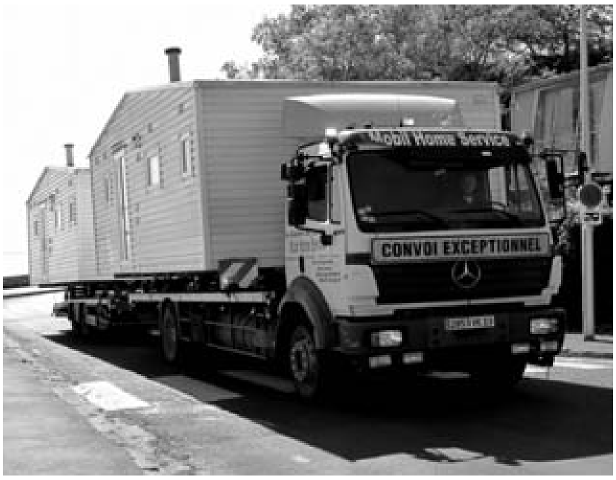

Fig. 1 The outcome of the contemporary vernacular. D.R.

Jackson declines the initial urban footprint of the landscape auto-vernacular landscape to the agro-vernacular one, removed from its agriculture role and in turn invaded by the paradigm of mobility. He defines the contours using the spaces allotted to the car rather than to individuals: interstate foreshadows urban sprawl, car parks, the strip, service stations, as well as all areas of storage and transit we know in our French country under the words of ZI (*Zone Industrielle* or Industrial Zone). With Jackson's model, starting from vernacular, the emergence of urban sprawl appears.

4. Picturesque, a rhetoric game

Philippe Nys defines the picturesque in its theatricality as a generalized rhetoric, visual and intangible oxymoron that purely resists historical analysis. He also defines the contemporary picturesque as creating the conditions of possibility for a new situation disrupting aesthetic trilogy, the beautiful, the sublime and the historic picturesque (Nys 2005). This category is able at answering to aesthetic concerns of masses because it associates creative will, critics of masses and sense of belonging.

To this extent the trivialization of public space expresses the formalization of the picturesque contemporary through the process of call of orders by the elected officials. The morphology and semantics used by architects and landscape architects often lead to the reinterpretation of a particular vocabulary conveyed by a specialized press for professionals.

4.1 The permanence of oxymorons

The permanence of gabion walls and the ubiquity of the use of Corten steel are examples of oxymorons that embody the contemporary dimension of the picturesque identified by Philippe Nys. When public space is seen as an emerging reality, designated by Jean Francois Lacan as a "normative fantasy to enable adaptation of the master's discourse", then it seems clear that the master here is the sense of belonging described by Philippe Nys, allowing elected officials to hold their position in their re-unifying knowledge of vocabulary.

5. Conclusion

Today, the sight cast by urban dwellers upon the Limousin's landscape answers to the social landscape request (Luginbühl 2001) far away from endogenous representations. To this gap, the science of history can provide the necessary elements for understanding policy choices and thereby regulating conflict in the relationship between city and nature. Jackson's and Nys' arguments converge on the permanence of the grammar underlying the semantic cut leading from entries of urban periphery to heritage located in the hearts of cities.

"Elected officials are at a loss". This assertion often expressed in HMONP[9] juries reflects a complex reality. It is clear that politicians are not trained at taking the important decisions they need to take and at consequences these decisions produce for public space. The role of the architect's and his social responsibility are crucial.

And to support future business on the grounds of action, knowledge of aesthetic categories and their evolution is essential in a process of double reflexivity. On one hand operational reflexivity (the project) towards tools to be taught to architecture students for the implementation of the landscape within all its scales and on the other hand, experimental reflectivity to avoid the pitfall of stratification through the construction of a critical knowledge of available tools. The objective for students is to acquire an historical knowledge and learning methods connected to a critical, rhetorical and semantic attitude, valuable to answer wishes of elected officials and upstream, society requests.

Notes:

[1] E.g., how to articulate the paradigm of mobility and ubiquity combined with digital technologies in an uncertain economic and energy environment?

[2] The decrees of public utility for the opening streets were settled in Paris from 1848 to 1868 while the peak period of Limousin workers' emigration was between 1845 and 1880.

[3] With legal personality, the common sections are defined by the *Code général des collectivités territoriales* as "any part of a municipality with a permanent or exclusive property or rights distinct from those of the municipality." These sections are property owners (pastures, forests, moors, marshes...), furniture (agricultural equipment...) or collective rights. To several thousands (about 27,000), these sections are spread throughout but are particularly concentrated in a few departments: Puy-de-Dôme, Cantal, Haute-Loire, Aveyron, Tarn and Corrèze.

[4] Adolphe Blanqui was sent in 1842 by the Academy of Moral and Political Sciences of the Institute in the south-east of France to study the economic situation of the four departments of Isère, Hautes-Alpes, Basses-Var and Alpes subject to the effects of torrential. He published his report From deforestation of the mountains (*Du déboisement des montagnes)* in 1846.

[5] The mining engineer Frédéric Le Play focuses on the mechanisms of human organization to streamline the industry and forest production (see Kalaora and Savoye 1996).

[6] In 1841, the engineer of Roads and Bridges, Alexander Surell, published his Study on torrents in Hautes-Alpes (Surell 1841).

[7] Between 1949 and 1971, the FFN various aids (loans, grants and contracts) will help reforesting a set of 97 000 hectares in the three departments of Creuse, Correze and Haute-Vienne.

[8] Hamaxobien: The Hamaxobes were formerly people from the European Sarmatic. They lived in the southern part of Muscovy and had no other houses than leather tents they carried on carts, and this is where they took their name.

[9] *Habilitation à la Maitrise d'Œuvre en son Nom Propre.*

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Urban Public Space Design Based on an Ethical Construct of Meaning

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Abstract: The harmony between man and nature, including social stability, is an important foundation for urban development and is also one of its core principles. Due to endogenous ethics of property, urban public space reflects a positive role in urban development and creates a harmonious society. In this paper, from the perspective of environmental and social ethics, we explore the ethical values of urban public space based on an ethical construct and consider the concepts and principles of urban public space in environmental design.

Key words: landscape, ethics, urban public space, environmental design.

1. Introduction

In nearly 30 years of urban construction in China, many results have shown a continued focus on urban public space. This phenomenon itself constitutes a starting point for the narrative. The attention of the government concerns urban development; developers are concerned with reaping economic value; and public expectation is based on the pursuit of better living conditions. This means that urban public space is not only an important part of urban development; it is society's pursuit of a more beautiful space. Is it worth investigating what urban public space means for people and society? This question has important practical significance: when the rapid development of the economy has transformed the urban public space only into an economic carrier, when institutional change spawned civic consciousness and society has entered the public era, urban development inevitably reaches "a higher threshold" and experiences social turmoil more strongly. Thus, it is of great significance from an ethical point of view to extract the value of urban public space to build a stable society.

2. Analyzing the relationship between urban public space and ethics

1.1 Environmental Ethics: significance of urban public space

Urban development is not an isolated development in itself, but always maintains a close relationship with the natural environment. Urban public space reflects how people deal with urban physical spaces and natural environments, of which there are environmental ethical value judgments. Facts are also true: the traditional axial symmetry and the mighty geometric square generally implied "anthropocentric" and short-sighted ethical values; "Bio-centre theory" on the other hand, and "Ecology Centre" 'by diluting the dominant position of human value, facilitate urban public space environment and move towards an ecological, low-carbon tendency. Nowadays, when people realize that "civilized men walked the Earth's surface, leaving desert trails in their footsteps", serious environmental problems have threatened the further survival and development of the city, and have caused a number of social issues. Clearly, the resolution of these issues not only has to rely on laws, policies and technical means, but also on ethical beliefs. In order to fundamentally solve the environmental and social issues, we should straighten and create a new ethical relationship between humanity and nature. The urban public space environment, if it can convey the correct ethical philosophy, will play a positive guiding role for the construction and development of the urban environment and social stability. Therefore, ethics need to address the most important issue concerning what relationship should be established with the natural environment in urban development.

1.2 Social and ethical value of urban public space

Ethics, as a proper standard of each particular community, constitutes the social order in the face of various social specificities. In this sense, it is related to people's public lives. Social order is divided into two levels: the first is the standard and the second is the system. The standard is common behaviour expectations, and has appropriate sanctions. The system is built on the conduct of third-party interaction of both expectations. Obviously, both build interaction between people to get each other's approval and have stability. It is worth noting: the process depends on the interaction between people. This interaction must be achieved by means of spatial carriers. Therefore, urban public space, as places where people live in groups and public events frequently occur, is the best place to establish the groups of public awareness and the realization of social order.

1.3 Ethical role of urban public space to regulate individual behaviour

With the formation and development of "differentiated society", "individual society" has the historical results of the process of civilization. In response, regardless of the theoretical differences between the "new individualism" and "new collectivism", both must admit the existence of the individual. Thus we will agree: as independent individuals of each other, everyone has their own purpose, interests and values, and society should establish an orderly framework; it enables us to realize ourselves as free and moral people, without prejudice to others to have the same freedom. As important mechanism for maintaining social stability and social order is dependent on the formation of ethical norms and institutions, but norms and institutions have to rely on the stability of identity in the behaviour of the individual mutual society. Through such layers of inference results can be found that using ethical and social order to maintain social groups must rely on joint efforts of maintaining. Therefore, urban public space environments reflect the people, in line with human behaviour. Psychological needs can make different individuals free to use and promote the formation of interaction between the individual norms, then play a positive role in the formation of social and ethical norms and systems. The urban public space environment reflects the significance of environmental ethics at the macro level; social and ethical values at the meso level, as well as the positive role to social individuals and normative systems at the micro level. Therefore, theoretical research and design of urban public space based on environmental and social ethics, as well as urban space construction should become an important direction of our efforts to explore. Actually, early in 2000, the Venice International Architecture Biennale, the theme of "city, less aesthetics, more ethics", showed the community and the industry's concern for space ethics. Based on ethical construction, and continuing the preceding analysis, we can make the following reflections about design concepts and principles of the urban public space environment.

3. Urban public space design based on its ethical significance

3.1 Following the basic norms of environmental ethics

First, at the macro level, we should establish a proper awareness of environmental ethics, following environmental ethics advocacy in relation to the environment, ethics and norms. Environmental ethics believe that the intrinsic value of the ecological systems have an objective existence independent of subjective pReferences: change; thus humanity must assume the objective obligation to defend and promote the integrity and stability of the ecosystem. The future of urban development is not, nor should it become an isolated island in the natural environment. In order to solve the natural endogenous demand, the designer should create a healthy and beautiful environment to achieve coordinated development between humans and nature through protecting nature, using nature and recreating nature. As for urban internal space, the public space environment has become more precious because of features with both artificial and natural environmental resources. As Holmes.Ralston said, "People should protect values - lives, creations, biotic communities, no matter where they appear." In other words, with recognition of the value of the natural environment, we also have to admit that urban public space (artificial creation) must at least have the same value for human development. Thus, it has equally important ethical significance to create diverse public spaces to meet human physiological, psychological, and spiritual needs, because this is the ultimate goal of urban development.

3.2 Expand the extension and content of urban public space design

Secondly, at the meso level, we should expand the extension and content of urban public space design. Urban public space environment design involves not just a technical problem, it also includes all aspects of the policy, economic, social and cultural content. It should also play its due role in promoting the construction of social order, cultural heritage, in addition to providing the material space to meet the functional use. Therefore, we should expand the scope of the study including theory, ethics, sociology, economics, culture, and other disciplines' theory to make up for the social issues related to the design of traditional public space and the lack of public participation and interactivity in the design process, in addition to the lack of social assessment. At the same time, we should deeply understand the ethics of the spiritual content and turn the core values of social and ethical theory into an important principle of the design. This value can be attributed to the Chinese traditional concept - "awe", that is to say, in the design process, we should respect the environment, social customs and human beings. The results of space should contribute to social and individual interactive behaviour to have mutual respect, and in accordance with the social code of ethics.

2.3 Functional refinement of people-oriented urban public space

Finally, the creation of urban public space at the micro level should delve into a variety of areas of public life, and at the same time, the active role for the person's physical, psychological, social and other aspects should also be further considered and refinement. Regarding space, we should improve a variety of functions, a reasonable space layout and efficient flow organization to meet the user demand for public events. In terms of spatial order, we should design clearly to guide people to the standardization of public behaviour and combine this with the necessary means to regulate public behaviour. On the other hand, we should also understand that the core of ethical construction is desirability rather than it being mandatory. In many cases, because of the failure to understand ethical thought, too many outdated norms limit the multiple possibilities of public space and commit "more mistakes". When urban public space environmental design failed to grasp the "empty" body, the consequent social abnormality will be inevitable. The "empty" has a functional basis to generate urban public space, is where people enjoy the sense of living, is the effective means to inspire people's interaction and cognitive agreement with each other and understanding, which can then construct social harmony and order. Thus "empty" should again become the core concept of urban public space design to meet the needs of different people and to reflect ethical values.

4. Conclusion

The urban public space environment is a continuum of substances, communities, and cultural attributes; it is a reflection of the human world view, values, ethics and moralities, and is also the image of human desires and dreams in the urban space. The design is the most important way to make people's dreams true. To create beautiful urban public space environment s we must follow the social norms of the times, humanity through its functional design, rationalization, and visual beauty to guide people to participate in line with social norms of behaviour. It is also urban public space that has the initiative, so that we can take the initiative to design intervention in the space to achieve the ethical significance of harmonious social order. Throughout China today there is highly industrialized, technological modernization, social change under the situation of economic globalization, opportunities for development and external challenges in contradiction, we can foresee: modern design concepts under the influence of the new worldview, values and ethics morality will certainly promote the urban public space environment to change profoundly, and this change will also become a strong rationale for building a harmonious social order.

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Implications of Unconscious Experience of ‘Engaged’ Landscapes Through the Bodily Assimilation of the Environment

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Abstract: Landscapes are normally understood as perceived objects, or ‘texts’, and landscape experiences are taken to be something consciously perceivable or value generating. However, landscapes, particularly those of a hometown, are sometimes unconsciously experienced and later recalled as precious and foundational. The authors conducted surveys of persons who retain such ‘archetypal landscapes’ and analysed the on-site founding and later off-site value generating processes. In unconscious experiences of landscapes, the environment becomes an extension of the body so that a body-assimilated place provides the root of self-identity. This idea of spatial/corporal inter-assimilating values may serve as a clue for pleasant ways of sharing communal values through landscapes.

Keywords: landscape, experience, engagement, place, body, embodiment

1. Introduction

In today’s globalized and virtualized reality, the promotion of citizen involvement in maintaining a sustainable environment is increasingly crucial. Consequently, shared social, cultural and commercial values on local living environments promote this objective as well as encourage people in a robust way. Indeed, through planning, design and education, specialists in this field offer clues that allow people to acquire and reinforce such communal values.

Such clues are believed to be able to effectively be provided by visual environment, or landscapes. This is consistent with the traditional way of understanding landscapes: landscapes are objects to see (as is understood in the everyday usage of the word), a way of looking at the world (Cosgrove 1984) or texts to read (Duncan *et al* 1988, Barthes 1971). Accordingly, the experiences of landscapes are usually taken as consciously perceiving or discovering something. However, this paper sheds light on an alternative understanding of landscapes and discusses its implications on establishing communal values. Thus, we focus on the unconscious experiences of landscapes, taking landscape experiences as engaged rather than as detached (Bourassa 1991). To explore this issue, the authors have chosen ‘archetypal landscapes’ as the material to acquire empirical data. Cases exist in which a landscape is unconsciously experienced at a given time and place and later – typically after the subject has moved from his or her hometown – recalled as a precious site, pictured as a grounding place and as a source of self-identity. These cases, which involve ‘archetypal landscapes’ (‘*Gen-fukei*’ in Japanese), allow us to take landscapes as not merely objects but also as phenomena of generating value, which they create not at the moment of experiences on site but afterwards. As discussed in Section 3, studies of archetypal landscapes have been conducted, but most of these focus on the contents of memory or, more specifically, the types of physical landscapes that remain in memory for a long time. The process and mechanism of recalling or generating archetypal landscapes has not yet been closely examined.

2. Purpose

The purpose of this study is to clarify the mechanism of personal archetypal landscapes and its processes of value generation. For this purpose, it conducts surveys that focus on personal attitudes towards living environments before and after hometown displacements; these unconscious personal landscapes are realized as important only after triggered by alteration of living environment. The results of the on-site founding and later off-site value generating processes are analysed.

The findings of this study contribute toward promoting sustainable environments by providing empirical data to support the theory of ‘engaged’ landscapes in connection with communal values.

3. Methods

3.1 Background framework of study

As in Cezanne’s quote “les paysans de la région d’Aix n’avaient jamais vu la Sainte Victoire” (Berque 1990), in everyday life, not all landscapes are consciously experienced. Our brains tend to process perceptions of known objects automatically and unconsciously. We no longer pay attention to or consciously view a landscape once we are used to it, just as we automatically engage in certain skills (Johnson-Laird 1988). This phenomenon is called ‘automatization’ and, in the field of phenomenology, ‘embodiment’ (Merleau-Ponty 1945).

However, either by chance or opportunity, our perception of landscapes (or other objects) can again become conscious. This phenomenon is called ‘de-automatization’, as opposed to ‘automatization’, or ‘estrangement’ (Nöth 1995). During the process of de-automatization, the attitude toward or relationship with the environment is changed; consequently, landscapes are objectivized and experienced. This can be regarded as a value generation through intertextuality (Kristeva 1969). In this paper, we adopt the above point of view.

3.2 Literature review on gen-fukei (archetypal landscapes)

Archetypal landscapes are studied in a range of fields (Okuno 1972, Takahashi 1978, Katsuhara 1979, Sekine 1982, Shigehara *et al* 1991, Tsukamoto *et al* 2001). Such studies tend to agree on the following points:

1) Almost all people have archetypal landscapes.
2) Most of the subjects place positive meanings on such landscapes

3) Archetypal landscapes are formed during childhood and become the basis of environmental attitudes.

While many researchers mention the first point, few have distinguished between whether the subjects of the surveys answer their archetypal landscapes because they are asked, or because they already have archetypal landscape in their minds regardless of whether they have been asked or not. Only Sekine (1982), relying on the reports of over a thousand students, points out that some persons have 'clear' archetypal landscape reminiscence while others do not. He notes that the former group is mostly composed of people who grew up in the countryside.

As for the second point, the studies agree that 'home is at the core of archetypal landscapes' and that such landscapes have functions of being 'source[s] of . . . peace and fulfilment', and they 'give subjects energy for the future'. However, most studies regard archetypal landscapes as memories of the past rather than as an integration or a generation of values in the present; thus, such functions are merely explained as the feelings evoked by memory.

As for the last point, researchers note that 'landscapes implanted in childhood become the core of archetypal landscapes'. However, as mentioned above, researchers are more interested in when memories are formed than in why and how they are recalled.

3.3 Focal points of survey

3.3.1 Distinguishing the on-site founding and later off-site generating processes of gen-fukei

The authors propose to distinguish the 'founding' process of archetypal landscapes from the later 'generating' process.

As Sekine (1982) indicates, a certain number of people have 'clear' archetypal landscapes; therefore, it can be argued that they had experienced the moment of recalling the landscapes of hometowns consciously. We would like to divide this process into a 'later off-site value production' stage from an unconscious 'founding' stage. The experience of hometowns occurs in the 'on-site founding' process of archetypal landscapes.

With this distinction, we hypothesize that during the on-site founding process, fragments of sensation are built up and collected in everyday life; later, at the time of the generation of archetypal landscapes (typically after moving from hometown), a change in the values of our attitudes towards a living environment triggers these fragments to be integrated into a clear image, which is a generation of an archetypal landscape.

3.3.2 Attitudinal intensity

The assertion that 'almost all people have archetypal landscapes' means the 'on-site founding' processes is essentially universal and that those who possess 'clear' archetypal landscapes have gone through an additional 'off-site value producing' processes at a later time. Therefore, to detect whether archetypal landscapes are generated, it would be useful to conduct surveys that focus on the attitudinal intensity of archetypal landscapes, which can serve well as a detector.

3.4 Design of survey

From the focal points discussed above, highly detailed interviews or questionnaire surveys appear suitable for the aims of this study, instead of taking numerous samples for statistic analysis. Therefore, a qualitative approach is oriented rather than a quantitative one. The surveys were designed and conducted as follows.

1) In a preparatory interview, subjects were asked to draw sketches of their personal archetypal landscapes; they were then questioned about situations, frequencies, and emotions aroused when recalling them. The interviews were conducted with university students: N = 19 (12 males and 7 females, all 20–25 years of age).

2) The main survey concentrated on experiences, sketches of personal archetypal landscapes, explanations of them, and the situations of their recall; subjects were asked to respond freely and to draw sketches. This questionnaire survey involved university students living in Tokyo: N = 22 (17 males and 5 females, all 17–20 years of age).

3) An additional survey of all participants involved the taking of photographs of their archetypal landscapes during the New Year holiday, when they usually go back to their hometowns. A supplementary interview was conducted with those in the second survey group who had not written complete answers in the questionnaire. This process made it possible to treat equally the results of the first and second surveys. For the subjects who had 'clear' archetypal landscapes, especially detailed interviews were conducted on the situations, frequencies, and recall emotions of these phenomena.

In all, 43 results were obtained.

4. Results

Our principal findings are discussed below.

4.1 Archetypal landscape founding process through everyday hometown experiences

Our survey results were consistent with the previous findings that 'landscapes implanted in childhood become the core of archetypal landscapes'. For example, the scenes perceived on the way to elementary school or places of play with friends are mentioned by subjects. Also, some spoke of places experienced in elementary schools excursions. These sights, located near hometowns, were not seen every day but occasionally.

Our findings are consistent with those of previous studies with regard to the assertion that 'home is at the core of archetypal landscapes'. Several subjects noted the landscapes that they saw when on the way home, when they felt 'I'm back home', or when they caught a glimpse of homes or nearby places.

4.2 Strength of attitudinal intensity of archetypal landscapes

As in earlier studies, the subjects from the countryside tended to have 'clear' archetypal landscapes with strong attitudinal intensities. In particular, we support the finding that those who grew up in a place with panoramic or pictorial scenes tend to possess clear archetypal landscapes.

When the whole panorama of the hometown cannot be viewed at once, landscape elements that semantically indicate the cultural or historical context related to the unity of the region or town allow subjects to possess archetypal landscapes with strong attitudinal intensities.

Persons who have moved to distant places tended to provide very clear archetypal landscape descriptions (an example in Answer A). In contrast, those without such formative experiences tended to have weak attitudinal intensities of archetypal landscapes; therefore, we judged that they have not generated them (an example in Answer B below).

Answer A: 'When I was living in Hiroshima, I never thought of my archetypal landscape or hometown because my house was in the middle of the city. But after I moved to Tokyo, I felt that my hometown is Hiroshima as a whole. When I went back home for holidays by the Shinkan-sen (the bullet train), I had memories as Hiroshima station approached; I saw sights that made me realize with relief that I'm really back home. Even if it is a very artificial and urbanized place, all that is in my mind—friends' houses, elementary school, parks, or even telephone boxes and vending machines—are the elements of hometown, the place where I belong'.

Answer B: 'I'm not sure of my archetypal landscape. … It is difficult to think of it. I have nothing to compare it with … since where I live now is the only place I'm used to'. (This subject has lived in the same house all her life.)

4.3 Changes in life experiences

The 43 samples obtained by this survey can be classified by patterns of moving experiences.

A. Have rare experience of moving (N = 6)
B. Have one experience of a move (N = 18)
C. Have moved more than two times (N = 19)

Subjects in group A are the ones who either had no experience of moving or who moved only once in the same town or to a temporary residence for a short time. Five of the six subjects in this group did not have 'clear' archetypal landscapes.

On the contrary, all 18 subjects in group B spoke of very clear archetypal landscapes; eleven of these were panoramic views of their hometowns, three included symbolic regional elements, and four were close to places of play in childhood.

Among those who had very clear archetypal landscapes, some recalled them with strong emotions while others did not. The former groups tended to have spent a long time in their hometowns and had few experiences moving. In particular, the ones who moved recently possessed strong emotions. Answer C is a typical example of this group:

Answer C: 'I was depressed and under great stress when I first came to Tokyo because it lacked views. In front of my parents' home, the sea and the fields stretched as far as the eye could see. I liked viewing the landscape from a height. The houses looked as small as matchboxes, and there was a sweeping view of the sea, and a light from a lighthouse in the distance at night'. (This subject grew up and lived in Okinawa until moving to Tokyo at the age of 18 to enter university).

5. Discussion

5.1 Process of on-site founding

5.1.1 Repeated process of noticing and skipping over the landscape

Archetypal landscapes were experienced repeatedly in everyday life; since they were easily automatized, it makes sense to think of these landscapes as having been experienced unconsciously.

However, our results show that sometimes such landscapes are consciously experienced, as seen in the results of subjects who spoke of the landscapes that they saw on the way home, when they felt 'I'm back home' or those they experienced in excursion trips. The perceptions of these landscapes can be considered de-automatized, since relief is experienced in home-approaching landscapes and novelty in excursion trips. However, these kinds of moments of relief and particular occasions are not very special. The subjects approaching home did not mention a specific day on which they felt such relief, which was a repeated experience. From this, we conclude that such de-automatized landscapes are repeatedly automatized again. Therefore, the process of the on-site foundation of archetypal landscapes is a repeated process of de-automatization and automatization.

5.1.2 Implications from the viewpoint of the body

The above discussion of (de-)automatization emphasizes consciousness. On the other hand, from a phenomenological perspective, automatization is regarded as an embodiment (as seen in subsection 3.1), that is, as a transformative process by which the body perceives itself as being in accord with the environment, as acquiring a body that is accustomed to the environment of place.

Merleau-Ponty (1945) mentinos the embodiment of tools, in which tools become transparent and as an extension of body. Similarly, the on-site foundation of archetypal landscapes, which is a repeated automatization process, can be taken as a process of embodiment. During this process, the subject obtains the perceptions and feelings of a given environment, which is seen as transparent and becomes an extension of the subject's body. It is as if the subject and environment are unified.

The abovementioned understanding coincides with our results. Subjects with weak attitudinal intensity had not yet generated their archetypal landscapes. They were mostly persons who had not moved out of their hometowns. They still live there, so they were in the midst of the on-site founding process. For them, the environment is transparent and an extension of their bodies. In this state, it is hard for subjects to objectivize landscapes, to separate them from their body-assimilated environment. Landscapes are overlooked since subjects are used to them, but this fact does not mean that they are lost. Rather, landscapes are unified with subjects as part of their bodies.

5.2 Process of off-site value production

5.2.1 Off-site generation of archetypal landscapes

The results of Section 4 imply that life changes and not topological features trigger the generation of archetypal landscapes.

For example, the subject of answer C in subsection 4.3 enjoyed a broad, everyday view without travel. That was something that is always there in his life. Thus, a move to Tokyo was a great change for him; living there without views triggered the generation of the archetypal landscape.

Similarly, among subjects who moved to different towns, many noted the stress caused by the alteration in the views available to them. This group was mostly made up of those who felt archetypal landscapes with strong intensity. Therefore, the stress caused by differences in the spatial structures of hometowns and new towns and not the geological characteristics of the hometown alone created the off-site generation of archetypal landscapes.

5.2.2 Mechanism of the off-site generation of archetypal landscape

The on-site foundational process that leads to the later off-site generation of archetypal landscapes fixes the flexibility or 'readiness' towards the environment in a certain range. Spending a long time in an environment makes the subject's body feel in accord with it and it becomes accustomed to his or her perceptions of it. This narrows the range of readiness towards environment, thus moving to a new environment, one outside that range, forces the subject to change it. Being under this stress triggers the generation of archetypal landscapes.

The withdrawal from a hometown is a supporting mechanism for off-site generation of archetypal landscapes. Temporal and geographical distance gives subjects the opportunity to objectivize their hometowns. Answer A is noteworthy in this regard, since it reveals that a subject integrates fragmental individual memories into a place he did not grasp earlier, but now regards as one united place, and at the same time, the one and only place where he belongs.

5.2.2 The entire process of archetypal landscape generation

From the above discussion, it can be said that for archetypal landscapes to be generated, both the on-site founding and later off-site value generating processes are necessary, with the latter triggered by perception gaps or incongruous feelings created by the environment.

Our results indicate that archetypal landscapes are not generated because they are sources of self-identity; rather in a reversed way, they confirm the latter through the realization of the bodily sense of hometown experiences in the generation process of the former.

The embodied place is unified with the subject, and the subject becomes aware of this bodily tendency when the place is newly integrated and generated as an archetypal landscape. In the unconscious experiences of landscapes, the environment becomes an extension of the body so that the body-assimilated place provides the roots of self-identity.

6. Conclusion

6.1 Findings of the study

Archetypal landscapes are created not on site but later. They are not merely memories but also phenomena newly generated through an attitudinal change that is triggered by an alteration in life, such as moving into a different environment. A sense of incongruity activates the process by which experiences of hometown are integrated, and by this integration the sensitivities of the body are realized, leading to self-identity. Thus, archetypal landscapes are not merely nostalgic but rather represent a mechanism of change in perspective towards environment.

6.2 Future implications

Archetypal landscapes are possible when, in the on-site founding process, the subject is unified with the environment; the environment thus becomes an extension of the body, and the subject builds up an inter-assimilating relationship with the environment.

Usually, in landscape planning and design, landscapes are intended to be discovered and enjoyed. However, being conscious of the environment may not always be a comfortable and pleasant state. The subject's realization of the landscape may be the moment of divorce from the environment to which that subject was once united. This idea of spatial/corporal inter-assimilating values should be considered in practices and educations on environment, and in finding satisfying ways to share communal landscape values.

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Lucrative Coercions
The Carioca[1] "Cultural Landscape" as a Construction of Heritage Determined by Sustainable Development

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Abstract: "Rio + 20" 2012 / "Football World" Cup 2014 / "Summer Olympics Games" 2016. Rio de Janeiro, guest city of these events, is a real laboratory for new territorial and town planning policies. In this context, the submission of the city to the UNESCO World Heritage List as a "Cultural Landscape" brings questions not only related to landscape and heritage but also about territorial management and governance on the ongoing transformation of the city. The leader of this application has redefined the notion of "Cultural Landscape" regarding local characteristics and established the tools for the management of the Heritage topic according to premises on sustainable development and economic progress. This paper focuses on the articulation and reciprocity of notions such as landscape, heritage and sustainable development in the carioca territorial context; it is a unique chance to observe the implementation of these concepts and their semantic and ideological configuration.

Keywords: Rio de Janeiro, Landscape, Cultural Landscape, Sustainable development, UNESCO[3], IPHAN[4], Heritage, Identity, Territory.

1. Introduction. Sustainabledevelopment

In 1972, the "Stockholm declaration"[5] places environmental questions as an issue of global concern.

Made well-known by the World Commission on Environment and Development[6], the notion of "sustainable development" is an answer to the unequal distribution of wealth and the accelerated degradation of the biosphere. This notion acts on the increase of population in a wise, sensible and responsible way[7].

At the end of the Conference "Earth Planet" hosted in Rio de Janeiro in 1992, the "Declaration of Rio"[8] was adopted. This new statement declares that "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature". It also states that "In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it". This declaration establishes the link between heritage, population, environment and development in order to achieve a sustainable development.

In 1992, the UNESCO World Heritage Committee completes its heritage policies creating "Cultural Landscape" as a category in the World Heritage List. This new category understands the heritage value of landscape as a "tool" in connection with human activities.

Twenty years later, in 2012, the submission "Rio+20"[9] brought together countries, once again concerning sustainable development. This new United Nations conference took place in the guest city of the next big international sportive event[10], creating the opportunity to experience sustainable development in the middle of an urban-landscape undergoing transformation.

Between the international agenda, territorial transformation and the inclusion in the UNESCO World Heritage List (WHL), the city of Rio de Janeiro becomes a place to rethink the notions of landscape, heritage and sustainable development all at once.

How has this new connection between landscape and heritage been influenced by the notion of sustainable development?

How does this relation of reciprocity ensure that the mutation of a territory develops in a sustainable way?

The results of fieldwork in Rio de Janeiro since 2011 in the context of a PhD[11] give the possibility to create a platform for additional thoughts over these questions. The outcome of this research is based on interviews with professionals involved in the development of Rio de Janeiro's application, on information taken from documentaries and from active participation at meetings of the Committee of the site "Rio World Heritage".

2. From Landscape to Cultural-Landscape

The idea of landscape is used in many disciplines and has a lot of different meanings. In this specific study case, we are going to focus on its connection with what is at stake regarding sustainable development in the context of "heritage understanding". For that, we will observe the semantic evolution of the idea of landscape through some official texts of the UNESCO framework. Then in the particular case of the development of the application of Rio de Janeiro to the UNESCO, we will observe a local adaptation of this notion.

2.1 From landscape to 'cultural landscape'

From the Athena's Charter for building restoration in 1931[12] to the Washington Card in 1986 or the European Landscape Convention in 2000[13], the setting of standards shows the existence of a long-standing concern for the preservation of landscape as an "object of heritage". This series of texts illustrates the evolution of the idea of landscape as a natural element, appreciated for its beauty, towards the more complex and less aesthetic idea of a relation between historic city and its natural and/or cultural environment. Progressively the heritage value attributed to landscape contributes to the perpetuation of uses and habits between generations with *landscape itself being the place of their implementation* (Berque, 1984:33). Sustainable development considerations, such as economic and social productions and the dynamic nature of landscape, have progressively been taken into consideration in the heritage approach.

The creation of the category "Cultural Landscape"[14] in 1992 by the UNESCO marked an additional step in heritage standards, embracing landscape itself as an asset to preserve, and no longer as the environment surrounding a monument. The landscape is indeed considered as a result of the interaction between the natural and the cultural; and it is based on the relation between human and environment. The addition of the word "cultural" recognizes the intangible values of landscape despite the risks of fragmentation and eventual loss of significance due to territorial transformations.

Today, accelerated urban development is exposing cultural landscape to new issues. In reaction to this, in 2011 the UNESCO adopted a recommendation concerning Historic Urban Landscapes[15]. This text brings a regulatory framework to assure some control over the important evolutions that urban and historic sites will experience. This new UNESCO instrument favors responsible management of territories that find themselves in delicate situations between economic development and maintaining their heritage value. This recommendation has already been cited for the granting of the building permit for a development project, deemed necessary for the regeneration of a world heritage site ("Liverpool – Maritime Mercantile City" March 2012[16].

The UNESCO's tools for recognition of heritage have thus evolved from an approach based on the static idea of a landscape-monument towards a more inclusive and evolutionary approach of cultural-landscape and towards the historic-urban-landscape. This evolution shows the increasing consideration of the interaction between humans and their environment and the dynamic nature of this process which comes with the development of concerned territories. Therefore we can develop a new hypothesis that sustainable development motivates the creation of "cultural landscape" to recognize the connection between territories, sociopolitical practices and heritage.

In light of the complexity of the notion of cultural landscape, as defined by the UNESCO, the term suffers issues arising from "semantic reconfigurations" depending on the cultural areas that consider it. Each interpretation is motivated by the social and cultural orientations of that society towards heritage, landscape and sustainable development.

2.2 From cultural-landscape to urban-cultural-landscape

A first application of the city of Rio de Janeiro to the UNESCO WHL[17] was submitted in 2003 in the category "Mix Site"[18]. However, it was rejected by IUCN[19] and deferred by ICOMOS[20]. ICOMOS suggested submitting a new application as "Cultural Landscape". That is why in 2008, some professionals[21] started to develop a second application. They attempted to redefine the notion of "Cultural Landscape" as understood by the UNESCO. This new understanding was made in order to respect the cultural and geo-historic specificity of the country and to fulfill the political, social and economic wills of the city of Rio de Janeiro.

Marked by colonial, then post-colonial reality, and by significant political-economic hardship, Brazil is a nation with multiple heritages. These traditions and landscapes find themselves today confronted with strong growth and rapid development in urban zones. As such, Brazilian customs and landscapes are experiencing perpetual mutation. The particularity of Brazilian territories arises from the synthesis of incessant change between values from different horizons all along its history. In this changing and chaotic reality, where identity comes from "process" rather than from roots, projection towards the future is a daily leitmotiv to the detriment of nostalgia towards the past.

As Dalmo Vieira Filho[22] said, "Heritage does not deal with the past, but with what has to be part of the future". Heritage has since then been seen as a tool for the future, a tool for development.

In order to understand the urban cultural landscapes within their environmental, geographic and social-historic context, the Brazilian heritage approach prefers the "Urban Cultural Landscape" notion instead of "Historic Urban Landscape". Considered as a new paradigm, this notion allows the revisiting of methodologies and practices used by heritage institutions regarding ways of life and urban dynamic evolutions. This choice makes possible the connection between heritage and economic development especially in situations such as those involving deep social disparities (e.g. slums) in emerging economies, depopulation and degradation of historic centers, urban mobility or precariousness of administration and technical structures responsible for urban management.

The historic constitution of Rio de Janeiro is one of a close and original relation between landscape and city, through the production and cultural activities of its inhabitants. Today, the carioca cultural landscape takes its basis in the relation between nature and urbanity. This approach of "Cultural-Landscape" as "Urban-Cultural-Landscape" has became the structural axis of the entry document for the UNESCO. The carioca cultural landscape has been described as a dynamic element resulting from the interaction between city and sea, city and mountain, city and defense, city and forest, city and gardens, and city and production (IPHAN, 2011).

The inscription of the carioca cultural landscape at the UNESCO WHL must also be placed in a wider context of "Urban Marketing" in which the city of Rio de Janeiro engages, where the city is currently undergoing major urban transformations occurring as a result of this particular labeling. For these reasons, it is important that the institutions involved create new tools to protect the nature-urbanity relation in light of the possible negative consequences of the upcoming events. Inherent to being the host of big events, Rio de Janeiro is a real laboratory of urban policies that regulate important territorial transformations (Porto Maravilha, construction of a third subway line, reorganization of the red bus, urban planning of the "favelas"…). These policies, to some extent, have been drawn up with consideration of the impact on communities and the preservation of the landscape. As an example, we can consider the actions of the World Cup Popular Committee[23] that defends the rights of inhabitants whose living conditions will be profoundly impacted by urban transformations. Or the "green corridor" implemented by the Municipality of Rio de Janeiro, which is used to identify natural zones and preserve them while allowing the development of the transport infrastructures needed to host these events.

We are thus witnessing a more sustainable approach towards "Heritage".

In this way, the application changed the notion of "Cultural Landscape" by including the urban dimension, so that the related urban heritage would become the driver for territorial transformation.

2.3 Conceptual turning point

Initially considered for its aesthetic value, the landscape has been progressively constituted on one hand as a geographic dynamic element and on the other hand, as a fixed heritage element, carrying territorial identity construction. It is in this confrontation between a dynamic approach of the landscape (territorial development) and a more static one (preservation) that the notion of cultural landscape has gradually developed.

In the particular context of the city of Rio de Janeiro, this notion has been enlarged by the urban dimension leaving a conciliatory and multidisciplinary vision of the carioca territory.

3. Management of the Carioca Urban Cultural Landscape: a tool for a sustainable territorial development

The inscription to the UNESCO WHL imposes that a strategic plan be submitted to the World Heritage Committee. The position of cultural landscape is becoming a leitmotiv to improve the territorial management, taking into consideration the goals of heritage preservation and those of territorial development.

The territorial scale of a "Cultural Landscape" sets a wide multidisciplinary vision. Its management requires the implication of different actors in order to articulate the investment of the global scale while keeping the local character. In order to design the framework for the "Rio World Heritage" management plan, IPHAN created a "Committee"[24], composed of three levels of authorities[25] (State, District and City), the directors of specific natural areas and as well private partners[26]. This Committee has regulars meetings every fifteen days since the beginning of 2012. Based on this, we are going to analyze how it turns towards sustainable development.

3.1 Gradual approaching towards the regulatory framework

One of the main purposes of the Committee is to bring together the already existing regulatory frameworks that benefit some of the territories included in "Rio World Heritage": urban (such as the master-plan of the city[27]), but also social and preservation (such as the areas of cultural environment protection – APAC[28]). The challenge is to work on the continuity of the existing normative regimes in order to have a progressive consistency. If some areas do not have any ruling framework, the Committee proposes the creation of new regulations to complete the ones that already exist.

The position of "Rio World Heritage" with the "urban cultural landscape" concept favors a multidisciplinary and trans-scaled vision of territories. This approach requires actors, in a dynamic and global vision of the landscape, to work with a non-sectarian view of territory, integrating the different existing plans. This will to reconcile and harmonize tends to influence all urban policy in the city, starting with the landscape. Territorial management thus contributes to the constitution of a rule-system that favors continuity between all territorial implementations, with a geographically balanced sustainable development.

3.2 What role for population?

Even if their voice is not officially integrated in the elaboration of the final document for the UNESCO, the population is now a major actor due to the obvious impact on their lives. The role of the inhabitants, while drawing up the management plan, is thus another important axis and one of the key points to the success of the implementation plan. The Committee has debated since the beginning of 2012 on participation or education towards population. Does the association have to be part of the elaborating process of the plan? Does this plan have to be submitted to a population consultation?

On the other hand, the UNESCO label attributed to the Carioca Landscape placed the question of the landscape in the inhabitant's interests and concerns. The Committee wants to make the inhabitants aware of the quality of the places they use/live in, and the link between their city and its natural environment. This sensitization work seeks to make them understand the value of this landscape The Committee places great importance on communication and education about the topics of heritage and cultural landscape, and they are currently preparing a national survey. "Rio World Heritage" tends to create a sense of responsibility and appropriation towards the environment.

3.3 The Committee tools

In order achieve the goal of the regulation system and the inclusion of the population, the Committee created nine Sub-committees, each responsible for one of nine topics. These programs coordinate the general topic of the "Rio World Heritage" with the desire for sustainable development for carioca territories. These topics are: Education, Institutional, Natural Heritage Conservation, Implementation and Finances, Communication and Promotion, Intangible Heritage, Infrastructure and Tourism. Each sub-committee now has to work with the "Urban Carioca Landscape" as a main guide, but focusing on its own topic.

3.4 Towards territorial governance

One of the major consequences of the labeling as "Cultural Landscape" is the fact that, for the first time, political leaders have been made to work together for the same goal: the management of the carioca cultural landscape. The landscape is a territorial entity which mixes humanity, nature and urbanity. This combination needs the participation of all the actors involved. The Committee encourages dialogue between the State, the District and the City. This connection is a way of new territorial governance.

The position of "Rio World Heritage" favors horizontal cooperation between the different authorities. Its sustainable development is then based on new ways of public decision-making that give priority to democratic dialogue. Given the title of "Cultural Landscape", the UNESCO gives to the city of Rio de Janeiro a way of thinking Carioca Landscape as a sustainable territory. The management plan becomes an opportunity to rethink "Cultural Landscape" as directly linked to sustainable development.

4. Lucrative Coercions

The notion of landscape as a heritage object has changed from the idea of a "cliché" towards a "process of implementation". As a result of this confrontation, the cultural landscape can now be considered as a territorial figure charged with the goals of sustainable development.

It is interesting to understand how in a country such as Brazil, "cultural landscape" has been manipulated in order to answer to local interests. Thus, in Rio de Janeiro, landscape and heritage have been brought together in the context of sustainable development to lead to the notion of urban cultural landscape. The purpose of the UNESCO application was to reveal a Heritage consciousness about landscape being a question of sustainable development.

Brazil can bring new and interesting approaches, in this case, to work with the landscape in a sustainable manner in this world in transition.

Notes

[1] The word carioca is used for everything which comes from the city of Rio de Janeiro

[2] Laboratoire Architecture Ville Urbanisme Environnement

[3] United Nations Educational, Scientific and Cultural Organization

[4] National Institute for Artistic and Historic Heritage of Brazil

[5] Final declaration of the United Nations on environment, Stockholm, 1972. http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503&l=fr [consulted on the 2013-01-28]

[6] Commissioncreated in 1983 by the UN, also named as Brundtland Commission

[7] Brundtland report (Notre Avenir à tous, 1987), Chapter 2: Sustainable development. http://www.agora21.org/international/ressources/rio%2B20/information/acces-a-linformation/notre-avenir-a-tous.html [consulted on the 2013-01-28]

[8] For more information about the "Declaration of Rio": http://wwwv1.agora21.org/dd.html [consulted on the 2013-01-28]

[9] For more information about Rio+20: http://sustainabledevelopment.un.org/rio20.html [consulted on the 2013-01-28]

[10] Such as the Military Olympic games in 2011, the Football World Cup in 2014, and the summer Olympic games in 2016.

[11] This PhD research is titled: "Global Logics. Local Practices. The multiple territory in the margins of heritage. The case of the entry of the city of Rio de Janeiro at the World Heritage List of the UNESCO".

[12] Athens Charter for the restoration of historic monuments document: http://www.icomos.org/en/charters-and-texts/179-articles-en-francais/ressources/charters-and-standards/167-the-athens-charter-for-the-restoration-of-historic-monuments [consulted on the 2013-01-28]

[13] European Landscape Convention available on the Council of Europe website: http://www.coe.int/t/dg4/cultureheritage/heritage/landscape/default_EN.asp? [consulted on the 2013-01-28]

[14] UNESCO Cultural Landscape text: http://whc.unesco.org/en/activities/477/[consulted on the 2013-01-28]

[15] UNESCO Recommendation on the Historic Urban Landscape: http://whc.unesco.org/en/activities/638/[consulted on the 2013-01-28]

[16] City council grants planning permission for development scheme at World Heritage site "Liverpool – Maritime Mercantile City":
http://whc.unesco.org/en/news/848/[consulted on the 2013-01-28]

[17] World Heritage List

[18] UNESCO criteria for selection: http://whc.unesco.org/en/criteria/ [consulted on the 2013-01-28]

[19] International Union for Conservation of Nature. Website:http://www.iucn.org/ [consulted on the 2013-01-28]

[20] International Council on Monuments and Sites

[21] Architects, landscapers, geographers, anthropologists, historians with the responsible of the concerned sites.

[22] President of the DEPAM (department ofmaterial heritage)/IPHAN until 2011

[23] Blog of the Brazilian World Cup Popular Committee: http://comitepopulario.wordpress.com/ [consulted on the 2013-01-28]

[24] The *portaria* n°464 of 29/12/ 2011 is the official text for this creation. The text can be read in the "Diario Oficial da Uniao": http://sintse.tse.jus.br/documentos/2011/Dez/30/portaria-no-464-de-29-de-dezembro-de-2011-dispoe [consulted on the 2013-01-28]

[25] IPHAN, Environment ministry, defense ministry, Governor State Rio de Janeiro, Municipality sectors.

[26] Such as the Roberto Marinho Fundation. Website: http://www.frm.org.br/ [consulted on the 2013-01-28]

[27] Master-plan of Rio de Janeiro available on themunicipal secretary of urbanism website: http://www.rio.rj.gov.br/web/smu/exibeConteudo?article-id=138989 [consulted on the 2013-01-28]

[28] Description of the "Area de Proteção do Ambiente Cultural" (protection area of cultural environment) on the municipality website: http://www0.rio.rj.gov.br/patrimonio/apac.shtm [consulted on the 2013-01-28]

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Transitional Landscapes: Cemeteries and the Urbanism of Silence

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Abstract: As part of an extensive research project on cemeteries, this paper deals with burial grounds as special *boundaries* in the complexity of the contemporary urban environment. According to rapidly transforming urban conditions, cemeteries seem to establish different relationships with their surroundings. The dialogue between articulated burial places and their urban, peri-urban or rural context seems to change over time. The transitional aspects of cemeteries are expressive of a discourse between spatial and imaginative urban characteristics. This discourse may vary according to historic, social or cultural context. Starting from Philippe Aries' inspirational work on the exploration of the human response to death and dying, this paper considers contemporary European cemeteries as silent urban places, reflecting non-urban qualities in the urban space. Cemeteries have historically expressed a contradiction between the rationality of the urban environment and the chaos of intact nature. Due to the expansiveness of cities, this relationship comes under question.

Keywords: cemeteries, transitional landscape, urbanism, imagination, complexity, death.

1. Introduction

I would like to begin this paper with a direct reference to German philosopher Hans-Georg Gadamer and the distinction drawn between 'understanding' and 'explanation'. As a part of an extensive academic research project, I have been deeply interested in 'understanding' cemeteries, as related to the fields of architecture, urban design and landscape architecture. The aim of this paper is to emphasize the urban context of cemeteries through contemporary cultural conditions. Their urban context depends on 'historical conciousness' and independent formative horizons. Therefore, cemeteries are regarded as manifestations of our contemporary 'imagination' of death. Parallel to issues of contemporary manifestations of death, there could be a lot of discussion about newfound approaches to the urban potential of cemeteries. One may even trace an emerging trend concerning cemeteries as pointing beyond their boundaries, towards the totality of urban, sub-urban or rural contexts. Nowadays, cemeteries often appear with the dual purpose of fulfilling their conventional functional requirements (as space for the dead) and corresponding to certain spatial requirements (such as space for the living). In such a case, there are two different and contradictory aspects: that of concealing their content (human remains) and that of enhancing contemporary spatial qualities (enhancing city space). The fulfillment of such different purposes raises multiple issues. To begin with, there are issues of physical (spatial) and metaphysical (conceptual) thresholds between the space for the living and the space for the dead. Where does one start and where does the other end? There is also latent doubt concerning familiarity and aspirations concerning the ontological role of 'domestication' of death. Through such dualism of potential existence and non-existence, cemeteries tend to grow complicated associations with the 'place'. However, in rapidly changing urban conditions, these associations are challenged and can be easily abused. Western societies are seeking a new realism of death, capable of corresponding to contemporary dynamics of the urban environment.

2. Domestication

The 'understanding' of cemeteries' characteristics is culturally conditioned. Therefore, interpreting rituals of the past reveals different horizons. This section attempts to confront another meaning of the 'place of burial' as a peculiar non-familiar statement. Homer, through his epic narratives, indicated multiple issues relating to the human desire for a death 'loculus' and space identities.

Funeral rites are of primary significance in the narrative of Homer's Iliad. The funeral of Patroclus, as described in book 23, reveals the cultural context of its time. More specifically, Patroclus is cremated on a funeral pyre, and his bones are collected in a golden urn. After the building of the barrow, on the location of the pyre, Achilles sponsors funeral games between two champions.

"Now here's something to look out for. There's a dead-tree stump of weathered oak or pine, about six foot high, flanked by two white stones, at the turn. The ground is smooth and firm on the bend. It may mark an ancient grave, or perhaps was a turning post long ago. Now Achilles has adopted it as his. Hug it tightly as you turn, and lean to the left of your team yourself as you stand firm on your platform of plaited thongs. Flick the offside horse with your whip, shout him on and give him rein, but let the near-side run so near the post the hub of the well-built wheel almost grazes the stone, but don't touch it and wreck your chariot and harm the horses, or the rest will have glory and you the blame. Use your wits, dear son, and look sharp. If you can pass inside at the turn, no one will put on speed and overtake you, not even if he drove noble Arion, in pursuit, Adrastus' racehorse that was sired in heaven or of Laomedon's breed of famous horses, the very best in Troy."

The 'place of burial' indicates a presence after death. This 'presence' does not necessarily derive from the concept of immortality, central to the religion of the time, but a desire of the living to hold on to the 'remains'. Therefore it states some kind of continuity, subject to multiple notions of social, historic, cultural or philosophical context. This continuity may also be descriptive of human 'religious appetites' as reflected through the variety of such rituals. By Homer's description of the space beyond city walls, someone may claim that non-urban space could be defined as 'burial space'. The space beyond the urban environment is space intended for the dead and savages. There may be an interesting association between 'uncivilized' territory, as the land inhabited by strangers willing to conquer the 'civilised city space' and the establishment of a 'burial field'. The very notion of the word 'field' associates it with the anonymous place of burial, as a contrast to the 'dedicated' place of burial, especially crafted and looked after for the loved one. Within Philipe Aries' study on 'The hour of our death' there is a wide range of interesting comparisons between archaic and contemporary imaginations of death reflected in the study and description of burial grounds. These are profound metaphysical associations greatly tested within contemporary urban boundaries.

3. Implication

Western culture has created a certain consciousness relating to death, different to many other civilisations. The idea of the contemporary cemetery revolves around the 'unseen'. This means that something that could be visible (the decomposition of human body) becomes invisible. However fluid and controversial the idea of death might be for the living, the borderline between the space for the dead and the space for the living in cemeteries is evidently hard to define. It is interesting to comment on the notion of 'occasionality' in the cemetery, in the sense that every visit of a living man can be different. The moving figure may choose a different pathway every time, walk on different sides or cast different shadows on the passing. The tomb on the other hand is a static figure, a monument, and a point of reference between the past, the present and the future.

3.1 The temple and the cemetery

The tittle of this subsection refers to Heideger's extract 'the origin of the work of art'. Within his text he states that a building, a Greek temple, portrays nothing. He continues that the temple simply stands there, enclosing the figure of God. The god is present there and this presence is in itself the extension and delimination of the precinct as a holy precinct. In the 'hour of our death', Aries explains that there has been an interesting and weakening link between the church and the cemetery, as the 'holy shell' and the 'open burial field'. Regarding contemporary society, there is an unsaid and mighty fear upon entering a 'shelter' dedicated to death. More specifically, someone may state that the evolution of tomb and burial typologies manifests an evolution from 'shell' structures to 'open field' formations. An open field, a cemetery, portrays nothing. It simply exists there enclosing various independent 'monuments' bearing human remains. According to Heidegger, the temple as the precinct of the cemetery gathers a unity of relations. Similarly, the private tomb becomes a miniature temple. The separation between the temple and the cemetery represented a revolutionary change in the history of cemeteries, followed by the relocation of the majority of European urban churchyards and an evident desire for simplicity at every aspect of burial rituals.

4. Locating and distancing: the new boundaries of burial

The aim of this paper is to trace a set of emerging qualities attributed to contemporary cemeteries. These qualities emerge from an evolving cultural consciousness in the ever-changing urban environment. Confrontation of wellknown cemetery precedents may describe contemporary means of transition in the handling of burial surfaces. Relocation of urban burial grounds to sub-urban contexts has signified an era of great change. It is interesting that while western civilisation initiated an attempt at exerting death and human burial from the 'city', created spatial forms taking after 'city' space.

4.1 Locus Solus: the otherness of the city for the dead

The extract that follows comes from a book entitled 'the other city' and deals with the 'otherness' of the cemetery.

"That Thursday in early April, my eminent, learned friend Carlo Scarpa had invited me, together with a few other close friends of his, to visit the vast park, which surrounds his beautiful grave in San Vito d' Altivole. Locus Solus - this is the name of the property – is a calm retreat where Scarpa likes to develop his multi-farious fertile scientific experiences in complete tranquility of mind. An old rusty gate opens onto a cypress-lined path leading to a small, square insignificant and rather gloomy cemetery in San Vito d' Altivole, a small village in the Veneto plain at the foot of the Asolo hills, containing one of the Brion vega factories…"

From the extract quoted above, someone can trace some very interesting points. First of all there is the description of the private cemetery of Brion Vega as a 'park'. The author refers to the cemetery as a 'vast park, which surrounds the beautiful grave'. The question is why should a park surround a grave? The notion of 'distancing' from a monument that manifests death appears as a new concept that has developed together with the cemetery's exeunt from the urban environment. The burial ground no longer symbolizes the holy precinct of the city. Moreover, the author clearly states four compositional elements of the cemetery. Those are the entrance (rusty gate), the inner organisation of the burial surface (pathways and burial plots), the main feature (the square) and finally the view (Asolo hills) as the ultimate association to the 'place'.

It is interesting that the author is making a direct reference to Raymond Roussel. The term 'Locus Solus', apart from the name of the property reserved for the burial plot of the Brion Vega family, is a text written more than 40 years ago. By such References: the author is practising an interesting conceptual parallelism between death manifestations and nature.

5. Conclusions

Nowadays, there are various emerging narratives that engage new spatial complexities concerning death. Those narratives re-conceptualize human burial and pursue new dialogues with city and nature. For western civilisation, there has always been an association of tranquility with 'ideal' nuances, which transcended religious schemes. It is interesting that contemporary manners motivate re-interpretations of burial by diffusion into natural fields and remote natural territories, destined for unprecedented cultural identities. Due to rapidly transforming urban conditions, 'nature' may bear ambiguous notions of continuity. In such a context, death may celebrate new boundaries further away from urban density, which has always been an uneasy inhabitation.

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Landscape Urbanism: an Emerging Approach for Urban Design

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Abstract: Urban design is an ambiguous term, used differently by different groups in different circumstances. Attitudes towards urban design coexist uncomfortably in the urban resettlement of Chongqing, due to rapid development and the Three Gorges Project. The main source of confusion is the conception of urban design as a simple physical three dimensional design. Urban design needs to be tempered by a much greater concern for ecological, cultural and social issues. Urban design, therefore, needs to be redesigned. Landscape urbanism has emerged as a new approach that is more capable of organizing the city and enhancing the urban experience.

Keywords: Urban design, Landscape urbanism, Sustainability, System.

1. Introduction

It is a great opportunity for us, as design professionals, to be involved in the re-location of more than one million residents along the Yangzi River floodplain, caused by the Three Gorges Hydro Project and the fast urbanization of Chongqing. As we know, a number of urban design projects have been carried out in this region. Several questions arose when we reviewed those projects: what is urban design?

Are current attitudes towards urban design correct? Do we need to redesign urban design itself? If so, how can we "redesign" urban design?

2. Ambiguities of Urban Design

Although urban design frequently appears in educational and professional literature, it is still an ambiguous term, used differently by different groups in different circumstances. There exist a variety of views on urban design, including "spaces between buildings", "the coming together of business, government, planning, and design", "the interface between architecture, landscape architecture, city planning, and related professions", or "a vital bridge, giving structure and reality to two dimensional master plans and abstract planning briefs, before detailed architectural or engineering design can take place". Clearly, it is hard to find a clear definition of urban design. To take into account these various definitions, the following six areas create ambiguity and confusion.

1. The scale of urban fabric that urban design addresses:

Urban design deals with all scales of urban space, from macro to micro scales, including the design of cities and settlements as a whole and the design of some parts of urban areas. In our country, both macro and micro urban designs are confronting the needs of fast-developing economies.

2. The types of urban design projects:

The projects range across each of the types of urban design from conceptual study to physical detail of the urban fabric in the city.

3. Visual and spatial management in urban design:

The aesthetic, visual qualities of the urban environment and organization of urban space are both qualities which are addressed by urban design.

4. The relationship between city planning and urban design:

Urban planners use zoning techniques and regulations, master plans, land-use studies and other methods to design the layout and organization of urban areas. Urban design, on the other hand, concerns the design of urban elements and the relationships between their form, function, experience and enjoyment.

5. The landscape emphases of urban design:

The debate is concerned with not only with bringing landscape into cities but also with the expansion of cities into surrounding landscape. In addition, landscape design increasingly reflects cultural developments of the past. The way in which culture, society, community's behavioral pattern and space are interrelated is a main concern in urban design (Relph, 1976). In fact, in the last ten years, landscape urbanism has emerged as a theory arguing that landscape, rather than architecture, is more capable of organizing the city and enhancing the urban experience.

3. Current Erroneous Attitudes in Urban Design Proposals

From a general review of urban design proposals, four erroneous attitudes exist today.

1. Urban design as nice images:
If urban design proposals have no social engineering aspect to them, then their goal should be a work of art, the celebration of an urban designer's ideas.

On the other hand, since the local government believes that visual improvement will attract investment, the resettlements have large richly decorated street scales and huge public open space, but with no activities. In those proposals, it is hard to find social, cultural, economic and ecological dimensions involved in urban space, and urban design seems to be an unaffordable luxury. The way out of this confusion is to realize that when we are engaged in shaping the urban space, we are inevitably dealing with its social content (Katz, 1994).

2. Urban design only as the needs of rapid development and resettlement:
The proposals responding only to rapid resettlement, or growth and change, have often introduced a regrettable sameness to many cities and towns, a sameness which has eroded their individual qualities and destroyed their unique character (Garnham, 1985).

Development of this type and the loss of vital character has become a critical problem. We should realize that urban design proposals must respond to and enhance the unique character of a particular place.

Urban design is not merely the manipulation of form to make "space", but to create "place".

Only an urban design that shapes the built environment functionally, culturally, ecologically and aesthetically can introduce a "strong sense of place" (Trancik, 1986).

3. Financially pragmatic urban design:
This type of urban design results from the perception that because the demands of the marketplace are so severe in the development of urban design schemes, the designs required to meet the profit demands of developers should be the basis for the generation of form.

The users of the environment are seen simply as potential purchasers or renters and designs simply as consumer products. The correction is that based on the examination of economic force, urban designers should determine the force which has form-generating capabilities to improve built environments and to generate a socially and ecologically successful built environment in the future (Calthorpe, 1993).

4. Urban design as the oversimplification of three dimensional physical structures:
In most cases, urban design only concerns the design of the three dimensional static physical layout of human settlements.

Urban designers have followed various theories focusing on the physical structure of urban areas to make "the good city" (Lang, 1994). However, the urban development must be planned in a way that takes full account of nature and natural processes at a time when the global environment appears increasingly fragile. Based on the idea of "think globally, act locally", any urban space and form should be determined as much by its specific topography, eco-economic and historical condition, and the designed landscape or open space where new hybrid systems develop, as green infrastructure that provides the permanent layer of urban development to preserve the viability of natural systems and regional cultures (Fulton, 1996).

4. Redesigning Urban Design

As discussed previously, we have reason to believe that we need to "redesign" urban design (Pena, Parshall & Kelly, 1987). Urban design should explore the multiplicity of ecological, social, and economic factors that play a role in the city's development and evolution.

The emergence of Landscape Urbanism provides a new approach to urban design and creates new ways of conceptualizing the planning and development process. We should redesign urban design in following three aspects:

1. The need to clarify the comprehensive goal of urban design:
It was found that the urban design proposals only responded to rapid economic growth or the relocation of people from one site to another, which often introduced a regrettable sameness to many cities and towns.

The sameness has eroded their individual qualities and destroyed their unique character (Norberg-Schultz, 1988). A good urban design strategy involves human society advancing without incurring the unacceptable side-effects usually accompanying untrammeled economic growth.

Urban design and sustainable development are closely linked. The agenda in urban design including the form of urban space, the vitality and identity of places, qualities of urbanity, green infrastructure, respect for tradition and the pReferences: for developments of a human scale, can all be compassed within the schema of sustainable development (Moughtin & Shirley, 2005).

Therefore, urban design should explore the factors of ecology, culture, economy, and society which play a role in the city's development.

2. The need to study the key points of landscape urbanism:
The term "Landscape Urbanism" was coined in the late 1990s by Charles Waldheim to describe an emergent set of approaches to urban planning and urban design, in which the interaction of natural and built systems is taken as the basis for decisions about urban forms. Instead of taking built volume as the determining characteristic of the city, landscape urbanism looks at a wider range of variables to develop a dynamic approach to planning within constantly evolving urban landscapes. In most cases, however, traditional urban design notions of program and structure - including horizontality and metropolitan sprawl - are not useful, and their scope is small and limiting.

Landscape urbanism uses "territories" and "potential" instead of "program" to define a place's use, and it thinks in terms of adaptable "systems" instead of rigid "structures" as a better way to organize space (Waldheim, 2006), especially in the context of complex natural environments, such as the mountain city of Chongqing. As Koolhaas put it in 1998:

"Architecture is no longer the primary element of urban order, increasingly urban order is given by a thin horizontal vegetal

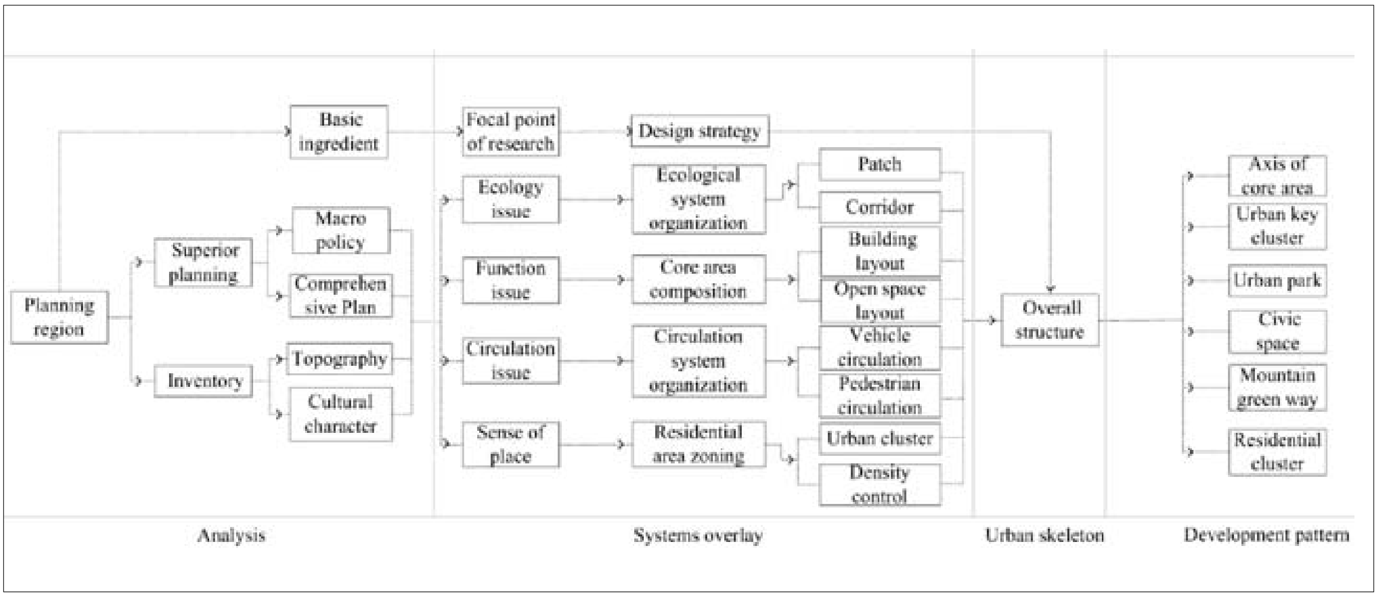
Planning region
Superior planning
Inventory
Basic ingredient
Macro policy
Comprehensive Plan
Topography
Cultural character
Focal point of research
Ecology issue
Function issue
Circulation issue
Sense of place
Design strategy
Ecological system organization
Core area composition
Circulation system organization
Residential area zoning
Patch
Corridor
Building layout
Open space layout
Vehicle circulation
Pedestrian circulation
Urban cluster
Density control
Overall structure
Axis of core area
Urban key cluster
Urban park
Civic space
Mountain green way
Residential cluster
Analysis
Systems overlay
Urban skeleton
Development pattern

Figure 1

plane, and increasingly landscape is the primary element of urban order."

3. The need to explore the design process and procedures for the city as landscape:

Design results from methods of working (Duany & Plater-Zyberk, 1991). Landscape urbanism focus on how cities can be made more sustainable, more beautiful, more contextual and friendlier to their inhabitants.

However, unlike usual academic schemes and subjects, landscape urbanism seems to be widening rather than narrowing. It is necessary to figure out the characteristics of landscape urbanism, which are systematization, contextualization, complexity, and contingency.

Based on those characteristics, the theoretical framework or methodology should be summarized to produce the practical design process and procedures for the projects referred to under the flag of landscape urbanism. There have been a number of efforts to model the process and procedures of landscape urbanism projects.

However, we should realize that the theoretical system of landscape urbanism is not complete and immutable. Urban designers must correspond to the existing conditions of their country to explore the designing process.

The process diagram indicates the basic steps in the projects that we have carried out recently in southwest China (Figure 1). Meanwhile, the design process and strategies based on landscape urbanism have been summed up.

5. Conclusion

The study of urban design deals with the relationships between the physical form of the city and the varied forces that produce it. As discussed, we have reason to believe that the goal of urban design should be comprehensive with a much greater concern for ecological, cultural and social issues.

Responding to the challenge of contemporary urban development, landscape urbanism has emerged as the time so required. If urban designers can understand this concept out from ordinary research and design vocabularies, the approach of how to design the city as landscape will be found through urban design practices on the basis of landscape urbanism ideas.

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History

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The History of Architecture and the Built Landscape

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Abstract: In the Faculty of Architecture at the University of Chieti, an experimental activity linked to theoretical studies has been developed by involving undergraduate students in a scientific research project. The aim of this study is to analyse the built landscape; to investigate the history of architecture through the traditional activities that determine the landscape, through the establishment and production of houses, mills, fortified villages and towers in different regions of Italy. Students have been led to understand different types of land use, related to building types, construction technique and materials used.

The main objective of the proposed argument is focused especially on the simultaneity between teaching and research, which also facilitated understanding of the architectural heritage.

Keywords: built landscape, building material, rural villages, watchtowers, teaching, History of Architecture, Abruzzo, Italy.

1. Introduction

The study of the built landscape requires a multidisciplinary approach. Traditionally, the purpose of teaching the History of Architecture was to understand architectural heritage in relation to aesthetics and formal aspects as well as to materials, techniques and static principles, by combining stylistic interpretation and notions concerning technical instruments and the implementation phases. According to this point of view, the main elements of the Italian landscape, from castles, towers and fortresses, togardens, parks, churches, monasteries, chapels, villas and palaces, as well as ports, bridges, roads and squares, immediately evoke the history of the place.

In each landscape encapsulates its history. The historical structure of the Italian landscape is not comparable to other places in the world (Turri, 1990).

Italian towns have developed in close conjunction with agricultural and rural development, combining economic and social relations to create a continuous landscape, with the dual presence of the countryside in the towns and the towns in the countryside. Within the town walls there are gardens, lawns, sown fields, green fallow, even pastoral spaces; in the countryside too there are villas, palaces, residences, houses, buildings, churches, fortresses and towers (Galasso 2000).

At the University of Chieti-Pescara, in the faculty of Architecture, an experimental activity linked to theoretical studies has been developed by involving undergraduate students in scientific research; the aim was to analyse the built landscape.

2. Purpose of the Study

Traditional activities determining the landscape are the starting point for investigating the history of architecture, through the creation and production of: houses, mills, fortified villages and towers in different regions of Italy.

The students have been introduced to the different types of land use related to building types, construction techniques and materials used. In order to understand the elements that shape the landscape built over the centuries, they are encouraged to study a specific bibliography.

With regard to the teaching of the History of Architecture, besides theoretical analysis, we believe that it is useful to suggest a direct analysis of some historical types of architecture characterizing the landscape to the students, through specific seminars and workshops during their visits to the buildings. Cooperation among the students is a fundamental principle of the didactic activity, as during the meetings they share their new knowledge with their colleagues by elaborating on graphic examples (Cacciavillani, 2005).

We set out to combine university didactics with scientific activity carried out in the same period (Figs. 8, 9, 10); the aim of such an activity is to demonstrate the importance of the research concerning historical and architectural heritage, as well as the history of construction, materials and techniques, but especially of the human transformations of the environment over time. The areas analyzed are mainly located in the Abruzzo Region, but also in other nearby areas, such as the Marche, Molise, Basilicata and Puglia Regions.

In order to obtain more information about human settlements in these areas, we also carried out archival research of historical documents and graphic materials. This study is about both monumental buildings and rural settlements, isolated or clustered: farms, villas, villages and small towns. We set out to study various types of architecture, constructed or transformed in the past, up until the early XX century. With regard to these buildings, we have few documents and scientific studies. In many cases they have undergone important changes or reconstructions of their original form, and have been totally or partially replaced. Among the latest features highlighted in the provinces of Chieti, Pescara and Teramo are: water mills in some river valleys, rural buildings (Serafini 2008) and raw earth buildings (Mazzanti 2012); in the province of L'Aquila: animal shelters, medieval watchtowers (Cacciavillani 2000) and stone tholos structures (Fig. 1), in the Abruzzo Region, *caciare*, similar to other typical buildings of the Puglia Region: *trulli* and *pajare*.

The aim of this experimental activity is to foster an interest in old buildings amongst the students, thus enabling them to obtain a skill that can be applied to other subjects and disciplines. The task was conceived as an important training point for students, by providing graphic works and by planning various levels of difficulty according to the different learning phases foreseen (Cacciavillani and Mazzanti 2010). Teaching may be more beneficial if teacher and student work in close collaboration, as this helps the learning through the direct communication of each other's experiences. The research

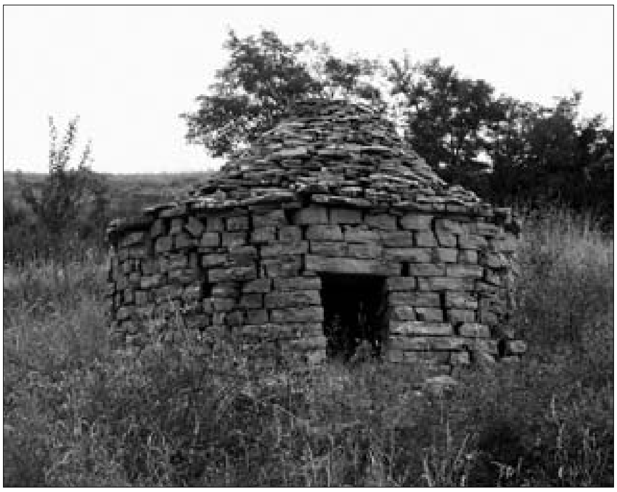

Fig. 1. Caciare: stone tholos structures in the Abruzzo Region.

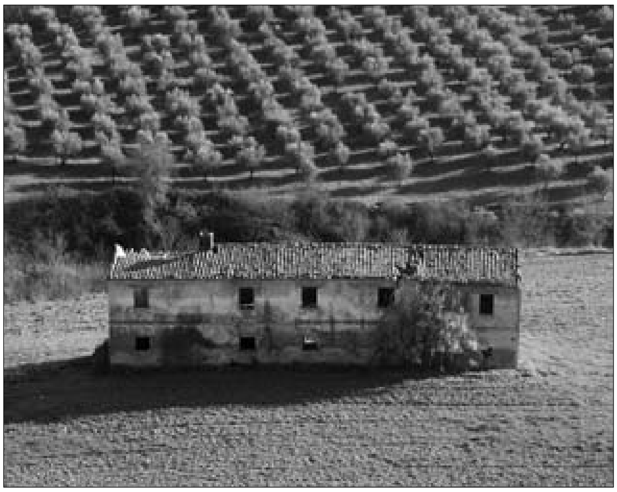

Fig. 3. Atri (Teramo): rural house.

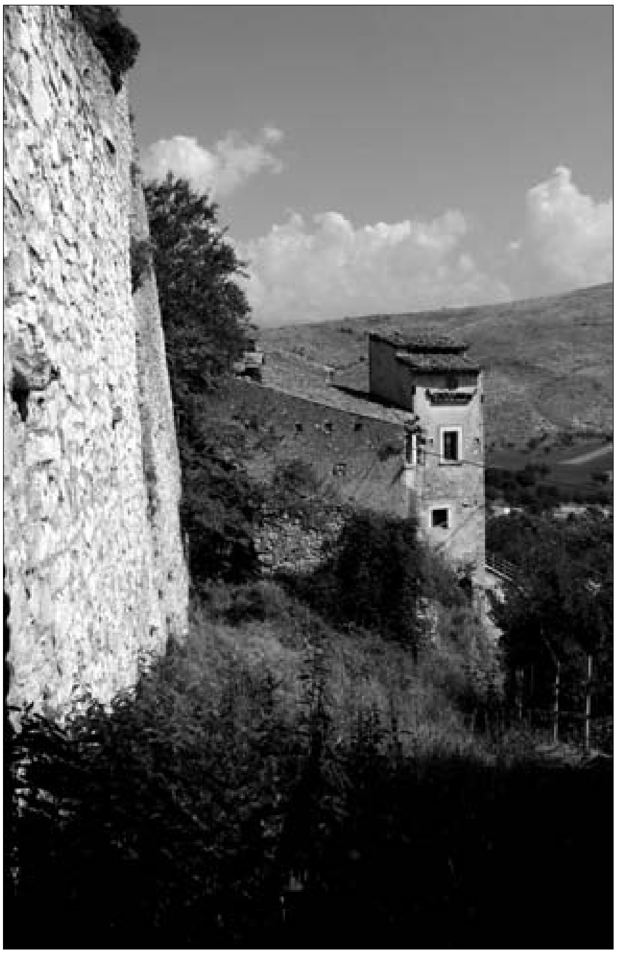

Fig. 2. Navelli (L'Aquila): building aggregates.

on the built landscape, developed in parallel with seminars and lessons, made it possible to transfer all the knowledge concerning the theme of their analysis work to the students, through the most recent literature on the subject.

Moreover, the students were informed of the results of the contemporary archive research, in order to deepen all the aspects concerning their assigned tasks.

The practical phase consisted essentially in the direct analysis of isolated buildings in the countryside, which allowed students to verify the concepts acquired during their theoretical study. The survey began with the study of building typology through a preliminary examination; this enabled students to understand all aspects of the work, with regard to the relationship between landscape typology and the volumes of building aggregates (Fig. 2). The geography of the Abruzzo Region is one of the main factors characterizing the individual nature and history of the area by facilitating the preservation of a predominantly rural character (Ortolani 1964), both in economic and social ways. We can identify multifaceted and changing aspects: the houses, streets and fields are the result of a long established building process.

3. Architecture and landscape

The Abruzzo Region is characterized by particular the geographical areas; these specific conditions created different expressions of construction, as the region is divided into three parallel bands: the mountains, the hills and the coast. The territory may be subject to a further division into homogeneous areas (Bagnaresi 1972), and from the analysis of historical buildings we can infer what construction techniques were used in relation to the different materials of the local tradition of these areas: stone, clay, iron and wood.

The mountains and the maritime areas are basically antithetic: the first is characterized by the presence of limestone and then by the use of stone, the second is characterized by the use of clay and brick. Between these two main areas there is a change from the mountain house, solid stone and massive, to the buildings made of brick in the sub-Apennine areas.

The orographic difference determines the climate too: near the sea there is a Mediterranean climate, while in the interior of the region, temperatures are much lower.

Near the river valleys, bricks along with river stones were used for the construction of the buildings' walls.

The roofs were made of wood although there was little use of building timber, because of the absence of specialized forested areas. The buildings in the mountain areas of the Abruzzo region are in close harmony with the landscape, as they too express the materials that the place offers (Cacciavillani *et al* 2005).

This architecture, the so-called 'minor' architecture, has often been presented as a paradigm of pure architecture (Zevi 1996), shaped directly by the material, climate and structure of the agricultural economy. Its evolution is often presented as a consequence of

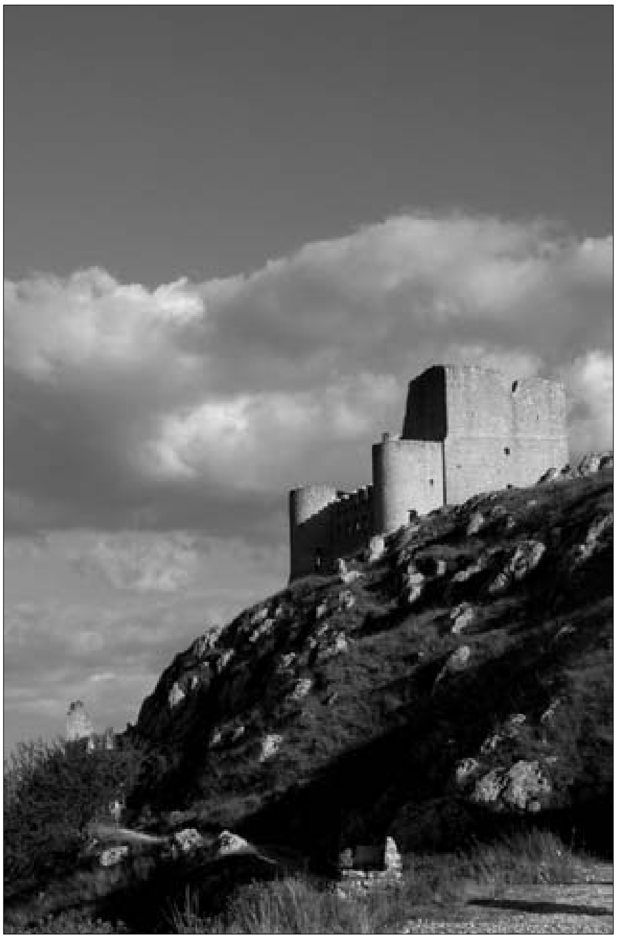

Fig. 4. Rocca Calascio (L'Aquila): the castle.

the changes in one or more of these determining factors, whose variations take place very slowly over time. The close relationship between the built and the social-economic structures shows the influences between urban environment and rural landscape.

In the Abruzzo Region, rural housing (Fig. 3) is always related to more or less sloping land and the main building types are influenced by topographical conditions (Fondi 1977).

The castles and fortresses (Fig. 4) still existing in the Abruzzo Region were connected to the city and the territory, especially with regard to the so-called *tratturi*, the main routes along which formerly huge amounts of livestock were moved between mountainous areas in Abruzzo and the plains in Puglia. Significant elements of the Abruzzo Region are the river valleys, places that preserve the roots of the culture linked to the land and the processing of products grown by man (Cardinale and Cavuta 1995). Here the landscape is still characterized by the presence of infrastructure linking places to housing: roads, bridges, buildings and also infrastructure for manufacturing, formerly present at regular intervals throughout the territory.

The river areas were used for infrastructure (Turri 2000): communication channels, irrigation systems and water supply. The presence of water profoundly affected the settlement, cultural and manufacturing history of the areas that were crossed.

There are many manufacturing activities that have developed over the centuries next to rivers, using the driving force of the water to drive mills, oil mills, fulling mills, sawmills and paper mills. A very interesting study concerns the mills in the valley of the rivers Tavo and Saline, and by analyzing documents in various archives we have outlined the shape of this ancient river landscape.

Another interesting issue concerning the link between landscape and architecture led us to analyze a particular type of fortified architecture: the isolated watchtowers of the Middle Ages, in the district of L'Aquila. Along with the towers, we examined the surrounding area and its morphological characteristics.

The purpose of these buildings was to control mountain passes, as from the top of the towers any approaching danger could also be reported through light signals. The efficiency of this defense system depended on the location of each tower: each of them had to be visible by the other, positioned at a suitable distance.

The towers were built on the highest points of the territory, to obtain the maximum sighting capacity. Their position was almost always studied in order to control the few main roads, which were built in Roman times and which were still in use during the Middle Ages. At the time that castles were built, these towers played a central role, around which were built architectural forms half way up hills and on ridges, characteristic of medieval times in the Abruzzo Region. The construction features of the towers are closely correlated with the historical events of these areas, the materials available here and also with the nature of the land. The landscape is strongly characterized by these structures due to their location at strategic and particularly inaccessible points, chosen for defensive purposes, with the consequent difficulties for building: stone is the only material used, so that these towers are the same colour as the surrounding landscape, usually with little vegetation.

We have classified the type of masonry according to its shape, size and position of individual pieces, studying the construction features with respect to the position of the towers, dating them, and defining them by the study of historical documents.

With regard to the rural architectural heritage, any References: related to this type must necessarily consider changes and transformations taking place in time, layers originating from different needs and which for various reasons significantly marked the main features of the building itself: earthquakes, wars, landslides, changing housing needs owing to the increase of families, different crops grown in farms.

There are many farm houses in the countryside of Abruzzo and in the same building is to be found the metayer's house, along with production workshops and warehouses: it is almost always a building with a rectangular plan with living quarters upstairs, with an

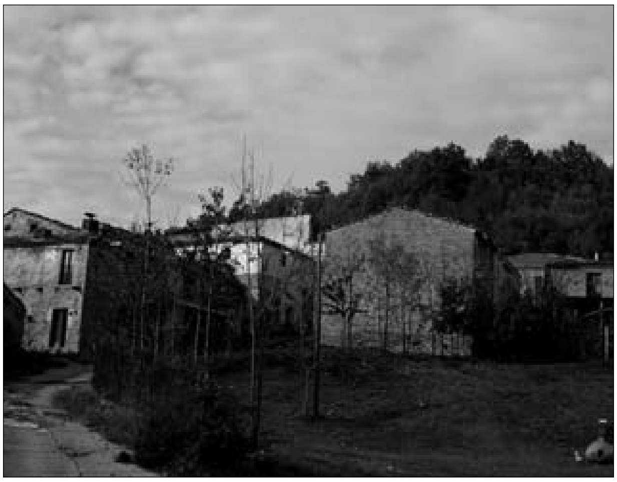

Fig. 5. Atri (Teramo): Borgo Chiavoni di Scaricatale.

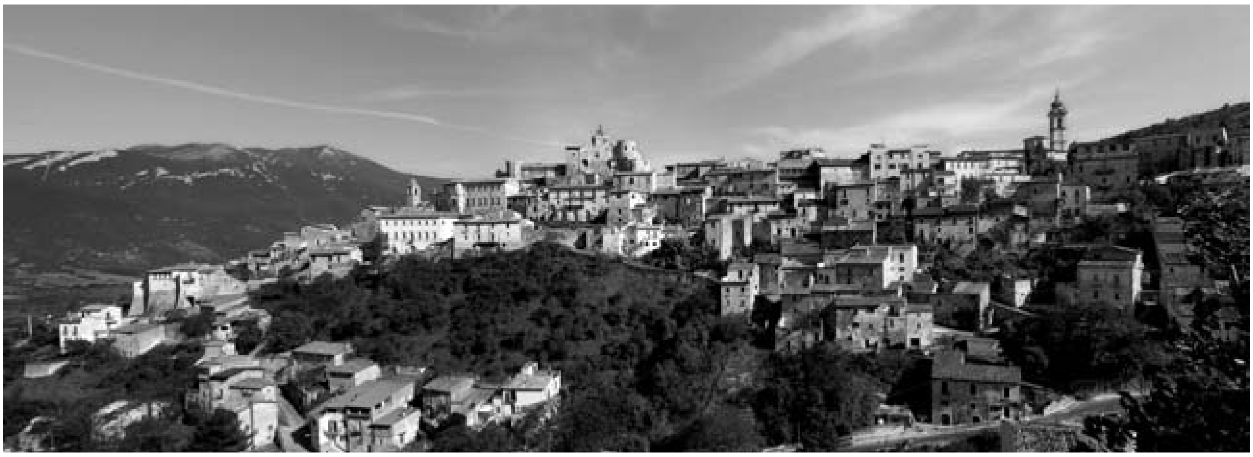

Fig. 6. Capestrano (L'Aquila).

external connecting staircase; facing the house is the farmyard. A good example is in the rural area near the town of Atri, in the district of Reille: the shape of this building is due to the orography of the land, to economic and productive reasons, as well as to the urban tradition of building houses upwards, a building feature that is widespread in the area too.

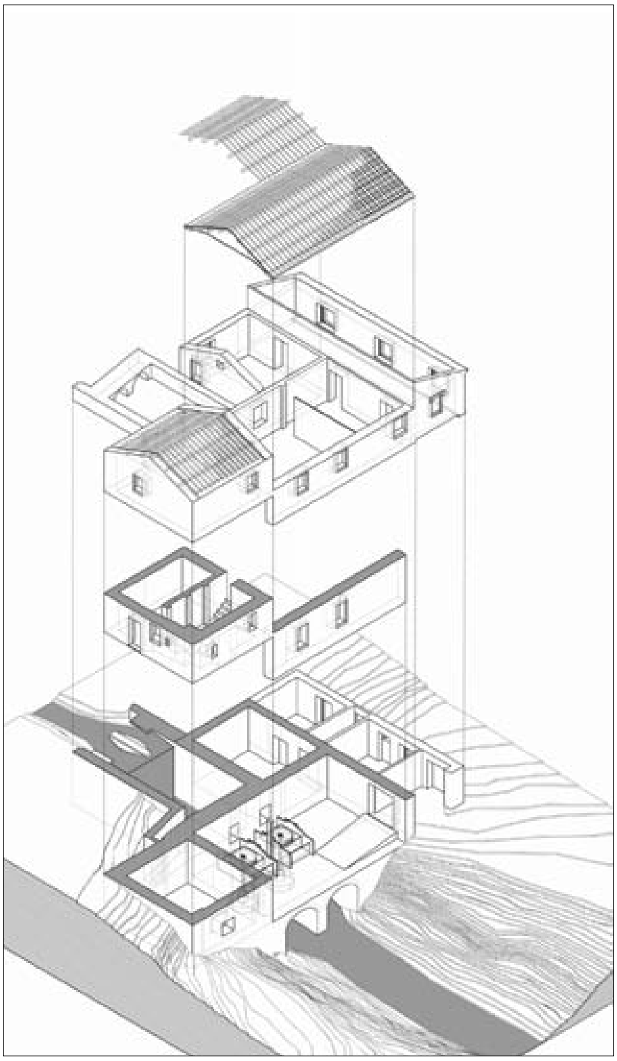

Fig. 7. Penne (Pescara): a mill in the valley of the river Saline.

The materials used for the construction are traditional local stone, clay, iron, wood; the architecture appears in close harmony with the landscape and indeed the landscape of the countryside in Abruzzo changes from place to place.

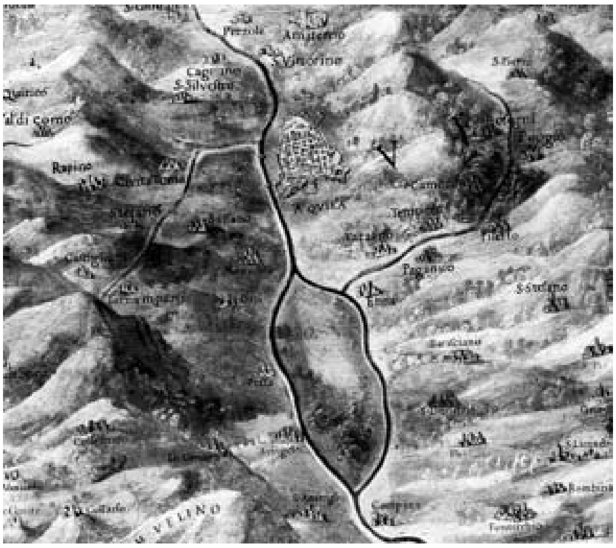

Fig. 8. Map, 1582, A. Danti (Historical Archive of Aquila).

Rural buildings characterize whole areas along with crops, trees, forests or pastures (Belli and Guerri 1994).

In the structure of the farms the most striking change of the twentieth century is due to the increase in cattle breeding. This evolution led to the construction of new stables, outbuildings, sheds, lean-to roofing and sheds leaning in various ways on the main building. Over the years these buildings have irreparably changed the agricultural landscape of the countryside, which had been left unchanged for centuries.

4. Conclusions

The main objective of the proposed argument is focused especially on the simultaneity between teaching and research activity, which has also made it possible to advance the knowledge of architectural heritage being studied.

The study of the history of architecture becomes practical. By

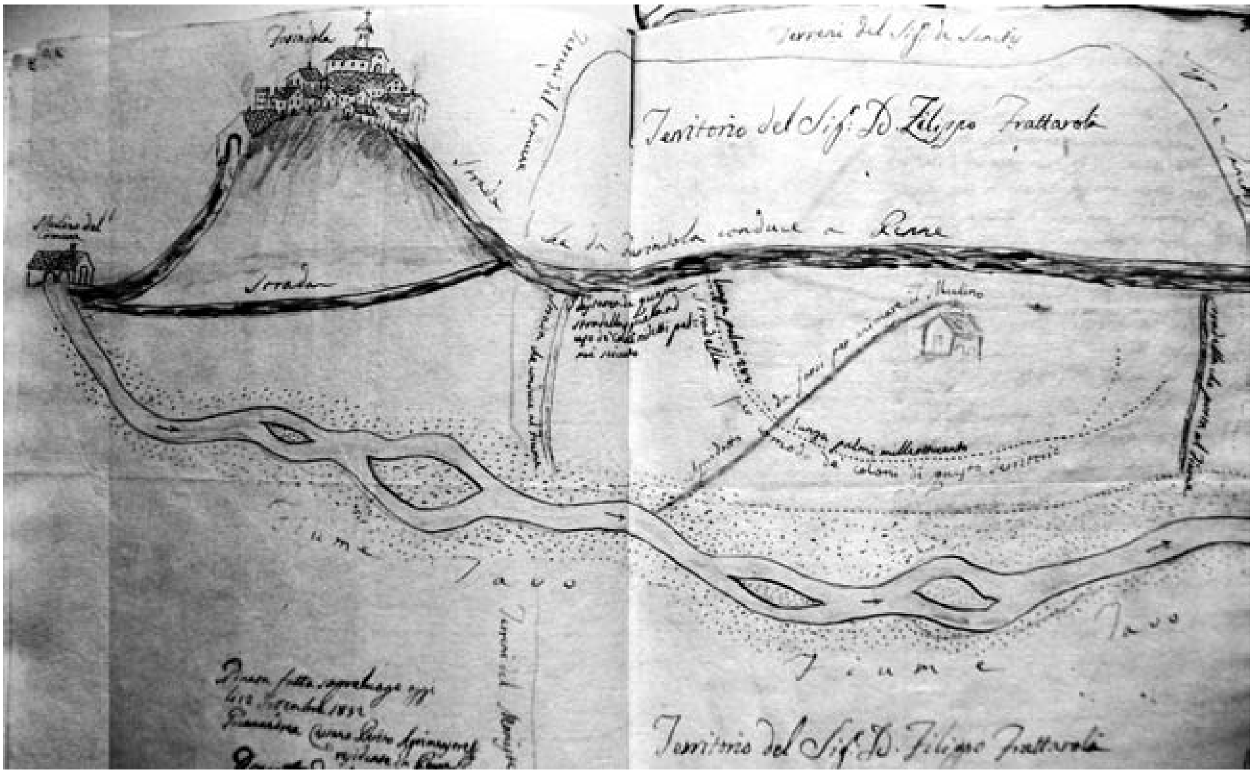
Territorio del Sig. D. Filippo Frattaroli
Fiume
Tavo
Strada
Fiume
Tavo
Territorio del Sig. D. Filippo Frattaroli

Fig. 9. Map, 1832, F. Frattaroli (H.A. of Pescara).

means of the proposed method we hope to strengthen the critical skills of the students. This experimental activity has produced a greater interest of the undergraduates in historical buildings, leading to positive results in their learning too (Cacciavillani and Mazzanti 2010).

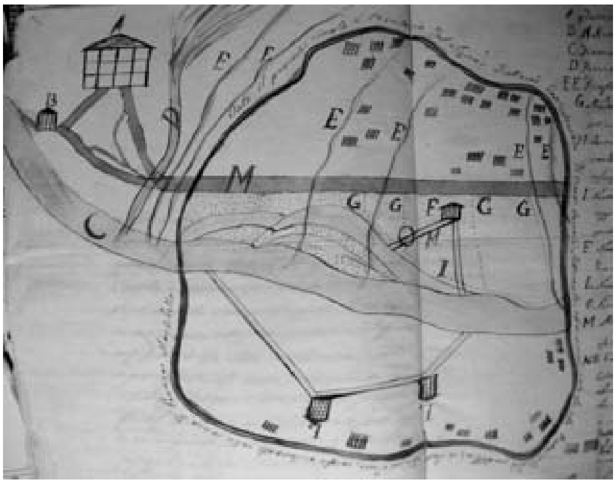

Fig. 10. Map, 1832, F. Frattaroli (H.A. of Pescara).

The direct examination allowed a practical verification of the formal aspects, by means of a detailed metrical and morphological analysis which has become the subject of the graphic works produced (Fig. 7). The next step was the study of the construction methods and materials, through the direct observation of the buildings, with particular attention to the building methods, the materials used and the chromatic aspects.

The landscape of the Abruzzo Region is characterized by rural features: the system of closed irregular fields and grouped settlements, flanked by a large number of houses and small aggregate buildings.

There are also rural villages that make up significant elements of the Abruzzo landscape, and among the various examples studied are the *Borgo Italiani* and the *Borgo Chiavoni di Scaricatale*.

This landscape is enriched by the presence of small towns (Fig. 6), where often the old defensive walls are still to be found.

Bastions and towers are witnesses of the historical events of the area over the centuries (Cacciavillani 2000).

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"To Catch the Ball" in a Dialogue Between Observed Landscape and Lived Landscape

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Abstract: How can the unique relationship we have with an ordinary territory become a landscape, without being reduced to an image concealing the formative or destructive impact our changing lifestyles have on our environment? These elements also have to be considered in the context of the ecumene. If we consider landscape as sensitive expression and experience combined with the meaning we give to our environment, then the education of young designers has to consider a hermeneutics of milieus and places; it has to open up to others and create a common language. This education must also broaden the horizon of a project imagined as a dialogue, comprehend the physical and phenomenal, understand the human being amongst the living matter, and share with non-professionals the desire for landscape.

Keywords: comprehension, commitment, desire, dialogue, education, experience, hermeneutics, sharing.

1. Introduction

I would like to introduce this contribution with an anecdote to illustrate how milieus, "whether seen from a natural, linguistic, ideological, social or, as a last resort, cultural point of view", can "influence our ways of being, seeing and acting in the world" and the role that our consciousness plays in all of this. In central eastern parts of France and the neighbouring regions of Switzerland and Italy, the letter 'y', besides referring to a place ("le y de il y a", Berque, 2000), becomes a direct object: a form banned at a certain level of language. To hear "j'y dis", "j'y fais" offended my ears until I learned the origins of this "y": in the Franco – Provençal language, "y", (like "it" in English or "es" in German), is the neutral form of the direct object personal pronoun. Suddenly the mistake in French no longer appeared to be in bad taste, but became a mark of cultural diversity to be promoted. This anecdote is interesting in several respects: it questions some false assumptions, enhances resistance to change, and comprehends our environment as a relationship. It is a highly educational undertaking, touching on hermeneutics, questioning what it is to comprehend, and creating a desire for it.

In this presentation, I will try to explain why and show how to broaden the horizon of a landscape project, a project of learning (imagined as a dialogue involving sharing, where different levels of consciousness express and manifest themselves) that can transform a 'milieu', a place, in a landscape. My purpose here is to question words, images and texts of authors speaking French, German or English - scholars, practitioners and artists. I shall observe (in a rather succinct but hopefully relevant way) how they imagine the various links we may have with the world around us; personal involvement, experience and commitment appropriate for comprehending the landscape, for an education by landscape. What makes sense for me has to make sense for others — a requirement for any teacher who wants to unlock the imagination of those creating the landscapes of tomorrow— in consideration of the important societal choices that we have to face, the changes that we have to learn to live with. My intention is to make a changing landscape felt, to describe its possible organization, to query and question the pleasure it offers us in our differences (e.g. the one who knows and the one who "learns", or the one who observes and the one who "lives" in landscape), to recognize the interactions we participate in and the transformations that should not leave us indifferent and passive. This undertaking cannot be carried out merely in an unconscious way; it has to be shared to encourage us to commit ourselves, to be informed or to participate in the choices that exceed our individual sphere. This sharing is for me one of the missions of landscape designers. In this contribution, I will also try to measure the difficulties of this assignment and the place that its learning has to find in an educational project.

2. Words for a common language

The text of the call for proposals which provoked these spring meetings illustrates in itself the first aspect I wish to discuss, namely learning a common language (Wismann, 2012) to deal with the serious questions that underlie the concerns of sustainable development in international relations between different countries and different milieus. Language is not just made of words. However, here we will use words from the English language. Reading the call for proposals eleven months ago, the English text appeared clearer than the French one, although it was supposed to correspond to it closely. Yet a disparity appeared between the two languages. The French words displayed a conscientious effort to find the right expression and idea, whereas the English displayed conciseness, using for example the word *milieu* immediately followed by its definition ("relationships between society and its environment"). The expression "territoires porte-paysages" is also typical: three significant words translated into only one: landscape.

Even if the means of expression in landscape design uses images more often than texts (and requires training, to which I will return later), we cannot consider words as "subconscious carriers of our identity". Before looking at other signs, and making a brief incursion into the first theme of this Conference (*Epistemology*), I think it is important to explain what I mean by some words, and to articulate them in relation to the questions that bring us together today (articulating is the first step of learning to speak): milieu, landscape, identity, sustainable or "durable", imaginary and imagination. Concerning milieu, the definition given above is in the spirit of Augustin Berque, if we specify - following him in the footsteps of Watsuji (2011) - that milieu is only one half of the dynamic coupling in which the other half is the individual subject, a coupling called *mediance*, which allows us to be *Human beings on the Earth* (Berque, 1996, 2000).

It is the gauge we have to measure and adapt our ecological footprint.

Landscape is sensitive expression and experience, combined with the meaning we give to our environment. This point of view diverges somewhat from the definition given by the European Landscape Convention which seems to be centred on the part of territory that frames our daily lives. But in fact the perception of 'the' population is at the heart of the concern. While it is both reality and appearance, landscape gathers us in an artificial perception (sometimes an artifice) with the elements we compose on a certain scale, facing a certain horizon, and in a certain milieu. I like the idea that this «landscape relationship » is singular, that it is not the same for everybody. It is based on a sensibility that can be expressed in an intuitive, pre-reflective way, or a more conscious, chosen, and even creative way. The mediation of meaning and sensations investigates the sensitive but also the intelligible, symbolic or aesthetic dimension, of that which "while having substance, […] tends to the spirit". This "message" left by Zong Bing (375-443 AD), painter and author on the first treatise of landscape painting known in history, remains for us the first pictorial expression of landscape (the written word appeared in France one year after the discovery of America by Europeans). Whether collective or individual expressions and experiences, landscape should not be reduced to an image hiding the formative or destructive tracks we leave in our milieu. On the contrary, it can arouse social interactions allowing one to push the others in a *Being towards life* ("Être vers la vie": Watsuji, 2011), a dimension that is as much social as ecological. To this extent, landscape is necessarily involved with our identity. In the conclusion of Claude Lévi-Strauss' seminar on *Identity**, we find the ideas of focus and polarity: "identity is a kind of virtual focus to which we are required to refer, to explain a certain number of things, but doesn't have real existence.*" (Lévi-Strauss, 2007). Besides, we consider "two poles, [that] of an identity for each of the cultures or for each of the subjects, and [that] of the horizon of reinstallation of human nature under the universal shape of the identity of the human being himself*" (id.). The integrity of individual or collective identity needs to be protected or repaired, or to find its universal shape, where the human being and his/her milieu are involved with each another, creating a bridge between all the pillars of sustainable development, and transforming an ordinary territory into landscape. Then, 'our' identity can actively weave relationships with our environment, in what Tim Ingold calls the *Textility of Making* in an article1 where he quotes Paul Klee: "Form is the end, death', he wrote. 'Form-giving is life' (Klee, 1973: 269)". I suggest that this sentence echoes throughout our discussions: "landscape and imagination, towards a new baseline for education in a changing world". And to conclude this section, I wish to make two brief remarks: When I hear "développement durable", I cannot help thinking of Laetitia Bonaparte and the victories of her son Napoleon ("pourv(o)u que ça d(o)ure"), an opinion that was far from shared across Europe at this time. "Sustainable development" seems to better reflect the commitment, necessary for everyone to have the capacity to sustain, to resist and to support to take care of, but maybe also to endure, together. Finally, I would just make a reflective link between two words: imaginary, "a subconscious carrier of our identity", and imagination, which is rooted in it and can transcend it.

3. Imagining the other side of landscape?

As an amateur in every meaning of the word, I also wish to speak briefly about painting. The transformation of landscapes can also be relayed by the free, creative and reflective expression of non-specialists; that is, by everyone, from backgrounds caught, so to speak, in mid-air, who can describe the observed landscape or assume some distance from the lived landscape. Other creative and artistic paths can open yet further dimensions towards a sensitive and active understanding from unexpected points of view.

The Hamburger Kunsthalle presents 14 works by Caspar David Friedrich: paintings such as *Wanderer Overlooking the Sea of Fog* (1818) and *The Arctic Sea* (1823/24) reflect a strong relationship between man and nature, between fusion and separation. *The Wanderer* was the object of numerous recent uses for contemporary urban landscapes (Paris, London, Singapore...), or for reframing where the Wanderer moves to the edges and lets us observe a landscape in a fieldwork photo. What changes in the world do these appropriations reflect? Leaving this question unanswered, I will rather focus on a *Portrait of Caspar David Friedrich in his studio*, by a certain Georg Friedrich Kersting.

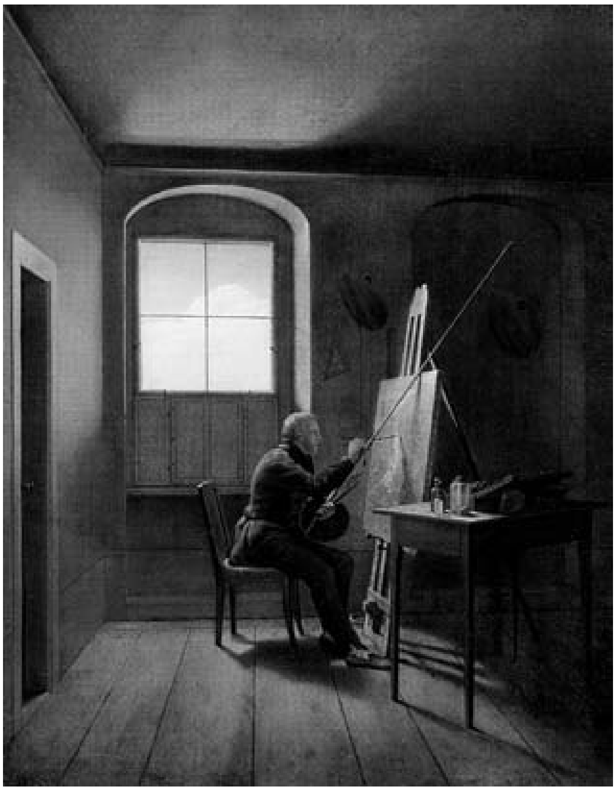

Fig. 1 G.F. Kersting, 1811 or 1819, Caspar David Friedrich in his studio, Oil on canvas, 53,5 x 41 cm, photo Erika Walford, Hamburger Kunsthalle

He is concentrated on his painting, between his inspiration and his brush (or his brushes, as he holds at least four in his left hand). Only the sky and the cloud - almost baroque - which pass through the window and leave a blue light on the ceiling, create a diversion in this rather cold and austere scene. Shadows and the geometry of lines and surfaces come to liven up its intimacy - for example, the massive stature of the painter, and the slippers on his feet (Fig. 1). What is to be seen here, I think, is *work* more than the romantic genius, which is nevertheless present. Landscape and work: a theme to which I shall return.

I now turn to a painting entitled *Landscape*, painted 150 years later by Nicolas de Staël (1953). The tones, which are similar to the previous picture, occupy the space in a very different way in this painting, which is part of a series of compositions referring to places which he sketched in situ. Here we have the impression that the landscape is disappearing behind a white mass, between representation and abstraction. (Is it a big cloud, questioning our position?). If "the pictorial space is a wall but all the birds of the world fly from it freely, in any depth*" (Staël - 5.12.1949), it seems that this freedom is widely stolen from us, the depth which other paintings make sensitive decreases here as a *peau de chagrin*, abandoning the earth. But the brown spots on both sides of the picture (mountains?), and what seem to be grey clouds in the sky are still present and, as Nicolas de Staël says himself: "do not estimate the space too quickly. There are quite small shrivelled pine cones the smell of which gives us such an impression of unlimitedness, while we walk in Fontainebleau, by suffocating in this forest exactly as in garret*" (Staël - 3.12.1949). Birds, pine cones, representation and abstraction give sense to the strong and disparate sensations of the living matter. In other paintings, they happen to meet in a landscape, which (according to Georg Simmel in his *Philosophy of the landscape* published in 1912) is not the simple juxtaposition of diverse elements "over a piece of the earth's crust".

According to Simmel, the artist extracts from the chaos of the material a unity which finds its own sense in itself, the *Stimmung* of a landscape, the meaning of which we have to convey by a wealth of impressions: atmosphere, resonance, correspondence, layout, tone, emotional tone; impressions that we can compare to an extract of *Nature* (Chapter VII) by R.W. Emerson (1836): "[…] you cannot freely admire a noble landscape, if labourers are digging in the field hard by. The poet finds something ridiculous in his delight, until he is out of the sight of men."2 The Stimmung of Emerson's poet is considerably disrupted by the presence of human beings. The solitary exercise of landscape would almost be disqualified. We could say that the imagination of landscape refers (and in a decisive way today) rather to the musical meaning of Stimmung (cf. composition of Stockhausen, 1968), looking for the right tune amongst several voices, between differentiated and differential relationships expressing their desire for a common landscape.

The anthropologist Tim Ingold writes: "the landscape tells – or rather is - a story. Telling a story […] is not like unfurling a tapestry to cover up the world, it is rather a way of guiding the attention of listeners or readers into it" (Ingold, 2000). Telling a story is also sending a totally new message, e.g. in an artistic shape which gives it virulence and relevance (see the beautiful text *Bodenlos* ("landless*") of Martine Bouchier - 2011). In Landscape, the history of landscape, as I mentioned very briefly, shows the acute role of art in relation to the real (e.g. to be *landless*). It can sensitize us to the interactions between nature and art, and between art and reality, and enables us to comprehend them better. Schools of Landscape also train land artists, who take us on their creative journeys and open our horizons, to go and see what takes place behind the scenes (fig. 3), and make the necessity of our commitment felt. Taken in the natural cycle of days and seasons, or in the artifice of a constructed environment, these works can question "where we are".

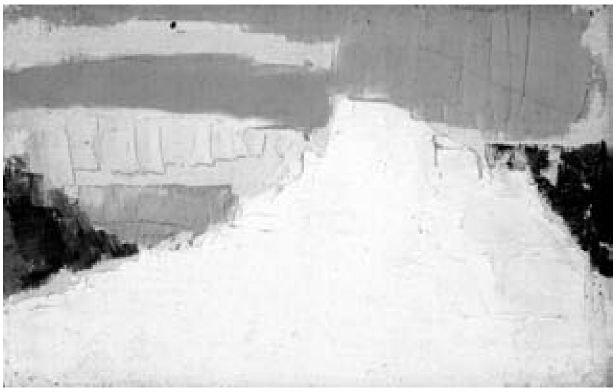

Fig. 2 Nicolas de Staël, on 1953, Landscape, Oil on canvas, 14 x 22 cm, Gianadda Foundation on 2010, particular collection, photo A. Rzepka - © Centre Georges Pompidou

4. Observed landscape and lived landscape: between experience and commitment

The formative or destructive activities in our milieus, our lifestyles in transformation, mobilizing flows of substance, energy and social relationships, frame our daily lives, which also have to be considered in the context of the ecumene. With this complex material, (which will always remain too big to be handled entirely), we have to learn, and learn how to learn, to draw the landscape of tomorrow. These initiatives can only be collective. We must then find and/or engender the dimension of sharing, and be encouraged "to catch the ball" (Rilke, 1922) of what changes, through the experience of senses, a hermeneutics of milieus and places. It is less a question of our living environment than one of the living conditions in it, by "[...] the realization of specific relationships to the world by the involvement of a body - whether particle of air, water, wind, light, human body, plant, artefact, in brief any 'element' - registering the experience of a possible world, a landscape, in one appropriate space and time*" (Nys, 1999).

This reconnaissance concerns both the physical and the phenomenal, the human being among living systems, between observed landscape and lived landscape: it raises the question of a temporary common language, in particular in the elaboration of a landscape project, and especially the training for such a project, and its modes of representation which must not neglect the dimension of sharing which is so important. Going beyond overly expert representation, which would inhibit dialogue with non-professionals, this dialogue has to continue at every stage of the project, and when the space has been transformed, it becomes living matter and lived landscape. The horizon, landscape's companion, or "opening limit" (Collot, 2011), can become a 'fusion of horizons', "not only does it [the horizon of landscape] receive a new dimension of sense in the interpretation which informs it, the horizon of the interpreter can be transformed by him" (Jean Grondin)3. Out of any virtuality, "[the hermeneutic experience] does not lie in a simple indifferent apprehension of one objective given which we could call a text, as if our intelligence was only a device to scan printed characters. Let us leave scans to the world of computing. The hermeneutic experience is the affair of beings in search of sense, enlivened by concerns and questions, and which find answers in all the texts which are given to them to read and in whom they are always read themselves.*" (Grondin)4. Hermeneutics implies an ability to project oneself on the outside, not to be confined to one's own identity. This "opening" is an experience "of the presence of the world in us and our presence in it" (Collot, 2011), which (also) demonstrates a discovery, a proven or exceptional practice, an acquired skill: "learning by doing" following John Dewey. For him, experience plays a decisive role that inspires reflections like those of Arnold Berleant, where interactions at work in the landscape are expressed in terms of involvement.

But what kind of involvement, what quest for sense in stories guided by the search for a very individual identity — worship of the body, worship of the private house (in some countries at least)? The links with the "world-around" are thus very functional (to scan is not to look). Can landscape, the sensitive relationship to our environment, maintain a vivacious image being attached to the heterogeneousness, to the passing character (and sometimes irreparable) of human interventions in our changing milieus; in a dialogue, and not in a flight forward in "pleasant perspectives" (Williams, 1977).

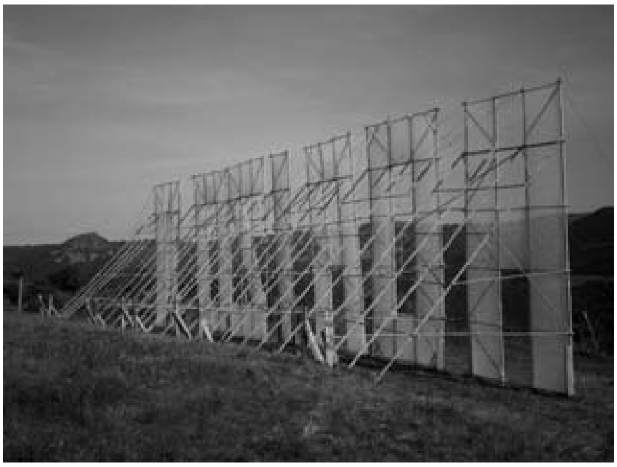

Fig. 3 Véronique Roger, artist and landscape designer, Horizons 2011, Art Nature in Sancy (to St Diéry, Puy de Dôme, France)

Lucius Burckhardt, while conducting field observations with his students, questioned: "how far one might distance oneself from the ideal image of the landscape without destroying the message 'this is a landscape'? We painted landscapes, and noted how the very composition and structure of a painting help convey the message 'landscape' […] To our astonishment, our experiments failed in one respect: we did not manage to produce a single ugly landscape" (Burckhardt, 2012).

Landscape is often described as an amenity for an attractive living environment. This idea has to be put in perspective, for example with a policy of integration, inspired by reading the T*heory of the class of leisure* by Thorstein Veblen. "Elements are 'to integrate', because until now integration has been rejected for at least two reasons: because it is useful and socially depreciated. The aesthetic [and social] policy of integration refers to these two qualities. The notion of 'leisure' takes a wider meaning than the one which is usually attributed to it […] and indicates all the activities, which illustrate non-work.*" (Gotman, 2004). I think landscape is at the heart of this "work-leisure distinction" (it is the object of my current, and upcoming, research). We can also follow Bernard Debarbieux and mention, in relation to landscape, the differentiation defined by Hannah Arendt between *labour* (of the animal labourers), *work* (of the homo faber) and *action* (by which, with speech, "human beings appear to each other [as] men" (Arendt, 2012). "[…] Since it remains the business of specialists, [landscape-as-work] continues to be part of a process of alienation" (Debarbieux, 2006). At the very worst, the landscape designer is a decorator accentuating the spirit of certain places to respond to the demands of the moment (e.g. leisure activities), playing the only game of a given city's marketing with its short-lived idols, far from beauty and hospitality. On the contrary, "the landscape can become [a 'work'] and be directed to the construction of a 'common' 'action" (Debarbieux, 2006), allowing us to be fit for a changing world. By suggesting that we study *The Temporality of the landscape*, Tim Ingold develops the notion of *taskscape* ("array of related activities"), which he links to landscape ("array of related features"). *Affordances* (Berque, 1995) can become very varied forms of landscape, forms and evolutions that one can choose to appreciate or accept. It is the meaning, for instance, we can give to the German notion of *Kulturlandschaft*, which appeared when industrialization transformed 'small homelands' in the 19th century, enduring still as the object of protection in an identical and patrimonial relationship, and as a resource of local development (Lacquement, 2012) in the logic of alienation (as *Experience of loss**: Lenz, 1999) or expecting repair (Bouchier, 2011); but also updated as a tool to work on the landscape of tomorrow, to question coming transformations in our changing world. A reading at various scales is required. From 2010 to 2012, on the island of Vilm, not far from the picturesque cliffs of Rügen, the Federal Agency for Nature Conservation devoted three workshops to *Landscapes in Germany 2030* i.e. *The Big Change** (2010), *The Silent Change** (2011), and *Suffered Landscape, Shaped Landscape** (2012)5. These documents essentially deal with the material conditions of the evolution of landscape, for example concerning energy production, but not without reservations. In 2012, in a contribution entitled: "we make landscapes which we do not want"; the purpose of the programme was quite the opposite, looking for possibilities of interfering.

The main analysis appears in the three titles, it identifies and prioritizes what we can play on, and what we should play on. The contributions (which sometimes exceed national territory and 'North/South' limits) contain many texts, sometimes accompanied by tables, maps, photos (e.g. a village of the Moroccan High Atlas with its future emigrants) but also with very meaningful hand-made sketches. What I was able to see from a similar exercise by the French DATAR *Territories 2040, Change planning*, gave me the impression of less embodied forward-looking analyses. We can probably see the *'scientification' of cultural quality* there, which is the title of the volume of other discussions held on the island of Vilm in 2004 about *Landscape in a culture of sustainability**. These discussions continued in 2005, about *Landscape design in conflict between Aesthetics and Usefulness**. Among other elements, they pointed out the specificity of what the landscape designer has to do with the materiality of space, being sensitive to rhythms of living matter (respiration, seasons…), to plants, which give life to the minerals, as well as human beings.

The coherence of every landscape project will be revealed by its 'intelligence' of the place but also, in a very pragmatic way, by its technical solutions for saving water, initiating energy-saving practices of space, limiting urban hot spots, and integrating current changes (e.g. new botanical species anticipating climate change). We shall have to remember that these solutions require understanding, explanation and application (three terms of hermeneutic practice), in a dialogue between specialists and non-professionals, not so far from the knowledge conveyed from generation to generation by learning how to observe and discover by oneself. We will also have to imagine how these local solutions correspond to stakes that are determined on larger scales, and bear in mind that their limited impact is nevertheless essential (from a particular point of view on globalization).

The landscape designer has to be a teacher, who is also trained in interactive pedagogy: two jobs in one. Another idea comes to mind, that 'landscape-understanding' should offer ways of learning by taking pleasure in living *systems* and in their shared making, joining what is near and far.

In reality, the foregoing analysis invites us to question the *frame* that landscape painting accustoms us to, even if we could already say concerning Dutch painting that: "it would be better to oppose not "the transcription of the reality to "the aspect of things", not different manners to perceive the world, but two manners to represent it: on the one hand the picture considered as an object in the world, a framed window to which we bring our eyes, on the other hand the picture taking the place of the eye with the frame and our location thus left undefined" (Alpers, 1990). The question is not to release our representations (is it possible, even if the educators probably don't have the same one as their students, that there is a way to apprehend sharing?) but how to approach the world of tomorrow looking for the different scales and different milieus we can live in and be active in, to imagine landscapes we want, and make them together.

5. Conclusion

Landscape, conceived as sensitive expression and experience combined with the sense we give to the environment, appears as a myriad of relations without dissolving them. Their exploration, which interests everyone, should particularly motivate the pursuit of future professionals. They have to learn "to catch the ball", as coined by Rilke and quoted by the philosopher Hans-Georg Gadamer in *Truth and Method,* where the aim is not the skill but opening oneself to the power of the world; "to catch the ball" between observed landscape and lived landscape. I tried to show how artistic approaches express the necessity of our commitment, by questioning "where we are". This quest of sense has to do with hermeneutic experience and the capacity to imagine a common language. It also means planning and saving a landscape by sharing a project, revealing a milieu or a place of which we make good use; developing one's own landscape design talent, sometimes alone, but always for and with others.

I briefly mentioned three aspects to explore the dimension of sharing and imagining landscape: the topicality of the relations between landscape-work-leisure, the evolution of the German notion of *Kulturlandschaft*, from a dimension focussing on identity to one focussing on the imprint of societies on their milieu; and finally the coherence of a landscape project, imagining solutions for the sensitive sharing of place. We must find the words to consider the dimension of international concerns, imagine the other side of landscape, stand back to observe the milieu in which we live while being actively involved in ways ranging from experience - understood with all the intensity of the word - to commitment, with our history, and our stories. These ideas can take us away from a conception of sustainable development that "meets the needs of the present without compromising the ability of future generations to meet their own needs", towards the imagination of a development that is receptive to the desire of sharing with future generations (and with the largest number of beings alive, in the present) the environment which we adopted and adapted to suit the vicissitudes of our lives, towards a desire for landscape.

** Translated with the helpful and friendly assistance of Gijs Wallis de Vries and Yves Rotteleur.*

Notes

[1] taskscape.files.wordpress.com/2011/03/the-textility-of-making.pdf (19 September 2012).

[2] http://www.gutenberg.org/files/29433/29433-h/29433-h.htm#7 (accessed on 19 September 2012)

[3] http://www.gcoe.lit.nagoyau.ac.jp/eng/result/result01/international-conference-series-no13.html (19 September 2012)

[4] ibid.

[5] http://www.bfn.de/0502_skriptliste.html (19 September 2012)

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The Terva Valley Archaeological Park/Pavt: Building a Landscape with Archaeology

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Abstract: The Upper Terva River Valley presents an interesting pattern of occupation evolution, which will provide a glimpse of the valley's landscape past through known archaeological remains and future research. The knowledge already garnered, coupled with the recognized importance of the Upper Terva River Valley's heritage justifies a convergence of interests and actions towards: a sustained valorisation and integrated management of the existing heritage to promote its wider dissemination; the creation of public services; the increase of Boticas' cultural value and the internationalization of its ancient history and identity. Therefore, Boticas Municipality and the University of Minho came together with the mutual interest of promoting the development of an ambitious cultural project: the creation of the Terva Valley Archaeological Park/ PAVT.

Keywords: Cultural landscape, social identity, heritage management

1. The Upper Terva River Valley

The Terva River is a right bank tributary of the Tâmega River and flows from north to south. Throughout the first 8km its course is delimited to the east by the Pastoria Mountain and to the west by the Leiranco Mountain. These reliefs meet the North in Ardãos/ Seara Velha and form the headwater where the Terva river originates from several water lines, such as the Calvão, Sangrinheira and Vidoeiro streams that drain the slopes before coming together in the Sapelos area.

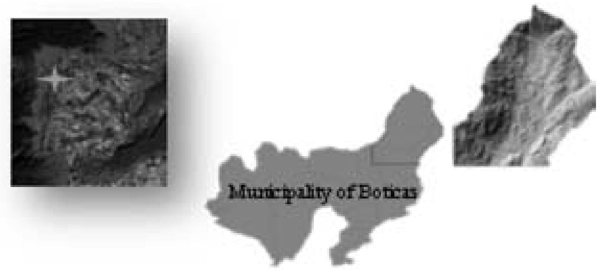

Fig. 1 Project location. Source: Google Earth, Municipality of Boticas, UAUM.

This initial section of the Terva River is referred to as the Upper Valley. It configures broad flattened alveoli punctuated by several hills where the granite masses modulated by late hercinic movements emerge. Several of those masses present veins or lodes of quartz that integrate gold mineralization corresponding to primary deposits.

The woodlands have a great level of biodiversity, boasting a faunal and floral variety that qualifies the Upper Terva River Valley as an interesting area in terms of preservation both at national and regional levels.

Concerning the flora, 480 vascular plant taxa were registered, revealing a high and well preserved diversity conferring a special importance to this area. The great floral diversity, which includes rare and protected species, is the result of the bio-geographical framework of this territory, located in the border of the great Euro-Siberian and Mediterranean regions.

Among the identified 480 taxa are included 10 Pteridophytes (Ferns), 2 Gymnosperm (2 Pines) and 468 Angiosperms, 8 of which are legally protected species including some rare Iberian endemisms - Veronica micanthra; Festuca elegans; Festuca summilusitana; Angel Tears (Narcissus triandrus); Narcissus bulbocodium; Butcher's Broom (Ruscus aculeatus); Mountain Arnica (Arnica Montana subsp. atlantica); Scrophularia herminii.

The fauna inventory registered 96 species of birds, including the European Nightjar, Montagu's Harrier and the Common Rock Thrush; 15 species of reptiles, including the European Pound Turtle; 33 species of non-flying mammals (including Roe Deer, Wild Boar and Wild Cat) and 8 species of bats. In addition, 4 species of fish were also registered as well as more than 100 species of invertebrates, 77 of which are spiders. A harsh climate has moulded the communities' lifestyle, and the basis of their economic system lies in agro-pastoral activities anchored by strong communal ties (Fig.2).

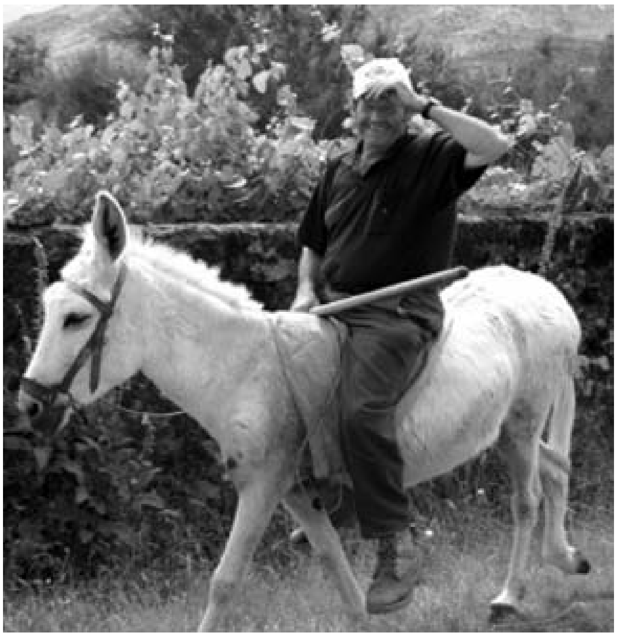

Fig. 2

Throughout the centuries and in the course of the daily struggle for survival, a very close relationship between human activities and nature was created in an attempt to preserve the balance of the frail ecosystems. Therefore, the life of people revolves around the precious resources essential for their survival: water, land and animals. The knowhow, refined by ancestral practices and passed on from generation to generation, is materialized in several everyday artefacts lovingly preserved by the populations, and displayed at the *House of Memories* (Casa das Memórias).

2. Living Landscape - Cultural Landscape

The contemporary human occupation in the Upper Terva River valley (Boticas, North Portugal), is concentrated in 5 villages of medieval origin, located at the valley's edges and associated with farmlands exclusively positioned around them. The Upper Terva River valley conserves multiple snapshots of its past use, which combined reveal quite a particular landscape assemblage.

The distinct use that human communities made of the valley's natural resources throughout time seems to follow two basic trends: until the end of Roman Times the exploitation of mineral resources seems to have been dominant; from the Middle Ages onwards there was a shift towards the exploitation of agro-pastoral resources, which became the main economic activity (Fig.3). Considering the human occupation of the territory it can be observed that the sparse and residual Chalcolithic and Bronze Age settlement gave rise to an expanding Iron Age occupation with nine known hill forts, located amongst the high borders of the valley. We believe that this settlement density cannot be dissociated from the type of mineral and metal resources existing in the geological substratum of the region, including its gold deposits.

These mineral resources were, in fact, the engine for the Romanization process in the Upper Valley and it is precisely in this period that we observe the intensive exploitation of gold deposits with profound impact on the landscape, still visible in the mining sites of Brejo, Sapelos, Poço das Freitas and Batocas.

In the Medieval Ages we observe a significant change in the settlement patterns with an increasing interest for the valley lowlands where the existing five villages of the upper valley were founded: Ardãos, Nogueira, Bobadela, Sapelos and Sapiãos.

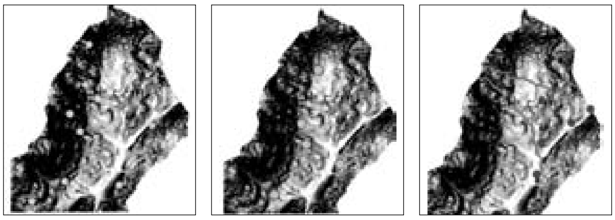

Fig. 3 (a,b,c) Settlement Evolution: Iron Age, Roman Period and Medieval Age. Source: UAUM.

3. The PAVT Project

Nowadays archaeological knowledge and the recognized importance of the Upper Terva River Valley's heritage justifies efforts to secure the convergence of interests and measures to guarantee sustained valorisation and integrated management of the existing heritage, with the intention of promoting its wider dissemination, the creation of services, the cultural value of Boticas and the internationalisation of the its ancient history and identity. Therefore, the Boticas Municipality and Minho University came together with the mutual interest of developing an ambitious cultural project and creating the Terva Valley Archaeological Park/ PAVT.

Presenting this landscape as a sustainable way of making this territory and its past known, the PAVT Project is expected to be an Archaeological Park with a continuous geographical character, integrating a set of historical, archaeological and natural monuments, which reveal the essence of the distinctive landscape used by the several communities that lived, and still live, in this territory today. The main objective of the PAVT will always be the promotion of this particular territory, by exploiting its potential in terms of historical, ethnographic and environmental sustainable tourism (Fig. 4).

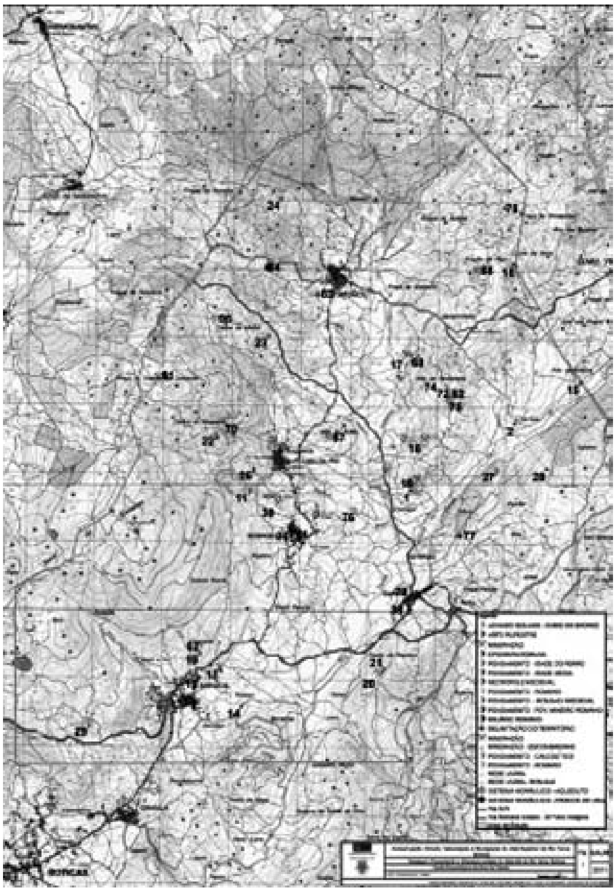

Fig. 4 PAVT archaeological chart. Source: UAUM.

The Bobadela Interpretation Centre (CIB) will be the center for PAVT recognition. The exhibition contents are designed to be the link between the landscape and on-site heritage realization, through the suggested itineraries. The CIB is conceived as a state of the art multimedia interpretative center, oriented towards a close interface interactive system, with several virtual and sensorial experiences for the visitor.

3.1 Landscape & Research

The dynamics of this area are complex, requiring a persistent, active and cross-scale reading. Understanding the forms of the landscape construction in the Upper Valley of the Terva River, in order to valorise it, is an essential step in our research.

Regarding this project, the Archaeology Unit of the University of Minho is developing advanced research analysis concerning landscape archaeology, long term settlement analysis and ancient mining and palaeoenvironmental changes due to settlement features.

The overall objective is to understand the landscape's construction process concerning the different settlement patterns. A solid scientific data set is being created to obtain detailed and accurate cartographical base maps for the entire valley, prerequisites for the identification of new archaeological sites and for the enlargement of the existing information for the sites already known, as well as for the understanding of the different settlement patterns associated with the different uses of the landscape and its resources. In addition, we are also intending to understand the subsequent use costs for the environment and for the landscape in long-term diachronic frames.

Thus, large extensive and intensive archaeological surveys were performed, in order to obtain the historical reading of the valley area. The archaeological excavations conducted in the mining settlement of Batocas provided confirmation of the existence of a major building complex, unequivocally associated with a Roman mining complex, presenting evident traces of gold foundry. The results of this research reaffirmed and highlighted the existence in the Roman period of communities dedicated to the intensive exploitation of gold in various areas of the Upper Valley of the Terva River (Fig. 5).

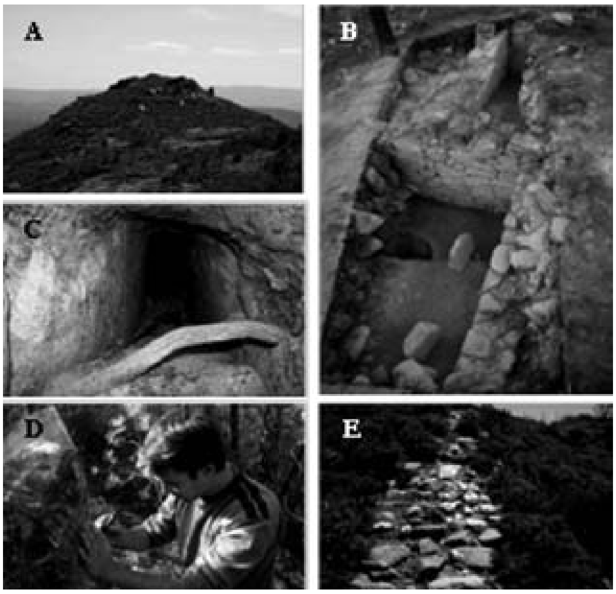

Fig. 5 A: Nogueira HillFort; B: Batocas Roman Settlement; C: Poço das Freitas Mining Gallery; D: Technical Surveys; E: Sapelos Hillfort Wall. Source: UAUM.

We are also conducting palaeoenvironmental studies by collecting data in lacustrine deposits to achieve pollen columns that may illustrate not only the environmental consequences of the mining activity, but also the changes that occurred in the vegetal cover of this area over time. Additionally, samples from selected soil horizons for micromorphology studies are being collected.

3.2 Landscape & Management

Aside from the project development, the Archaeology Unit of the University of Minho submitted a request for the integration of the Upper Terva River Valley Ancient Mining Complex in the Public Interest Sites List. This petition was approved by the responsible governmental institute, IGESPAR, and is currently in the final stage of approval.[1] This classification endorses a great level of protection for the three mining sites identified, Poço of Freitas, Brejo and Batocas, delimiting a Special Protection Zone (ZEP) for each of them, requiring that any action involving soil disturbance be subject to previous archaeological survey, according to the National Heritage Laws (Fig. 6). Municipal Land Use Planning already defines the archaeological sites of Brejo and Batocas as "Cultural Spaces", permitting only the creation of study and/or public amenity facilities in these areas. The commendation from National Heritage policies endorses the future management plan being designed for the PAVT Archaeological Park, which, according to Portuguese law, must incorporate archaeological, biophysical, architectural, socio-economical and landscape charts, as well as a full programme for the conservation, management and divulgation of the heritage in the territory of the Archaeological Park. The PAVT should provide an added value for local economics and for this it is essential to create and stimulate a cohesive synergy between the Archaeological Park's structure and local entrepreneurship, developing the Terva Valley into a cost-effective and sustainable economic model.

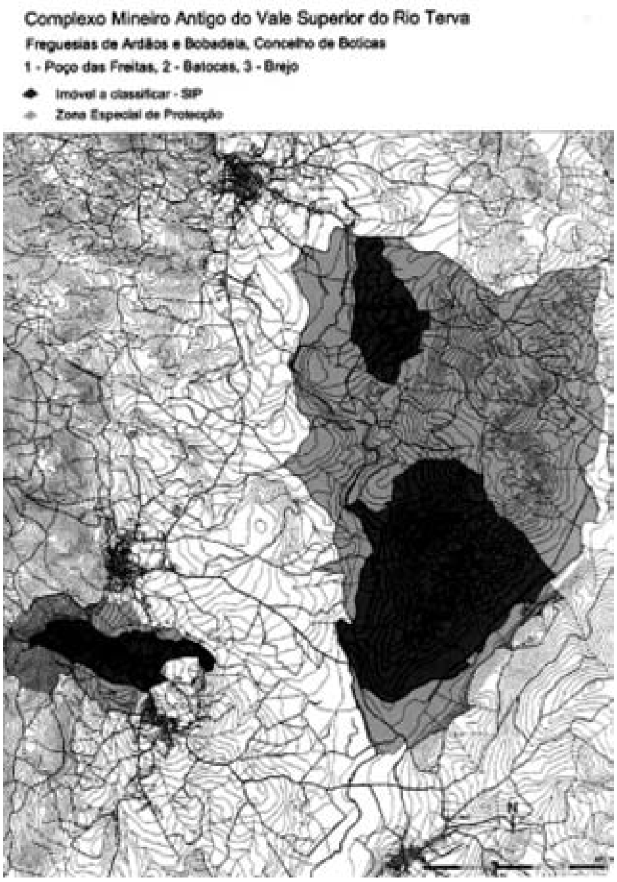
Complexo Mineiro Antigo do Vale Superior do Rio Terva
Freguesias de Ardãos e Bobadela, Concelho de Boticas
1 - Poço das Freitas, 2 - Batocas, 3 - Brejo
Imóvel a classificar - SIP
Zona Especial de Protecção
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Fig. 6

Fig. 7

3.3 Landscape & Social Commitment

The communities of the Upper Terva Valley are made of real, authentic and welcoming people who love to share their knowledge once treated with respect.

The involvement of the local communities in the project's development has always been a major objective. For that reason, educational sessions were held in the valley's villages in order to present the project's activities and objectives to the local populations, so that they can feel a part of it themselves (Fig. 7).

Alongside these information sessions, we have also supported local cultural activities by providing training and consultation when needed. Last August the Municipal Annual Parade took place, where one of the villages, Bobadela, made a recreation of the Roman period, with our scientific guidance and logistical support.

3.4 Landscape & Education

For the last three years we have been in contact with the local teaching community by participating in the annual meetings organized by the municipality in order to present the different aspects and values of the Upper Valley's natural and archaeological heritage. Additionally, training sessions involving the research team's biologists are scheduled for different schools in order to inform the local students about the biodiversity of the valley.

The University of Minho as a certified training institution has been providing its archaeology graduate students with the opportunity to develop several technical skills in the project area. Education and training is a fundamental aspect of this project's planning. In fact, heritage should be handled as a structural tool for future generations. Education towards the value of this non-renewable resource and making people feel part of their own authentic values is crucial for responsible landscape management and its sustainable preservation. Our fundamental role within the local communities is to pass on our belief that it is possible to ensure the future by conserving the past.

4. The Future Ahead

A cultural landscape is an inalienable public asset. However, the conceptualization of landscape as a product for consumption must be changed into a tool for landscape preservation through sustainable use and for the maintenance of traditional practices. The stimulation and conservation agents of this type of scenery are, undoubtedly, the communities that maintain it as a living landscape. This project is designed with the ambition of providing heritage conservation through the sensorial on-site experiencing of the aspects that make it unique. Regardless, the true success of the PAVT Archaeological Park will be measured in the proportion of the collective awareness of the increased value of its territory if preserved.

The promotion of the Upper Terva River Valley's heritage values will allow the development of the local economy, also acting as an anchor for the growth of effective residents in these communities, currently affected by an increasing rate of population loss.

Conceived over an extraordinarily well preserved cultural landscape we expect the PAVT Archaeological Park to pave the way for sustainable maintenance and responsible development of this territory and its populations.

Overall, this is a complex multidisciplinary research project, oriented towards the enlargement of scientific knowledge about the Upper Valley whose results are expected to impact on the local populations, by incorporating a sustainable valorisation plan, designed to educate them about the exceptional potential of their heritage values, both archaeological and environmental.

Notes:

[1] Portuguese Republic Diary, 2.ª Series, N.º 206, 24th of October, 2012

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Exchange of Landscape Ideas Between Japan and Europe in the 17th Century: on the History of Interculturality

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Abstract: Exchange of ideas on landscape gardening between Europe and Japan in the seventeenth century was mutual: phantasm brought from the East turned to fact in the West, and fancy from the West advanced fabrication in the East. Treating an illustrative example of both Europe and Japan shows how context is crucial in transfer of ideas to a remote culture. Only if the recipient context is fertile to foreign thinking, then are new ideas accepted. Even so, expression is still another question. The German gardener Georg Meister brought information on Japanese gardens back to Europe; his discoveries were framed in the context of booming garden developments in Germany. In Kyoto, the retired Empress Meishō had a garden in geometric flower bed design in her palace; the design can be understood as a European inspiration in the cotemporary political context. Although the context of receiving in both cases was fertile, the expression, meaning and representation were – of course – quite different from the original culture in which ideas came up.

Keywords: Re-territorialisation, Georg Meister, Meisho-in Gosho, Dutch Style, Kyoto, Dresden

1. Introduction

In landscape education the element of history is not very well developed. The average curriculum starts from a generally accepted interpretation of history. It is usually of a canonical character in a manner that supports cultural policies of governments or is in line with local frames of understanding of large institutions such as UNESCO. A discussion on authenticity within UNESCO, for example, can become confused and ideas become stiffened with the danger of becoming nationalistic and narrow minded as the meaning or contents of a site might not align with political purposes. Creations of gardens or landscapes – historic or not – are not necessarily authentic to the place where they come about. It should also be argued that a landscape or a garden, once created, does not stop to be a process and cannot be seen as a fixed result. A search into the history of exchange in ideas of landscape opens up this territoriality of time and space. It illustrates that inter-culturality is not about equal sharing, because contexts are never equal. Thus, in many ways, it enriches landscape research and education, and serves as foundation to criticize the narrow minded nationalistic attitude, and generate uninhibited creativity. As example this paper explores the exchange of information between Europe and Japan in the seventeenth century. Being an exchange that is thin in historical fact, it opens up to challenging interpretation. It might be a weakness for the one in search for facts of history, but for education purposes it is here that the value lies.

2. From Japan to Europe

Gardener Georg Meister (1653-1713) was the first European specialist to report extensively on gardening in Japan in his *Der Orientalisch Indianische Kunst und Lust Gärtner* (The Oriental-Indian Art and Pleasure Gardener, Meister 1692, Kuitert 1991). Earlier reports on Japanese gardens were written by Jesuit priests or merchants from the Dutch trading factory in Nagasaki. These reports were colourful, but, in lacking a specific focus on gardens, landscape design, or horticulture, they remained relatively insufficient for introducing the whole of Japan. With Meister the focus is fully on gardens. Having some experiences in Germany as a gardener, Meister then went twice to Japan: from August 7, 1682 to the end of December, 1683 and a second time from August 30, 1685 to November, 1686 (or possibly a little later - again the departure date is not precisely clear). His book gives detailed information on what he saw in and around Nagasaki in a section titled "About the ornamental garden making of the Japanese and the Chinese and what is related to that" (*Von der Jappaner und Chinese zierlichen Gartenbau, und was dem anhängig*): "...Here I add with justice how the Japanese and the Chinese build their gardens and decorate them, not with beautiful sculpture, but with rocks. These people cannot imagine a greater delight than to have large rocks in their gardens, which were not placed there by Nature but which they found and then moved... These stones serve them instead of statues made of marble or alabaster. They are also accustomed to erect a large rockery in the middle of the garden. This is then done as follows: they make a large soil mound and place, starting from the bottom to the top, all kinds of stones on it... They also know how to divide these rockeries artfully; there then they have all kinds of rare grottoes, holes, ravines and passages, out of which they have a waterfall, as in nature... If the mountain does not supply water, then they supply it with pipes that are laid out in such a way that the water runs down through all the stones and rocks... Hollows are also carved in all the rocks and all kinds of figures are placed there; out of the heads of these grow blossom trees and flowering plants, or the figures carry large round pots, out of which bloom various beautiful flowers. They also have statues in the conventional sense, sometimes set tightly to the rocks, and others around which it is possible to walk. In the ravines and grottoes they have all kinds of painted idols as well as other images..."

Meister clearly describes some of the gardens of Nagasaki, like at the temples Kōtai-ji and neighbouring Daion-ji. Rules of etiquette demanded that anyone who had to go to the capital Edo for an official visit to the Shōgun's office visited Daion-ji first before departing from Nagasaki. Though Meister did not go to Edo, the official nature of both visits to Japan meant that Meister must have been in the group that visited Daion-ji, and certainly Kōtai-ji too. Kōtai-ji was a major centre for hidden Christianity and information from Europe; the temple would have been interested in any European visitor. Moreover, the garden of the temple was interesting for Meister too: it was a building site in the years when he was in Nagasaki because of the installing of 16 statues of bodhisattvas in that period (Kuitert 1998). Meister talks about the gardens of Nagasaki and how he never went to China; he adds nonetheless "the Chinese" to his observations. Indeed one garden in Nagasaki was constructed and owned by a Chinese merchant, but most of his stress on China must stem from the appreciation that was found among the European power elite for Chinese, Confucian, government systems. Meister wanted to please possible sponsors and these were interested in China, rather than Japan.

Meister returns to Europe in the late 1680s. The liberation of the second Turkish siege of Vienna (1683) had generated a building and designing rush in the South that resulted in many palaces – some with gardens, like the Versailles-inspired first design by Fischer von Erlach for Schönbrunn (Hansmann 1988). Georg Meister cleverly denied Versailles, criticizing in his book the unnatural amount of work and effort that had been made to squeeze its garden from the mud of the swampy site. The splendid garden of the Schönborn family at Gaibach escaped the French pattern by introducing an intricate garden with lawns and rare horticulture, following Dutch examples; it featured a lowered pond with fountains that had a central rockery with a grotto and pavilion on one side (Hansmann 1988, Wenzel 1970) (Fig.1).

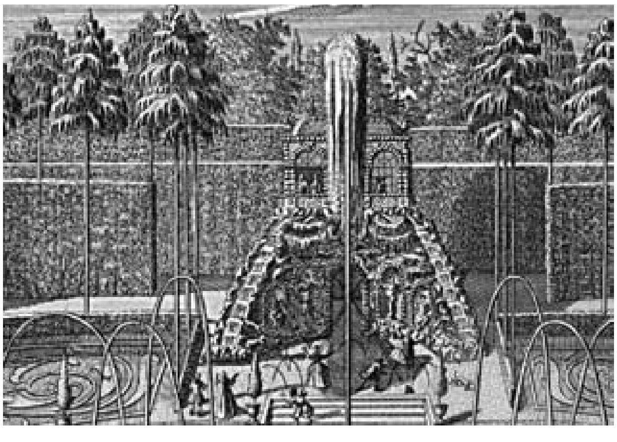

Fig.1 Rockeries in a central position in the garden were made from the Renaissance to Rococo in Germany. Geubach was built from 1677 on and had a rockery with two waterfalls. (Salomon Kleiner, [Representation au naturel des chateaux de Weissenstein au dessus de Pommersfeld et de celui de Geubach appartenants a la maison des comtes de Schönborn. No. 5., Vüe de la Grotte, 1728, detail)

Such large rockeries in a central position, often a *Parnassus* mountain, were common in earlier and later gardens in Germany, and Meister's description from Nagasaki fits this pattern. From December 1688 he settled in Dresden and is employed in April of the next year as gardener to look after the exotic plants in the garden at the Pirna Gate. His career moved on to a more honourable position in 1692, which he received for the famous Zwinger, becoming head gardener for Dresden's Turkish Garden in 1699 (Hammer 2010). Dresden was high on garden culture ever since in the late 1670s works had started on the Große Garten and its Palais. It was a major non-military palace site for festive purposes and pleasure by the Electorate Princes of Sachsen. Building works came to a first conclusion in the years around 1690; the Große Garten came in the possession of August der Starke in 1694. Meister was in the middle of these exciting years when Rococo was in its early establishment. It would rule Germany in the 18th century. Meister's mental picture of statues and rockeries in garden art would have been a great source of inspiration for his masters like several Electors of Saxony, including August der Starke himself. Publishing his book in 1692 and naming himself Oriental-Indian Art and Pleasure Gardener (*Orientalisch-Indianische Kunst- und Lust-Gärtner*) was a clever step in his life, assuring success for him and the next generation. It made him head gardener of the 'oriental' Turkish Garden; later two of his sons Johann Georg and Georg Gottlob, as well as Anton Brenig (married to his daughter Maria Sophia) were all three employed as Royal Court Gardener (*Königlicher Hofgärtner*) testifying to the appreciation and recognition that Meister had gained back home (Kuitert 1991).

3. From Europe to Japan

In Japan on the other hand, there was provision of information on Europe by Europeans. Such information may well be behind a peculiar landscape experiment in an imperial palace in Kyoto. The context can be reconstructed to show how it provided motivation and justification to build such a landscape outside existing frames of understanding.

Meishō was fixed as the new, official name in line for the 109th Japanese Emperor. However, there was something unusual. This Emperor was a child of only five, and it was a girl. For more than eight centuries Japan had seen only male emperors. Now, quite unexpectedly she had been put forward by her father, the great Emperor and aesthete Gomizu-no-o. It was one way to express frustration felt by the court about increasing restrictions laid on imperial power by the military Shōgun. Empress Meish reigned after 14 years. In November 1643 she retired, as a 19 old young woman. This unusual monarch, Empress Meishō, also had an unusual garden at the palace for her retirement. This garden in front of the main hall of the Meishō-in Gosho palace featured a lawn in front of a set of geometrically arranged flower beds. A canal ran in straight lines, taking 90 degree corners around the beds. It was the first ever - and for a long time to come the one and only - geometrically designed imperial garden.

The construction of this palace for retirement started in 1642, the year before her abdication. Parts of the garden can be seen in several instruction drawings. It existed from 1643 and is only fully illustrated in one map dated 1656, when the garden needed repairs (Fig.2). When the palace perished in a fire in 1661, the garden was not rebuilt in the same fashion. All drawings are practical instruction drawings and maps, meant for private purposes. No pictures exist that intend to show garden glory, neither was there any reason to make these. The garden was strictly private and hidden. In layout it faced the main palace hall on the south and was roughly fifty meters squared. It had no trees, no rocks, no natural pond, nor winding garden stream. A light fence separated a section with gravel immediately in front of the building from the rest of the garden.

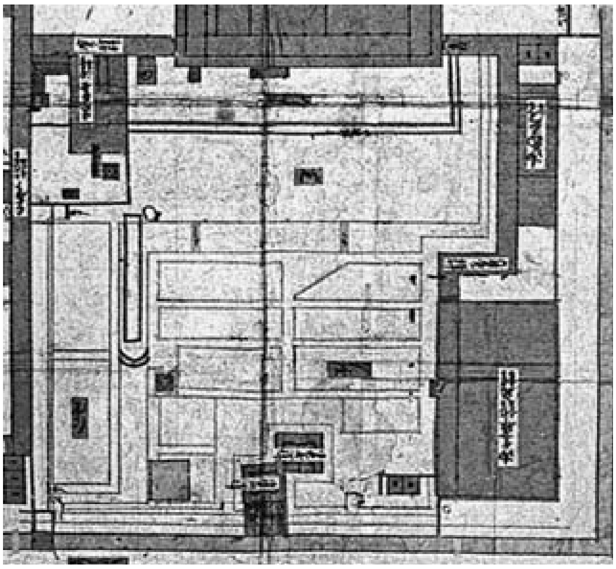

Fig.2 Map with instructions for repairs on the flowerbed garden in retired Empress Meishō's palace. Kan'eido Meishō-in Gosho sashizu, map dated 1656, 1657 (detail). Collection Imperial Household Agency from: Hirai 1976, No.33. North is above.

Appended words written on the map of 1656 indicate that this fence was expressly meant to be see-through. The actual garden behind this transparent fence featured, firstly, a lawn, that in turn bordered a canal with straight edges. It was apparently confined by a constructed edge which is suggested in the plan by a colour ribbon pasted on the paper. The width of the canal differed in relation to the details of the garden design, and was almost four meters at its broadest section. At this point it was about forty meters long. A rectangular rack for placing tray landscapes (*bonsan*) stretched out over the length of the canal at the north-west corner of the garden. Two stone bridges led from the lawn section to a central part where flower beds with edging were laid out in an almost symmetrical arrangement. At the far end of the garden was a small tea pavilion with an annex room. From this little building a wide terrace jutted out over the most southern extent of the canal. A view over the enclosing wall and into the gardens of the adjoining palace, (the residence of the reigning emperor, Empress Meishō's successor) possibly could be had from here.

Square flower beds are not completely unknown in Japans' garden history. Such beds are seen in a few drawings of earlier gardens within the official palace of the empress, when Meishō was still reigning; these also show rectangular racks for tray gardens and straight water ducts. The way of representation is the same; these early designs are clearly related to the flower bed garden discussed here. Be that as it may, the whole arrangement in the retired Empress' garden is much more spectacular, even bizarre, and one may suspect a stronger design motivation.

The Kyoto elite of aesthetes around the Emperor, and not to mention the Emperor himself, were frustrated with the increasing pressure and control by the house of the Tokugawa Shōgun. It fostered a rivalry in supremacy that could be won by the court only in art and culture by securing, first of all, cultural expressions not familiar to the military. Part of this effort is the secret collection of Kyoto cherry trees that was set up in those days (Kuitert 2007). Similar to this 'European-style' flowerbed garden, both initiatives were expressions of an independent cultural stance in the soft and malleable world of horticulture and gardens. A daring interpretation of the garden places it in the context of mid-seventeenth century garden art history of the world, as the garden strikingly carries many characteristics of the Dutch Style: Meishō-in's garden has a lawn; the garden has a play house along a set of straight canals; paths are paved with gravel; open fences are set up, separating space. As we will see below, the garden was used to enjoy flowers as a collection, boating, and drinking socially together, or for enjoying fresh seasonal vegetables. Such *utilitas* in *amoenitas* seems to point to a Dutch inspiration too. Is this spectacular speculation, or is there evidence that supports this?

Japan in the 1640's was under the Shōgun's tightening control to expel foreign influence, but in Kyoto these measures were actually not very much welcomed. In daily life European food was available, eating cow's meat and drinking wine from grapes was fashionable. Sweets in new designs were sold with exotic European names. The Dutch had important business connections with merchants in Kyoto, partly unofficial, very profitable and dangerous; partly officially approved. At business meetings they could have spoken about the gardens of Honselersdijk and Rijswijk that were spectacular and admired in other parts of Northern Europe as well. Some of the Dutch visited the regent of Kyoto and were treated on a private visit when he showed them his garden. Actually the court had asked the Dutch for European maps and these were presented a few years before the construction of the flower bed garden. However, as it was dangerous to associate with foreigners openly, or advertise a taste for European things, reports are very scarce.

Though seemingly superficial, the attitude towards Europe was positive in Kyoto by political and cultural motivations and set the way for another possible road for information to have travelled by. Intelligence on Dutch gardens could have been passed on to the court of the Empress by a monk from Nagasaki; this city formed the only entry for European information through its Dutch settlement. The temple Kōtai-ji, mentioned above, had been the base of Ittei Yūton (1562-1659). His name, Ittei, is written in the Chinese characters *ichi* and *niwa*, 'one-garden'. Ittei was a most important priest who had been called to the Fushimi Castle in 1615 by Shōgun Tokugawa Ieyasu himself. It was the Shōgun's wish that Christians among the citizens of Nagasaki should be converted to Buddhism. By engaging the support of Ittei, he must have thought that it would be possible to control Christianity from within the very core of Nagasaki's elite society. Reportedly Ittei made many converts, but from the start he was also allowing for an element of Christianity in his teachings. His temple Kōtai-ji prospered. After the Shimabara revolt in 1637 and the more severe and general prohibition of Christianity that it engendered, Buddhist priests were asked again to convert Christians to sincere Buddhists, but under Ittei's followers much Christianity remained hidden. Ittei lived up to a high age, and remained of interest to the Shōgun and his government in Edo, without any doubt because of his profound insight into the hidden structures of southern Japan. In 1642 he met with the third Shōgun, Tokugawa Iemitsu and had, at the end of the summer, an audience with Empress Meishō in Kyoto. At this occasion the imperial court bestowed upon him a high priestly rank, the Purple Robes, and awarded him with a new priestly title and name for his temple. That year had just seen the start of the construction of Meishō's retirement palace; its geometrically designed flower bed garden with lawn is present from the next year on. It is tempting to suggest an influence of European or Dutch garden art through information brought by Ittei. After his return to Nagasaki the characters of his temple's name, Kōtai-ji, were changed from "Deluge of Peace" to "Foundation of Brightness", it is the name in the statement that went with the bestowing of the Purple Robes.

However, Ittei's Purple Robes were immediately announced invalid by the Shōgun, after which the frustrated abdication of Gomizu-no-o took place. Ittei's new priestly title was: Ryōgai Kōkaku Zenshi: Comprehending - Outside, Understanding -Widely Zen master. Now Ittei was an expert on foreign matters in an institution of knowledge, acknowledged by the Emperor, but under severe pressure from the central Shōgun government.

So, was this garden a success? Fortunately, documentary evidence exists that informs us about the actual existence, use, and enjoyment of this garden. Records hint at boating parties that took place in 1646 (Mori 1966, p.58, note 7). Boats must have been light play structures with just a few persons per boat. The bridges and the bonsai rack must have been high enough to let the boats through. Hōrin Jōshō (1592 1668), an abbot from the temple now known as the Golden Pavilion, was one of the few in the private imperial salon. In his diary he reports now and then on the "flower bed garden of the retired emperor" or simply "the flower beds of the retired emperor".

A most lengthy report is from spring 1652, when the flower bed garden of Empress Meishō was the scene of a peculiar party. On the fourth day of the third month, April 12, in the Gregorian calendar, horsetails (*Equisetum arvense*) were out. This plant, before showing its leaves, brings up its small cone-like spore-bearing 'flowers' first: the guests went to the garden to pick these. *Equisetum* is, and was, prepared and eaten as a seasonal joy of spring, likely by the Empress too. Go Mizunoo descended in the garden first, followed by other nobles, all men. Comical poems are composed instantly and declaimed in competition. Spring is in the air and one may imagine looking at the courtly ladies from behind the transparent screen. Many of the names of the attending guests were recorded as were the strong tea (*koicha*), wine, and varieties of confectionery. In the teahouse the guests were entertained through the generosity of the Empress. Everyone in turn first tried his hand at arranging the flowers in the vase suspended from the corner post of the alcove. Then strong tea was served as well as a lavish banquet (Akamatsu Vol.3, p147, 148, April 12, 1652 K.5.3.4). At other entries in his diary we read about flower viewing parties, like when chrysanthemum was in bloom.

4. Conclusion

It seems that such exceptional experiments in garden history do not contribute very much to our general understanding of the field. Being outside the main stream of world developments the flowerbed garden in Kyoto or Georg Meister's report do not seem very relevant. However, exploring such intercultural relations and interpreting landscaped gardens leads to a fundamental exercise for students under a program of landscape education. In the face of present risks and threats to our environment and to our relation that we have with it, it is imperative that we reach an understanding that transcends borders physically and mentally. Interdisciplinary research that crosses territorial borderlines is a key to keep up with, or be in front of larger movements of globalization of knowledge, research and education. Studying history for its inter-cultural spheres re-territorializes our understanding of relations between humans and their geographical environment, which is more in lines with present globalization of thought, knowledge, and culture. For students it opens territorial frames of understanding.

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Transdisciplinarity in the Relationship Between the Spatial Policy and the Historical-Cultural Policy. Case Study of Hateg County

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Abstract: This paper considers some aspects for a new methodology of integrated transdisciplinarity in the relationship between spatial and historical-cultural policies. It involves new sciences such as landscape ecology, cultural geography, sustainable archaeology, chorography and cultural planning. Considering the new significance attached to landscape by recent approaches of various sciences, it becomes necessary to continue raising awareness and sensibility, following, consolidating and assuming the existing traditional relations between settlements and relief. This continuation should expand existing archetypal relations through innovative strategic proposals, avoiding any contradictions and confusions within the already consolidated relations in the landscape. Valorizing everyday architectural and traditional values as heritage involves not only seeking new functions for saving old buildings, but also investing them with a living memory and shaping new sensibilities in the contemporary technocracy.

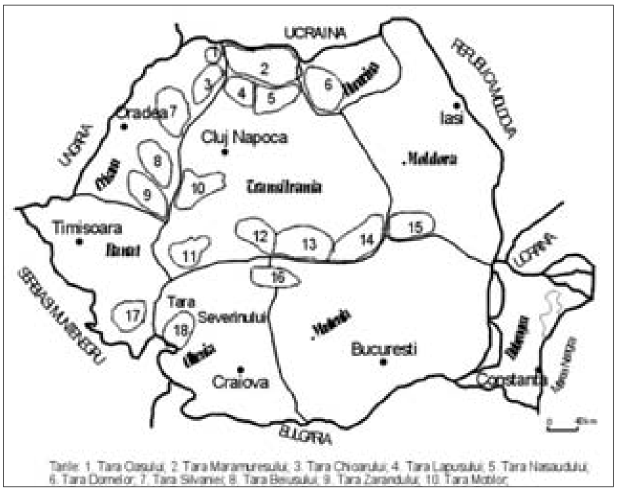
Keywords: Transdisciplinary integrated sustainability, chorography, spatial policy, historical-cultural policy

1. Introduction

At the end of the 20th century, different approaches in landscape research were formulated. Landscape ecologists focused on the relations between spatial patterns and ecological processes; historical geographers and archaeologists focused on the time dimension and the genesis of the landscape as a mental and social construct with important symbolic architecture and scenery. Each of these approaches used their proper definitions, concepts and methods, but full interdisciplinary integration was still lacking. It also gradually became clear that a single academic interdisciplinary approach was insufficient.

2. Challenge tackled

In antiquity, landscape was associated with the concepts of *chora* and *genius loci* and now, once again, the research is focused on the concept of chorography. The significance of landscape was connected not only with a piece of land, but also with the community related to that region, including the traditions and the customs of the people. Bearing in mind the strong character of all these collective traditions, they have come to be reflected as real laws, with higher value than state rules. The terms of land and county refer to the landscape in this complete way (see *Fig. 1*).


UCRAINA
REPUBLICA MOLDOVA
UNGARIA
Oradea
Cluj Napoca
Iasi
Moldova
Transilvania
Timisoara
Banat
Tara
Severinului
Oltenia
Valahia
Bucuresti
Craiova
Constanta
Dobrogea
Marea Neagra
UCRAINA
SERBIA SI MUNTENEGRU
BULGARIA
1
2
3
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Tarile: 1. Tara Oasului; 2. Tara Maramuresului; 3. Tara Chioarului; 4. Tara Lapusului; 5. Tara Nasaudului; 6. Tara Dornelor; 7. Tara Silvaniei; 8. Tara Beiusului; 9. Tara Zarandului; 10. Tara Motilor;

Fig. 1. Hateg County within the seventeen Romanian Counties (Source: Mihailescu 1968)

So, the landscape has come to be seen as a real people's matrix, proof of the interaction between nature and people living within that nature, organized by a community with its own strong character to be immediately recognized (Olwig 2002). For a long time, new scientific approaches enriched and made visible and understandable new meanings of the landscape concept. (see *Fig.2*).

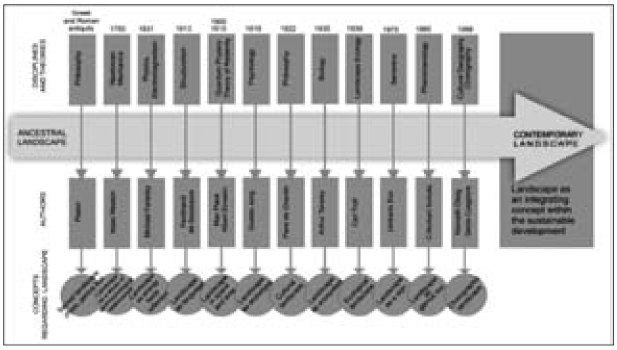
ANCESTRAL LANDSCAPE
CONTEMPORARY LANDSCAPE
Landscape as an integrating concept within the sustainable development

Fig. 2. Influences of the new scientific approaches belonging to different sciences in defining landscape as an integrated concept, along time (source: author)

In this way, landscape acquires a definite significance, due to the capacity of this complex ecocultural system of natural and anthropic factors to form a certain significant unity as a system of characteristics in which communities can recognize and represent themselves. These characteristics, physical or immaterial, are the expression of culture, which is essential for the wellbeing of the community, especially for cultural identity. In this way, landscape forms a synergic ensemble of ethic, aesthetic and knowledge values, whose quality consists not in the physical aspect, but in its evolutive law, its DNA.

Nowadays, the interest in people's relationship with the landscape has become increasingly prevalent as a result of globalization, in metropolitan areas as well as rural areas. People's routes are becoming increasingly automatic, lacking any sensitivity and relationship with the surrounding landscape, a sign of the alienation from the landscape, experienced as a real living space, of missing sensibility and of entering anonimity.

In the same vein, Bogdan Ghiu quotes Frederic Jameson's *Postmodernism – or The Cultural Logic of Late Capitalism*, who worked on what could be called the disappearing of the landscape as well as the generalization of the landscape. "The postmodern hyperspace started to go beyond the human individual's capacity to place himself, to organize through perception his own environment, to determine his own position cognitively in an external world able to be mapped. It arrived at a total and fatal disjunction between the human body and the built environment, and the feeling of continuos failure is an incapacity of our minds, at least at this moment, to draw a map of the global multinational and decentred world network, in which we exist as individual subjects, but very isolated, the map of the huge world network of the internet" (Ghiu 2011).

In human nature, the fundamental need to discover, know and posess the teritory is established, as well as the need to be identified with a certain place, to delimitate and control the close, medium and large proximity, while the involvement of computer communication in the relationship between human beings and their living environment can lead, solely, to the alteration of their relations with real space. The relationship of any human being with his own landscape involves a capacity and a possibility not only of visual perception, but also of sensitive distance perception, a certain availability for aesthetic cognitive mapping (Jameson 2009).

It is interesting to note that, in tandem with the internet explosion, a series of preocupations regarding the landscape have appeared, first in the area of research and later in European conventions, perhaps as a counterpoint, or a reaction, as an expression of the eternal need for sensitivity, representation and identifying with the real living landscape.

For this reason, the European Landscape Convention (Florence, 2000) appears as an innovative tool, which states that the landscape is an essential factor for individual and social well-being. Protection, managing and valorizing are increasingly becoming a right and a duty for everyone. The Convention recognizes the role of dialogue between all these societal actors; it also recognizes participatory research and people's involvement in the perception and evaluation of landscape, in the process of sensitivity versus anonimity, banality, alienation.

In this context, this paper makes reference to the most important changes regarding the research and management of landscape as an integrating concept in transdisciplinary integrated sustainable development. Transdisciplinarity and holism are discussed in the new context of participatory landscape planning.

3. Approach applied

For a long time, landscape research developed in different directions which are not yet integrated into a transdisciplinary landscape science. In the transdisciplinary approach (Nicolescu, 2009), reality must be discovered through:
- science;
- culture;
- sacrum.

The trandisciplinary approach opposes the cognition *in vitro* of a new way of understanding the world.

The cognition *in vitro* implies:
- analyzing the external world;
- knowing;
- analytical intelligence;
- possession and power;
- binary logic;
- excluding values.

Cognition *in vivo* (see *Fig. 3*), different from the cognition *in vitro,* implies:
- correspondence between external and internal worlds (object) and internal world (subject);
- understanding and wondering;
- new intelligence and new equilibrum between mind, feelings and body;
- including the third logic;
- including values.

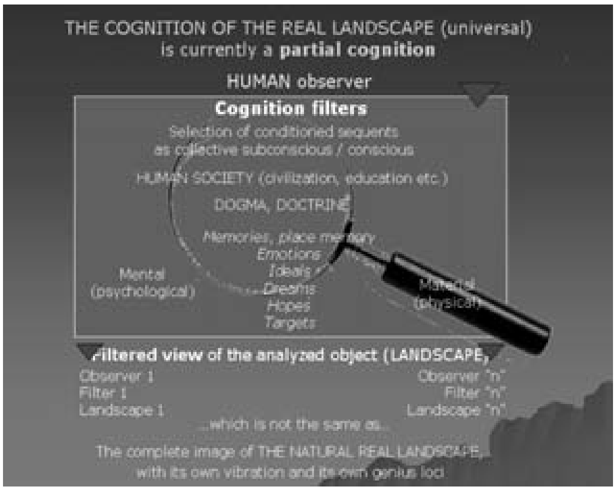
THE COGNITION OF THE REAL LANDSCAPE (universal)
is currently a **partial cognition**
HUMAN observer
Cognition filters
Selection of conditioned sequents
as collective subconscious / conscious
HUMAN SOCIETY (civilization, education etc.)
DOGMA, DOCTRINE
Memories, place memory
Emotions
Ideals
Dreams
Hopes
Targets
Mental
(psychological)
Material
(physical)
Filtered view of the analyzed object (LANDSCAPE)
Observer 1
Filter 1
Landscape 1
Observer "n"
Filter "n"
Landscape "n"
...which is not the same as...
The complete image of THE NATURAL REAL LANDSCAPE,
with its own vibration and its own genius loci

Fig. 3. Cognition filters and layers (source: author)

The fundamental concept for a new perspective regarding landscape projects consists of a switch to a new vision from sustainable development to transdisciplinary integrated sustainability, which has to consider the unity of interrelations between anthropic and natural elements, material or non-material, including all aspects regarding: economics, social-cultural, demography, environment etc.

Even though Sergio Conti considers the aspects of integrated sustainability from the demographic, economic, ethic, geographic, environmental, socio-cultural points of view (Conti 2008), and Peter Dauvellier formulated a matrix of interpretation of space qualities, as standards and values (Dauvellier 2008), support for a real transdisciplinarity regarding the landscape is still not clearly formulated. Involving the new sciences such as sustainable archaeology, cultural geography, historical geography, human geography, and cultural planning (Bloemers 2010), integrative research using the chorography of existing traditional relations as a main starting point becomes compulsory.

A new methodology will take into account the following aspects:

1.1. assimilation of a new concept of landscape as a dynamic, complex, interconnected and social phenomenon with multiple meanings, including an analysis of the integrity of the places founded on the recognition of the archetypal characteristics as a starting point for an interdependence between spatial policy and the historical – cultural policy (see Fig.4); the historical-cultural research becomes an absolutely necessary instrument for the evaluation of the historical and typological consistence of the resources defining the landscape's identity, considering the urban or rural nuclei, the architectural objects or the productive structures as historical reflections of a consolidated community's culture, focusing not only on the historical centre, but on the historical structure in territory of the whole settlement;

1.2. understanding and valorizing the landscape as an eco-cultural phenomenon, including landscape education at all learning levels. As human beings act in an eco-friendly manner, the social perception of landscape includes a rhythmic process of active and participative understanding of the landscape's significance, as a reciprocal and continuous learning process; ppeople's perceptions and images can be influenced by promoting participative landscape strategies, education at all learning levels studying the historical anthropology and cultural geography, but also creating daily pedestrian routes, with relaxing places for contemplation, playgrounds, and landmarks in an appropriate friendly landscape. Within historical-cultural policy, sustainable tourism has to become a lesson of discovery and knowledge, understanding the relations and contacts between different cultures, the ideas and the forms they represent (see Fig. 5). The tourism potential of the landscape has to also consider the ancient cultural, religious, mythic or transhumance routes, legends and celebrations, the linguistic geography, all of these representations of civilization, feelings, ideas;

3.3. understanding the necessity of an aesthetic approach to landscape, taking into account the typological study of historical buildings, as a result of the empirical knowledge associated with aesthetic and architectural qualities, which takes into account the potential for offering typical elements to the contemporary architectural landscape, making heritage of common values;

3.3. understanding landscape as a central component of life, an essential concept in the practice of social processes of the landscape - strategies, programms, action, projects, as well as an ecological concept of scientific importance and applied relevance; evaluation of the economic aspects of landscape, as a resource for sustainable tourism, for communities as well as for individuals;

3.4. protecting and valorizing the Romanian rural landscape's particularities in a new vision of conservation through development, considering the chorography of building traditions and the preserved genuine natural and anthropic values in relation to cultural historical policy and spatial policy.

In this context, analyzing the relationship between cultural-historical policy and spatial policy in Hateg County involves the systemic approach of all existing consolidated systems:

- the ancient Dacian and Romans and medieval fortifications and roads systems;
- the settlements along the roads and their morphology;
- the water stream as a determinate element of a settlement, its influences in the configuration of the settlements and the forming of the interest centers unifying different networks, at the crossing of the river stream vectors with the new vectors constituted by the new roads;
- the manor houses and *villa rustica* systems, including their botanical gardens;
- the stone and wooden churches;
- castles;
- natural parks and natural reservations including the almost 100 000 ha Intact Forest Landscape and 90% protected areas,
- agro-pastoral and forest systems dependent on the mountains' declivity;
- old manufacturing systems related to raw materials, wood exploitations, hydraulic energy production systems, old furnaces related to metallurgy activities;
- stone, marble and metal quarries;
- karst systems with natural value.

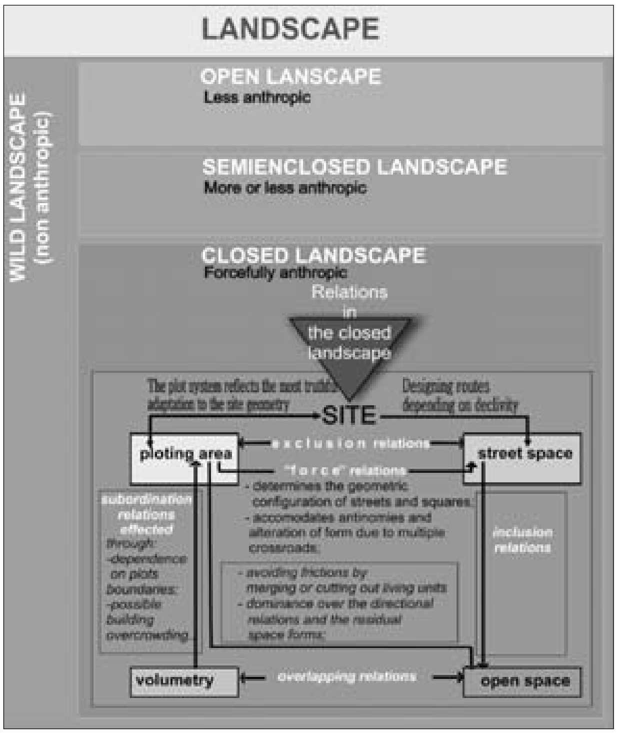
LANDSCAPE
WILD LANDSCAPE
(non anthropic)
OPEN LANSCAPE
Less anthropic
SEMIENCLOSED LANDSCAPE
More or less anthropic
CLOSED LANDSCAPE
Forcefully anthropic
Relations in the closed landscape
The plot system reflects the most truthful adaptation to the site geometry
Designing routes depending on declivity
SITE
ploting area
street space
exclusion relations
"force" relations
- determines the geometric configuration of streets and squares;
- accomodates antinomies and alteration of form due to multiple crossroads;
subordination relations effected through:
-dependence on plots boundaries;
-possible building overcrowding
- avoiding frictions by merging or cutting out living units
- dominance over the directional relations and the residual space forms;
inclusion relations
volumetry
overlapping relations
open space

Fig. 4. Interdependence between the site and the buildings within the landscape (source: author)

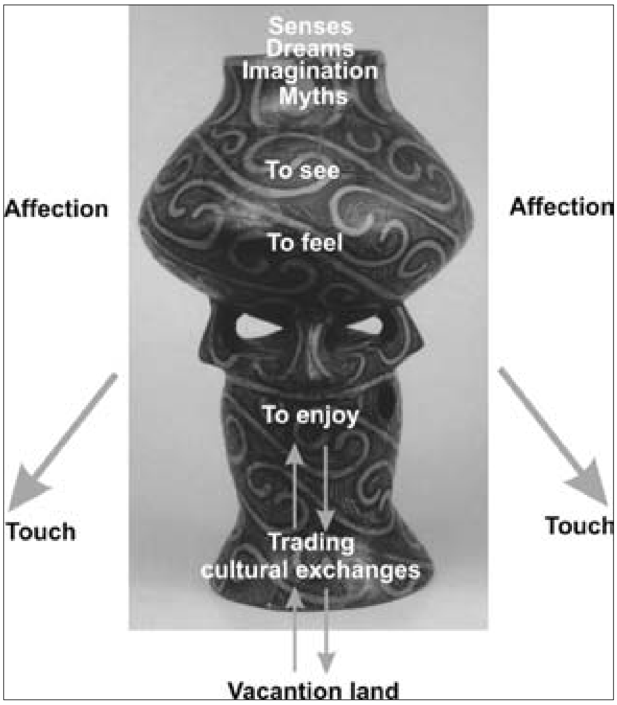
Senses
Dreams
Imagination
Myths
To see
To feel
Affection
Affection
To enjoy
Touch
Touch
Trading
cultural exchanges
Vacantion land

Fig. 5. Landscape perception amphora
(source: author, processing after Alloj, de Castro, Zollo))

To valorize the landscape in Hateg County in the current context means:

- implementing transdisciplinary research programs related to operational programs for direct implementation in practice;

Fig. 6. Landscapes in Hateg County (source: author)

- education at all learning levels and organizing participatory actions involving citizens at all levels of landscape strategy;
- providing for the continuity of the green areas network, implementing ecocultural parks, from the perspective of mantaining in pure form the original and the nonanthropic ecosystems, mantaining the ecocorridors;
- maintaining the integrity of settlement typology based on recognizing the archetypal characteristics;
- developing sustainable tourism;
- creating cross-ministerial institutions for implementing the results of research and long term monitorizing and creating adequate planning regulations and specialists for implementing them at local level.

4. Conclusion

Involving the research results in an integrated transdisciplinary approach regarding historical-cultural permanence in spatial policy offers new dimensions, perspectives and legitimacy for landscape management and planning, especially concerning what needs to be protected, what needs to be changed, and what needs to be recreated. Consequently, as the changes within the landscape became extremely marked, provoking a certain feeling of unease amongst the people, the characteristics belonging to the matrix model, which offer identity and uniqueness, have to be identified, protected and valorized; short and long term strategies have to improve the negative aspects. Recreating a landscape means mostly rediscovering and bringing to life the existent traces of the transcendent virtual reality.

Due to the complex aspects of landscape, which is essential for the communities' wellbeing, landscape management involves a holistic, systemic and transdisciplinary approach, able to understand and valorize the structuring systems and the relations between them, from the perspective of process. In the new context of the relationship between transdisciplinary research and policy, cultural historical policy, by seeking new uses, can enhance spatial policy in the new vision of the balance between preserving the existing values and providing for slow, conscious and expected development, avoiding degradation as well as the risk of actual colonization through tourism monoculture or speculative abuses.

Each configuration reflects consolidated traditional relations between settlement and relief and any intervention must follow a certain sensibility for the landscape by assuming, extending and enhancing the actual configuration, avoiding any contradiction and confusion within the already consolidated relations system. Any intervention should have a social impact and invest landscape with a living memory as a sign of the human need to be represented, to build and to inhabit.

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Landscape Design Teaching and Site Context

Taking the Urban Park Design Studio as an Example

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Abstract: The main task of landscape design is to find the site's context, research it and then express it. Taking the author's student works of the first prize of «The 2011Chinese society of landscape architecture (CSLA) student design competition» as an example, by the introduction of the urban park design studio, this paper puts forward that in the teaching of landscape design, the teacher should guide students to study the site context at different scales which include the city, the district and the design. The students should then capture the characteristics of the site and imbue their design with their own unique perspective, to finally express it in their works.

Key words: Site Context, Design Studio, Teaching, Urban Park

1. Introduction

The word "context" originates from a linguistic category. In linguistics, this word is also known as "language environment"; it is to point to the relevant constraints of the communicative situation that influences language use, language variation, and discourse [1]. In the design, "context" can often be understood as cultural context or cultural relationship. However, in this paper "context" refers to the more widely extended meaning that is the relationship in time or space between one thing and another. Site context refers to the mutual relationship between the site and the urban surroundings, the factors of the site in time and space. In landscape design, the study of site context should become the starting point, and should always permeate the whole design process. The designers should be directed to complete a unique and successful design. For the teaching of landscape design, the study of site context should be the key from initial small "site design" to large scale "resort planning". "Urban park design" is a transition design from small to the urban scale, so research for the teaching of "urban park design" has a special significance. Therefore, taking the "urban park design" studio as the carrier, and the works of the only first prize awarded to an undergraduate group of "2011 CSLA college student design competition"[1] as an example, this paper examines how teachers can guide students to pay attention to site context through their whole design process.

2. The position of "urban park design" in the curriculum and the development of the urban park

2.1 «"Urban park design" studio and the curriculum

"Urban park design" is an essential studio in the teaching of landscape design. The cultivation of innovation and thinking is an important task of landscape architecture education at the undergraduate stage. From the analysis of the curriculum system in colleges and universities of landscape architecture in China, we can see that design training is completed by landscape design studios. Landscape design is the backbone of courses in landscape architecture. From the teaching organisation of numerous colleges and universities in China, whether type teaching or thematic teaching, the urban park is also an important carrier of landscape design. [2] [3] [4]

"Urban park design" is the transition from small scale to large scale; it plays an important role in cultivating the student's ability to analyse and grasp the complex relationship of the site. Landscape design in general begins with the most simple studio "site design". In this studio the students become familiar with the basic elements of landscape design, first to use the "survey - analysis - design" process for designing. In the subsequent teaching, through more studying of space, behaviour, plants and ecology, the students have the ability to face more large scale space design; then they can solve relatively complex outdoor space problems. The urban park is a much more appropriate carrier, as the area of the park is from a few to 10 hectares in general. In this studio, the students are required to solve the problem with different groups of users, to pay close attention to urban green space,, traffic and landscape and to understand the relationship between the park and the city. Therefore, "urban park design" is the launch for guiding students to pay attention to the problems of large scale environment; at the same time it is an effective method for training students to study the site context, and gradually develop a holistic, systematic, and dynamic landscape approach.

2.2 Urban park development and "urban park design"

From the development of urban parks, we can see that parks and cities have increasingly close and complex relations. One hundred years has passed since the urban park appeared in the 19th century. During this time, the relationship between park and city has changed considerably. The origins of the park, from resistance to the negative environment of the city, closed space, xanadu from the city, to a «picturesque natural garden» is the primal image of the park. In the 20th century, alongside the theories of «landscape urbanism» and «green infrastructure», the park has become a real part of the city, and is also fully integrated into it. From the development of the park, we can see that the park is no longer a paradise, but a dynamic energizer in the city.[5]

More attention to the site's context is required with the development of urban parks. Along with the changing relationship between park and city, the urban park has more closed and complicated relations with the layout of space, the road network and the civic life of the city. The park is no longer a closed system. More attention to all kinds of relationships is required in the design of the urban park; in other words, more attention should be paid to the site context from all sorts of different perspectives. In teaching, students should be guided with a more open vision. First, they should be clear of the relationship between the park and the city through the analysis of the urban ecological environment, the open space system and the landscape.

They should then select suitable events and set up appropriate space based on the study of the demand of citizens in their daily leisure life. Eventually, they should use their own style to complete the design. In short, in urban park design study of the site context should be more emphasized.

3. The teaching process and the site context

In 2011, one group of students from the author's "urban park design" studio participated in the "2011 CSLA college student design competition", from more than 300 entries all over the country, the work of the author's students won the only first prize of an undergraduate group. The author will take the teaching process as an example to study landscape design teaching, based on site context.

3.1 Basic information of the studio

The site of the project is located in Chongqing New North Zone (CNNZ), and is about 14 hectares. The south of the site is the inner ring expressway, with office building in the west and east, and a botanical garden located on the north mountain (Zhaomu mountain), with a residential area around. (Figure 1)

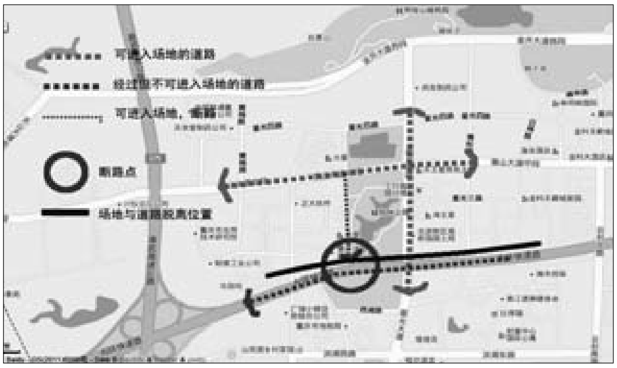


Figure 1 Basic information of the site

For the students the design requirements were to: Pay attention to the site's context through the analysis of the city, district and design scales; understand the relationship between the city and the park; the situation of public use; determine the park's status and role in the urban open space; landscape and ecological system, carry out the planning activities and write character specification; complete park planning and important area design.

3.2 The original planning interpretation and site analysis - Design concept from site context

The site's context is the most important source for the design's concept. Site context is like a clue that runs through different scales of space and the whole design process in the design of the "urban park"; site context study shall be completed on the city, district and design scales. First of all, students are required to complete the survey and analysis in 1-2 weeks, mainly involving the collection and interpretation of the original planning data and site survey. The interpretation of the original planning helps students to understand the function of the surrounding area, the park's role in the urban green space and the surrounding traffic situation etc. Site survey is needed to analyse the various links between internal factors of the site, as well as the relationship of the site to its surrounding area; that is to say, the site context study on the district and design range scales includes two components: one for site situation of the peripheral and internal, and one for the user and activities.

Taking the first prize as an example: in the process conceiving their design concept, the students studied the site's context on the city scale, starting from the urban green space, based on the water ecological system and bird migration routes as the breakthrough point; they put forward that the ecological skeleton of the city had been destroyed, that the original ecological corridor had been interrupted, that the activities and survival environment of other species had been seriously affected with the city's disorderly spread. From the study of site context on the district scale, they noted that the site is an important ecological corridor for nature to extend into the city, an important link to systematically organize the scattered natural patches of the city. At the same time they found that the water body in the site is an important branch of Jialing River. From the study of the site's context at the design scale they found that public life between inside and outside of the site was block by the line of traffic, that accessibility to the site is poorer, and that appropriate space for the city's public life in the site had not been provided for. For them, "isolated ", "deserted ", "lack of energy" were intuitive feelings of the site.[6] Based on such an understanding, the design concept of "suture" became gradually clear in their minds with the study of the site context. (Figure 2)

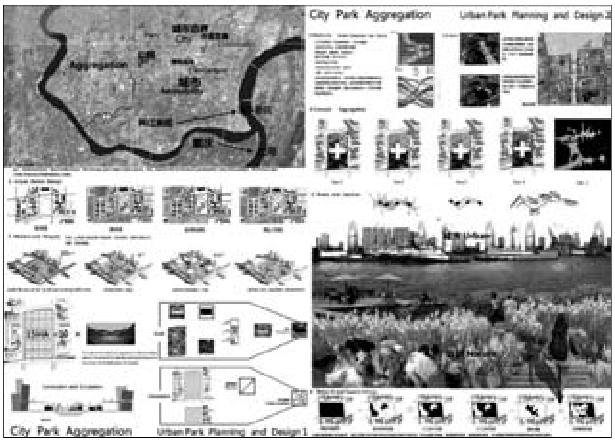

City Park Aggregation
Urban Park Planning and Design 2
Aggregation
City Park Aggregation
Urban Park Planning and Design 1

Figure 2 The study of the site context

3.3 The concept, interpretation and preliminary design – Concept inference and implementation of the site's context

In the process of concept inference and implementation, the site context, or the various relationships of the elements of the site's internal and surrounding areas, plays a very important role.

For the first prize works, the concept interpretation was: «suture» has a bidirectional function; on the one hand, it softens the boundary of the park, lets green extend from the park to the urban space, uses the natural elements to link the green space between inside and outside of the park, repairs the ecological corridor and sets up an ecological network of the city. On the other hand, it involves public life of the city in the park, creates a diversity of space for different activities. The core of the concept is to make the park and city become one organic whole by «suture».[7] (Figure 3)

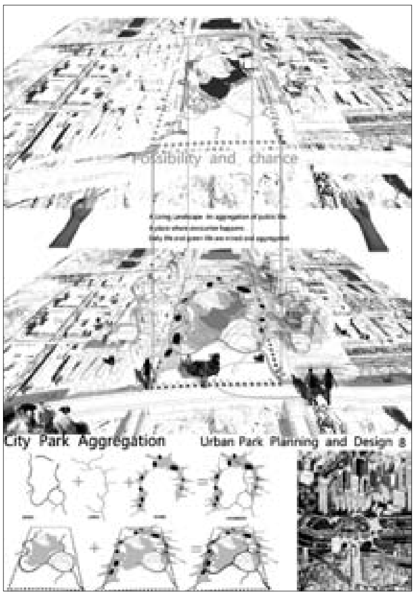
Following the clarification of the concept was the development of the concept to design stage, combined with the various relationships and characteristics, in other words site context.

3.3.1 Ecological suture

(1) Green scape system

Based on the analysis of the urban green space system, students found that there are several parks set up on the south of the site, and on the north is a natural mountain botanical garden. This site is just located at the centre of the north-south green corridor of the city, so in their design, they deliberately reserved natural space in the south of the park, reducing people's activities in this area to form a lush green environment; and to pile up a grassy slope on the north echoing the mountain's botanical garden. Therefore the city's green corridor connection will be strengthened and the urban green space system structure will be improved by the design of the north and south of the park.

Through the district green open space analysis, the students found that the link between the park and the city is cut off by the trunk road traffic beside the east and west of the site. So the students tried to set up some overhead green ways to contact the surrounding open space. According to the difference of the elevation they designed several to cut across the traffic extending green space to city. The bidirectional function of suture with green space and activities will be accomplished by these green ways. (Figure 4)



09 City Park Aggregation
Urban Park Planning and Design

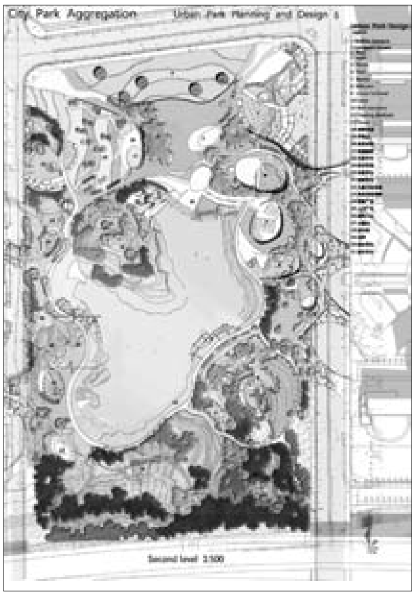


Fig. 4 (left). The ideal of the overhead green ways
Fig. 5 (center).
Fig. 6 (right). The master plan of the park

(2) Water system

Based on the analysis of urban water system, the students find that the water through in the site is the important branch of Jialing river (one of the mother river of Chongqing), originate from the Zhaomu mountain. From the current situation the water has been polluted in different degrees as it passed through the city area. As the water quality has a direct influence on the quality of life of citizens, the students want to do something to change the bad condition. Therefore, they design a wetland pond-bed system in the low-lying area of the south of the site, transferring the water into the system to purify. By the way the water quality and the ecological environment of the city will be improved. (Figure 5)

3.3.2 Activities suture

The other aspect of «suture» is activities. Activities planning and suitable function space design are based on research and analysis of the citizens and their leisure life. The students had to carry out the questionnaire survey and behaviour observation for whole day; by this way they go to know the main users of this park, their behaviour patterns, and their future demands for the park, etc. After that the students completed a diagram to show all the activities of the park; then they considered how to set up suitable space to match all the kinds of activities.

After the stage of activities research, under the guidance of the "suture" concept, controlled by the whole structure of the park, the students divided human activities into two kinds: one is the random activity that easily occurs within the park boundary; another is purposeful activity that happens inside the park's interior. As the existence of different level boundaries and overhead green ways, the probability of the random activities and the accessibility of the park are improved, the various activities are promoted and the vigour of the park will be increased

Taking the east and west boundary space design as an example; the elevation of the north-east and the north-west area of the site is equal to the road, so at the north-east of the park a series of open spaces are arranged along the sidewalk to satisfy people's random activities such as sitting, reading, chatting and so on; at the north-west of the park a creative square is set up to meet the needs of the activities of the office workers from the creative industry district just nearby the site.

The elevation of the south-east and south-west boundary is different to the road, it is impossible to go to the park directly. Relying on different levels, the students designed several overhead green ways to link the space of the park and the public space of the surrounding office building together, to mix people's activities together, so that random activities and purposeful activities will be promoted. (Figure 6)

3.4 Deepening and detail design. Design combined with the site context

In the deep design stage, the students confirmed the accurate position, quantity and scale of the overhead green ways, and strengthened the rationality and the feasibility of their design through in-depth research for the terrain conditions of the site. They threshed the size and the form of the main functional space of the park according to the feature of the original space of the site and determined the dominant tree species on the basis of the existing vegetation status, then completed the plant design of the important area in the park. With the deep design of the soil-covered building as an example, first the students intensely studied the section of the area to get accurate information of the elevation and analyse the view and the features of the water border. They wanted to grasp the characteristics of this area and interpret them through their design; they wanted to make a space where people can go down from the building to the bank, and from where people can feel the charm of the mountain city. So they decided to design a centre courtyard on different terrain with luxuriant plants; when people go through the courtyard they can see a varied landscape and experience rich and interesting space. The centre courtyard not only meets the lighting and ventilation requirements of the building, but also creates a dynamic and attractive place. (Figure 7)

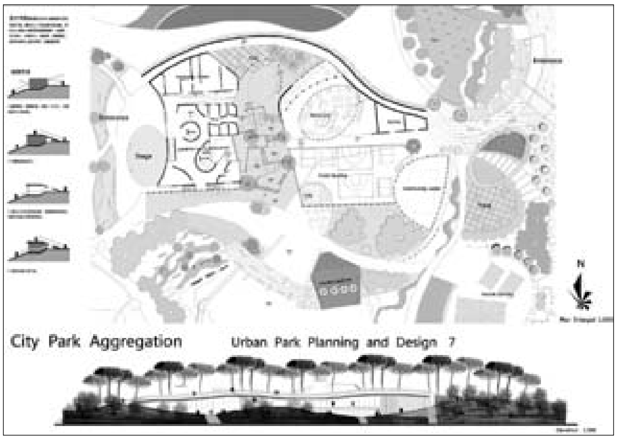


Figure 7 The soil-covered building design

4. Conclusion

In the teaching of landscape design, study of the site context should be emphasized. According to different projects, students research the site context on different scales. These include: studying the relationship of ecological, open space and landscape systems of the city on the city scale; studying the traffic circulation, the function of the surrounding land, the requirement of the users, etc. on a district scale; studying history, elevation, view, vegetation status, user behaviour of the site on the design range scale. These studies should be the basis for a design. Design concept formation, interpretation, and the final design should be linked with the site context.

Notes:

[1] "Chinese society of landscape architecture (CSLA) student design competition" is the highest competition of landscape architecture at the national level. The 2011 competition included undergraduate and graduate groups; there were more than 300 works send from different cities all over the country, and ultimately 1 for first prize, 3 for second prize, 5 for third prize and 11for honourable mention were selected.

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Visual Culture in Piedmont Landscapes. Travellers and Painters of the Eighteenth and Nineteenth Centuries.

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Abstract: Vision is not only physiological, but also knowledge-based: the filter of "visual culture" – defined by specific rules – is a way of understanding the complexity of the cultural landscape, the processes that have generated and transformed it, as well as the lost or recognized meaning. Piedmont landscapes – made up of mountains, rivers, plains, fortified buildings and sites – are characterized by strong features, to be studied in order to understand the current reality of the scenery, considered (by the Europe Council) as "perceived territory". In the literature of the eighteenth and nineteenth centuries, from Neoclassicism to Romanticism, Goethe's example of "tactile vision" is remarkable; particularly the observation of nature, history and theories of colour. The reports of travellers illustrate the perception of the contemporary landscape, such as, for example, the De La Lande guide *Voyage d'Italie en françois, (...)*. With the same approach, a more direct representation of scenery is provided in landscape paintings, such as, for example, those by Bagetti, Migliara, Bossoli, and Fontanesi.

Keywords: Landscape, Painters, Piedmont, Grand Tour travellers

1. Introduction

In the culture of vision, the category of "di paese painting" has been defined (through the contribution of many researchers, such as Piera Condulmer, Rosanna Maggio Serra, Edith Gabrielli and others) as a workshop (or observatory) concentrating on the landscapes of Piedmont between the eighteenth and nineteenth centuries, in relation to the wider international scene (see for example, Dragone, 2001, Pittori dell'Ottocento in Piemonte. Arte e cultura figurativa (vol.I 1800-1830; vol. II, 1830-1865), [Painters of the nineteenth century in Piedmont. Art and figurative culture (vol. I 1800-1830; vol. II, 1830-1865)].

A question that appears as yet unresolved is that of a possible "categorization" – albeit not a strict one – of kinds of landscapes, views, and representations of military, celebrative, urban and other types of scenery. This is, of course, assuming that such a categorization is appropriate and permissible.

This appears in the more "objective" descriptions of the cognitive and rational Enlightenment tradition, but also in the innovative and perceptive "romantic" tradition. This system is confirmed and deepened through further examination of the diaries and drawings of the travellers of the "Grand Tour".

Monica Tomiato has noted in this regard that "if it is true that the biggest innovation in nineteenth century painting was done in the second half of the century, when the style called 'village painting' emerged, it is important to consider what types of landscapes were fundamentally changed in the years prior to that; and it might be useful to ascertain what artists and commentators intended by 'landscape'. In the period studied, it is landscapes that are often considered, as well as views and travel memoires. These are portrayed in the spirit of the *Grand Tour* experience or their images, intended to illustrate and describe places topographically, for example Bossoli or Balbiano" (Dragone, 2001, Pittori dell'Ottocento, II, p.137 138-139). The same researcher, commenting on the work of Bossoli and Eugenio Balbiano di Colcavagno in 1845, recalls mountain visions "like postcards set by tourist-painters as an image-memory of a walk, portraying themselves observed by one guide. Facing the spectacle of the Alpine valley, with its firs and streams further back and with almost dream-like mountains enveloped in ahaze."

If we consider artistic representation as a barometer of historical changes in the landscape, including its composition and evaluation, the painting can be taken as a "window", not only metaphorical, but also literal on the landscape: see, for example, the work of Antonello da Messina, St. Jerome in His Study, a perfect example of a "mediated landscape" composed as a "picture within a picture". The same can be said of the Annunciation in the altarpieces of St. Emidio in Ascoli Piceno, by Carlo Crivelli (1486) and 'The Domain of Arnheim' by René Magritte (1949). At the opposite end is the broad landscape as background (such as cosmic vision), designed by Piero della Francesca in the "Finding of the True Cross" in the cycle of frescoes in the Bacci Chapel in the Church of St. Francesco in Arezzo.

Likewise, art has always represented a means to analyze and express the values associated with landscape. In the example of romantic culture, landscape painting is considered as a response to renewed questions about man in relation to nature. In this context, the Grand Tour is conceived as an experience to write about (to describe) the landscape, according to new cultural filters. But the opportunity is also used to draw and paint (thus to illustrate visually) the same reality, as evidenced, for example, by the two thousand drawings by Goethe during his Italian journey.

Since the end of the eighteenth century, representation (and interpretation) of landscape in the Piedmont region has included the realm of the mountain, as well as the Alps, which in previous centuries (as noted by E. Castelnuovo) had not been included in the European "cultural landscape". First, between drama and fairytale, this mountain place was marked by a sort of "damnatio memoriae", which attributed its irregular shape to the deformations induced as a punishment for human sins, before Noah's Flood. In this new conception, representation of the mountainous landscape appears as a result of a careful and direct observation of nature, in line with the new scientific and cultural canons.

The work of Filippo Nicolis di Robilant, together with his brother Antoine Esprit Benoit can also be included in the same wellspring of rigorous technical and scientific investigation. The latter, who took over the direction of the Royal topography with particular competence in the mineralogical field, collected a voluminous travel journal in 1790, which included drawings in Indian ink and watercolours of considerable figurative interest and technical intelligence – evidence of the disciplinary culture of the period.

Finally, if we consider art as analogous to the composition of landscape, an approach can be adopted (in the specific historical context and geographical reference) with the aim of providing training in the methods and models for composition, design and interpretation of the landscape. Relevant and timely examples include the Royal Academy of Fine Arts and the Albertina Royal Academy in Turin. Between preparatory schools and special schools, the teachings provided relate to drawing naked statues, which will add (among other things) to the disciplines of anatomy and perspective. It is clear that, among the educational goals, composition and representation of the landscape were not explicit. The expansion of landscape painting develops further by individual actors, movements and particular experiences (such as war for military landscapes).

Among many travel guides, French astronomer De Lalande (in addition to Saussure, Swiss naturalist and mountaineer), starts with a description of the Alpine region and the topography of the city. He designs a highly cognitive encyclopedic template, without neglecting the main objective of orderliness and coherence in his work.

The result is a large and complex network of movements and cultural diffusions, a real exchange of knowledge accrued and excerpts from scientific literature, or direct experiences in direct contact with reality.

We see this in many ways in the vision and interpretation of the territory, mental means of considering the landscape as a "world view", "Weltanschauung" in a nation (pre- and post-unification Italy) in turn inserted in the contemporary European theatre.

The first edition of *Réflexions et conseilles a un élève sur la peinture et particulièrement sur le genre du paysage* was writen by Pierre Henri Valenciennes in 1799, while in 1803 De Gubernatis produced *Sur le beaux pittoresque et sur l'effet du clair-obscure distribué sur les tableaux de paysage*; with a contribution by Modeste Paroletti. Citing the writer Domenichino (seventeenth century), he argues that the artist "transferred his soul onto his landscapes". Giovanni Lanfranco recalls the "vast and magnificent" pictorial ways, thus enhancing the baroque *grandeur*. In the Piedmont tradition of painting in the eighteenth-century, particular mention must be made of Bernardino Galliari (originally set designer), and the connection to his native land, followed by Palmieri and Bagetti, which can be found in the legacy Francesco Albani (Bologna 1578-1660) and Salvator Rosa. Among the prominent members of the XIX century, we must not forget Eugenio Balbiano of Colcavagno Massimo D'Azeglio, and especially Antonio Fontanesi and Vitturio Amedeo Cignaroli, appointed by King Vittorio Amedeo III "regio pittor di paesaggi e boscherecce" (royal painter of landscapes and forests).

2. Landscape in the defense territories

The 'defense landscape' is characterized and recognizable in images like the one shown in Fig. 1: the citadel of Alexandria by Giuseppe Pietro Bagetti.

Born in 1764, Giuseppe Pietro Bagetti belongs to a later generation than that of Pecheux and Mazzola and crosses the border between the eighteenth and nineteenth centuries with a profoundly different training and professional background. Unlike them, Bagetti does not follow a regular course of academic studies and does not make a living from training in Roma or Parma. He finishes his studies in civil architecture at the University of Torino. He taught Topographic Drawing at the Military Academy and the Royal Academy of the Nobles, and was professor at the School of Military Engineering and the Royal Corps of Artillery, which enhanced his capacity to "measure" accuracy and provide descriptions, his character diametrically opposed to his romantic side and his own vision of the sublime, with the exercise of direct observation of nature filtered through a taste for the picturesque.

As a "designer of views and countries" for the King of Sardinia, he adopts an airy perspective through "bird's eye" views. Following the war until the defeat of the Alps in Piedmont during the first Italian campaign conducted by Bonaparte, he notes that the battles illustrator must be expert in perspective and topography mastered during military actions, but must also be careful not to be hit by the enemy … In Vincennes, at les Archives de la Guerre, records were kept on "les Bagetti" and the teaching of French painting in the military schools.

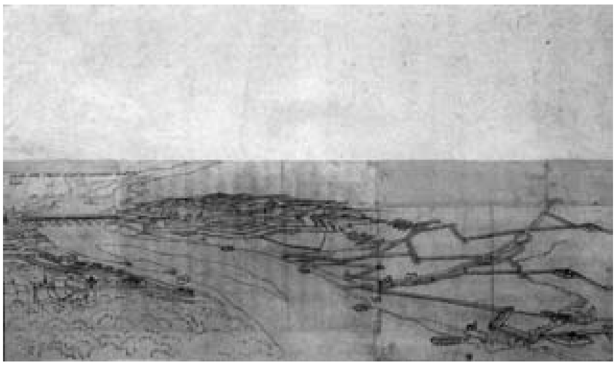

Fig. 1 Giuseppe Pietro Bagetti, Siege of Alessandria citadel, 1796, in Marotta A (a cura di), 1991. La cittadella di Alessandria. Una fortezza per il territorio dal Settecento all'Unità, C.R.A., [The citadel of Alexandria. The strength of the territory from the eighteenth century to the Unity], p. 52.

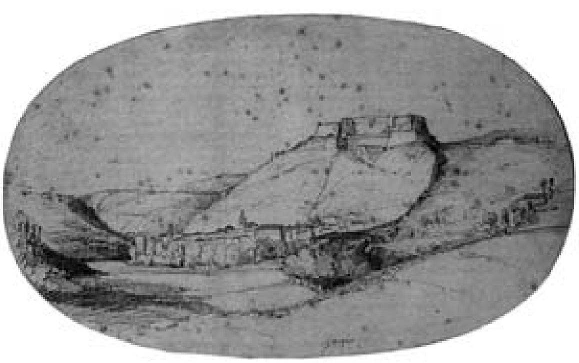

Fig. 2 Pasquale Domenico Cambiaso, Lateral view of Gavi and its fortress, first half of the nineteenth century, in Comoli Mandracci V, Marotta A (a cura di), 1994. Il forte di Gavi in età moderna e contemporanea, C.R.A. Spa [The Gavi fortress in modern and contemporary age], p. 107.

The defense landscape is also characterized and recognizable in images like the one shown in Fig. 2: the Gavi Castle of Domenico Cambiaso. In 1938 Antonio Cappellini, mentioning an earlier observation of Stefano Rebaudi, resized his great reputation as a landscape painter previously conferred by Frederick Alizeri.

Comanducci agrees with this thesis, observing that Cambiaso was more than a landscape painter; he had an expert eye and good taste in the selection of views.

There seems to be a clear tendency of critics to banish Cambiaso "in the most different area of the documentary painters". Actually one of the limitations attributed to Cambiaso is the lack of 'invention' and 'spectacular attitude', which is part of the evolution in the conception (and practice) of pictorial art between the nineteenth and twentieth centuries, tending towards more 'objectivity'

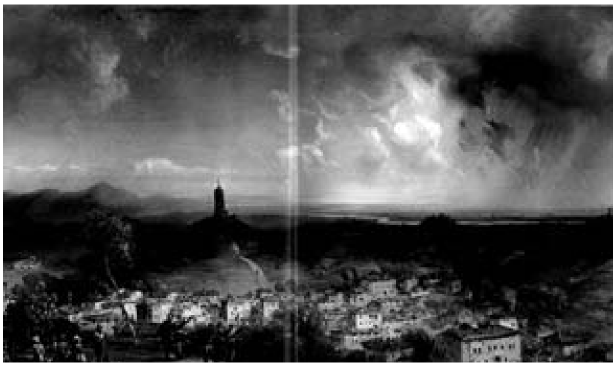

Fig. 3 S. Salvatore,The headquarters of the King,April 1859, painting cm 48x30,Turin, National Museum of the Italian Risorgimento, in Condulmer P, 1973. Carlo Bossoli. Arte e battaglie, Edizioni d'Arte Dionisi,Alessandria [Art and battles], pp. 72.

of representation. In this sense – programmatically – the "camera obscura" technique was used. In the same vein, there is no point in dwelling on the issue of whether and how much he would "preserve memory" through awareness of the painted landscapes. The same images clearly reveal the "semantic features", all the symbolic meanings that belong to the form of a "strong place", also visually dominant – in the city. These qualities are no longer noticed and experienced in all their potential.

Piera Condulmer noted (1973) that Bossoli delivers the vision of the soft hill of Monferrato, "with the tower of the old castle that became an observatory, on which was soon installed a telegraph (Rocchi), for the first time used in a war" (II War of Independence, 1859). The light that Bossoli used to draw attention to the landscape elements is a precious light. It shines through the cloud banks of the turbulent Spring Valley, and with them it is exalted. In this light he gives a glimpse of Mirabello, Casale, and the hills of Valencia, where the Po river bends east and receives the Tanaro and Scrivia rivers. From this point the King can arrive promptly at every event that occurs between the Baltea and Tanaro rivers. Among the countless interpretations of any drawings and representations, here we wish to focus on the one that leads to a reflection on the proper balance between man and environment, nature and artifice. In this sense, the lucid accuracy of Cambiaso's artistic work is – today – a historical parameter (and provides historical context), which provides us with a direct and concrete comparison between the represented landscapes.

Regarding the same painter, A. Stella notes in *Painting and sculpture in Piedmont*, that he "wrote with a brush the military history of the countryside of '59-'60-'61, but the critic, who is one of the few that fits into a systematic treatment of the history of art by the name of Bossoli, does not mention the value of the landscape painter, which for me exists outside the scene of battle, putting his paintings in the landscape genre, which was re-evaluating, leaving every feeble academicism aside, stimulating audiences and critics". The exuberance of colour, tones and combinations of the Ticinese, which emerge bathed in light really do evoke the masters of Venetian colourism. We recall passage from Baudelaire in relation to the *Salon* of 1845, about the tempers of Bossoli's countryside in '59: « Harmony, melody, counterpoint, and chords of tones are to be found in colour; warm tones and cool tones at either ends of the whole theory, cannot be defined in an absolute manner: they exist only relatively. Style and a sense of colour proceed from choice, choice is temperament ... It seems to me that colours, sounds, smells were generated by the same ray of light and that they come together in a wonderful concert». "Bossoli composes this concert even during an episode of war and the various elements of landscape that perform it, are either in harmony, or dissonance with human facts, or in counterpoint. The background landscape is never inert; it sometimes seems to be an active participant in the action that takes place, almost an accomplice, while at other times his immaculate serenity seems to be a solemn warning to human delirium" (Condulmer, 1973, p.40).

3. Landscape in sacred territory: the *Sacra* of *San Michele*

From 1820, while it is still the Duke of Genoese, King Carlo Felice who instructs Bagetti to initiate, in parallel with the series of watercolours of battles, a new series of "landscapes of composition and views", it is an opportunity for the artist to showcase the other component of his poetry, more imaginative and evocative of mystery: visions from above, bird's eye views, soaked in the typical bagettiana light, which – putting aside every cartographic technicality – creates an atmosphere between mythical and symbolic, where nature again becomes master of the world and narrates faraway and primitive places, almost beyond of time. The Sacra of San Michele rises, bathed in light, on a mountain of trees and rocks, with the same majesty of the Temple of Glory, but with a more quiet and suspended solemnity, even the multicoloured rainbow trace becomes the sign of strong symbolic value, not of simple composition; but it is mainly in watercolours that they "invent" and describe large wooded valleys and deep ravines, crossed by tiny little men that appear to come from the pages of Swift and Rousseau, that nature takes on a vertiginous size, of that breath and immensity to evoke the astonished Kantian amazement in front of the extension of the created.

Paola Astrua lucidly noted: "The sharp contours of the medieval architecture of the Sacra are investigated with the analytical objectivity of an artist trained in mathematical and faithful precision, in the choice of points of view, their own topographer engineered professionalism. They stand out on the surrounding steep wooded side, suggestively pervaded by the effects of dewy mist, which gives the view a highly symbolic value evocative of the infinite and the sublime, to the hovering position with the choices of "reason" and in strict coherence with theoretical dictates of the artist, professed in the pages of his treatise *Analysis unit of effect in painting and imitation in the Fine Arts*, published 1827 (Astrua, Romano, 1982).

Another version of the same Sacra is renewed by Bagetti according to a most fantastic log, which sees architecture as the scene of a Sabbath of ghosts through the ruins of a convent, a version also witnessed by "the balanced position held by Bagetti in the dispute between the classical and romantic, sensitive to the charm of the sublime and sometimes horrid."

Derived from a new way of understanding the landscape as a source of emotion, the evocation of the picturesque renewed, inter alia, the appreciation of gothic and medieval architecture in general, affirmed by the late eighteenth century: Eugenio Battisti remembers how (to heighten those emotions) near the ravines and precipices travellers no longer obscure the windows of the carriages through curtains. For these reasons, the Sacra of San Michele – the ancient abbey-fortress perched at the top of a rocky cliff mountain in the Susa Valley – became one of the places of choice for the Romantic generation in Piedmont.

The image of the Sacra is immediately shown in the important illustrated work that promotes the natural and historical beauty of

Piedmont, the *Romantic-Pictorial Travel in the western provinces of Ancient and Modern Italy* by Modesto Paroletti (Libro 11°, 1824). In order to confirm which neo-gothic suggestions were marked see *Voyage pittoresque et romantiques dans l'ancienne France* (Fig. 10).

In this cultural environment, Massimo D'Azeglio provides a fantastic interpretation of the monumental and literary perspectives from a paradigmatic Neo-Gothic viewpoint.

The Romantic imagination populates sites withprocessions of monks and parades of horsemen. It makes one shiver in the face of the religious spoils in the Staircase of the Dead, it depicts blends of medieval warriors and recalls tragic and moving legends. The etching is very different from that of guides to remarkable places of Piedmont for tourists. It addresses Paroletti for the *Romantic-pictorial trip* and is closer to the spirit of a more well-known text, the forerunner of the series entitled *Voyages pittoresques et romantiques dans l'ancienne France* by Nodier and Taylor (R. Maggio Serra, in Pittori dell'Ottocento…,, I,pp 284-285).

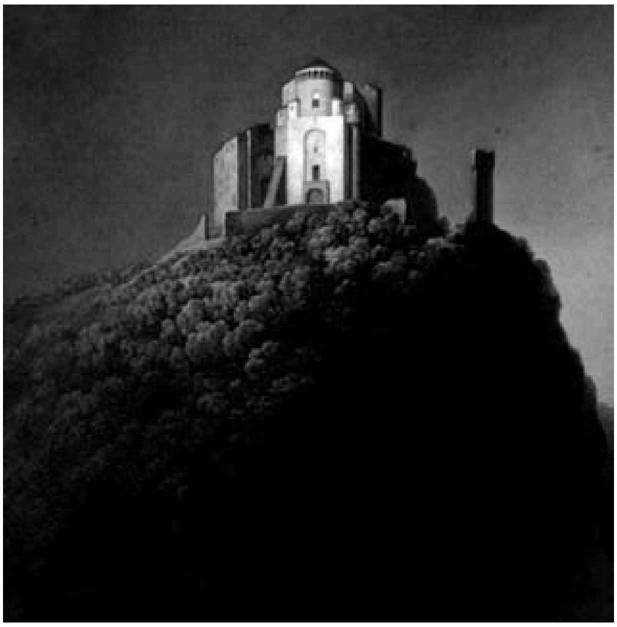

Fig. 4 Giuseppe Pietro Bagetti, The Sacra of S. Michele, 1825-30, watercolour on paper, cm 65x99, Turin, Royal Palace, King apartament, N. Inv. 3545 D.C.674, in Belli G, Ottani Cavina A, Rella F, Rosemberg P, Schiera P, 1993. Catalogo delle mostra "Romanticismo. Il nuovo sentimento della natura", Electa, Trento, [Catalog of the exhibition "Romanticism. The new feeling of nature"], p. 286.

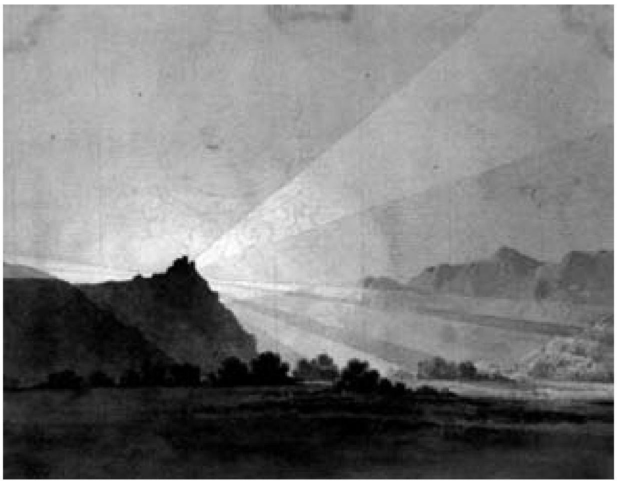

Fig. 5 Giovanni Battista De Gubernatis, The Sacra of S. Michele, view from below against the light with the effect of the sunset, 1804; watercolour on paper 19x14,5, Turin, Modern Art Gallery, in Dragone P, 2002. Pittori dell'Ottocento in Piemonte. Arte e cultura figurativa 1800-1830, Gruppo Unicredito Italiano, Genova, [Painters of the nineteenth century in Piedmont. Art and figurative culture 1800-1830], p. 147.

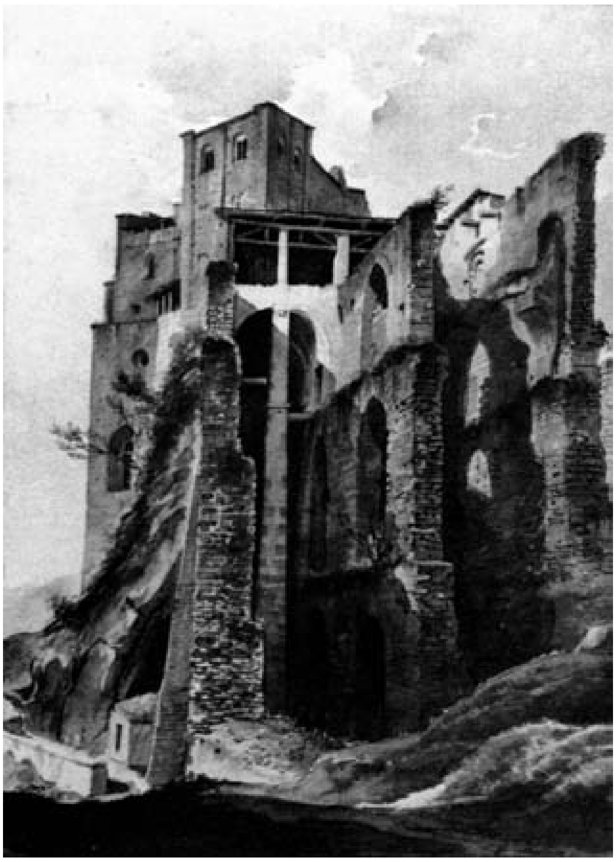

Fig. 6 Giovanni Migliara, the Sacra of S. Michele, watercolour, cm 31,5x23, Turin, Royal library, in Gozzoli M C, Rosci M, Sisto G, 1977. L'opera grafica di Giovanni Migliara in Alessandria, C.R.A., , [The graphic work of Giovanni Migliara in Alessandria]Alessandria, p. 151.

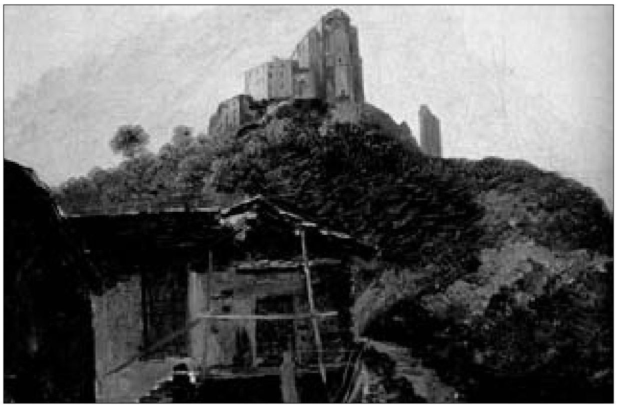

Fig. 7 Massimo d'Azeglio, Study for "The Sacra from the East side", 1827; oil on canvas30,2x20, Turin, Modern Art Gallery, in Dragone P, 2002. Pittori dell'Ottocento in Piemonte. Arte e cultura figurativa 1800-1830, Gruppo Unicredito Italiano, Genova, [Painters of the nineteenth century in Piedmont. Art and figurative culture 1800-1830,] p. 284.

Even in 1804,when representing the *Sacra of San Michele*, De Gubernatis produced landscapes in a radically new way when the "depth of space is scanned by the succession plans of the lines of trees and silhouettes of the mountains, but above all by layers of the sunset's

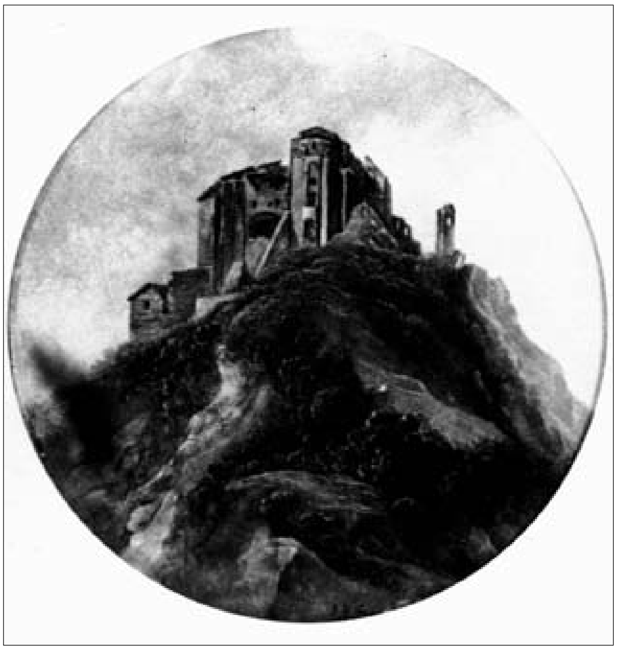

Fig. 8 Giovanni Battista de Gubernatis, The Sacra of S.Michele, cm 8, Turin, ex collection Ferrero, in Gozzoli M ., Rosci M, Sisto G, 1977. L'opera grafica di Giovanni Migliara in Alessandria, C.R.A. [The graphic work of Giovanni Migliara in Alessandria] p. 151.

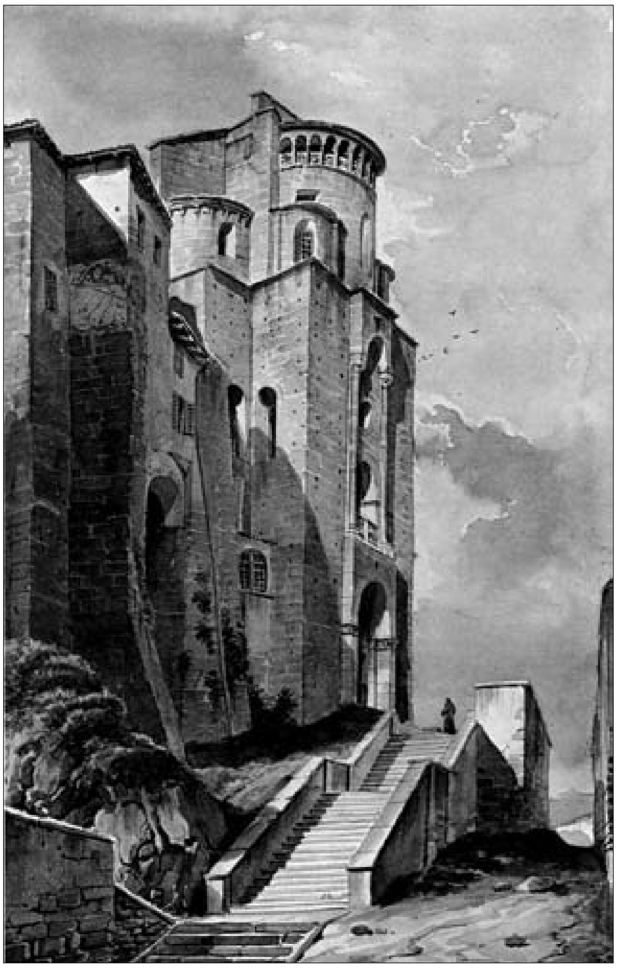

Fig. 9: Giovanni Migliara, Front side of Sacra of S. Miclele, watercolour, Turin, Royal library, in Gozzoli M C, Rosci M, Sisto G, 1977. L'opera grafica di Giovanni Migliara in Alessandria, C.R.A. [The graphic work of Giovanni Migliara in Alessandria], p. 122.

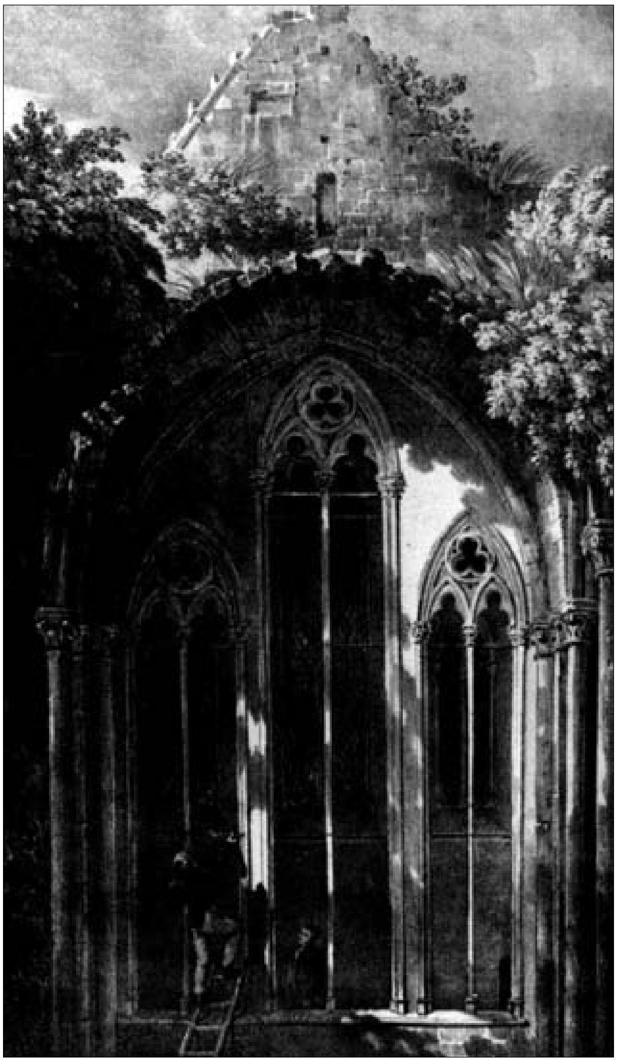

Fig. 10 Tavola dei «Voyages pittoresques et romantiques dans l'ancienne France», Parigi, 1820, litografia, in Gozzoli M C, Rosci M, Sisto G, 1977. L'opera grafica di Giovanni Migliara in Alessandria, C.R.A., Alessandria, p. 137. [Picturesque and romantic journeys in old France]

rays that fill the composition with an extraordinary effect . It is not a mystical light, but the result of his interest in physics, displayed in his speeches in 1802 and 1803 on *The effects of light and chiaroscuro* at the Academy of Sciences of Turin.." The communication of the complex artifice represented in silhouette can be seen in analogy with different matrices, from Chinese shadows to Turner.

4. Conclusion

The complex process leading to define the phenomena of landscape, the intricate pictorial-literary link between the vision of the artists and images described by travellers of the Grand Tour in Piedmont between eighteenth and nineteenth century may still be subject to further investigation and exchange, especially from an international perspective, to gain new information and more depth.

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Landscape Climate Figure: Perspectives on Spain and the United Provinces in the Golden Age

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Abstract: The Golden Age is marked by a major pictorial production in Spain and the United Provinces. Linked to the economic and cultural environment, the development of painting in these two European countries, nevertheless, has very different characteristics. This paper presents how, in Spain, these paintings reflect moral and religious values and, in the United Provinces, modes of appropriation of space. At a time of transition, when landscape was invented in painting, these images show two totally different visions of "reality" expressed through the representation of two different climates.

Keywords: Holland, Spain, Golden Age, Landscape, Climate, Winter, Identity, Painting

1. Introduction

The climate is often invisible in the landscape. The visitor to an exhibition looks at how the vegetation is painted and how people, their constructions and their activities are depicted. These human and (so-called) natural landscapes sometimes compose scenes illustrating an idea of a nation. This is what François Walter shows when he speaks of "landscape figure": "If the nation is culturally constructed first, if it passes through the narrative process, the landscape can illustrate it even more and give it a sensitive form of aesthetics" (Walter 2004)". In the process of their development, European countries have made national symbols from this or that element of the natural or human world: in Switzerland, Alpine peaks, by Caspar Wolf (Reichler 2002), in Great Britain the 'English countryside' by Thomas Gainsborough. Thus, geomorphological features – rocks and other landforms – can also be culturally incorporated as landscapes (Portal 2012). But where is the climate? Few authors, historians or art critics, have become interested in the role of climatic elements in the landscape. The sky has gained a small place: we can cite a book on clouds in art (Chambaz 2006), an exhibition catalogue on clouds painted after 1850, especially by Eugène Boudin (Haudiquet *et al* 2009). Winters have also been studied in another exhibition catalogue (Haag *et al* 2011). In recent years, however, we have tried to recreate a space for climate in the landscape (Metzger 2012; Tabeaud *et al* 2012). This work has been motivated by recent interdisciplinary research around weather and climate, for if landscape figures are related to natural and/or human elements, they can be generated by climate1. This is what will be analysed in this article, showing how a climate landscape figure is born in a certain place, at a particular time: Holland in the seventeenth century. The choice of a comparison between Spanish and Dutch landscapes is easily explained. They both experienced a Golden Age of painting (1560-1660) and share a common history. The United Provinces became independent from Spain in 1648 after the first truce in 1609 (Paresys *et al* 2007).

2. What do we see ?

2.1 In the North, the proliferation of landscapes.

In the United Provinces, the painters made landscape a genre in itself. The great landscapes of the Golden Age show different areas of the United Provinces: cities (Vermeer and its *View of Delft*), the countryside (Esaias van de Velde and its *View of a farm along a country road*) and the sea (Willem van de Velde and its *Sailors with flagship*). These types of landscapes reflect the Dutch prosperity of the seventeenth century. The bourgeois congregated in rich cities, ponds were drained by means of the mills rising in the countryside, and the sea was dominated by Dutch sailors. In these landscapes, the weather is omnipresent. It is the wind which turns the sails of the mill, or a cloud which announces a disturbance elsewhere; it is the cold that allows villagers to skate on the ice.

2.2 In the South, the scarcity of landscapes

In Spain, painters depicted the landscape to a much lesser extent. It often appears as the background of religious scenes, such as *The Christ and the Samaritan* by Alonso Cano or *Landscape with Saint-Jean Baptiste* by Juan Bautista Maino. "Authentic" landscapes, that is to say those showing a natural or anthropic environment, without intermediate planes, are extremely rare. We can cite the *View of Toledo* by El Greco, *Landscape with a city* by Fransico Collantes or the *View of the garden of the Villa Medici in Rome* by Velázquez.
Some painters also inserted paintings in their paintings, such as the winter landscape which appears to be hanging on the wall behind the table of fruit in *Still life* by Juan van de Hamen Y Leon.

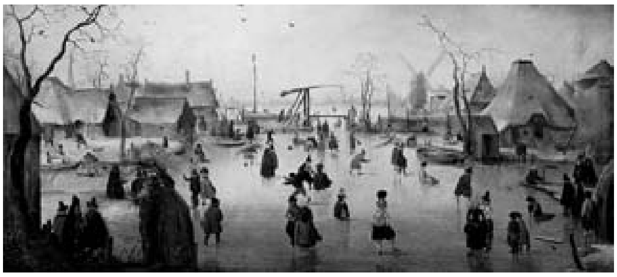

Fig. 1 Hendrick Avercamp, Ice Scene, c. 1610, The Hague, Royal Picture Gallery Mauritshuis

2.3 Two paintings under the geoclimatologist's microscope

2.3.1 The cold of the North (Fig. 1)

Physical elements testify to the cold of the North in Avercamp's *Ice Scene* above (Fig 1). A thin layer of snow covers parts of the ground on the left of the painting and a layer of ice solidifies the river.

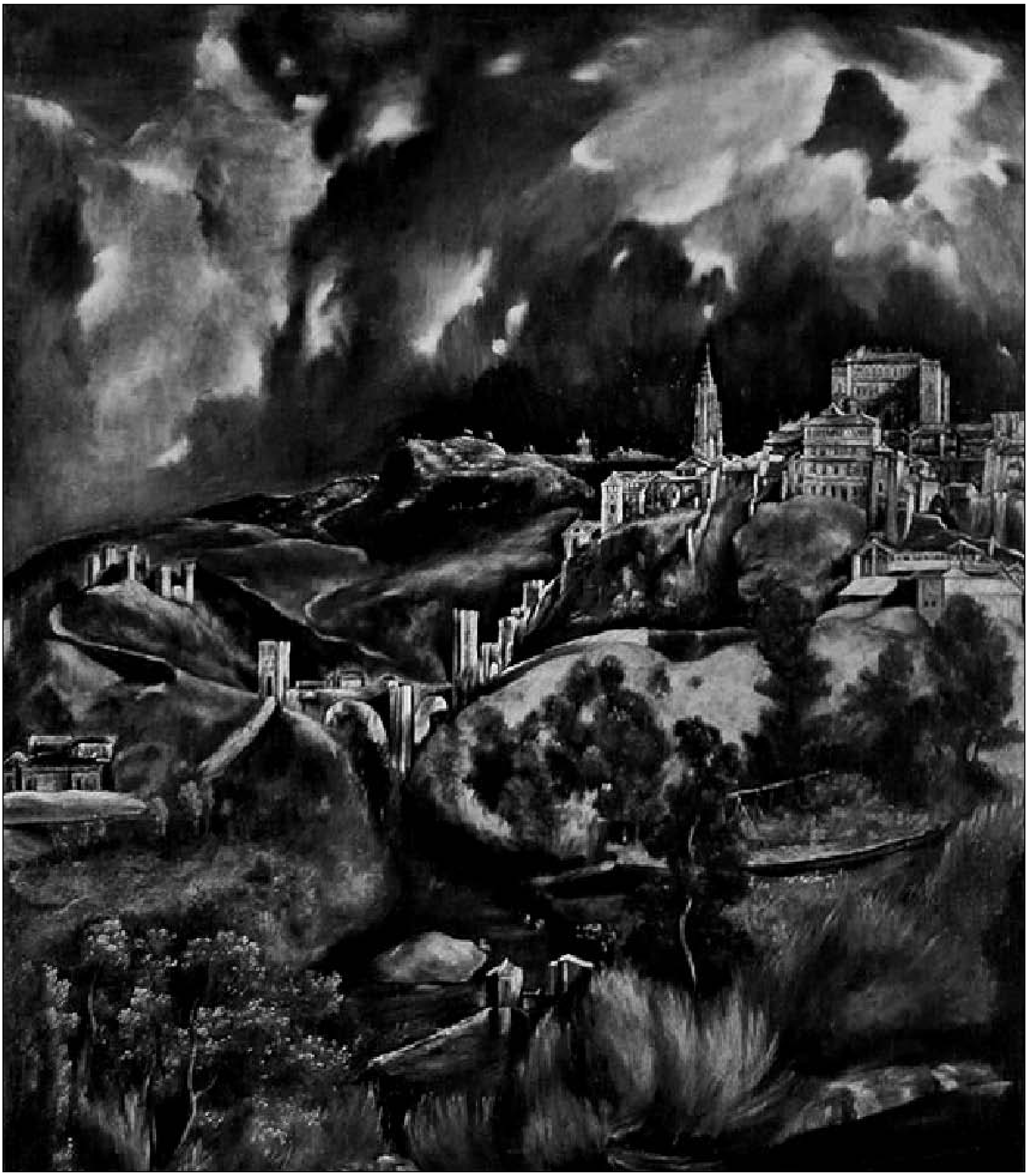

Fig. 2 El Greco, View of Toledo (c. 1596 – 1600), New York, Metropolitan Museum of Art

Behind the small bridge in the background is a vast area of frozen water; perhaps the Zuiderzee – an inland sea in the Netherlands reclaimed in the twentieth century. Plants meanwhile have entered their off-season: the trees are leafless.

The people here live in the cold. They light fires to warm up and eat hot food. Outside, there are many people warmly dressed, skating or gliding with a sled on the ice.

2.3.2 The warmth of the South (Fig. 2)

El Greco (1541-1614) moved to Toledo in the 1580s. The city, the capital of Castile in Central Spain, is bisected by the River Tagus. The view of Toledo shows the city under the threat of a storm. This view is captured from the other side of the Tagus, invisible in the painting. Cumulonimbi, black and grey with high vertical development, occupy the north-western sky. A few patches of blue sky are visible. The scene is probably at the end of the summer. The short vegetation and some shrubs have already yellowed. In the background, the land is ochre in colour. No inhabitant is visible in the landscape, in the fields or using any means of transport.

3. What does it mean?

3.1 Interest and disinterest in the landscape

Why were Dutch artists much more interested in landscapes than Spanish painters? Several answers are presented.

There is, first of all, a religious cause. In Spain, the Catholic Church was very powerful. It commissioned works to adorn places of worship and the residences of the clergy. What is of importance is the representation of biblical themes, where people are obviously present. The paintings have a function of instruction and edification of the faithful to prevent them from committing evil. In the United Provinces, triumphant Protestantism suppresses the proliferation of religious representations. It is in favour of profane, everyday representations.

Furthermore, the sponsors of art works were different. In Spain, the art market was supported by the Church above all, by the State (the King), and, to a lesser extent, by the aristocracy. This elite asked artists for portraits and mythological or historical scenes (Cacan de Bissy 1976). In the United Provinces, a new social category emerged – that of the bourgeois who could afford to buy paintings. Overshadowing the 'middle class', they commissioned portraits as well as depictions of familiar landscapes (that is those of the nation). As a result, "the traditional patrons – the church and the nobility – had largely disappeared" (Praak, 2005). This is where there is probably the greatest difference. The United Provinces, a young nation, enjoyed "the spectacle of this [new] existence...a second time" through painting (Hegel 2004). Painting is in this sense a means of defining territory. It participated in the construction of the identity of the future Netherlands. In Spain, there was no desire to establish a specific identity, possibly due to the lack of national unity. Castile, Aragon, and Catalonia, among other regions, lived under the same monarchy but were separated by laws, currency and customs (Defourneaux 1996).

3.2 The landscape: main subject or setting of the painting

3.2.1 The landscape as a reflection of moral and religious values in Spain

Few landscapes painted by Spanish artists of the Golden Age are not landscapes 'of everyday life'. They do not show the nature of a country, but rather nature in harmony with a religious message. The landscape is a setting for the biblical scene and transforms the subject; it is invented – "The landscape, for the artist in the Golden Age, is an element related to the painting, a really figurative object" (Gallégo 1968). Theophile Gauthier remarked during his trip to Spain that "men of genius are always right; what they invent exists, and nature imitates their most eccentric fancies, or nearly all of them" (Gauthier 1981). Artists choose a type of landscape that goes along with the religious scene; the landscape is a reference to the moral values of society. It is often borrowed from the Flemish landscape model, such as the river landscape in the *Visitation* by Vicente Juan Macip.

3.2.2 Nature under control in the North

For the reasons mentioned above, even though they had 'beautiful' landscapes before their eyes, the Spaniards did not build a landscape figure in the Golden Age. In contrast, the Dutch painters in their paintings show everything that made up their young nation. They painted Dutch society controlling nature – protecting themselves from the sea by dikes, gaining new lands through the polders, adapting to the rigours of winter. "Few countries exist where the hand of man has exerted a greater formative influence in the shaping of the landscape" (Mabert 1985).

These developments are consistent with rationalist thought: the idea of "[us] as it were, masters and possessors of nature" (Descartes 2000) can be read in the paintings. This is the intersection of 'contexts' (economic, technical, cultural, artistic) which gave birth to a Dutch landscape figure.

3.3 A climate landscape figure in Holland

It is in the winter landscapes that climatic factors play a major role. This type of landscape was a speciality of Dutch painters, from Hendrick Avercamp to Jacob van Ruisdael (1628-1682). Throughout the seventeenth century, artists sometimes painted winter scenes with an emphasis on activities or on nature.

Why did Dutch artists paint the cold a few decades after Brueghel? Artists certainly experienced particularly cold winters at this time in the heart of the Little Ice Age. Yet it is not enough to see a landscape to paint it. Why did the Spaniards in this case not paint their landscapes? They could also very well have painted the snow which fell in abundance on the plateaus and mountains in Spain, reflected in the trade of fresh snow for drinking at the time (de Planhol 1995).

If the Dutch masters exalted the cold, it is because it led to the construction of a series of patterns conducive to building an identity landscape – no skates without ice! Painting the cold also meant painting a society adapted to nature. Above all, it consisted of creating a national landscape (in opposition to that of Spain) from a single climatic feature: temperatures below 0 °C. It is this that shows scenes of winter landscapes as opposed to those of the previous Spanish occupation, warm and full of sunshine. It presents a striking contrast between the Spanish portraits in summer landscapes and the Dutch skaters.

By and large, the landscape climate figure of the Dutch winter landscape reflects the fact that the Dutch identified with a season. While winters could be very similar in the north of France in the same period, no French artist painted landscapes of snow and ice.

4. Conclusion

The Dutch landscape climate figure is built on the rejection of the season dominating the Spanish paintings and on a desire to reflect an identity landscape. By extension, it could be said that two seasons in two different climates were preferred in paintings: the hot and dry summers of the Mediterranean climate in Spain, the cold winters of the temperate maritime oceanic climate in the United Provinces. However, it would be wrong to say that the Dutch landscape was more 'realistic' than the Spanish landscape. As for the Spaniards of the Golden Age, "the entire reality was a unity of heaven and earth, imbued with God and beautifully kept by him" (Gallégo 1968). It is only in the nineteenth century that Dutch painting was considered to be more realistic, as it reflects the topographic and photographic landscape reality.

Notes:

[1] http://www.perceptionclimat.net/ ; http://www.bnf.fr/fr/evenements_et_culture/auditoriums/f.histoire_climat.html?seance=1223908398794

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Teaching Agronomists how to Integrate Landscape in their Practice: an Education by Immersion

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Abstract: In many cases, the 'natural' aspect of landscape is the result of a long history in which agricultural, pastoral and forestry practices have played a major role, even though they are barely perceptible on the ground. It is important therefore to engage with and involve specialists and technicians in agronomy as well as stakeholders in these areas. For this, we must get them to change their way of thinking so that they can integrate the landscape question in their aesthetic, emotional, cultural, and social dimensions and learn to discuss them with experts and local actors. The objective of this paper is to present some conceptual and educational frameworks for this and outline an example of a teaching approach developed with agronomy students that was implemented on location at the 'Chaîne des Puys - Limagne fault' a UNESCO World Heritage candidate site.

Keywords: : Territory agronomy, active learning, Unesco World Heritage, rural landscape

1. Introduction

For at least 20 years, the primary role of farmers in relation to society is no longer simply the production of food. It is now expected that stronger production be accompanied by positive associated services such as biodiversity conservation, maintenance of ecological frames or landscape conservation. In France, where the farm advisory service is controlled by the agricultural organizations and local authorities, agronomists are expected to perform broadly on three fronts:

- as experts in agriculture that join landscape architect teams and participate in diagnostic operations, landscape planning and design in suburban or rural areas where agriculture plays a vital role in the production of landscapes
- as advisors to assist farmers in adapting their practices to better integrate landscape without compromising their economic viability
- as territorial engineers, who encourage non-agricultural stakeholders (local administrative boards, naturalists, hunters, inhabitants....) to better take into account the constraints of farmers when they initiate public environmental or landscape policies.

These expectations require an adaptation of agronomic education. The objective of this paper is to present an experiment conducted in France with masters level engineering students in agronomy and to discuss the pedagogical lessons and limitations have been learned from this experience.

2. Difficulties in integrating landscape into agronomic education in France

In France, agronomy, considered as a way to improve agriculture through science, has been taught in special schools since the mid-nineteenth century (Denis 2007). Contrary to what happened in other countries like the United States, agronomy, in the eyes of the general public and the profession, has become a technological and biological science, an 'agronomy at large' that integrates both husbandry and the systematic analysis of production (crops and livestock).

It aims to produce knowledge in the field of functioning of cultivated fields (Hénin 1999), and the reasoning of the actions driven by farmers (Sébillote 2002) in order to ensure a level of production associated with certain environmental conditions (Doré et al. 2006). The crisis of overproduction of the 1980s and the environmental issues of the late twentieth century have led to a double movement: specialization into molecular biology and genetic engineering (leading agronomists to become engineers in biotechnology) and an opening up to larger scales (such as watershed, ecosystems) by integrating social and human dimensions. Furthermore, the agronomist is also expected to be a manager of land, a "geo-agronomist" (Deffontaines 1998). It is for this reason that agronomists are faced with the question of landscape. And it creates for them several problems:

- The scale of understanding the landscapes, which covers larger areas than the field or the farm. Conceptual frameworks of geomorphology, landscape pedology (the 'Soil Landscapes') and landscape ecology (the landscape pattern), can help agronomists to access the physical dimension of the landscape;
- The sensory aspect of the landscape that goes beyond landscape metrics. Few agronomists, it would appear, are interested in landform as partly shaped by agricultural practice, except Deffontaines and his students who originated the notion of the "agro-physiognomic unit."(Thinon 2002)

But the biggest difficulty is the fact that the landscape is not just an object: it is also perceived by an observer who forges sensitive and, emotional links – an affection even - with this observed thing (Stefenson 2008).

For an agronomist, understanding this aspect of the relationship between man and landscape requires an investment in the field of humanities and social sciences (psychology, sociology and anthropology) which goes far beyond what he used to do when he was interested only in the determinants farming practice (Darré et al. 2004).

Even an agronomist as open as Deffontaines has always struggled to integrate the constructed nature of the concept of landscape, as defined in the social sciences.

For all these reasons, we must make a big educational effort if one wants the concept of landscape to be assimilated by agronomy students in ways that they can address it effectively in their professional practice.

3. What landscape knowledge is necessary for agronomic students to gain?

As the concept of landscape is not addressed in the curriculum of agronomic education at present, the teaching of this discipline needs to transmit both knowledge and methods as well as ways to consider this notion from a more personal point of view.

3.1 Acquisition of knowledge

Agronomists are asked to adapt farming practices so as to improve the quality of the landscape. To do this, they must understand how farming activities impact the landscape at different spatial scales (plot, farm, landscape) and time scales (seasons, rotations and trajectories farms) and how farmers consider the impacts of their practices on the landscape.

3.2 Acquisition of methods

In their future work, students will need to perform diagnostics, which requires them to know how to describe landscapes, and how to categorise the landscape into landscape elements that may be modified by agricultural practices.

This analysis of the material dimension of the landscape uses the methods of physical geography and landscape ecology. It is also important that students learn methods of dialogue with farmers. But as the landscape is not necessarily a clear concept for these farmers, it will often be necessary to use specific media to facilitate discussion such as sketches, photographs, or 3D diagrams (Michelin et al. 2011). Generally speaking, this humanities and social science perspective is very poorly represented within the engineering curriculum.

3.3 Change of posture

In fact, in order to understand the perspectives of farmers properly, the students must also be aware of their *own* landscape sensitivity. But as agronomy is a bio-technological science, they have never really been prepared for this.

Education for landscape must also include a reflexive dimension that develops listening skills and mediation; such all qualities can only be acquired through practice.

This is what we have tried to develop in a specific training module.

4. An example of pedagogical action: The module 'Relationship between Agriculture and Landscape' in 3rd year engineering education

This is an intensive module – concentrated in two weeks - based on the principles of territorial agronomy.

It is delivered to engineers at the end of MSc degree, specialized in the management of relationships between agriculture, environment and territory.

4.1 The general framework

This learning sequence has three complementary objectives: to develop knowledge of landscape analysis and local representations; to acquire mediation skills for landscape in an agricultural or suburban context; and help these future agronomists to collaborate more effectively with other professionals (landscape architects, ecologists, foresters, geographers, planners) involved in the promotion of local projects which balance agriculture and landscape.

The module focuses on a local case study and it is led by small groups of 3 to 4 students working on a more specific question using common methodology.

Each group must produce a written report based on landscape analysis and individual interviews with residents, managers, agricultural experts and technicians, foresters, park officials, and naturalists. This report presents the problematic, the method, the main results and their analysis with comments. They also have to gather all documents produced during the work (maps, interview records, photos, drawings and sketches, statistical analysis, block diagrams etc.). The report is accompanied by an oral presentation to the stakeholders and people encountered. To help students build their methodology and analyze their interviews, some lectures are given on the role of agricultural practice in the formation and evolution of landscapes, a theoretical approach to mediation in rural or suburban contexts and the role of the European Landscape Convention. In addition, at the beginning of the module, they attend lectures and carry out methodological exercises in describing and analyzing the landscape, and test out how to conduct interviews and carry out group facilitation with graphic landscape media (sketches, block diagrams, maps ..).

Many of these are entirely new for the students. Some testimonies of experts and actors are also offered at the beginning of the sequence in order to enable them to acquire some basic knowledge about the local context, in connection with the proposed topics.

4.2 The proposed inclusion of the 'Chaîne des Puys - Limagne fault' on the list of World Heritage UNESCO: a particularly suitable topic.

Located close to Clermont-Ferrand, this area offers a unique model for understanding the continental rift system, a geological phenomenon essential to the understanding of the landforms of the earth. With this in mind, the 'Conseil General' of the Puy de Dôme hopes that this site will be added to the World Heritage List of UNESCO for its natural landscape (criterion VII) and for its aesthetic value (criterion VIII)[1].

To obtain this label, one must show its exceptional and universal value and provide a management plan that ensures that everything will be done to ensure that this heritage will not degrade. It is undeniable that the universal value of the site is the result of natural processes related to plate tectonics and associated geological events. However, the opportunity for visitors to perceive this value depends on the accessibility of the site and the opening of the landscape which has also been influenced by local agrarian history and from current agricultural and pastoral practices.

But the wildness and natural aspect of the site is its appearance only. Since prehistoric times, the territory was inhabited and corroborating evidence points to ancient agricultural activity (middle Neolithic) that was almost constant for nearly 3000 years. Since the Gallic period, there is enough information to say that puys and lava flows underwent several phases of deforestation and reforestation, resulting sometimes in inaccessible forested landscapes, and sometimes in very open landscapes where the forest was almost absent as during the nineteenth century and during the early twentieth century (Ballut et al. 2010).

Thus, landscapes which have succeeded each over the past two millennia are strongly influenced by human activity and are the result of a social and economic system as well as of a particular geomorphologic context (Michelin 1995). In addition, the area which is located near the town of Clermont-Ferrand also serves as a place of recreation for a population of over 250,000 inhabitants (who do not always have a concern the fragile environment) and as an area of summer pasture grazing and for forestry production. In educational terms, this case study is particularly well suited to helping agronomists to better understand the concept of landscape its relationship to agronomy and its limitations.

On two occasions (2011 and 2012), at the request of the Conseil General and the Volcano Park, it was proposed that a group of 3rd year students would contribute to the application brought by local authorities. In 2011 it was aimed at getting a better understanding of the strengths and limitations of the agricultural systems of the Puys and to discuss with farmers the types of land management actions that would be in line with the priorities set by UNESCO. In 2012, they were asked to consider how these landscapes were perceived by residents and managers, which scenarios they envisioned for its evolution in relation to forestry and pastoral practices, and which areas and priority actions they consider as essential to ensure the quality of the landscape.

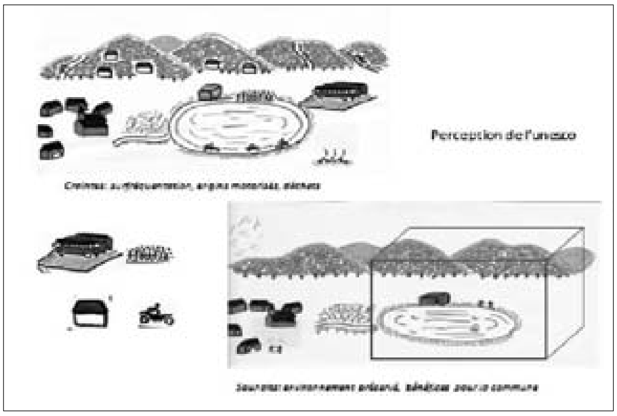
Perception de l'unesco
Craintes: surfréquentation, engins motorisés, déchets
Souhaits: environnement préservé, bénéfices pour la commune

Fig 1: The inhabitants' perception of the landscape and their opinion about the consequences of UNESCO designation The students have used simple drawings based on mindmaps produced by interviewees.

4.3 Some results

As it is not possible to detail all information collected during these modules: emphasis is given here on two main findings i.e. those considered by the students to be most noteworthy.

There is a real gap between farmers and other categories of the population for the appreciation of the landscape. In fact, most new residents are unfamiliar with agricultural and forest landscapes and perceive it only through its aesthetic aspect i.e. with no connection with its functions and the activities that take place there. Knowing neither the history of the landscape, nor the mechanisms of their evolution, they expect that it should remain in the same state, without having an idea of how to achieve this. However, farmers are very sensitive to the landscape and their Puy de Dôme. According to them, pastoralism is the key factor in the development of the Chaîne des Puys.

They consider that the summer grazing pastures (estives) play a beneficial role for all stakeholders but they also think that farmers should not be at the service of tourism. They express needs (financial aid, support) in order to better manage these very popular areas. Farmers also insist on the fact that it is not only summer grazing that needs support: farms where the animals stay in winter also need to be sustained by addressing issues of land property, barns and shelter. Through dialogue with the different actors, students were also asked to reflect on contrasting scenarios at the scale of the whole landscape as a way to make these scenarios more concrete (see Figures 2a & 2b).

Meeting the actors and interacting with them on an issue that motivated them (landscape and a possible World Heritage designation) allowed students to be aware of existing differences in perception of interviewees and their location (rural or suburb for example). They appreciated the direct contact with people using survey methods and the tools they had little knowledge of (mental maps, photographic and cartographic materials ....).

At the end, the landscape has allowed them access to multiple representations, to discuss pastoral practices, to link estives to the functioning of farms, to move from farm level to the territory level, and to link pastoral activities to others uses of space (leisure, planning, living ...). They have also initiated a mediation process with the various stakeholders during the public presentation of their work.

5. Learning lessons

The experiment described in the previous section as well as other modules with the same objectives (Michelin et al. 2008) allowed us to formalize an original pedagogical approach. It is based on practical work in the field which provides students with practical and emotional experiences on which we rely to get them to rebuild theoretical and conceptual frameworks about landscape adapted to their agronomic knowledge. It also takes into account the fact

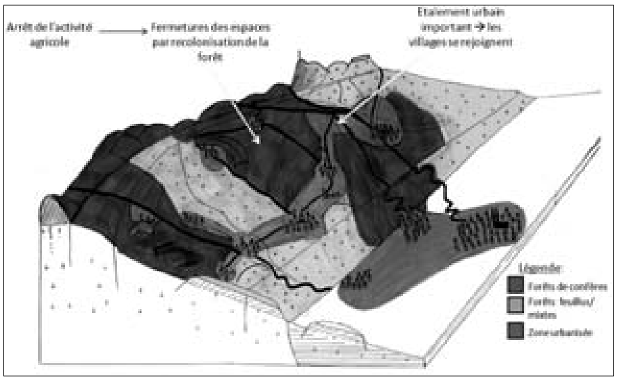
Arrêt de l'activité agricole
Fermetures des espaces par recolonisation de la forêt
Etalement urbain important → les villages se rejoignent
Légende:
Forêts de conifères
Forêts feuillus/ mixtes
Zone urbanisée

Fig 2a: The scenario of abandonment based on what people said. In red color, the spread of housing, in dark green the forest expansion and in light green the fallow lands due to the discontinuation of farming activity

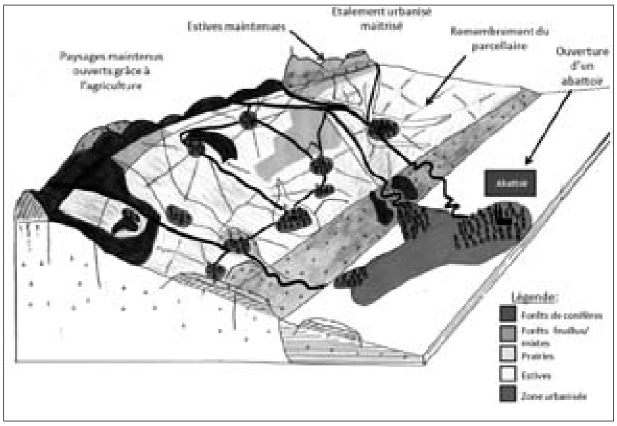
Paysages maintenus ouverts grâce à l'agriculture
Estives maintenues
Etalement urbanisé maîtrisé
Remembrement du parcellaire
Ouverture d'un abattoir
Abattoir
Légende:
Forêts de conifères
Forêts feuillus/ mixtes
Prairies
Estives
Zone urbanisée

Fig 2b: The scenario of supporting farming activities based on farmers propositions: A landscape reopened on the volcanoes permited by a modernisation of the farms on the plateau and the a high value on local food production supported by public policies.

that as there is little time available in the schedule, we were forced to innovate.

5.1 The value of learning by doing

Initially we started teaching through lectures on the landscape but the students were not especially interested in the topic and they remembered little.

When they found themselves confronted with the reality in the field, we had to start all over. The idea then came about of starting the course with a concrete question formulated by stakeholders (local authorities, group of farmers and so forth) followed by an instruction to address it in a short time. As future engineers, the notion of command is extremely motivating because they feel useful and required to produce a result. As the issue of landscape was new to them, it looked like a challenge, which encouraged students to reflect on what does the landscape means for an agronomist and what they had to deal with. This pedagogy through problem solving has the advantage of making students more involved and therefore more active. It is no longer the teacher who delivers the truth but the students. They simply apply to the teacher to provide theoretical frameworks and methods when needed. In this course we observed the same results as several other authors.

For (Bonwell and Eison 1991), in active learning, "students are doing things and thinking about what they are doing". In 1987, (Stice 1987) demonstrates that when learners remember only 50 % of what they see and hear, they remember 90 % of what they say and do.

5.2 Benefits from the expertise of each

Stalheim Smith (1998) proposes the concept of meaningful learning, by putting students in small groups to create, through cooperation with peers, an active learning environment. We did the same because we also wanted to take advantage of the wide range of students' opinions and knowledge about the landscape. Some know how to draw, others are passionate about photography; some are more adept at mapping or already have experience of driving interviews.

Even if some were afraid of the landscape, they have been able to produce landscape analysis (Figure 3)

In this course, we are also fortunate to have some adult students from in-service training that are more mature and have practical experience on which to rely. We have developed a collaborative pedagogy in which those who have some know-how teach the basics to others. This is not always easy to manage, but helps strengthen the group dynamic.

5.3 The importance of teaching tools

Given the tight deadlines for the case study, we were asked to mobilize tools for project management (retro planning, risk identification and solutions ...). But it was also necessary to devise exercises dedicated to landscape. To sensitize students to the landscape dynamic, we gave them old photographs and asked them to renew these pictures and then analyze the differences.

These discussions were held in the field, with old photos in hand. To better understand the difficulties of talking about landscape - that is, through the use of words alone - we offered the 'blind land-

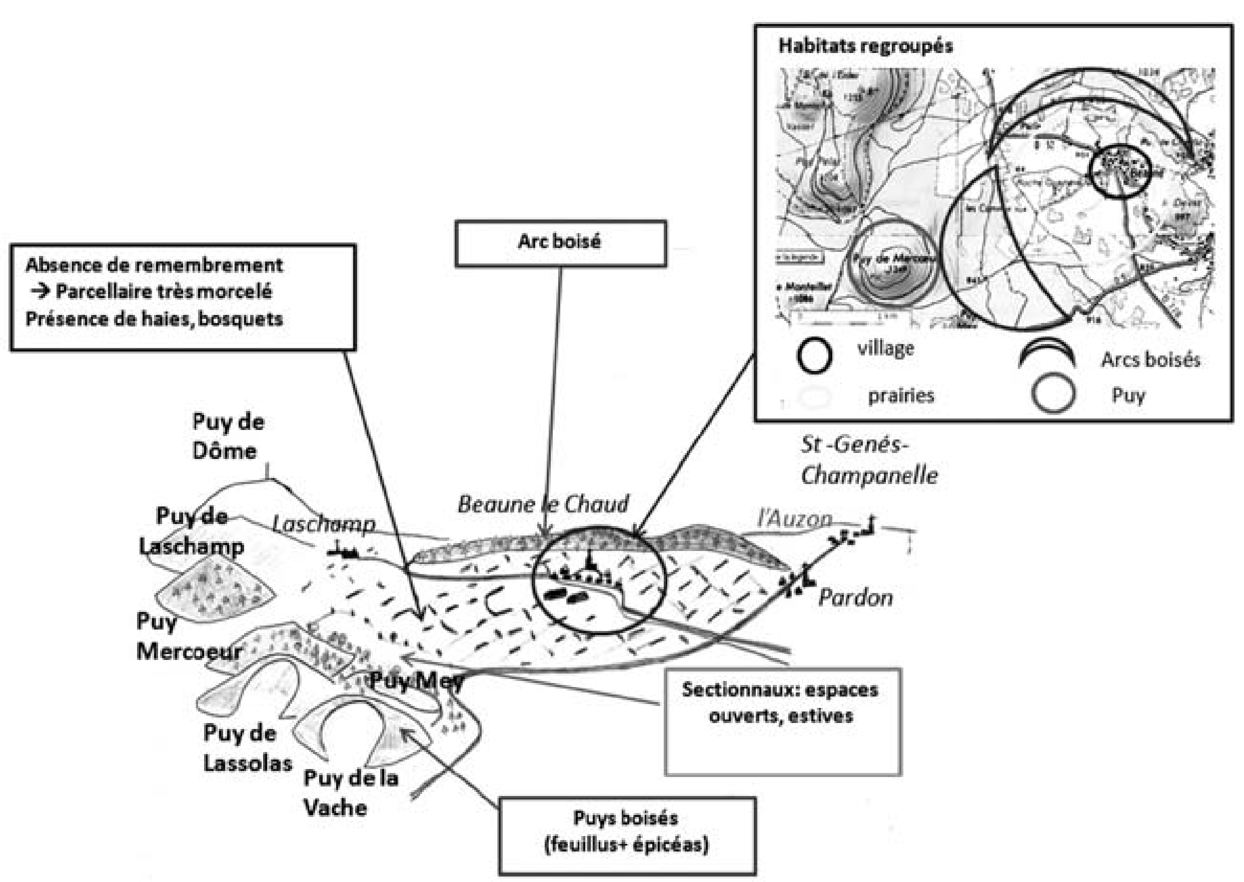

Fig. 3: An example of landscape analysis made by students who had never done it before. The students have been surprised to discover that they were able to draw and that a sketch can bring other information than a map.

scape' exercise: a student looks at a landscape and describes it. His colleagues, who turn their back on the landscape, have to draw a sketch that represents what they understood of this description (Figure 4).

These two exercises, carried out at the beginning of the module, provoked a real break from the usual teaching and helped students readily to acquire concepts that were completely new to them.

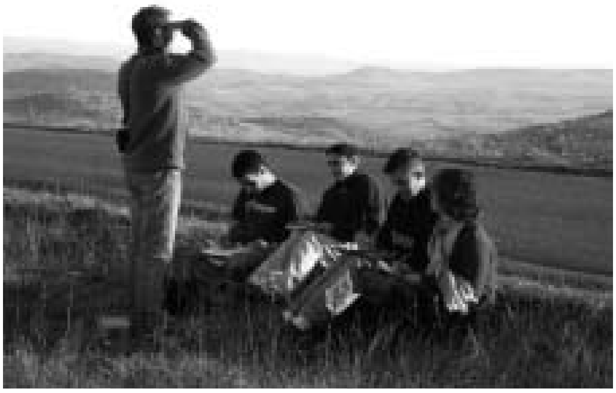

Fig. 4 The blind landscape exercise in practice

5.4 The need for strong support

This module is not easy to manage. Indeed, all students are not predisposed to focus on the landscape. Sometimes we had to manage reticence and blockages ("the landscape is too subjective; we are engineers, we have more useful things to do; I cannot draw; the landscape is not for me".) We also had to regulate conflicts of perspectives between students. It is also important to be very present throughout the learning process and to play a mediating role. For this, it is necessary to set out 'route points' with students and take advantage of these moments of synthesis to return to theoretical or methodological considerations and to formalize what students have acquired empirically. Finally, it is important to perform a debriefing in front of the stakeholders after the finalisation of the work: first to have feedback on the work but also to encourage students to formalize the methods they used and the concepts they have handled.

5.5 Interests and limits of integrating the landscape in the agronomy curriculum

The landscape is an interesting notion because it gives agronomists a tool for articulating what farmers do with what farmers and other people perceive as important in their surroundings. Due to this connection, it has helped students to clarify their professional identity, to be precise about what they will do and for whom they will work.

They have also understood that landscape analysis alone does not cover all the fields that are required to support farming activity towards a certain goals.

This fact has convinced them that agronomic techniques were also useful. Ultimately, we always had very positive evaluations of the module and several years after the end of the training some former students have been contacting us to recall with us the role of this particular exercise in the development of their professional practice.

6. Conclusion

Our small experience is difficult to generalize on because it relies on motivated agronomy teachers that are already open to the field of social sciences and humanities and ready to commit themselves to assist students throughout the learning without regard to the time spent (the work is often done at night, sometimes during the weekend!).

One must be able to develop the topic in ways that are both educational for the teachers and useful for the locals. One must also negotiate financial resources to cover the costs of travel and accommodation, and take charge of all matters of stewardship.

However, beyond these questions that may sound trivial (but which play an important role in the final assessment therefore in the success of the training) these experiments show that it *is* possible to integrate landscape approaches in the training curriculum of agronomists. It involves opting for a pragmatic approach that is based on case studies and active learning. It focuses on the involvement of students more than on traditional forms of academic teaching and it involves theoretical concepts too that are quite far from those which are usually used in bioscience.

Notes:

[1] http://www.chainedespuys-limagnefault.com/

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Less is Future: Landscape as the Key Element for the "Milieux" Renaissance in the Former East Germany

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Abstract: Twenty-two years ago, Germany was reunified as a single state. Waste land, pollution and empty buildings are some of the problems that the people had to face, along with radical and painful political reorganization. The strong collective reaction to these environmental and social disasters was heart-warming. Hundreds of coordinated and collective actions of renovation in open spaces were carried out. People were involved in each level of the design process in order to decide the best way to improve and promote the heritage and identity of their landscape. Halle, Dessau, Leipzig, and Berlin are some examples explained in this paper which demonstrate that these successful massive actions are the outcome of a deeply rooted knowledge of landscape as an ethical awareness to be transmitted to the next generation.

Key Words: "Milieux" renaissance, history, heritage, landscape comprehension, cultural landscape, landscape identity, people's involvement, collective actions, everyday territories

1. Introduction

Less is future[1] is the motto/manifesto that can be used to best describe the enormous renovation design project conceived in Germany after it was united as a single nation.

This paper will show how the massive urban regeneration process involving German land after 1989, although implemented in many different fields (political and economic, as well as with heavy demolitions of the built heritage), has been solved basically by working on new forms of landscape comprehension and interpretation. Society and administration moved together on a policy to take care of their everyday territories - a policy that is now able to suggest a possible way to operate in other European landscapes as well, especially those now considered our cities' peripheral voids.

2. Cities and society after 1989

When the wall came down, the nation's cultural and environmental context was still devastated by the Second World War and by the forty years of the DDR regime. Germany had to face painful problems of political reorganization, and problems of destroyed cities and landscapes.

The urban territories were damaged by several factors. First of all by pollution: the DDR strongly emphasized heavy industry. Furthermore, during the regime a lot of demolition took place in the historic mediaeval city centre; according to the government, they were not to be restored but replaced with modern prefabricated buildings. Last but not least was the emptying of the large housing blocks (*Siedlungen*) built by the DDR. The emptying was due to the demographic decline brought about by the end of the birth control policy and the emigration of the population to the West.

The strong collective reaction to these environmental and social disasters was heart-warming. In 1989, the regime had not yet fallen when the inhabitants formed a series of long human chains surrounding their homes, defying DDR excavators in order to prevent further demolitions.

Such a popular movement is deeply connected with one of the basic concepts of the European Landscape Convention: "*…the landscape contributes to the formation of local cultures and […] is a basic component of the European natural and cultural heritage, contributing to human well-being and consolidation of the European identity*" (European Landscape Convention, Florence 2000, preamble).

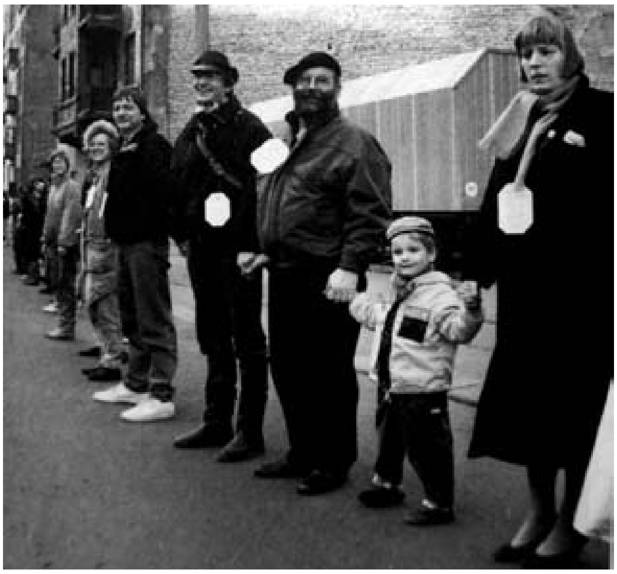
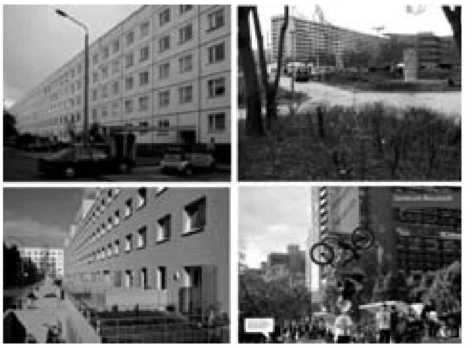


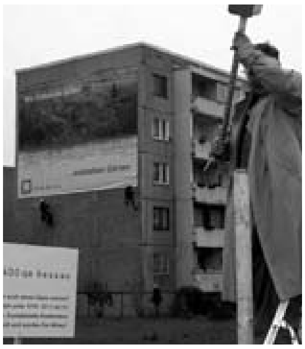
Fig. 1 "Human chain" in protest of the demolition of housing in the Paulusviertel, Halle, January 1990. © Horst Fechner, Halle (Saale)

In a short time, popular movements became a real political programme for the cities' reconstruction:[2] hundreds of coordinated and collective actions of renovation based on open spaces were carried out. Right from the beginning, the fundamental element of the renewal projects implemented by the federal governments was the idea that the land was not to be used for property speculation. Instead, every piece of land with the chance of development was declared the *inalienable property of German society* (IBA 2010 Catalogue, 2010, p. 226). And today we may admire how practically not a single piece of earth is managed by speculators.

3. A network of landscape comprehension actions

In 2002, following German tradition, the *Land* of *Saxony Hanhalt* decided to organize a national exhibition, to be held in 2010 in order to define the progress of the renovation process implemented by the 19 federal states.[3] *Less is future* was the title-manifesto chosen





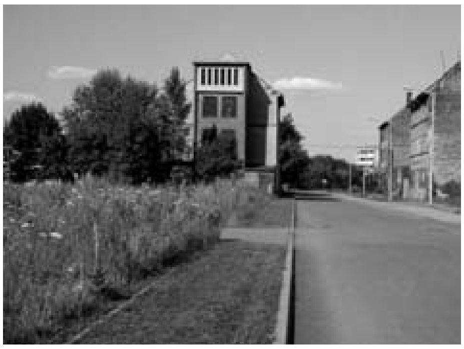


Fig. 2 On the left: Oleanderweg before and after the renovation. © Stefan Forster. On the right: the new Skate-park before and after its realization. © Booklet Halle IBA Bilanz Zentrum Neustadt

Fig.3 Stuck on the wall of the housing building a poster showing the motto "Where buildings fall, landscape rises. 400 square meters Dessau". © Booklet Dessau "Pixilation", p. 40

Fig.4 Dessau hidden landscape revealed. Booklet Dessau "Pixilation", p. 22

for the exhibition. It declares the will to work much more on the cities' "software," with a new interpretation of the landscape combined with implementation of the educational and social resources, than on their "hardware" (buildings and infrastructures). Unlike its predecessors, the IBA Urban Redevelopment 2010 dispenses with prestigious projects. It has not yielded any landmark projects in terms of spectacular buildings, but has worked instead on the profiles of cities and brought new protagonists into the field".[4]

Throughout the IBA 2010 experience, one could understand a way of living and see the landscape as deeply rooted in the comprehension and acceptance of its history and its culture, which is common ground for the German people. *The IBA experiment shows that cities fit for the future are above all places that have much to offer and are in a continuous state of transformation, where "less" makes room for new qualities.*[5]

Below, a description of some works made for the IBA by two cities that have featured prominently in the event, Halle and Dessau, and a presentation of two other projects carried out in Leipzig and Berlin after reunification, will show that people were involved at each level of the design process of the urban renovation program, in order to decide the best way to improve and promote their landscape's heritage and identity.

3.1 HALLE: strengthening the strong points of the landscape's identity

The city of Halle is marked by the Saale River, the physical element that divides the old city from the new, and is surrounded by flat countryside. The two parts of the city have a differing urban structure from the standpoint of form (a crowd of small medieval buildings *vs siedlungen*) and how it is used by the inhabitants (walking path and square *vs* large, undefined open spaces).

Neu Halle was built during the eighties by the DDR to be the perfect model of a new living district. It has a stark although well proportioned urban structure consisting of long lines of residences and large voids. The soil is porous for the most part, and has been left in its original natural composition. Facilities have never been built, and the single small square has not been a successful urban attractor.

The idea (and the challenge) for the municipality of Halle in planning the urban renovation program with a view to the IBA event,[6] was to give new meaning and identity to the new part of the city by creating a number of focal points, each characterized by the function and architecture of the space, linked together by a network of "soft paths". In accordance with the natural systems that are already present, the vegetation would be reinforced to accompany one taking a walk through the settlement core.

The aim of the entire planned intervention was to generate within the inhabitants a process of identification and appropriation of their own living landscape, and to allow the two parts of the cities to grow as one. History should go on; the bedroom community made by the regime could be transformed into an alternative scenario in which to experience a new form of social interaction and cultural experience.

One of the most significant focal points achieved for the IBA, among the eleven planned, is located in *Wohnkomplex III*[7] (residential complex III). "*Die Stärken stärken*" ("strengthen the strength") was the motto chosen for the work on this residential settlement that is right in the centre of *Neu Halle*. This project's aim was to build a square with a fountain (*Tulpenbrunnen platz*[8]), a skate-park, and a path connecting them. The path would also be created by the renovation of a line of residences named *Oleanderweg.*[9]

The operation began in 2008 and ended in 2010 with the construction of the three spatial devices (the square, the skate park and the path). Each is characterized by its own particular aesthetic. Having captured the small signals of social life that were already present in the settlement, this renovated landscape is now able to generate a micro-economy supporting suburban life and activating the weak and lifeless city centre.

Although the *Tulpenbrunnen platz*'s architecture is really a simple one, also in its formal composition and in the choice of materials, the inhabitants' will, along with the administration's, have made the renovated open spaces the new centre's identifying landmark.

3.2 DESSAU: "where buildings fall, landscape rises"[10]

The city of Dessau was one of the other major figures at the IBA event showing its renovation work carried out to give more meaning to the existing landscape that has been acknowledged and revalorized.

From 1990 to 2010, the population of Dessau lost about 35,000 people; lots of vacant housing blocks formed a ghost city. The strategy implemented by the municipality to revive a town which was now too big, was to create urban core areas as a landscape zone. *Between the core areas, landscape zones evolve on former demolition sites. These landscape zones are also known as urban succession landscapes* (booklet "Pixalation", 2007, p. 7). A new landscape will rise right along the middle of the city, in the place of the demolished buildings, and it will be the new centre.

The response to the structural transformation is a long-term urban redevelopment concept. The new urban succession landscape is therefore growing by degrees, pieced together from fragments over a lengthy period. The 20 x 20 m module for the new succession

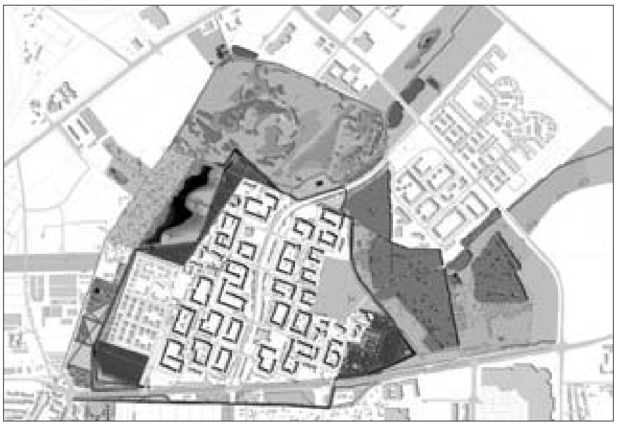


Fig.5 Plan of green-ring design. © Häfner and Jimenez
Fig.6 The shepherd showing goats to the children. © Häner and Jimenez

landscape provided inspiration for the brand "400 m^2 Dessau". The message this imparts: the new landscape zone is made up of "pixels" measuring 400 m^2. 400 m^2 is the size of a standard garden – a manageable size that can be tilled, given shape and maintained by individual citizens or a family (booklet "Pixalation", 2007, p. 25). The renovated core will be composed as a mosaic of lots of pieces of land, which have been named "claims".

Such a program was an innovative idea that has entirely taken into account the education and participation of inhabitants in the history of the place. In fact, the first intent declared in the booklet/manifesto prepared by the Bauhaus Dessau Foundation for the IBA 2010[11] was that "*Residents, associations and initiatives may appropriate these spaces, in a cultural sense, as gardens or for recreational use, as three-dimensional calling cards or just, for instance, to plant a field of flowers"* (booklet "Pixalation", 2007, p. 21).

Furthermore, the past of the land of Dessau will be evoked by the presence of the "Oak quincunx landscape module". *An oak quincunx is a method of planting with history in the meadowy countryside of the Dessau-Wörlitz Garden Realm that is characterized by huge, solitary ancient oaks in the expansive meadows surrounding the Mulde and Elbe Rivers. Nowadays, new oaks are still often planted in groups – in the form of a quincunx – so that they bring structure into the landscape… The oak quincunx is the most important landscape module in the new urban succession landscape. Its emotive power increases with the passing decades* (booklet "Pixalation", 2007, p. 19).

The Oak trees are already growing and some of the 400 m2 in Dessau are now ready. For the most part they are meadows of wild flowers and pioneer plants able to reveal the value of a hidden landscape with unusual perspectives. Functions in many cases are not defined, but suggested.

The initial aim of the project has been honoured, because now "*Where buildings fall, gardens evolve, children play, flowers bloom, birds chirp, oaks grow* (booklet "Pixalation", 2007, p. 47).

3.3 LEIPZIG: between landscape architecture and natural heritage protection

The *Bürgerbogen* (green ring) of the city of Leipzig is the renovation project embarked upon by the municipality in 2000. It is a green ring of about 13 hectares encircling the residential suburb of Heiterblick, in the eastern part of the city. This settlement (which has never been completed) was built with prefabricated concrete buildings (*Plattenbau*) and, as we have already seen with Halle and Dessau, after reunification became a no man's land.

The *Bürgerbogen* renewal program was not one presented for the IBA, but was undertaken by the city administration itself to promote among the population the value of the territory of Leipzig and to change the image of the Heiterblick suburb, so deeply impacted by past and well known historical events.

The key idea of the project carried out by the Häfner and Jimenez landscape architecture office (which won the competition for this site) was to mark the development of the green ring encircling Heiterblick. In this way, the *Bürgerbogen* (green ring) could be an attractor for a planned re-population of the settlement and in the meantime it could become the new urban park, linking the suburb with the city centre. The construction of the ring has lasted more than ten years, and is still in progress.[12]

The *Bürgerbogen* brings to mind the circular path built in the nineteenth century around Leipzig and marks out the settlement's boundary. The new green ring clearly organizes the various parts of the open space: nature reserve, forest, park and boulevard. Five areas of the ring are defined as gardens and characterized by long paths and large plain squares dotted with Sequoia trees. The main presence within the ring is a large nature reserve (about 35 hectares) populated by many animal species. This area has enormous ecological value and is maintained through the principle of "protection by means of use".

This nature reserve is home to herds of oxen and goats, and to Przewalski houses; as they graze, the animals contribute year round to preserving the balance and the wealth of the ecosystem where they live. The animals are the main draw of the *Bürgerpark* which has already attracted many citizens. They can visit the area accompanied by shepherds.

In 2011, the green ring won a national award for the preservation of biodiversity, and the municipality has started many initiatives with the schools to allow the students to learn about the park and to visit it so they can discover the richness of their natural heritage.

The green ring is a place where landscape architecture gently matches the spontaneity of the natural order. The administration's work together with the architects' sensitivity has presented a precious and rare opportunity for the inhabitants to understand the many different ways of outdoor living offered by the landscape.

3.4 BERLIN: the milieux renaissance is a system of site specific projects

The city of Berlin has a long and complex past marked by the physical and symbolic presence of the Wall. After 1989, the national government, the local government and the European community embarked upon an enormous program for the reconstruction of the wasted city in order to make it an urban territory, while the population was still trying to metabolize the dramatic experience of the past.

Nowadays, the rebuilt city has demonstrated a surprising capacity to maintain the spirit of its architectural history as imprinted by its masters (like Hans Scharoun, Bruno Taut, Mies Van der Rohe and Peter Joseph Lenné) and, at the same time, to receive the best of landscape form and the buildings' structure provided by the contemporary generation of architects during the reconstruction period.

The experience of renovation has involved a lot of different figures, politicians and citizens, and thousands of interventions have been carried out. Many of the most significant projects have been included in the national/federal programme "*Stadtumbau Ost*" (Transformation of the Eastern cities) ratified in 2001.[13]

The projects for Marzahn-Hellersdorf[14] and the one for Märkischen Viertel[15] (still in progress), which are among the best known of the city's *Plattenbau* suburbs, could be taken as perfect examples of the fine management of a complex process that has been implemented. They truly succeed in giving new meaning to the unused everyday territories surrounding large housing complexes. Population involvement and site-specific designs have formed the winning synergy capable of discovering the true vocation of every single place of territory (aside from its dimensional aspect).

In particular, Märkischen Viertel is a suburb located in the northern part of Berlin: the new urban concept commissioned by the Municipality in 2008 is based on discovering the landscape of the settlement that has been left for the most part in its original natural composition. Soft paths, sports equipment for younger people and the elderly, and children's play areas are discreet elements that reveal the power of the nature systems characterized by water elements: a lake and a stream. The renovated school complex, which is the core of the settlement, is constructed with sustainable energy devices, and takes advantage of the quiet of the many wooded areas that surround it.

Each step in the renewal program has been planned with a series of workshops open to the inhabitants; the administration carried out constant work to publicize the programme.

The building process has always been planned along with serious study of the territory, so as not to delete the memory of its original shape, but to emphasize it.

4. Conclusions: Landscape Is A Cultural Matter

Twenty-two years have passed since reunification, and we can now see the huge effect of the urban renaissance in all the country's cities. The work on the everyday landscape (especially the landscape of the *Sidlungen*) has been an essential and often truly fundamental factor of the *Stadtumbau* program in East Germany. However, rarely were these urban landscapes, these large open voids among the socialist-era buildings, designed as architectural landscapes. There are but a few projects with well-known landscape architects, while the project managers of the various works are always known.

The virtual absence of formally defined signs on the ground and of a determined usage of the open spaces is a strong choice – a choice that is a project unto itself (and not a disavowal of it, as it might seem upon shallow analysis). It is an idea that clearly shows how, and to what extent, the German population understands the landscape as a deeply rooted cultural matter - an ethical awareness to be transmitted to the next generation.

Notes:

[1] Less is future was the motto of the 2010 IBA international exposition that took place in Saxhony Anhalt to mark a point in the renovation process engaged by the Land's nineteen cities.

[2] Many of the hundreds of urban renewal projects are collected at: http://www.werkstatt-stadt.de/en/.

[3] All the documents on the 2010 IBA exposition can be found at: http://www.iba-stadtumbau.de.

[4] http://iba-stadtumbau.de/index.php?theses-1.

[5] http://iba-stadtumbau.de/index.php?theses-1.

[6] The whole documentation about the urban renovation process carried out by the Municipality of Halle for the IBA 2010 can be found at: http://www.halle.de/de/Rathaus-Stadtrat/Stadtentwicklung/IBA-Stadtumbau-2010/IBA-Stadtumbau-2010/.

[7] Simone Trettin is the landscape architect who managed the Wohnkomplex III urban renovation process.

[8] The Tulpenbrunnen platz is a project of the Snow Landscape architecture studio: http://www.snow-landschaftsarchitekten.de.

[9] The renovation of the Oleanderweg housing block was designed by the architect Stefan Forster, who made several interventions on siedlungen buildings, especially in the city of Leinefelde: http://www.stefan-forster-architekten.de.

[10] "Where buildings fall, landscape raises" was one of the motto used to promote the Dessau renovation program.

[11] Booklet "Pixalation. Urban redevelopment as a continuing process", Bauhaus Dessau Foundation 2007: http://alt.bauhaus-dessau.de/images/body/Booklet_Pixelierung-Roter-Faden_en.pdf.

[12] To learn more about the upcoming planned phases for the construction of the Bürgerbogen, see: http://www.leipzig.de/de/buerger/freizeit/leipzig/parks/bogen/index.shtml.

[13] Complete documentation on all the renovation projects carried out in Berlin by the Stadtumbau programme can be found at: http://www.stadtentwicklung.berlin.de/staedtebau/foerderprogramme/stadtumbau/Projekte-als-Liste.4752.0.html.

[14] http://www.stadtentwicklung.berlin.de/staedtebau/foerderprogramme/stadtumbau/uploads/media/Flyer_Grosssiedlung_Hellersdorf_2007_02.pdf.

[15] http://www.stadtentwicklung.berlin.de/staedtebau/foerderprogramme/stadtumbau/fileadmin/images/Dokumentation/Projektdokumentation/Reinickendorf/FG_Maerkisches_Viertel/PDF/1209faltblatt_mv.pdf.References:

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This contribution stems from a three year-long project called Living Urban Scape (LUS), established by the Italian Ministry. The author of this paper is co-director of LUS.

History, Environment, Participation

Enforcing the European Landscape Convention in the San Marino Republic

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Abstract: What values of past landscapes are still embedded in current landscapes as physical marks and traces? How are they currently perceived, used and enjoyed? Our investigation draws on past land inventories and the current Land Use Map in the small context of the San Marino Republic, showing how the "sense of place" has dramatically changed over the centuries. A questionnaire and some in-depth interviews with the inhabitants and major stakeholders complement the historical survey. Research findings overcome the idea of conservation as a simple material practice, stressing the need for raising social awareness of identity issues connected to planning choices.

Keywords: Landscape, History, Environment, Participation, Expert Knowledge, Common Knowledge, Community, Education, Training

1. Introduction

> *Les nuages s'étaient dissous. Un gros nimbus tout blanc sortait peu à peu de derrière la haute crête et semblait émaner de la pierre. Et le roc se montrait nu et sans honte, d'un seul élan haussé. Tout en haut, comme des barques de papier à la crête d'une vague monstrueuse, on distinguait les trois tours des Trois Cimes, des murailles, un coin de toit rond. Mais ce n'était rien. Ce qu'om voyait surtout, c'était la terre dressée sur la terre, la terre plus haut dans l'air que l'oiseau ; et le front de pierre au-dessus de toutes les préoccupations humaines.*
> (Valéry Larbaut, 1922)

According to the European Landscape Convention (ELC), landscape is undergoing a deep revision of its meaning: it is seen as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors"; it is meant as "an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity".

"Landscape quality objective" means, for a specific landscape, "the formulation of the aspirations of the public by the competent public authorities, with regard to the landscape features of their surroundings".

In addition to this, any sustainability agenda has to care for issues concerning the consumption of non-renewable resources, the conservation of the landscape values, and the improvement of environmental performances by establishing land protection rules (Gambino 1997).

In other words, landscape, considered as a visible and sensitive expression of environmental fragility, has to be "referred to" as a sort of "reception frame" for any transformation.

2. Challenge tackled

In its 62 square kilometres, the San Marino Republic, which subscribed to the ELC in 2000, is home to 29.000 inhabitants and 11.000 city users. It is a sort of "closed system", bearing little overwriting. Until now transformations from agricultural to urban uses have been occurring without any consideration for previous vocations and possible environmental risks (Avarello *et al* 2006).

Thus, the general aim of the research committed to us in 2008 by the *Cassa di Risparmio di San Marino Foundation* was to support the decision-making, increasing the relevance of landscape and environmental issues within local policies (Palazzo Rizzo, 2009).

3. Approach applied

But what are we talking about when we mention San Marino's landscape?

Apart from the renowned "Rocca", declared a World Heritage Site by UNESCO in 2010 (Fig. 1), very little is known and appreciated by citizens and visitors of the small Republic.

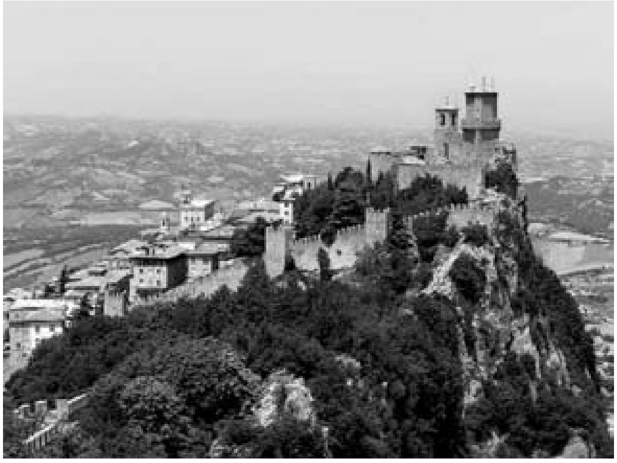

Fig. 1. A view of San Marino. La Rocca

Our research carried out different surveys (*Landscape and Nature*; *Landscape and History*; *Landscape and Common Knowledge*) in order to widen communication about landscape and environmental issues from the inner circle of experts towards a more general public, trying to involve people in planning decisions and in a shared vision of the future.

3.1. Landscape and Nature

The natural scenery is an outstanding component of San Marino's territorial identity and needs to be considered in an integrated way, by comparing transformation processes with potential risks. As a consequence, the first part of the research concerns evaluations of the environment and landscape, involving eleven homogeneous areas (apart from the urbanized areas) defined as "comparti paesaggistici" by the Quaderno Verde per la Repubblica di San Marino (1994). The "comparto paesaggistico" is just a "landscape unit", organized around a particular natural element (generally a river, a crest or a ridge line). For each "comparto", the study has processed a *descriptive* schedule, a survey schedule and a landscape evaluation matrix (Fig. 2). The descriptive schedule and the survey schedule highlight outstanding elements of the natural scenery, such as geological sites, which can be used in an overall strategy of sustainable tourism reorganization. In the landscape assessment matrix the features of the "comparti" are described using two categories: natural elements (geology, morphology; soil, hydrology; vegetation) and human elements (land use, road network, urban areas, and industrial areas).

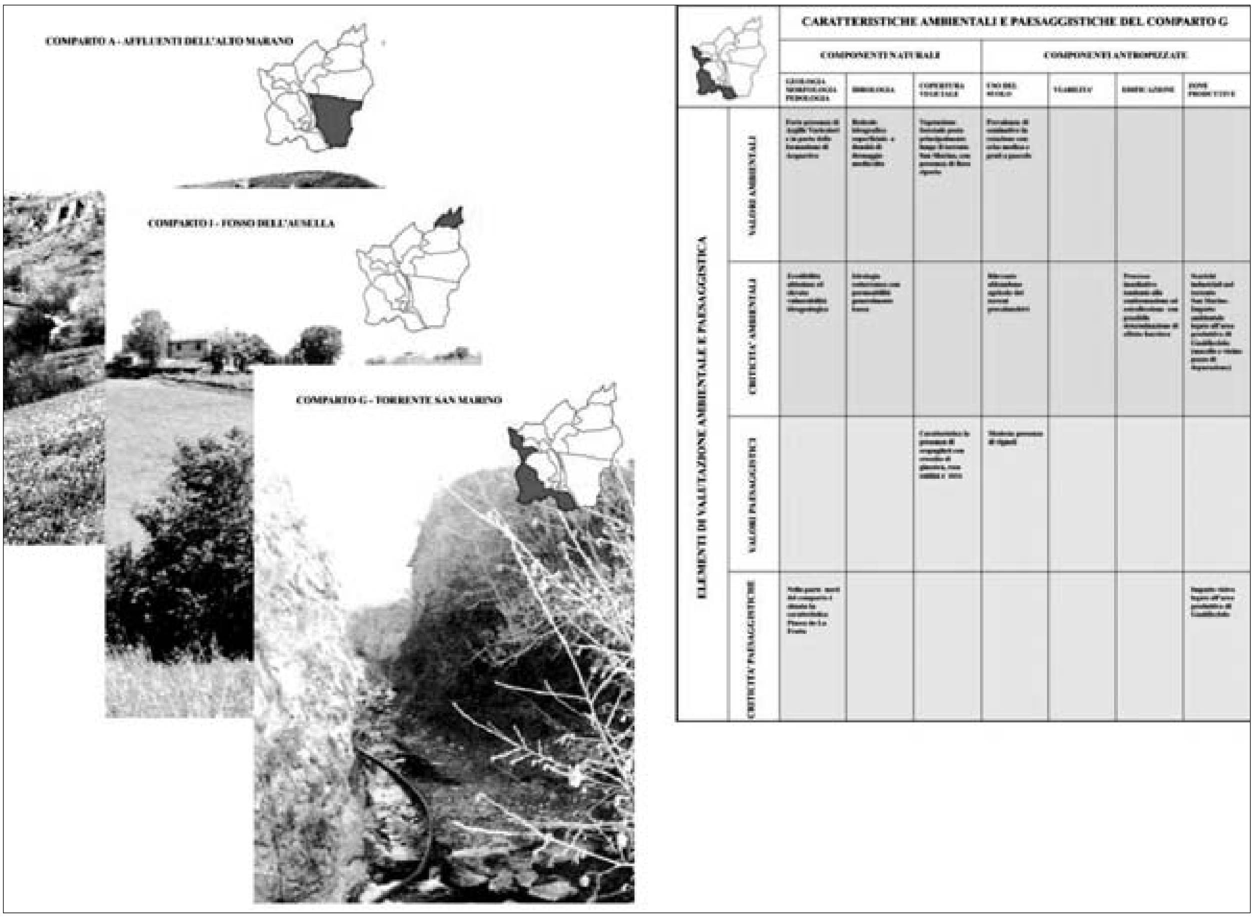
COMPARTO A - AFFLUENTI DELL'ALTO MARANO
COMPARTO I - FOSSO DELL'AUSELLA
COMPARTO G - TORRENTE SAN MARINO
CARATTERISTICHE AMBIENTALI E PAESAGGISTICHE DEL COMPARTO G
COMPONENTI NATURALI
COMPONENTI ANTROPIZZATE
ELEMENTI DI VALUTAZIONE AMBIENTALE E PAESAGGISTICA

Fig. 2. Landscape and Nature. The Landscape Units.

This method of analysis and assessment can be considered as a useful reference for territorial management which aims at being mindful of landscape and environmental matters.

3.2. Landscape and History

This section of the research overcomes the idea of conservation as a mere tangible issue, and probes the different ways in which landscapes are perceived and "used": cultural issues like "identity", "integrity", and "persistence" are at stake (Schama 1996; Clementi 2002). The investigation attempts to answer questions such as: What values of past landscapes are still embedded in current landscapes as physical marks and traces? In what ways are they perceived and enjoyed?

We point out the secular compliance between the local civilization and the natural environment, by means of "policy memories", habits and regulations issued from the old statutes and more recent laws. The physical organization also acknowledges some "material memories", accounting for a living heritage still bearing a traditional legacy of values (Palazzo 1993).

From a behavioural perspective, some prescriptions about the control of land use (crops, "natural" and "planted" forests, etc.) seem to anticipate current issues about land protection and resource reproducibility, even if "common land" has never been prevalent in San Marino (Zangheri 1980). Still, throughout the eighteenth and nineteenth centuries, survival was closely dependent on primary common resources such as wood, water and soil (Sereni 1961; Gambi 1972). At the same time, new figures of land tenants were emerging, the "sharecroppers", whose exploitation of the resources would have become increasingly intensive, by introducing promiscuous cultivations (corn with fruit trees, or olive groves, or vineyards) (Bettoni Grohmann 1989; Moroni 1994).

In the middle of the eighteenth century, under demographic pressure and strong climatic changes alternating from heavy rainfalls to long droughts, starvation tested the pact of solidarity between citizens and places, and many families were forced to emigrate to foreign countries (Anselmi 1993).

A comparison between the current Land Use Chart and the Baronio Land Registry (1898), considered as a *terminus post-quem* in our survey, shows significant overlaps in arable and woodland, and less relevant superposition in vineyards and olive groves. However, these "permanencies" don't automatically mean "conservation of a given landscape" (Fig. 3).

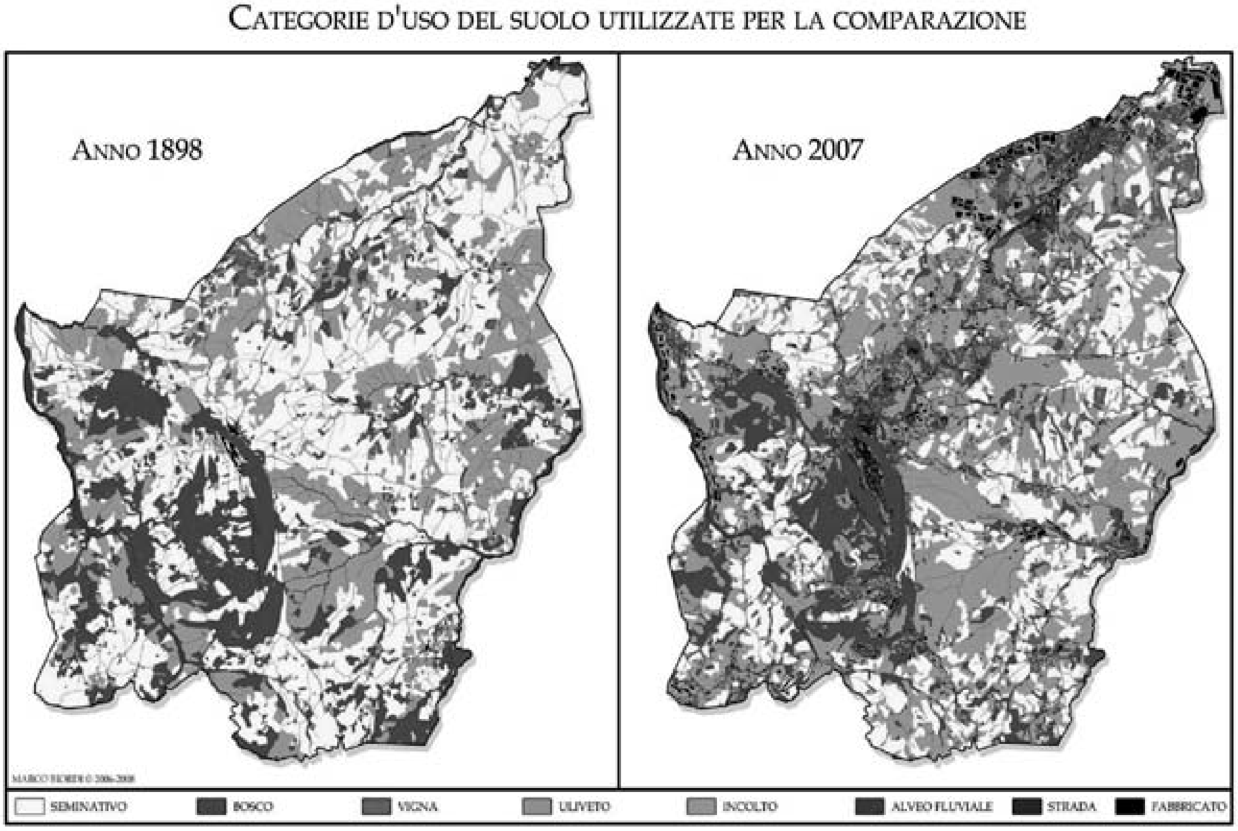

Fig.3. Landscape and History. Comparison between the Baronio Inventory and the current Land Use Chart.

Actually, we are carrying out a simplification of shapes and patterns of landscape, since crops are being increasingly less cultivated in the same fields with fruit trees, olive trees and grape-vines; and high fragmentation in estates and land use is no longer related to a wide range of landscape patterns, but to vacant lots being constructed or awaiting approval along the roads and pedestrian trails.

In more than a century, the means of land appropriation have completely changed. Settlements are going downstream, at the expense of promiscuous crops: 2009 hectares of "white zones" (32,8% of the total surface) take in uncultivated areas, shreds of wasteland along the roads, huge paved open spaces, etc., just next to imposing "out of scale" buildings. In conclusion, "landscape as form and memory" (namely the material shapes and patterns deriving from the past) should act more as a sort of evocation of historical patterns than as a mere philological resumption of the past.

3.3. Landscape and Common Knowledge

Landscape quality objectives should be decided by communities and stakeholders, supported by experts (Priore 2009). The working method is founded on a sample survey, carried out with the support of the Ufficio di Programmazione economica e centro elaborazioni dati e statistica of San Marino.

A questionnaire was delivered to a sample of 800 family units. The contents of the questionnaires completed and returned (196) entered into a database, in order to make evaluations and data crossing.

The first section of the questionnaire concerns features of the sample (personal data, job, …); the second section contains some open ended questions on landscape perceptions, such as: "Which places in San Marino's landscape would you get rid of?", "Which transformed landscapes are you missing?", "What landscapes would you preserve?", "Which products are typical in your opinion?"

"Nostalgia" clearly refers to missing elements of the original "urban character", whatever it was, wherein transformation is most likely to be perceived. General conservation of the natural areas seems to be a priority for the future as well. Still, the remarkable percentage of no answers to questions linked to landscape perception shows how poor the awareness of local identity is. The "fragmentation" of individual pReferences: shows a substantial absence of a common sense related to landscape issues among decision-makers, communities and cultural networks. The sample survey was supported by some interviews with stakeholders (committed to local market strategies in business and tourism) and to ex-emigrants, questioned about their perception of landscape in past and present times. Here, the paradoxical result is that the "emotional perception" of the landscape in the distance is often stronger than the "visual perception" in proximity. Thus, a major conclusion can be drawn: the civic identity of the San Marino Republic seems to remain only in the iconic image of the historical walled city standing on the rock, with its strong appeal for daily tourism producing a remarkable impact. The need for more sustainable and diversified tourism models, focusing on a broader and deeper experience of places, meeting an increasing demand for landscape and "authenticity", makes it necessary to urgently invert the trends of land consumption and traffic congestion and confront their impact.

4. Conclusion

The *Manifesto of San Marino's Landscape* has been conceived as a concise tool gathering and shaping requests and wishes coming from either expert or local knowledge in order to merge sustainable issues into on-going trends.

It summarizes indications provided by the surveys pointing out guidelines and operational tools in order to increase a general awareness of landscape values and to define a framework for future development. Part One (*Milestones*) considers landscape as a "common place"

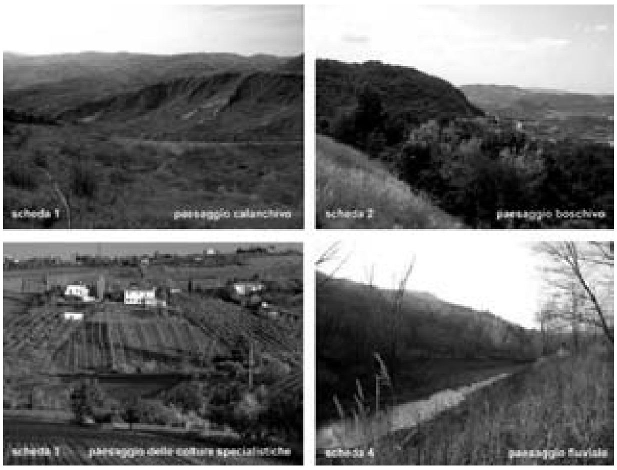

Fig. 4. Landscape patterns to be protected by landscape quality objectives

for sharing opinions and visions between expert knowledge and local knowledge; such a philosophy clearly implies an overlap between different policies and practices and a precise definition of *policy design* actions and instruments suitable to achieve shared "landscape quality objectives". Part Two (*Threats*) deals with the "predictory state" using indicators such as *land fragmentation* and *settlement patterns*. Both show that previous relations between built environment and open territory, as expressions of particular rationalities, have been replaced by a messy mix, so that any attempt to read the landscape as a "text" is to be dismissed. Part Three (*Landscape patterns, quality objectives and operational issues*) deals with "relevance", "integrity" and "permanence" issues in landscape quality objectives. Despite its small dimensions, San Marino is home to a wide variety of habitats, natural landscapes and eco-mosaics organized around four major landscape patterns: "badlands"; "specialized farming"; "woodlands" and "fluvial landscapes", provided with specific measures in order to fulfill landscape quality objectives (Fig. 4). An inclusive notion of landscape offers the ideal way to comprehend and guide future transformations, focusing on different aspects of landscape, especially if we consider it as a biodiversity reservoir and the scenery of cultural heritage as well. Part Four (*Policies and managerial tools for landscape*) draws some major issues in order to increase environmental and social sustainability. Firstly, in order to avoid urban sprawl and contain urbanization costs, a priority should be to collect building rights within homogeneous districts, notably next to the existing villages. This approach meets the need for implementing the ecological network, whose "biological thickness" proves much wider than physical separations between different types of land use. In addition to "physical" conservation of relevant landscapes, an efficient set of policies for a multifunctional agriculture has to be launched as well. According to European Union and OSCE guidelines, farmers and landowners, directly providing a large set of consumer goods and facilities, including leisure facilities for the population and tourists, keep watch over territories preventing abandonment and hydrogeological risks.

Part Five (*Improving quality objectives*) takes into account the constitution of the San Marino Landscape Centre, with the aim of promoting studies and research related to landscape issues and to increase awareness among civil society, private organisations and public authorities. These particular issues are crucial in order to foster civic consciousness of historical heritage as a resource and to prevent unsustainable consumption patterns.

Dissemination activities will address the general public for increasing awareness of local problems and local culture, as essential elements for involving people in governance processes. As for younger generations, the main way of getting involved is linked to creativity. Specific training programmes concerning San Marino's landscape and heritage values should promote and award their visions expressed in paintings, videos, board games, etc.

The Centre should also carry out plans and pilot schemes for problematic places (i.e. wastelands along the roads) by means of international competitions, implying actions of landscape completion or even re-invention. Ultimately, the Manifesto overcomes the idea of planning as a mere question of an *a priori* definition of rules, involving a social awareness of public choices, focussing on the cultural issues embedded in any decision-making process. These themes are extensively tackled within the II Level Masters in Urban Design and within II Level Postgraduate Masters in Architectural Restoration and Cultural Heritage at Roma Tre University.

Issues and contents of this paper were discussed and shared by the Authors.
Sections 1, 2, 3 and 4 were written by both Authors.
Sub-sections 3.1 and 3.3 were written by Biancamaria Rizzo; sub-section 3.2 was written by Anna Laura Palazzo.

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An Architect's Embodied Experience of Ruptured Heritage on Hashima Island, Japan

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Abstract: This paper examines how the experiencing of ruined landscape supports, simultaneously, the remembering of heritage and meaning-making in current urban landscapes. Hashima Island in Japan has been proposed as a UNESCO World Heritage Site as an example of modern industrial heritage. Since 1974 this island has been decaying organically, so the current milieu appears as a ruined landscape. This paper uses the concept of *ruined time* in reference to the ruptured identity of this island and of its value for creative learning and imagination. It analyses the Estonian architect Ott Kadarik's time spent on the island by illustrating how his affective experience of the island has influenced his values and meanings in relation to the topic of current urbanity, which faces the challenges of population growth, environmental hazards and lack of space. The paper draws conclusions regarding how these meanings have influenced his profession. Oral narrative is a useful method for examining experienced landscape and for revealing internal landscapes in external social knowledge.

Keywords: affect, architecture, creativity, heritage, meaning-making, nature, ruins, rupture

Recent historical studies have focused on meaning-making in heritage in regard to the difference between expectations of history and the experiencing of it (Hartog 2005). In this paper, I concentrate on the case of the ruined Hashima Island, which has been proposed as a UNESCO Heritage Site, as an example of historical industrial progress. Although at first glance Hashima's visible identity seems to be rather dead and its environment, known for its ruined and abandoned landscape, turned toward the past, this is actually not the case. Its ruined environment is open to indexical meaning-making and multiple understandings (Hetzler 1988: 51; Zuker 1961: 119; Jackson 1980: 91), where interpretations of ruins might be associated with aesthetic, functional or socio-political representations, e.g. in regard to environmental hazards, industrial decline and the critiques of capitalism (Mah 2010). By highlighting the concepts of *ruined time* and *rupture* in regard to this island, I evaluate subjective learning and meaning-making in heritage landscapes.

In order to interpret the heritage of Hashima Island through aesthetic but functional landscape experience, I analysed the Estonian architect Ott Kadarik's (born in 1976) visit to the island in January 2011, an island he intended to photograph.[1] My study is based on the oral story that he created after staying on the island. In March 2011, I conducted an unstructured in-depth interview with the architect, in which I got information regarding how he translated his inner experience of the island into an oral story, how he represented the milieu of the island, and what influence he received from his embodied presence there. I explored how his subjective historical knowledge of this island was functionally connected with the acknowledged planning trends in the current society. I examined how the *ruptured* and ruined landscape of Hashima had influenced his architectural projects. (the metaphor of rupture is mentioned, for example, in the case of Chernobyl, where the ruptured moment emerges in historical time (Petryna 1995: 197))

Traditionally, heritage sites are connected to the conservation of built environments and the creation of adequate socio-political narratives (Lowenthal 1998). Constructive approaches study the meaning of heritage in collective-subjective approaches (Graham, Howard 2008; Brumann 2009; Gibson, Pendlebury 2009; Waterton, Watson 2010), where subjective methodology concerning heritage focuses on values, senses, affects, emotions and events (Lorimer 2008; Jóhannesdóttir 2010). Subjective stories, because they are contextualised and situated, reflect historical meaning construction (Polkinghorne 2006: 6-17; Bruner 2006: 25, 43; Pellitero 2011: 62). By giving value to subjective stories and new social memories (Schlögel 2003: 12; Jones, Birdsall-Jones 2008), the emphasis is placed on embodied and personal landscape experience (Lowenthal 1998; Wagner 2006; Graham, Howard 2008). The emphasis on embodiment can be compared with the metaphor of "conversation with landscape" (see Barbosa 2010). The reflectiveness (see Jóhannesdóttir 2010: 114; Barbosa 2010: 307) of issues in subjective narration reveals how a participant's direct place experience, inner ideas and images of landscape are meaningfully connected with the participant's embodiment of the current and future environment. The embodied heritage approach is not institutionalised in terms of spectacle. The subjective perception of a site is narrated and created by the participant himself. Revealing subjective landscape experience might be interpreted as "landscapes in the head", where inner ideas behave as mental maps (Schlögel 2003: 243-248). Even the meaning of fiction has importance, in which the creation of "wrong myth" and "historical error" is supported (Lowenthal 1998: 132).

In this paper, I examine the subjective "heritageization of the environment" (Hartog 2005) in terms of learning from past agencies and landscape imaging. I use the metaphor of *rupture* to signify the actuality of cultural diversities, where heritage behaves "as a sign of rupture between a present and past, the actual experience of acceleration being one way to undergo the shift from one regime of memory to another" (Hartog 2005: 15). Although *rupture* is mainly associated with fragmentary appearances of a memorial cultural landscape, the affective and embodied experiencing of it might usefully transform the historical knowledge of the place into future culture and society. Subjective nostalgia (Mah 2010) is one example of describing ruptured experience in heritage. In researching historical landscapes, Veronica Della Dora (2006) has analysed nostalgia from individual and institutional points of view. In regard to the institutional, nostalgia encompasses the monumental reconstruction of the past through mega-projects and theatrical presence related to institutional interpretation. The individual view of nostalgia is connected with landscapes of memory that are subjective and, uncannily, contain different oppositions, such as familiar-unfamiliar. Subjective nostalgia points to the geographical imagination of the individual, and to topographical features, objects and names that act as "synedoches for a whole complex of images and experiences" (Della Dora 2006: 211).

The current ruptured milieu in the landscape of Hashima Island is probably best expressed in Hetzler's (1988) concept of *ruined time*, where former traces of people and their activities appearing in things are mixed up with the organic decay of the environment: "Time creates the ruin by making it something other than what it was, something with a new significance and signification, with a future that is to be compared with its past. Time writes the future of a ruin. Ruin time creates the future of a ruin, even the return of the man-made part to the earth, which will eventually claim what is its property. Ruin time creates a peace that is absent in the case of a devastation, where the human made and the nature-made are not one but separate" (Hetzler 1988: 54).

The abandoned and ruined Hashima Island, Japan, has been proposed as a UNESCO World Heritage Site, as an example of modern industrial heritage. The island is known as a former coal-mining facility that Mitsubishi bought in 1890 with the aim of retrieving coal from undersea mines. Besides its mining history, Hashima is famous for how its community was arranged and developed. The residential building there was the first one constructed with steel and concrete (Gunkel, 2009). The population density was enormously high on the island: with a length of less than 500 metres and a width of about 120 metres, in 1959 it had a population of 83 500 people/km^2.[2]The reason that the island now has a ruined and uncanny landscape is that after the coal mines were shut down and closed in 1974, Hashima was stripped of its population within three months. Since then the island has been decaying organically.

Now Hashima has developed a new function by becoming a site for tourism, cultural heritage and science.Illegal tourism on the island has taken place for a long time, but since 2009 the only approved way to go to Hashima has been to take a structured tour(one can walk about 60 meters on a designated path, and it is not allowed to step off the path). The part which is opened to tourists is conserved. Its isolation and the resulting difficulty in reaching the island have been important influences, in which its attractiveness has been enhanced by the knowledge that going to this island is still partly prohibited. Besides its official history, there are several blog entries[3] of textual and pictorial representation, regarding experiencing of the island, that, besides subjective emotional expressions point to discussions in contemporary urban planning. Hashima Island has turned into a visible symbol for discussions of ecological and environmental planning, and of influencing common social knowledge, which call to mind human dependence on the eco-system and environmental limits. This island initiates discussion of what happens with traces of human agency when they are taken over by natural time, human overproduction and nature (Soper 2010). In media articles about Hashima, questions are posed regarding what happens to a place when an industry moves out, what happens to a place when people are not needed, and what happens to things when people do not need them anymore (Gunkel 2009).[4]There are photographs on the Internet that make it possible to examine the decaying process of the island's material environment.

Thus, formal and illegal visits have brought new life to the island, that is, a new social time has evolved there. The island has been the subject of continuous documentation. All these developments make it possible to agencies on the island with the *heritageization* of the landscape, from a subjective, embodied and contextualised perspective.

There is a contradiction in valuing the island as a cultural heritage site. Its industrial history is the main reason why Hashima has been proposed as a UNESCO Heritage Site.[5] The consideration of turning the island into a preservation area has led to practical debate on whether the island should be allowed to naturally decay or whether it should be conserved as a part of the cultural heritage of an industrial community. If it is turned into a tourist area, what influence will this have on conservation process (Lardner 2010)? How the opening of this area would change the current image and identity of the island has been discussed, because people who have already visited the island are reluctant to make it into a tourist attraction. However, whether or not this island becomes a hotspot for tourism, the landscape is very impressive.

Ott Kadarik's decision to visit the prohibited part of Hashima evolved spontaneously, being connected with risk and unawareness of what to expect. Therefore, a meaningful aspect of his experiencing of the island's landscape was probably the psychological conditions, which led Kadarik to take on the difficulties of getting there. He got his first information about the island some years ago, but in December 2010, on a trip to Japan, at the airport he spontaneously started to look for ways to get to the island. He soon discovered that in January it was almost impossible to get there. Kadarik also lacked the Japanese language skills to make the connections to go there illegally. Later, with the help of his Japanese friends and acquaintances, he found out how to get there. It felt to him like a hidden and secret mission: he had to go to Nagasaki, book a hotel, phone the boat captain who would take him to the island, and then wait.

The architect was on the island for a total about 45 minutes and was able to see about a quarter of the island, mostly visiting the newer built-up environment. His time there was emotional, even affective. The ruined but still coherent landscape triggered his spatial imagination, which in the participatory moment was spontaneous more than intellectual (see Zuker 1961: 129). Kadarik said that conscious reflection on the experience was, for him, possible only from a temporal distance.

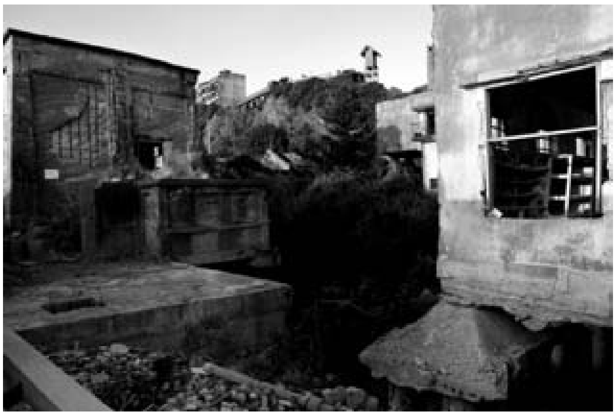

Fig. 1. Ruined time on Hashima Island (author: Ott Kadarik)

In the architect's words, the affective sense of rupture seemed to be perceivable because of an uncanny shift that was caused mostly because of everyday things left by their owners on the island. He mentioned, for instance, a television set from the 1970s with big white buttons and a screen that the size of a matchbox and a bundle of new little pink shoes of school-children, which moss had grown through. He remarked how everything had started to turn to trash, although the past society was still perceivable. He revealed spontaneously that: "the time of people is cut away from there, but the real time too is perceivable…all is decaying. This is what fascinates me somehow. Like some shift is evolving inside" (Fig. 1).

Kadarik argued that one could experience the specific milieu of the island by seeing Hashima as an inspiring open museum site. The impressions gained by visiting the island were extremely important, even more so than the hidden sacredness of this landscape and the privilege of going there. He stressed the strong inspirational influence of the ruins: If you take these massive concrete shapes [in Hashima] out of the context, then they might be connected with some warehouse building, nothing special…But it is strange and interesting that through its infrastructure this environment is more interesting and exciting than the houses of star architects in the middle of Tokyo… Those do not generate any special emotions. When I look at the technical solutions of houses (in Tokyo), everything is smoothed over, and they are not moving in any way…It [in Hashima] was one of the most exciting architectural events of my life.

Traces of the past everyday life and natural time co-exist on the island, but it is possible to perceive them separately. The architect's embodied experience of the *ruined time* led to the impression of rupture: the uncanny milieu of Hashima is caused by the simultaneity of traces of social time, perceived in things connected with past agencies, and natural time, which has accumulated in the ruins.

Being influenced by his own socio-historical background and current discourses of urbanity, the ruined environment of Hashima led the architect to his subjective historical creation of the island. The mixture of the architect's knowledge of the history of the island and his embodied experiencing of its landscape influenced his thinking regarding meanings and values in urban planning and in his profession. For example, he described and imagined the vernacular development of the built environment through being inspired by an idea of how the island had been built continuously in relation to nature. He portrayed how nature was used for re-building, and compared the development of its surface with organic planning, which is influenced by weather and local spatial conditions: "When a typhoon swept a house away, then next time the house was built a bit differently at another place. So it is about how this wild climate squeezed these people…a house moved to another place, built from different materials." The former high population density and the large number of ruins led him to think of how population density might change building norms. He further connected these thoughts with the value of learning from direct experience, where local conditions offer new inspiration: "Five thousand people managed somehow on this island…never mind that it does not correspond to the norms." Besides architecture and population, Kadarik imagined the arrangement of the past community. As the island belonged to the Mitsubishi Company, he envisaged the lack of problems created by private ownership. He created an idealistic model of a community's way of life as one big family – as a mini-model of the society of Japan. For instance, he visualised a compact and strategic use of space in terms of a gardening community: "People brought soil on ships and all the roofs of the buildings were green. And when the ships didn't bring food, there was still fresh food available."

Considering Ott Kadarik's current architectural projects, it seems he has created his own history of the island, which has influenced his ideas in his profession. His landscape "in the head" (see Schlögel 2003: 248) has been most clearly realised in the project of the *Aidu Pyramid 2030*, which is based on a monumental built complex, where the natural waste material of shale mines will be reshaped into an architectural environment. One might draw direct parallels with the arrangement and development of Hashima Island from its natural source.[6] To give another example, *Makrorajoon*[7], the competition project for Venetian Biennale 2012, in the imagined condition of high population density and compact use of space, focuses on re-building former Soviet blocks of housing, with where gardening and technological developments being integrated in-between and on the roofs of the buildings (see Fig. 2).

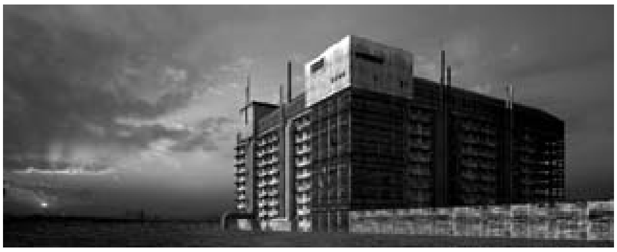

Figure 2. The project of Makrorajoon (author: Ott Kadarik and Mihkel Tüür)

The ruined Hashima is not an abandoned island. New social rules have even developed there. For example, in his comments about taking something with him from the island as a souvenir, the architect stated an unofficial social rule: "This is a situation in which you do not mess with things. When you have already, without permission, intruded on these premises, then you should at least have enough respect that you do not rearrange things there. I did not even open doors there. I left it the way it was. Certainly I moved some trash, but nothing else…In fact, some people are doing science there."

The analysis of Ott Kadarik's subjective interpretation of Hashima Island shows the *heritageization* process from a different angle. By using his subjective "landscape in the head", the architect's experiencing and interpretation of the island contained, besides the acknowledged historical narrative, functional meaning-making through the ideas of his architectural projects. This shows how ruins not only indicate past life worlds (Schlögel 2003: 69), but are also fragments of architectural structure. Therefore, the metaphor of *rupture* is appropriate in establishing the additional value of heritage, which can be seen as an attempt to provide the opportunity for multiple approaches to landscapes of heritage. The meaning of rupture engendered by the *ruined time* on Hashima Island's acts as an *index* for multiple interpretations of "in-order-to", where "place is handled as equipment" (see Pickles 1985: 161). Ruined landscape as an *index* acts as a re-making of history (Crawford 1983: 52, 54; see also Zuker 1961: 128). Ott Kadarik has combined in a useful way, European and Asian cultural urban history, where the ruptured landscape of the island has inspired his thinking about contemporary trends in urban planning and has influenced his projects.

In current heritage studies, the question remains of whether acknowledged institutional heritage creation can tolerate subjective experiential interpretations that attempt to establish the value of subjective understanding and imagination in heritage landscapes. In connecting the value of the ruptured Hashima Island with a wider discussion of the meaning of heritage for current and future societies, there has not been much attention paid to the meanings of affect, senses and embodiment in experiencing the heritage landscapes,[8] aspects connected with knowledge of how to participate, see and hear in landscapes.

In coming back to the debate over whether the landscape of Hashima Island should naturally decay or be preserved as the cultural heritage of an industrial community, this island in its current ruptured identity has great symbolic and embodied weight in terms of learning from *ruined time* evolving in landscape. To experiment further with the idea of rupture as an embodied view of experiencing heritage landscapes, placing Hashima Island under the control of

UNESCO as a protection site could additionally increase the value of the island's ruptured identity, which besides its industrial history would endorse the participant's subjective *heritageization* through the creation of personal histories. This perspective on heritage is not connected with promoting a strict narrative of the heritage site but deals with a specific continuity through subjective historical knowledge.

This research is supported by the European Union through the European Regional Development Fund, and Estonian Ministry of Education target-financed project SF0130033s07.

Notes:

[1] Being inspired by Asian urban environments, Kadarik has published, in Estonian architectural magazines, a couple of essays discussing urban-planning and architecture illustrated with pictures, among them pictures of Hashima Island (his homepage www.gmo.ee). In this study, I do not concentrate on his photographs.

[2] http://en.wikipedia.org/wiki/Hashima_Island

3 http://www.ne.jp/asahi/saiga/yuji/gallary/gunsu/g-text-e.html; http://www.weirdworm.com/sneaking-into-hashima-japans-battleship-island-ghost-town/; http://www.vice.com/en_uk/read/battleship-island-update; http://www.weirdworm.com/sneaking-into-hashima-japans-battleship-island-ghost-town/; http://www.uwosh.edu/faculty_staff/earns/hashima.html

[4] See also http://videosift.com/video/Abandoned-Japanese-Island

[5] In terms of political discussion, the narrative of the heritage of the island's modern industry has been criticised because, on the island during World War II, South-Koreans were forced to work under very bad conditions (Gunkel 2009). It has been argued that the buildings in which Koreans were recruited for labour by force should be placed under the control of the UNESCO World Cultural Heritage: http://english.donga.com/srv/service.php3?bicode=040000&biid=2007081567758).

[6] Project created together with Mihkel Tüür http://kta.ee/aidu-pyramid-2030

[7] Project created together with Mihkel Tüür http://kta.ee/venetian-biennale-2012

[8] In museum studies it is initiated the debate about the representation of cultural heritage in order to criticise the invention of nostalgia for the rhetorical UNESCO narrative. For example, in representing heritage sites in Japan alternative sensorial studies have made and argued that senses should be natural part of the site-specific heritage (see Cox 2011).

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Time Perception and Urban Landscape Structure

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Abstract: This paper aims at checking how the time perception characterising a specific period and culture has affected the production of spaces and, in turn, the shape of the urban landscape. In the studies on urban landscape production, the convergence between space and time perception has not yet been investigated. In this context, time has been considered as 'memory', or else as the means of stratification of signs and meanings that define a landscape. Nevertheless, in the course of time the different civilisations have referred to different concepts of time. This affected language and spaces produced by man: from the 'cyclic time' of the Medieval Age that produced spaces perceptible only for single parts, to the 'structured time' of the Modern Age that produced modular and perspective spaces, and to the time perceived by the contemporary man characterized by simultaneity that has produced the mixed rural-urban contemporary spaces.

Keywords: Time Perception, Space structure, Urban Landscape.

1. Traces of time

The nature of time is largely unintelligible. Many difficulties in its study are due to the fact that time perception is indirect, since it is not possible to perceive time in tangible and direct ways such as light, sound or smell; time is perceived only in relation to its effects on people, things and events. That 'oblique' knowledge, obtained by observing the effects more than the phenomenon itself, strongly links the achievable knowledge to the knowledge models adopted to observe the world, namely to the way in which we are used to 'looking at' reality and understanding its phenomena. In relation to the different historical ages and civilizations, the succeeding knowledge models have produced different perceptions of reality, time and space. The diversification of the interpretative models of time and space has also taken place between coeval civilizations. It has produced the idea that "two civilizations never live conceptually in the same time and space" (Mumford, 1961).

Traces of time are melted into language and things to attest the different ways in which the passage of time has been perceived. The verbal expressions that contextualize the actions in the course of time in the various languages give a hint about the different ways of perceiving the flow of time in different cultural environments. The German language, for instance, lacks the imperfect form, namely lacking the notion of an action continued and repeated in the past, in the same way the Latin language lacks the present perfect but has only past tense: it can be said that ancient people felt the past as finished and dead for ever, while we feel its unavoidable reverberation in the present (Toraldo di Francia, 1994). On investigating the linguistic differences also at a local level, we find that the Neapolitan dialect lacks the future form. In order to express it, it is necessary to use present with an adverb of time. This lack fully represents the superstitious nature of a population that hardly expects anything from the future. The linguistic articulations show the several ways in which different cultures place the action in the sequence of time, which causes different ways of telling a story and mainly different routes of articulating its development, placing the single facts along the sequence of time.

This paper investigates how urban landscape construction is influenced by time perception. To consider an urban area as an urban landscape means to consider the role that every single built element has in the comprehensive spatial order and the way the space is perceived; it leads to the consciousness of the existence of 'different' and intangible values expressed by spatial, material and formal characteristics. Landscape polysemy and its semantic width leads us to consider a wide range of approaches in reading spaces and opens our eyes to new ways of seeing things already seen under traditional approaches such as urban planning.

The building of space by man is strictly linked to the idea that man has about time and about the way in which time develops during the day, during life or in a historical period. The everyday activities are marked by time and are developed in spaces which are organized and specifically adapted for the activity, its length, its collocation in the daytime, its relation with other activities and their respective time.

Urban landscape represents, in any culture, the set where the story of the community's life is represented. As a kind of novel, the urban landscape entails the conceptualization of an articulation and an order of time of the spatial story. It is necessary to define what has to be seen first and put in the foreground; what is to be glimpsed; what expectation should be given; what will be the final effect of the story and in which way; the sequence in which the phases of the spatial perceptive story should develop: all that occurs over the course of time. *Before*, *during*, *after* and *finally* are the adverbs of time associated with the perceptive use of urban landscape.

The perception of time affects the realization of urban landscape as well as the production of pictorial space.

1.1 Variable time and the organic urban landscape

In pre-modern rural societies time was set by natural events. Sunrise and sunset, alternation of the seasons and the occurrence of natural disasters were the main References: used by common people to set an event or an action in its time context. In the Roman Republic, the passing of time was communicated by the herald who announced sunrise and sunset and, only later on, midday.

Time measured in this way was variable and flexible, subdivided in 'before' and 'after' those three crucial moments of the day, which according to the seasons were more or less close to each other. The maximum arrangement in the structure of time that spreads in the Early Middle Ages, thanks to Monasticism, referred to the moments of prayer according to the Rule of St. Benedict. The day was divided into 'canonical hours' which changed according to the sun cycle, since they measured the gap from the sunrise, from sunset and midday. Therefore time was perceived as a sequence of days with variable dimension, longer in summer and shorter in winter, characterized by weather conditions. Even now in languages derived from Latin, chronological time and weather coincide.

In the Early Middle Ages, culture and everyday life were based only on two temporal dimensions, one inside time and one outside it: present and eternity. Medieval man lived inside time perceiving only one dimension: the present. His future horizon, his dream of happiness, was transferred outside time: in the eternity. Everyday life developed in a context characterized by a weak economy often in crisis, making the future subsistence very uncertain. Most of the population ate poorly and insufficiently; the incomes were very low. In the regular years, the expense for food was about 70%-80% of the income, making saving impossible. Most workers were paid by the day. Had they not worked a day, they would not have eaten. The ordinary years, without crisis, were not the rule, since epidemics and wars alternated with famines (Cipolla, 1974).

In this framework, characterized by extreme uncertainty about the future, man was mainly interested in the earthly dimension of the present.

The only hope for the future was projected outside time in the Eternity. During the Middle Ages, Mumford (1961) notices that: "space and time form two relatively independent systems. First: the medieval artist introduced other times within his own spatial world, as when he projected the events of Christ's life within a contemporary Italian city, without the slightest feeling that the passage of time has made a difference. [Second:] Things could appear and disappear suddenly, unaccountably: the dropping of a ship below the horizon no more needed an explanation than the dropping of a demon down the chimney. There was no mystery about the past from which they had emerged, no speculation as to the future toward which they were bound". What Mumford reveals seems to be a result of the one-dimension with which time was perceived, more so than a result of a separation between space and time.

In fact the past was perceived as finished and dead for ever, the future was considered as hostile and unlucky; in the Middle Ages there was only 'here and now', what remained belonged to Eternity and was outside time. This fact leads artists, as stated by Mumford, to contextualize in the present, the events of the past, and to dissolve the other temporal forms in a transcendental dimension.

In medieval pictures, the action occurring in the present was represented in the foreground, while the flat and dimensionless background referred to Eternity, to the 'out-of-time' that swallowed the past and from which the future had not yet emerged. As Panofsky (1982) observed, medieval space representation was absolutely appropriate to the way of perceiving reality and life in this period – the lack of perspective was not due to technical ignorance, nor to a lack of observation, but to the lack of interest in defining earthly scenarios and horizons in which to place human actions.

In the present dimension, the time considered was the 'cyclic time' measured by the seasons, in which one day followed another; always being the same, and yet different. In the space of the early medieval age, the units of time and place coincided; life developed 'here and now' in a very restricted range.

The architectural space of everyday life seemed flat and without specialization: human beings and animals lived in the same room where people cooked, slept and worked. From that spatial uniformity, only the spaces representing the aspiration to 'go out of time' came about, such as cathedrals, monasteries and fortresses. The urban landscape of the early medieval city was not organized or hierarchical, but flexible and variable, strictly tied to the natural context, like time perception. The western cities of the early middle ages belong to two typologies: the ones placed on the ruins of ancient Roman cities and the new villages. In the first case there was the problem of the use of an urban space being oversized in relation to the new medieval requirements and for which there were no longer the technical and economic conditions to make it work.

The ancient urban space was abandoned and cannibalized, or deprived of its structure and transformed to make it suitable for the present. According to the indifference of medieval man to the past and its tangible heritage, the ancient remains were demolished and re-used, as the present needs were more important than those of the past. "The block of houses were divided by new, winding and indirect routes" (Benevolo, 1993). Also in the new villages, urban space was winding, irregular and characterized by the lack of the narrative space dimension articulated in the course of time.

The time perception, based on the present-eternity axis, was shown in the urban landscape of early medieval villages, where each element did not belong to a general (spatial and temporal) sequence, but should be perceived separately through a close view, for single subsequent moments of the present. There are no References: to other succeeding spaces and other dimensions, except when there is the reference to Eternity in the endless steeples of churches and cathedrals. There is no 'before' and 'then' in medieval space perception but just 'suddenly'. Suddenly the view opens onto surrounding natural landscape, suddenly the winding street widens onto the cathedral forecourt, without previous hints, previews or reference points. It is a space containing only two hierarchical levels: the diffused spaces of everyday life and the extraordinary and eternal space represented from time to time by fortresses, monasteries and cathedrals around which villages develop.

Ordinary and extraordinary did not include intermediate measures in the early medieval urban landscape, in the same way as present and eternity had no other temporal dimensions to mitigate the sharp gap.

1.2 The structure of time and the perspective landscape

Since its birth, the city has caused the rise of a different relationship with time.

The relationship between space and cities is twofold, on the one hand cities accelerate the time of change, and on the other hand urban space and places preserve the memory of the past. "A city is, at the same time, an engine allowing entrance into the future in a faster way and an anchor keeping the link to the past. In both cases it is a machine for time travelling" (Benevolo, 1993). It was in the city that time perception was first systemised. The measurement of time has always been associated to the urban dimension; cities were the place where the heralds announced the passing of time and where the big sundials were positioned.

The urban renaissance of the 11th and 12th century marked the birth of a new concept of time. The new urban arrangement of the late medieval city and the consequent division of work produced the passage from subjective time to objective time. The urban work of craftsmen, merchants, innkeepers, bankers was no longer linked to the occurrence of natural events but it had to be synchronized with other jobs. In the new arrangement of everyday life, time had to be measured constantly and had to be the same for everyone. In cities, time was standardized, its modulations and articulations of rural memory were settled and made homogeneous.

Starting from the 14th century European people undertook the production of more exact engines to measure time. After a few decades all cities had their own mechanical clock placed on a bell tower or on the façade of the town hall (Rykwert, 2003). Those clocks were often associated with the sound of bells or the evolution of automatons. Time, indeed, was not only measured but also announced by sometimes spectacular performances. The most important innovation of the mechanical measurement of time consisted in making the passing of time public and unambiguous. This great work of public announcement of time allowed the citizens to synchronize urban activities and to improve urban work. The variable and flexible time of personal experience was replaced with the objective and rigorous time that could be measured exactly.

This idea of time affected the urban landscape of the Later Middle Ages; the building tissue consisted in repeated unvaried modules (the so-called Gothic Lot) which always produced different effects according to the morphologic adaptation, following the rule of repetition in the variation.

Space became a continuum that could be divided into modules and reproduced unvaried like hours. Each 'module' in turn was subdivided into areas used for different functions and used only in certain hours of the day.

The first appearance of the clock can be seen as one turning point in the perception of time; the clock has separated time from human events; it contributed to create the independent world of science, made up of measurable mathematical sequences (Mumford, 1961). The abstract division of time into hours, minutes and seconds was the first abstract effort to systemise a natural phenomenon carried out in the Western World (Landes, 1984).

In the Later Middle Ages time changed its nature and "became hour spaced to be controlled and organized" (Le Goff, 2006). The organisation of public time produced radical changes in the psyche and everyday life of western man (Preto, 2002), which were followed by changes both in public and private urban space. Starting from this period space became gradually more differentiated according to the various activities developed and the different hours and days in which they were carried out. Each activity had its own proper space and time.

That transformation is clearly shown in the evolution of public urban space, as pointed out by Berengo (1999) – "two reference points have been usually preliminary in orienting the development of the collective life of a city. The church, by healing souls (…), and the place for meeting and getting together in order to discuss and decide the common interests deriving from the shared urban life. The two needs did not always require different spaces and for a long time holy places have accommodated the civic institution for their functions and, in particular, their meetings. (…) Between the 13th and the 14th centuries many European squares were crowded with men summoned to listen and also (not always) to make a decision". The first distinction between public space and a holy one happened during the Renaissance by the creation of the public squares of the Podestà or Seignory, characterized by the building representing the laic power and by the clock tower. Public time and public urban space arose contextually in the same period.

The measurement of time and its subdivision into a grid made up of hours and minutes was followed by the measurement of space: perspective transformed the visual relation with reality into a quantity ratio.

The relations of the objects in the space were analysed and each spatial composition was systematically placed in this new scheme, framed by the foreground, the horizon and a vanishing point. In the Renaissance, objects did not exist separately; they were coordinated with other objects within the same visual grid and should be in scale (Mumford, 1961).

The background of Renaissance pictures was a natural landscape, an urban perspective, an architectural foreshortening, pointing out a renewed interest in the external world and reality: the horizon of human actions was again an earthly one, and was placed again inside time.

The whole human temporal experience was taken into account: the past with the erudition of ancient scholars, the present and the promising future. A wave of optimism pervaded the Renaissance leading man to consider again the possibility of reaching happiness in the course of his temporal life. Toward the end of the Middle Ages, it was already found that, after a few generations, people of all social levels improved their quality of food, clothes, houses, regaining confidence in the future (Cipolla, 1985). The urban space became airy. Any element was no longer conceived and worked out to be perceived singularly, at a close view, but became an element of overall composition where the role of each building arose within a global view.

1.3 The arrow of time and the infinite landscape

The 'measured' time greatly affected western culture playing a basic role in scientific revolution. During the 17th century, Galileo initially and then Newton worked out the basic laws of motion, organised in the 'Principia Matematica' by Newton. Indeed the discovery that time could have been included in the quantitative formulation of physical laws was of crucial importance. The scientific paradigm set up by Galileo and Newton dominated undisputedly until the 20th century.

Time defined by Newton was absolute and independent of other external phenomena, "*tempus absolutum in se et natura sua sine relatione ad externum quodvis*"; it was a time flowing always in the same way and was not affected by human and natural events. In the laws of motion the concept of acceleration arose; in its formula, time is squared, and even in the time perception of common people, time became an oriented straight line whose arrow pointed at infinity.

Furthermore, space lost its concreteness in the laws of motion. The new notion of time was associated with a new notion of space; space became a unique infinite domain and not a character of the bodies occupying it, being different according to their nature (Benevolo, 1993). In abstract time, independent from human events, there was a corresponding metaphysical space – an absolute space that contained the notion of infinity. Space and time began being linked in the laws of physics and conceived as a fixed stage where events occurred, but which was not affected by what happened inside it; it was obvious to think that space and time lasted endlessly forever (Hawking, 2005). Infinite time has a quite different meaning from the medieval concept of eternity: eternity is outside time, while infinite time is a real temporal dimension that perpetuates itself endlessly. In this period, indeed, the future became an increasingly real temporal form: the infinite time dimension supported the hope for an everlasting and cumulative human progress. The concept of urban landscape was incited to go after the new notion of infinity by its own means, namely by the perspective order of elements (Benevolo, 1993). The Renaissance perspective applied to urban landscape was a 'finite perspective' with a real vanishing point; often it was aimed at correcting and regulating the visual perception of the irregular spaces inherited by the medieval tradition.

But the Renaissance space was always based on the centrality of man, who used and perceived it, and represented the reference point for seizing urban space measurements. The urban axes conceived in the most important European towns up to the mid-16th century produced 'short' perspectives within the previous urban tissue, which did not exceed one kilometre. The situation changed starting from the 17th century when urban axes began forcing the physical dimensions of perspective up to the limit of visual perspective, attempting to explain the concept of absolute and infinite space and time.

Nevertheless, urban transformations were no longer a collective product directed by a master builder; in this period they were conceived and designed by famous architects who were sought after for their skills by all the European royal courts, and they could not miss the importance of new scientific discoveries. The new straight layouts became more frequent and wider and improved the views of the vanishing points (Benevolo, 1993). The new trident-shaped roads outlined a perspective triangulation within the irregular medieval tissue that aimed at visually connecting places far away from each other. The arrival points were shown by obelisks, columns and monumental facades. Apart from the narrow urban spaces that were strongly bound to the medieval layout with which they came into conflict, the perspective layout produced spectacular compositions in the large extra-urban landscapes, where these works tried to adapt the whole landscape at a topographic scale: the great extra-urban royal palaces Versailles, the axis Rivoli-Superga in Turin and the royal palace of Caserta.

2. Time fragmentation and the destructured landscape

A new 'time revolution' took place in the first years of the 20th century, when new views of physical reality began challenging the Newtonian paradigm, unhinging the concepts of space and time as absolute entities and abolishing the linear representation of time. Relativism and quantum mechanics characterized the scientific debate of the early 20th century, becoming the new 'scientific revolutions'.

The postulation attesting the constant speed of light led Einsten to reconsider the concept of reference system and then the meaning that the tripartition of event space among past, present and future has for each single observer.

This was the end of 'objective and separated' space and time, meant as a priori forms by Kant; the background against which the phenomenal performance stands out. They was replaced by the space-time *continuum*, being no more object but subjected (*subjectum*) to the mass-energy action that distorts it by bending and slowing it down.

In the same years, the dynamics of complex systems and quantum mechanics inflicted a strong blow to Laplace's intelligence, namely to the possibility of the perfect knowledge of the future, given with extreme accuracy by the exact knowledge of the present. Heisenberg showed that for complementary physical dimensions, such as energy and time, it is impossible to make a perfect and joint determination of their state, given the postulations of quantum mechanics (Seta, 2010).

In everyday life there is the ever-increasing perception of time acceleration that seems to increase its speed but is losing the future horizon. In the last fifty years scientific and technological transformations have followed each other at a frantic rhythm, the *change* has affected everyday life, becoming the prevailing issue of the new millennium.

As pointed out, time is perceived only through its effects, through the changes that take place during its course, therefore the continuous development of those changes in the last fifty years has produced the perception of a sudden acceleration in the flow of time. Man feels himself under time control and gets sucked into a time spiral. If the impossibility of anticipating and acting on future events takes away the future perspective, the continuous development of change places the present in the foreground annulling the past.

From the last two decades the present has become hegemonic. From the common people's point of view, the present is no longer the outcome of a slow development of the past; it never shows the outline of possible future scenarios, but imposes itself as an accomplished fact (Augé, 2010).

Like in the Middle Ages, man is again concentrated on the present getting rid of past and future dimensions. There is a general lack of interest in the Future: the new generations do not seem to evolve compared to the previous ones; the world itself seems to increasingly worsen under the environmental pressure and climate change. Also the past has changed: "the past tense tends to disappear not only in colloquial language but also in formal language" (Toraldo di Francia, 1994) to give way to present perfect. Indeed, "starting from the Sixties people have begun to 'investigate' the nearest past in order to make a different, transfigured, image of it. Most of the cultural products surrounding us often get their resonance by provoking feelings of nostalgia and regret for the nearest past" (Morreale, 2009).

The contemporary man places himself in a narrow temporal interval that goes from present perfect to the nearest future and is mainly based on the present dimension. The contemporary present is completely different from the analogous medieval dimension.

The present of the medieval man was a compact unicum, while in the contemporary age the present is fragmented into many contextual splinters. In everyday life new technologies and globalization allow us to exceed the limits of spatial distance, in turn allowing us to act and intervene also in places far from the one where we are placed. At the same time we can be brought up to date 'in real time' about what happens all over the world. Thanks to new technologies we can do many things at the same time. The present time is then the 'simultaneous' time. It is the time spent for doing many things at the same time. It is the time of the present that expands and increases itself.

The fragmentation of time is clear in literature. In the contemporary novel there are no compulsory sequences of temporal phases ordered from the beginning of the story to the end. Time is totally unhinged and there is no chronological sequence; the facts are told through the continuous swing between different temporal dimensions, often through different points of view with different storytellers; each one enters into the plot with his personal system of space-time reference, according to how and when he played a role in the main event. In so doing, the entire story is placed on the present level and everything becomes simultaneous. It is a technique taken from the movies, which was probably the first to fragment the plot as it is a very versatile means to achieve this purpose.

From the space point of view, there is the lack of interest in the three-dimensional representation and perspective that gives fixed points of view. Already during the past centuries perspectives were multiplied both in urban and pictorial landscape: during the Baroque period, the monocentric forms were replaced by the ellipse-shaped ones that had more focal points, and the typical urban layout with three axes converging on a square, the so-called 'trident', did not give a privileged perspective, but multiplied it by three. In artistic fields, the process of space destructuring for a simultaneity of views culminated in Picasso's pictures: in the *Daimoselles d'Avignon* (1906-1907) "the perspective is broken, split into volumes, scanned, marked, affecting each other" (De Michelis 1986).

The destructuring of tangible space is also shown in contemporary architecture, which breaks symmetry and sequential reading of spaces producing the simultaneous space and the multifunctional space.

The 'controlled destructuring' of space in contemporary architectural works brought about by the big world-famous 'archistar' has no correspondence on an urban scale where, on the contrary, the 'uncontrolled urbanization' spreads. The contemporary urban landscape is the anonymous and amorphous space of peri-urbanization. It is a destructured space without privileged points of view and perceivable form. It is a space without specialization where the extremes coexist: city and country, factory and residence, shopping centre and cottage.

The lack of future perspective has also placed the physical space at the level of mere contingency. The contemporary urban landscape has no public space. Buildings are freely placed in wide public areas which are without any formal quality and so not perceived as structured space; therefore they are not very usable as public spaces. Interest is given to the interiors and to private residences, while the external space – often empty, shapeless and neglected – shows the incapability of the contemporary culture to express new forms of collective life by means of a new urban environment.

The lack of public areas is exasperated in the urban sprawl. In urban sprawl, roads and squares of the historic city are transformed into highways, wide stretches and junctions, where pedestrians are not expected.

The urban public area is a space that feeds itself on the future: a community, in order to produce its own expression of public space, should have an idea of a common future, a target to hit, a project to accomplish. It is not by chance that the only other age that has denied citizens to have urban public spaces was the early Middle Ages, which was a prisoner of the present too.

3. Conclusion

During the centuries the perception of time has changed several times, affecting the way in which man has designed and built space. From 'cyclic time', linked to the natural rhythm of the early Middle Ages, we passed to the 'linear time' of the modern age, and then to the 'spiral time' of the contemporary age. The loss of an absolute temporal reference has led us from an objective time to a subjective one.

The contemporary perception of time, based on the present, and on the simultaneous instant which is divisible and multipliable, without the future and the past tense, produces spaces without time.

But time is an unavoidable characteristic of quality urban landscape. Contemporary people appreciate urban beauty mainly inside historic cities, even if they live in a period that seems to get rid of past experiences, but the contemporary appreciation for the past is often transformed in its mystification. Historic cities become an economic resource as tourist attractions are being embalmed or considered as museums and transformed in empty containers for leisure time. The past is not considered as a mine of knowledge from which to learn for facing the present and building the future. It is no longer a model to be reinterpreted in the light of the new contemporary sensitivity. Historic cities are being crystallized in their physical appearance but deprived of their intangible parts.

What makes ancient cities unique is the tangible presence of time. In contemporary urban landscapes there has not been the stratification of customs and meanings, whose sedimentation produce, in historic cities, the intangible values defined as identity of places. The contemporary urban landscape has no identity, as identity is the product of a slow process of sedimentation and absorption of external solicitations and internal reactions occurring during long periods of time.

The absence of a future perspective makes it difficult to develop a spatial project provided with meaning. Contemporary urban landscape represents the lack of prospects and aspirations of communities living in it.

The importance of the present time that has no past and no future makes the creation of urban space a self-referencing and self-representing exercise based only on contingency. Long road axes only for vehicles, on which there is the casual alternation of diverse buildings (houses, shopping centres, and remains of rural activities) placed in a long sequence where each object has its own size, orientation, system of space-time reference which are incomparable with those of adjacent objects. Each object randomly plays its role in the 'spatial' story, each time beginning with a different novel: mock gothic capitals, big boxes, private grounds with garden gnomes, big car parks, orchards, all types of reinforced concrete mock arches: pointed, round, and ogival arches.

Everyone is inspired by his own story to carve out his own space, without interacting with surroundings but contributing to the production of the 'space of dissonances'.

The lack of a shared project based on the common view of the future and the incapability of reinterpreting the past for reinforcing the present produces the contemporary destructured urban landscape.

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Learning from the Architecture of Production Landscapes

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Abstract: This paper deals with educational experiences of architectural design in the complex stratification of artefacts in production landscapes. Reading the morphological features of places is connected with their cultural identity and the history of changes caused by productive processes. Design learning entails the kind of relationships that the landscape project involves through the regeneration of sites, including their cultural heritage, in new living and working spaces; the sustainability of new production processes and uses enhancing and respecting their identities; and the architecture that can properly interpret the processes of landscape construction giving new roles to fringe and waste spaces.

Keywords: heritage, architecture, landscapes, processes, archaeologies, post-production sites, reclaiming, reuse.

1. Introduction

In the redevelopment of landscapes shaped by spaces, infrastructures and architectures dedicated to inactive processes of production, what can feed that 'faculty of forming, elaborating and developing the content of sensorial experience'[1] that is revealed in the imaginative strength of projects?

Confronted with the spread of abandoned production sites, it is increasingly evident that it is no longer sufficient to select and seek to preserve prominent factories as museums in themselves. It must be possible to refer the definition of methods and good practices of intervention to a larger framework, structured on the relationships that architecture and infrastructure have with the corresponding elements of the landscape, gathering important factors of identification in the articulation of open spaces.

The reality of former productive areas in urban and peri-urban environments constitutes a growing problem for project design. Confronted with defunct industrial complexes that remain included in the urban fabric and assume a considerable value through their location, especially in view of the progressive increase in the density of construction, many similar structures outside urban centres remain as 'waiting areas', excluded from the countryside. Their potential is difficult to recognise or difficult to manage in view of the large volumes and large areas involved.

For these sites it is necessary to put into practice a capacity for design imagination that includes reconversion for productive ends, in accordance with sustainability and promotion of the cultural stratification of the territory. Post-productive sites should not be understood solely as land that is still available for occupation in an indiscriminate manner, but should give life to new landscapes that express qualities in terms of environment, identity and beauty.

The didactic experiences presented here concern the training of architects both in integrated project design workshops and in master degree courses and specialisation in Architecture at the University Iuav of Venice.

The themes and sites for study presented the students with the need for interpreting the contemporary value of these *found forms*, architectures and archaeologies, revisited as generators of transformation, creators of a necessary change in the identity of places, projected onto the creation of new vital landscapes.

The cases taken into consideration involve areas, buildings and infrastructures predominantly in a state of abandon; vast areas whose formal characteristics are the result of particular productive processes and of the need to use the resources of the territory. Mostly these are complexes of great size, which have taken on and integrated into their own formation a relationship of necessity with geographical characteristics, the hydrographic system and the induced or assumed morphology of specific infrastructural systems.

Unlike those sites of interrupted production where the key role they have in relation to certain characteristics of the countryside remains to be identified, an architectural project directed at sustainable transformation can only interpret and give form to *a new system of relationships* born from the capacity to form part of a process of *stratification* that must be considered active and open.

It is in these cases that the reading of existing conditions and stratification of elements and relations causes these same *infrastructural systems* to constitute objects of attention and sources of inspiration, making recognisable the sense and the role of formal articulations that reassign many of the technical forms to the cultural heritage of the landscape.

In these cases design imagination gets impressions delving into memories and uses, as an integral part of the variations of identity of the sites, a potential interpretive structure for their future set-ups. From these identities, also recognisable through what is identified as 'archaeologies of production', there emerges a vast heritage, made up of places and architectures, waiting to be reactivated in the framework of an appropriate reassignment and safeguarding of the territory.

2. Industrial heritage and cultural identity in the transformation of landscape

The reconstruction of an *image* that summarises a place, first of all makes the characteristics and systems of relationships recognisable through a structuring form or figure within which various processes are developed, determining the articulation of architectures of land and buildings as well as of infrastructural elements.

Learning project design, when it is aimed at the transformation and regeneration of production landscapes, leads to a confrontation with a complex reality, to be interpreted through various points of view and through the acquisition of a specific capacity for *integrated reading of the morphological structure*, related to the construction of the large scale production system.

This formal structuring, however, cannot take place before an attentive analysis of the installation's characteristics and of the capacity of the productive process to adapt itself to pre-existing infrastructure, the topography and the hydrography. In an integrated project design of the landscape, the need to focus attention on several aspects and specifics of the discipline is directed by the ends of the intervention and by scenarios that express clear strategies of systematising physical, environmental and cultural resources. In that way the project can be an active part of a diffuse process of reassignment that includes making territory safe.

The strategy of intervention must however be defined from the identity of the sites and the value of the heritage constructed for the community and in relation to the landscape, with an accurate assessment of the potential for reuse of the areas in question.The value attributed to the wealth of production will in this sense be recognised as much in relation to the architectural quality as to it being part of a system that forms the landscape, inserted into a morphological structure of the territory.

The process of critical evaluation of what exists, besides historical research, feeds on the knowledge of the transformations undergone by the sites in question, as do projects already expressed for the same sites, which place them in relation to the social and economic aspects of contemporary life.

A reconstruction and design that recounts the most important phases of transformation thus becomes fundamental to appropriately read and interpret the complexity of the landscape. Recognising the formal structure of the settlement in its real state and the way in which the topography has directed the construction are essential to conduct the dialogue with an identity that the project seeks to share, rethinking it and making it topical.

In the sustainable construction of new landscapes for post-productive territories, it is necessary to be able to imagine places that are still identifiable, vital and socially integrated into the life of the territory, capable of recovering a new dimension of production.

Evidently it is no longer acceptable that the alternative to museumisation should be indifference to the value of these places, which if not leading to their complete loss, very often leaves nothing but a weak trace, composed of containers emptied of sense and excluded from any role within the landscape.

2.1 Post-productive landscapes in Val Brenta

A first case study relating to these themes concerns the teaching experience at the University Iuav of Venice in the academic year 2011-2012 as the second workshop in the master course in Architecture with entitled Landscape and Sustainability.

The integrated design course, made up of teaching Architectural Project Design, Restoration and Structural Project Design[2], required students to develop a project for the redevelopment of the Guarnieri area located on the left of the river Brenta at Carpanè, part of the municipality of S. Nazario, on the opposite bank of Valstagna, in the province of Vicenza.

The teaching programme is related to the problems of project design in areas that have undergone considerable transformations

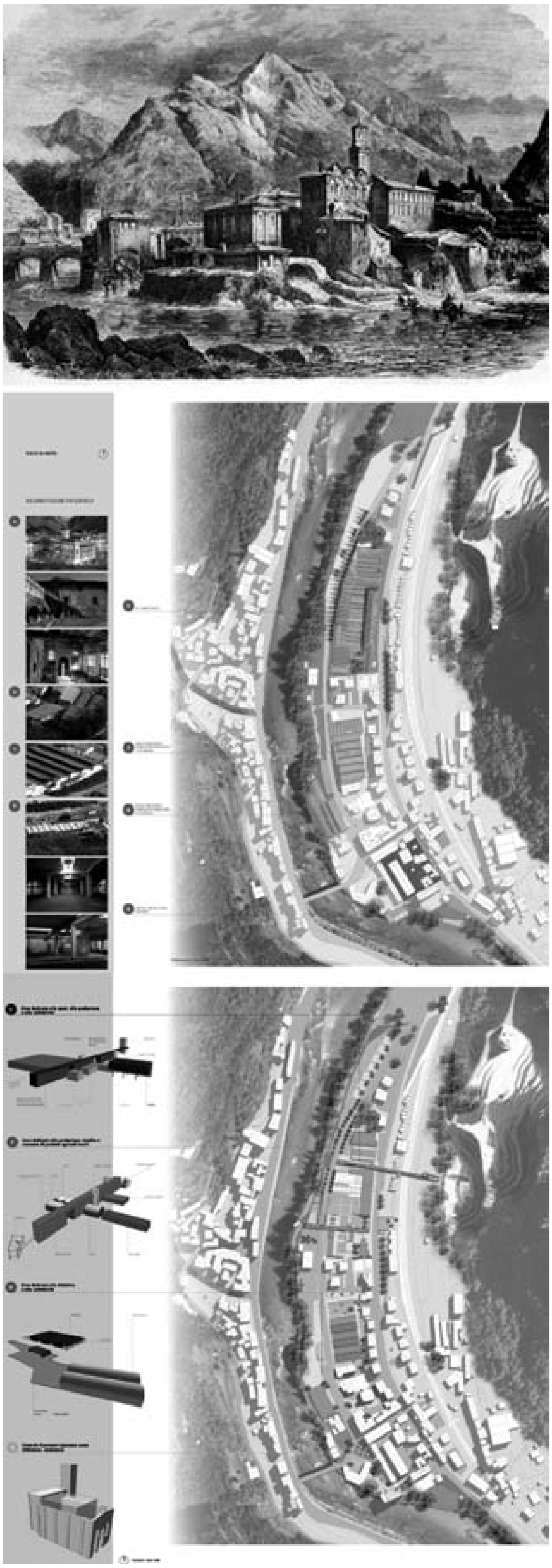

Fig. 1 The abandoned industrial area of Carpanè in the Municipality of San Nazario (VI) along the left bank of River Brenta. From top down: a) drawing dated 1874 by Adolf Cloos; b) map of the area at present; c) one of the students' masterplans by G. Campanile, L. Della Dora, A. Marchesini, C. Paone, L. Pietropoli, M. Spinelli, A. Tiozzo

in the course of history, in response to various needs for defence, use and the management of water for productive ends. This has led to a sequence of phases of knowledge, not only to understand the stratifications and modes of sedimentation of actions and human productions, but also to understand processes, equilibria and conflicts in the current and foreseen transformations, both territorially and for the urban setting.

Starting from a re-reading of the constitutive complex, the projects are confronted with the reasons and modalities of use of the resources, no longer directed only at the needs for use, but also at a diffuse improvement, capable of generating new spaces, both productive and aimed at re-inhabiting the abandoned landscape, sustained by activities aimed both at local communities and at sustainable tourism.

To this end the project has been directed to reinterpret forms and characteristics of sites with an articulated stratification of productive structures, in relation to the structuring of the territory and the transformations under way, linking the current spaces and means of use with landscape environments and systems of qualifying relationships (Fig.1).

The students were first of all encouraged to think critically and express their own evaluations:

- On the value of memory signs and of a palimpsest that directs the project with different forms and modalities;
- On the most appropriate modalities of representation for the characteristics and the morphology of the sites;
- On the structural value of the different production processes;
- On the architecture that expresses its own added value by entering into a relationship with the same process of construction of the landscape, until becoming a constitutive and identifying part of it;
- On the potentials of these “found forms”, in relation to the new roles and uses of these marginal spaces.

The workshop initially dealt with an information series provided by the *Osservatorio del Canal Brenta*. The first session of instruction and a site visit guided by the course leaders and local administrators immediately made available to the students the materials necessary for starting the project design process. A seminar with geographers, historians and urban planners who are experts on the territory and its problems also offered some specialist points of view on the Val Brenta, its identity and role of the terraced landscapes and the local history as it relates to the principal architectural structures and urban centres which are the objects of study.

The development of the design course projects followed three phases: the definition of the initial masterplan, the architectural project, the updating of the masterplan “as a plan by projects”. With this modality over 40 projects were developed, continually verified in the ambit of 15 different masterplans, created as landscaping projects and initially defined in general terms, but progressively specified in relation to architectural projects.

The masterplan in these stages was made up of a fundamental overall picture, a guiding image, in which strategies and architectural choices were made for the open spaces, but above all as a guide to attack the various interventions, conceived as a project on the ground, articulated and flexible, but with clear choices on the configuration of a whole which is designed to delineate both new production spaces and new habitation sites in the landscape. For this purpose, the definition of the masterplan had to confront:

- the riverside landscape delineated by the mountain slopes, mostly terraced, that restrict the valley’s base into a narrow corridor, concentrating infrastructures, productive areas and urban nuclei;
- an architectural complex to be preserved, made up of the former Guarnieri hydroelectrical power station and the surrounding industrial archaeological sites, variously transformed, but still closely linked to the characteristics of the riverside landscape and the use of water for industrial ends.

The definition of a *masterplan* as an *architectural plan* required a strategy of action, supported by a critical reading of the area for intervention with respect to the landscape and the urban settlement, which stems from the most accurate articulation of architectural projects related to the ground plan.

The projects using the masterplan covered relationships considered structural and identity-making for the landscape, capable of supporting reassignment of the existing structures and the riverside landscape as a location for those activities participating in the process of sustainable regeneration of the territory. The proposals for recovery and transformation of the abandoned constructions, held to have value, also interpreted their different potential as new public spaces capable of constituting extensions of the inhabited centre.

Every project in its specific architectural development progressively verified the directive capacity of the masterplan, interpreting the choices of installation and seeking to improve the relationships with the qualifications of both the intermediate spaces and the margins.

2.2 Quarry sites and the project of landscape recovery

Another teaching and research experience related to the subject in question is connected to some degree theses[3], which concentrated the attention of the project on the need to regenerate quarry areas.

The exhaustion of the extractive potential of many quarries has led to the creation of many “voids” in the territory, areas that are subject to processes of degradation, and to solutions that often do not recognise these spaces as resources for the territory or as spaces for the creation of new landscapes.

The design of sites devoted to a productive cycle, in view of the complexity of environmental conditions and risks, must necessarily be directed to their re-invention. The capacity to re-think, re-imagine and re-generate landscapes, can in fact only start from the knowledge of the productive process that has modelled the ground, determining specific topography, buildings, infrastructures and spaces for movement and storage.

Also the redevelopment of the disused quarry areas is often entrusted to environmental engineering works alone, often in a questionable manner, seeking to recover the most evident damage to the soil or mountain walls that have been altered by extractive activity.

The reading and interpretation of the site, beyond the technical and procedural knowledge, will inevitably be linked to an attentive interpretation of the traces of the historical landscape and the topographic conditions preceding the development of the extractive activities and the various phases of transformation connected to it. Besides reading the current state and reconstruction of the various phases of transformation related to the quarry activities, great importance is attached to the knowledge of the relationships that the quarry created through particular infrastructure elements with urban structures, or other productive environments.

The recomposition of such data obviously does not tend to a senseless reconstruction of various altered geographical characteristics, but to the necessary knowledge for a proposed project that includes a critical evaluation of the possibilities of managing productive processes in a construction that is sustainable and that recognises the landscape, saving its environmental quality and cultural value, expressed in the transformation of productive activities.

Through eleven graduate theses developed over two years, different extractive contexts were taken into consideration, from the open-cut ones, to those on mountainsides and plain areas, to gallery quarries, and from those completely disused to those still partly active, for which the proposed redevelopment/ regeneration has involved the management of the extractive process in relation to the phases of construction of the project scenario.

In the various situations, an attempt has been made to prefigure new activities that are appropriate and sustainable, which will lead to the regeneration of these sites, making them accessible and usable in relation to a complex territorial system and in relation both to urban centres and the agrarian landscape.

The projects thus made use of an extensive propaedeutic study of a large territorial area, making it possible to show the density of disused quarries and those becoming disused, with their values of location, their importance in relation to nearby centres of habitation, their relationship with roads and means of transport capable of relating them to an articulated cultural and social system.

What emerged was a prevalent interest in recovering quarry sites in relation to their morphologically exceptional quality, integrating them into experimental processes of environmental regeneration and making the territory safe, with the definition of clear strategies of intervention for marginal areas.

The creation of wide spaces for particular types of cultivation, crops and water reserves (Fig. 3), and new urban locations (Fig. 2) for sporting, cultural and research activities, became part of a territorial strategy aimed at converting what was dedicated to development into a productive activity which turned local resources into a new resource for the urban and agrarian landscape.

The architecture of quarry sites, from the best-known References:, has sought to interpret the topographic variations of the ground, referring both to the stratification of works and infrastructures and to the visions of scenarios for complete reconversion, developed in the long term through new processes of conformation of the landscape. This is a structural factor for the definition of the spaces in a new frame, and in all cases the adequate management of water as an essential factor of conformation.

The various projects made it clear how far the extractive landscapes must be re-thought, both in the development of their activities, as part of an infrastructural system for the territory, capable of creating quality based on environmental sustainability and on shared values, responding to the various critical factors through projects which are capable of including processes of pro-

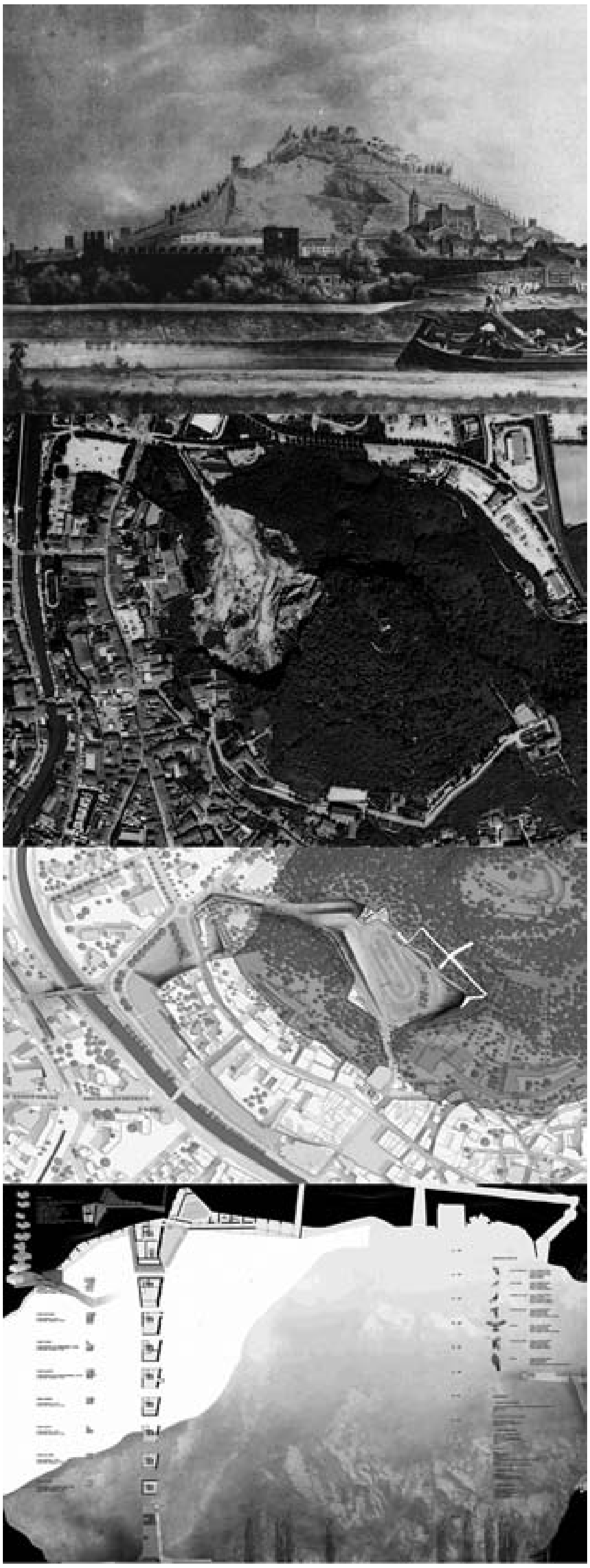

Fig. 2 The Rocca's quarry at Monselice (PD), from the top down: a) painting of 1866 with the quarry and the loading of trachyte along the river; b) aerial photography of the hill; c) general plan of the project; d) the design for the quarry's area. Degree thesis project by Alberto Sguotti, 2011

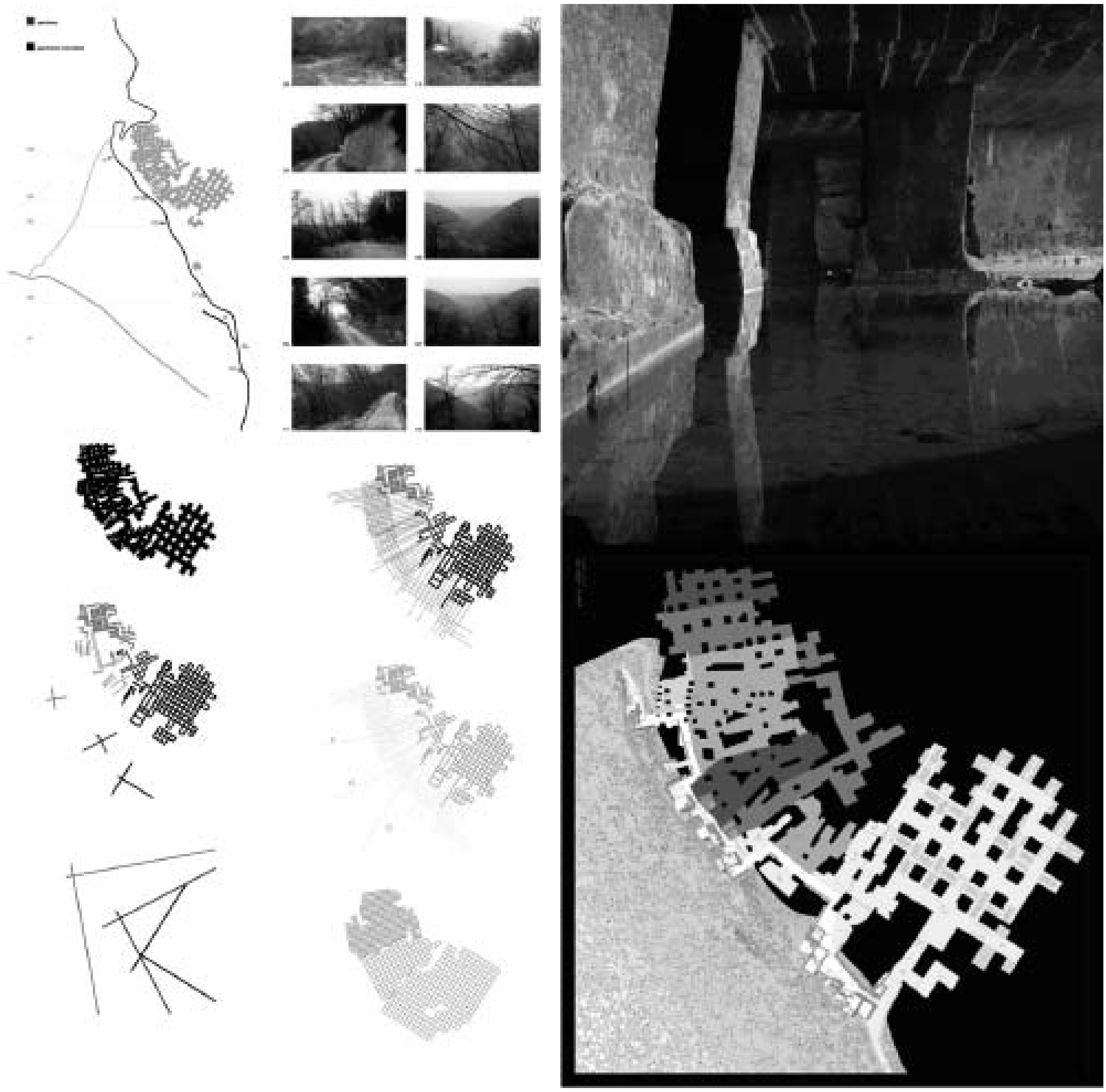

Fig. 3 The Arcari quarry in the district of Vicenza: interior view and plan of project with the reservoir for agricultural uses. Degree thesis project by Devis Durello, 2010

duction with the capacity to imagine, prefigure and construct new landscapes.

3. Conclusions

The cultural heritage and the interpretation of its stratifications, developed in relation to specific productive processes, lend a certain power of imagination to the landscape project.

Post-productive architectures and sites, thanks to their 'ruined' state of defunct machinery, by giving value to their removal from an ordinary condition, impose the construction of a landscape, showing the formal structure. From these architectures of grounds and spaces, the design project can recover a link with technical forms, but can also overcome its banal requirements to prefigure the relational richness of new landscapes, favouring a reappropriation and social, economic and cultural redevelopment of the territory.

The possibility of stimulating project design imagination is granted, but only through a culture of landscape design, made up of those architectural works capable of masterful insertion into a place to create new geographies.

The project will then be much more effective, including through its capacity to make us think of and give life to other projects, especially when we can find new roles for a heritage that is today excluded from our perceptions and from use, regenerating spaces with value that have been left in a state of suspended animation, and often simply deteriorating.

The patrimonial value of the landscape, however, may only be fed through those projects that are able to transform it, up-dating its role and making the 'archaeologies of production' into active resources, part of new, requalified processes, assimilating and synthesising the identity-making characteristics of the sites, and the stratification of their geographies and infrastructures in new architectures.

Notes:

[1] From the definition of the term "immaginazione" (imagination) in the Vocabolario Italiano Treccani, 2012.

[2] The teachers of the design course were: Margherita Vanore (architectural and urban planning), Alessia Vanin (Structural Project Design) and Giuseppe Rallo (Restoration).

[3] This refers to theses developed as part of specialist degree courses in Architecture for Landscape of the Iuav and supervised by Margherita Vanore with Imma Jansana.

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Words and Images of Landscape: the Construction of Urban Spaces Through Literature

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Abstract: The hypothesis of this paper is that landscape is a language based on spatial and cultural categories. The theoretical perspective focuses on the studies elaborated by the Russian Semiotics School and in particular by Lotman and Uspenskij, as well as on the studies concerning urban space and the dialogue between different architectures stratified in its space, over the years. Another theoretical approach is anthropological (Foucault) and considers geometrical space as a relational space: a place of a shared identity. This space is recognizable by people living and acting inside and outside it. The article's purpose is to individuate those dialogues and relationships, first of all on the basis of literary texts, where descriptions and narrations underscore the Italian industrial landscape. It is possible to propose a "landscape grammar", useful for didactic projects and for ecological policies. The paper is structured in two parts: the first constructs the theoretical framework that describes the landscape as a form of language. The second presents the research in the literary field. The paper will therefore focus on the elements that constitute the alphabet of the urban landscape in a selected sample of analyses.

Keywords: semiotics, words, images, urban spaces, literature, points of view.

1. Space. A *sub specie semioticae*

What is landscape? From a linguistic-semiotics perspective the description of landscape focuses the attention on three main concepts: spatial categories, points of view, and descriptions. This progression, in a sort of textual climax, indicates different possible approaches to the theme.

Let us start with the first element: spatial categories. Considering the landscape in its spatial dimension entails a theoretical approach that several semiotic studies have adopted (Greimas 1984, Bertrand 1985, among others): it requires splitting the figurative elements of a textual organism (not only a visual one, although the landscape belongs mainly to the visual world, because the discourse of its manifestation has a descriptive function and refers to an iconic phenomenon and because it is translated, spread and fixed by visual categories such as architectural, pictorial, advertising, literary and so on) from the basic categories that are articulated around elements such as lines, direction, and intersections. Landscape can be seen from a double point of view, as a perceived phenomenon as well as a represented one, as a typology of verbal-visual text included in several spatial paths.

Foucault (1986) provides this theoretical interpretation when he says that "we live in an age where the world experiments itself [...] more than as a broad path developing along time, as a grid network crossing its points and weaving its skin" so indicating a kind of watershed between the modern age and the following age:

The great obsession of the nineteenth century was, as we know, history: with its themes of development and of suspension, of crisis, and cycle, themes of the ever-accumulating past [...]. The present epoch will perhaps be above all the epoch of space. We are in the epoch of simultaneity: we are in the epoch of juxtaposition, the epoch of the near and far, of the side-by-side, of the dispersed (Foucault 1986).

With regard to spatial traces, it can always be noted that one of the most relevant semiotics reflections of the Russian school carried out by Lotman and Uspenskij (1975)[1], concerns geographical space and its articulation in categories. The cultural texts can be divided, as Lotman underlines (1975), into two typologies: texts discussing the organization of space (their main characteristic is in this case to be discreet) which can be described through the topological concepts of continuity, proximity and border. In this case the concept of space can be explained in terms of orientation. But the space may also be defined dynamically, as a place and position and in relation to human activity. Geometrical space may therefore be transformed into relational space and in this case the topological concepts are connected with trajectory, movement, and oriented tension. The geometrical space therefore becomes a narrative place, where the subject acts intentionally with different programs: a geographical and social structure where the hero represents the mobile element in the text. The notion of space is therefore characterized by paths and discourses carried out therein, including the inevitable notion of time. The strength and actuality of categorization, which has been applied mainly to literary texts, results even more evident if it is applied to different fields. It is exactly what Boris Uspenskij does when he faces a geopolitical theme such as the contemporary European landscape in the essay, Europe as Metaphor and Metonymy (in Relation to the History of Russia) (2008), trying to figure out whether Russia can be considered part of Europe.

The answer is masterfully given in a dense historical trail and illustrated with the spatial categories of center/periphery, external/internal, West/East, in addition to the categories of metaphor/metonymy:

"It seems obvious that Europe is not so much a geographical notion as a cultural-historical and ideological one. Not many people are aware that from the geographical point of view the centre of Europe is Vilnius, the capital of Lithuania: from the cultural-historical viewpoint Vilnius belongs rather to the European periphery. When one speaks about Europe one hardly imagines Turkey or Kazakhstan: however, strictly speaking, these may be regarded as European countries, since a certain part of their territory belongs to Europe" (Uspenskij 2008).

And also:

"The diffusion of a name related to a certain cultural-historical centre and representing a particular cultural-historical tradition, generally speaking, may be based either on the principle of *metonymy* or on the principle of *metaphor*. Likewise the name of Europe, as we shall see, may function both as metonymy and as metaphor. On the one hand we have *cultural expansion*, i.e. when a name related to a centre becomes applied to the periphery of a given region. This is a natural process. In the other we have *cultural orientation*. This is an artificial process" (Uspenskij 2008).

The passages are clear and effectively underline the point we intended to reach: topological devices, basic elements of the language and landscape text-points, lines, and intersections (due to the fact that we no longer consider figurative elements) do not belong only to geometrical territory. They are linked to a geography that is familiar to us, in an indirect way: roads that go from one place to another, political, commercial and cultural crossroads (like the meeting between East/West described by Uspenskij), squares, religious, political and architectonic centers, historical, urban, cultural and social peripheries.[3] The architectonic system is naturally dialogic, not only because a close connection is established between the designed space and the individual, but also in view of the relationships between the different combinations that it proposes: these relationships are never passive.

As Lotman underlines, these always represent a competition between different languages, a game and a conflict whose results are never predictable (Lotman 1987). Space consequently represents a parameter, maybe a parameter par excellence to read the city's texture. Space, however, is an oriented and directional space: we refer more precisely to the orientation of the eye, an "ideal observer" who identifies himself with the city. In view of the above, the paper will therefore focus on the sample of analyses that will give us the possibility to reflect on the points of view and the descriptions (the other basic concepts of the idea of landscape).

2. From semiotics to literary landscapes

The approach described above gives us the opportunity to approximate the literary texts intended as landscape documents in order to observe (in view of the categories individuated by Uspenskij and Lotman) the types of spaces that those texts build on, and also analyze the dialogue that the subjects establish with the spaces when they observe them (points of view, descriptions) and live them (narration). We consider in this latter case a human geography that involves the use of space and of its paths. Here, we are going to use one example (selected in a broader sample of analyses, chronologically defined, from the second half of the 20th century until the present) in order to propose some reflections on industrial landscapes in Italy and apply the semiotics categories previously indicated. Therefore let us leave the responsibility of observing the places to the artist and make them visible through his words: as an expert he will be able to recognize the centers, the paths, the borders, the neighborhoods and he will be able to individuate the different lives inevitably belonging to the city like the metropolitan and old provincial shape Calvino attributes to "Maurilia", one of the invisible cities. We can start with Calvino, with his long story 'La speculazione edilizia' (1958) where the writer describes the environmental problems characterizing the period of Italian economic growth and in particular the progressive building transformations of his "Rivera" (in Liguria). The incipit shows the point of view of a landscape painter:

"He raised his eyes from the book (he always read in the train) and rediscovered the landscape piece by piece. The wall, the fig tree, the quarry with its chain of buckets, the reeds, the cliffs – he had seen them all his life but not only now, because he was returning, did he really become aware of them. Every time he came home to the Riviera, Quinto renewed contact in this fashion." (Calvino 1964).

The landscape is a constant theme of Calvino's works. He interpreted the landscape as a visual surface on which the world is written and as a place that contains objects to name, to list, to remember. In a short work, posthumously published (1985)[4], Calvino sketches the coordinates for describing the landscape, in particular claiming that the method is as much as important as the landscape described: he invites us to define "a piece of space and to say everything is visible":

"But immediately the first problem to solve: I have to decide if what I see, I see standing like a painter […], or moving from a place to another, inside a portion of space, so I can say what I see from different points of view, inside a tridimensional space" (Calvino 1995).

The answer lies in the multiplicity of points of view disseminated by the writer all along the novel "The building speculation": first of all with the progressive shutters produced through the glances of the protagonist, Quinto, coming back home by train. These shutters are in a horizontal line: an eye on the book, the other looking out from the window.

This exercise that is done as a verification of habits, accompanied by a discomfort:

"It was the houses, that was it, all these new houses that were going up, apartment buildings six or eight stories high, their massive white flanks standing out like barriers propping the crumbling slope of the coast and putting out as many windows and balconies as they could toward the sea. The Riviera was gripped by a fever of cement" (Calvino 1964).

The gaze looks up and focuses on the high buildings and then moves the visual space that introduces the description of another portion of the Riviera. The contrast between the pleasure of recognizing unchanged elements (the wall, the fig, the canes, the rock) and the discomfort for the new that uncontrollably moves forward (huge urban buildings) is expressed with the dichotomy between in/out spaces: inside there is what is known, what is conserved in the memory. The outside world is the unknown, the new that bursts in:

"In the little towns on the terraced hillsides the new buildings played piggyback with one another, while in their midst the owners of the old houses added another story and craned their necks to see out" (Calvino 1964).

Again the point of view changes, it climbs from the bottom upwards, with the population of the old houses forced to look up, to stretch their necks in the midst of the thickening cement. The sense suffocation is, sometimes, interrupted by the view of the Riviera. The sense suffocation is, sometimes, interrupted by the view of the Riviera that is visible from the terrace of Quinto's house along the free horizon:

"When he came home, Quinto had once been able to look out over the roofs of the new town and the poorer quarters down by the seafront and the harbor. In between were the crowded houses of the old part of the town, […] and to the east the green swarm of villas and hotels stretching beneath the bare flank of the carnation fields, glinting with greenhouses as far as the Point. But all he could see these days was a geometrical arrangement of parallelepipeds, and polyhedrons ranked one above the others, corners and sides of houses" (Calvino 1964).

Mansions versus parallelepipeds, hotels versus polyhedrons, space where the elements are identifiable against shapeless and rough-edge masses: but what happens when in a naturally cohesive context a strange element is included? What kind of dialogue is established between the parts? And how does this bear an influence on both the visual identity of the entirety and the psychological identity of those living these contrasts? Literary (and real) Italian landscapes can be defined substantially by starting from these questions. Literature shows how the clash between centres and suburbs is defined through an ongoing conflict between the metonymic forms, where cultural expression prevails and where cultural orientation, the artificial one, prevails. It might therefore be natural to say that we should "listen" to literature.

But let us come back, at the end of this short analysis, to the semiotic scope in order to highlight the issues raised by the previous questions on landscape as the habitat and space of the mankind.

The relationship between text and context, as observed by Lotman (1987), its poliglottism and its intense capacity to shape the conflict, is particularly important for the architectural text (and we would add the urban one). A relevant aspect of cultural dialogue, in this regard, builds itself up historically, meaning that against the background of past tradition the semiotic activity of new structural forms takes place:

"[…] In the conscience of the receiver the past and present conditions of the system are present together. In literature, music and painting this process is guaranteed from the fact that the previous cultural eras don't disappear without living traces, but they remain the memory of the culture like extra temporal: the appearance of Mozart doesn't imply the physical destruction of Bach works, the Futurists drop Puškin's modernity value, but they don't destroy the books. In architecture the old buildings are continuously subjected to radical destructions or to total reconstruction" (Lotman 1987).

Moreover the question becomes complex because, as mentioned with regard to the basic categories of landscape, the architectural elements are linked in a tight semiotic relationship with cultural symbolicity (ritual, religious, political and so on). The fruition of urban aspects stored in the memory is symbolic, as the harbor, the low profile buildings of the marina, the mansions of the *bourgeoisie* of the beginning of the 19th century, substituted by the large developments ready to host the vacationers of the new rising middle class in Calvino's novel and in its protagonist Quinto. It entails that the urban space is not, and cannot be, monolithic or homogeneous. It is always the outcome of on-going tensions and clashes: of limits, borders and boundaries, as put forward by Uspenskij, in constant movement, of structural and functional heterogeneity. We believe that Calvino looks after the reconstruction of the path of continuity with the creation of memory, often withered by the things always seen but which you realize, as Quinto does in the novel, only after some time away. What counts is the protection of the history of each environment and person. This is perhaps the reason why in his quest for a method to describe the landscape Calvino sustains that "it is natural that a written description entails an operation that spreads over the space and the time" and that "a landscape description, being full of temporality, is always a story" (Calvino 1995).

Therefore, while semiotics can help to build up specific scientific categorizations aimed at defining urban spaces and their interconnections, the literature can highlight in a constantly critical way the themes linked to environmental transformations by means of its narration: finally, the task of architects, urban planners and educators is that of setting up a solid , constant and effective dialogue among parties.

Notes:

[1] We define semiotics (the term used and proposed by the two authors) by several theoretical approaches: Saussure, School of Prague, Jakobson, the folkloric theory from Veselovskij to Propp, to Bachtin, Russian Futurism, the theory of the fundamental models for Culturology studies.

[2] On this point concerning the characterization of space, see Augé 1992.

[3] In this paper we refer to the edition of 1995.

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Art

G. Ingardia, *Past, Present, Future,* Third Edition People's Landscapes, UNISCAPE

Exploring Research Approaches for Interconnections Between Landscape and Contemporary Artworks

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Abstract: The aim of the paper is to identify and explore research approaches for interconnections between the landscape and contemporary artwork that can be applied for the improvement of the landscape planning, management and development methodology. Research methods have been based on the scientific literature, theories and insights and on the case studies in Latvia. The paper reveals two ways of exploring the interconnections between the landscape and contemporary artwork. The first approach is the *expression levels* of interconnections between the landscape and contemporary artwork. This approach involves the 'Zone effect' and the 'temporal effect' in the landscape. The second approach is the *continuity* of the landscape that involves interpretation of the historical landscape through its value and evidences, new element contribution, linkage to the landscape and layering in the landscape. It is revealed that the definition or re-definition of the landscape may take place by using new landscape features and through emergence of meanings in the existing landscape.

*Keywords: i*nterconnections, expression levels, continuity of the landscape, effects of landscape

1. Introduction

This article presents an empirical study which is based on introducing contemporary art in landscape. A broad variety and use of the art in public space types, used spaces and created effects can be encountered both in theory and practice (Cartier 2008, Zebracki *et al* 2010, Kwon 2002). However, the viewer in relation to the artwork is characterized by art practice in the 1960-ies that involves changing the role of the viewer from passive object observation and participation in space cognition, to active social participation, where the latter is characterized as a process-based practice. Space is socially constructed (Lefebvre 1991 [1974, 1984]), where everyday practice and obtaining experience play and important role (de Certeau 1984). Jane Rendell (2006) has developed a critical spatial practice demonstrating three connections of importance – site and context (spatial), the temporal experience of viewers and users (temporal) and interaction between people, things and location (social).

The physical and/or semantic category of landscape is formed differently, creating different results in the process of interaction between a landscape and contemporary artworks. In the article these processes and results are defined as the effects of the landscape. By incorporating the artworks in landscape there are a number of research aspects. This study focuses on the effects of the landscape created by the artwork and historical landscape aspects.

Local and global perception of the landscape reflects the formation of cross-linking process of space in time (Alle 2012a). Movement (Tilley 1994) makes connections between spaces that are affected by the location, density and the elements of landscape structure. Sometimes, by creating and locating contemporary artworks in the landscape, an effect of the landscape occurs that could be called a "zone effect" (Alle 2012b). The conceptual framework of the zone has been adopted from Andrei Tarkovsky's film *Stalker*, released in 1979.

An artwork in landscape works as one of the landscape elements. Both the landscape as a whole and its elements possess a variable, seasonal pattern. Landscape processes can be short and long-term. Landscape transformations in time dimension represents the level of duration. The artwork can exist for an enduring or a short period of time. Consequently, changes in landscape, during existence of the artwork, occur almost imperceptibly, protractedly or fast, or for a short period of time. Every work of art has its own type of cycle length, which can be described as twofold: a quick process typical for temporary and action-based artwork and a slow process typical for permanent artworks, which has a slow impact on landscape changes. Thus, permanent, temporary and temporal categories can be ascribed to the artwork. The existence of artwork in landscape can be characterized in three stages: beginning or emergence (entry), implementation, and the end or extinction (conclusion, decline of the situation). The final stage characterizes the end of the implementation cycle of the targets or ideas. The study is focused on temporal aspects (temporary existence, short-term, ephemeral, which are reflected in the contemporary art field and urban planning) (Temel 2006). The *temporality* of the landscape is social and thus questions on dwelling emerge that Tim Ingold (2008) explores by the concept of *taskscape*. Temporary restrictions on the artwork contribute to the "story" retelling in future[1].

Continuity of landscape is related to continuity of space and time aspects. Thus, the study includes elements that are enforced in space and time. Historical continuity of the landscape development can be explained by the fact that the history of landscape affects the future landscape (Antrop 2005). The historical context is raised by Martin Heidegger's (2001 [1971]) concept of "*hervorbringen*" (bringing forth), which ensures the relationship to *bringing forth into existence*. This study includes the concept of continuity of historical landscapes by assumption that an appropriate and relevant contemporary artwork has the ability to continue the historical significance of the landscape, through the interpretation of the values and evidences *bringing them forth* in a different way in the contemporary landscape.

The aim of the paper is to identify and explore research approaches for interconnections between a landscape and contemporary artwork that can be applicable for the improvement of the landscape planning, management and development methodology. The central research question is: what the consequences of the contemporary art involvement in landscape through the expression levels and continuity approaches can be.

2. Data and methods

The research is based on the case study of Latvian cultural landscape selected to reflect the different use of space and contexts.

The data used, selection and character of the reasonable sources determine that there is not one research method applicable but rather a combination of different methods, based on scientific and theoretical research.

Methods based on scientific theories and insights, as well as on Latvian case studies have been used. The case study was obtained from field study processes - participants conducted observations, gathered photos and field notes, and 21 interviews were conducted with the key informants or local experts, participants, and curators. Also, an analysis of literature and both published and unpublished archival materials have been incorporated. A total of 19 Latvian cases have been analyzed in the period between 2009 and 2012. The selected major and paradigmatic contemporary artwork and projects in the Latvian landscape in the time period from the 1980s to 2012 have been examined. The selection was based on such criteria as contemporary landscape, public or semi-public space, diversity of spaces, context and the subjective choice of selection. All together several groups describing 14 cases of historical landscapes, one individually created art landscape, five art festivals and forums, three artist residencies and symposiums, five national and international projects, and exhibitions have been distinguished. The distinguished groups may overlap due to the multi-angularity of the cases, which includes several aspects of research and various types of spaces. Most of the cases have been implemented in the urban landscape.

In the process of research investigating the interconnections between the landscape and contemporary artwork, common stipulations that are based on time, space and social dimensions (Alle 2012a) and common processes such as approach to search for the place awareness; the process of the implementation of the artwork with regard to landscape and people; and transformation of the landscape structure and meaning have been applied.

On the basis of theory and empirical studies, various research subjects were repeating and reinforcing one another on several occasions. Research results have been summarized in a holistic illustration by grouping the identified interconnections between the landscape and contemporary art into topical principles underlying the effects of landscape. The next stage of research is advanced in two approaches: *the expression levels approach* and *continuity approaches* that were determined by subordination and the context of the identified themes. Dedicated approaches are not the only ones to be identified and applicable from the research, but have been put forward as one of the most visible and most relevant to the study preconditions.

3. Research approaches for interconnections

Two research approaches for interconnections between the landscape and contemporary artwork have been proposed: *the expression levels approach* and *the continuity approach*. Each group is established by a number of principles that have recurred or reinforced each other.

The first approach is characterized by the quest for perception in the local and global context. The local context relates to the use of individual space, the global context aims for the system of spaces and its totality. The local and global convergent boundaries are reflected through the Zone effect and the temporality effects that emerge in the landscape.

- In the global context the system deals with the formation of space and time, revealing the *Zone effect* formed by artworks. The effect is exemplified in the Aizpute city case which is characterized by small-scale interventions in the urban landscape, effects commonly produced, and includes the signification of the duration of the artwork.
- The convergent character of the local and global context is examined by acceptance of the *temporal effect* that has been determined by the artwork's duration time in space. The temporal effect discussion is based on the enhancing principles of the landscape aesthetics and dynamics.

The second approach is reflected in the historical context, which is characterized by the landscape with singular occurrence of the art object or event, as well as *heterotopian* (Foucault 2008) places, where art objects occur or events take place for several times. This approach is characterized by separated contemporary artwork or groups, which are the only such expressions in Latvian historical environment, or by individual art objects in historical landscapes. The study involved the landscape continuity development opportunities in the contemporary artwork integrity in historical landscapes. The research included the following landscape continuity principles:

- variety of interpretation, including the transfer of the historical aspects, which can be brought forth;
- linkage level of the landscape, including the impact on the landscape, interaction, contextuality; and
- layering in the landscape, which is the created effect and consequences in the landscape.

3.1 The expression levels approach

The expression levels approach for interconnections between a landscape and contemporary artworks must be detected in the mutual crossing process between the integrated space connection and time dimension. Three categories have been distinguished reflecting on the created intervention process in space, in the local and global context:

- individual space (Figure 1a and b), where a work of art is implemented as a separate element, concept or the number of elements or concepts at different periods of time;
- individual space + group (Figure 1c), forming a single system, network of several artwork; and
- individual space sequences that repeat and individual space + group sequences that repeat (Figure 1d and e), includes different places and territories through which an individual or group of artwork 'travels'. Projects that exist periodically, but do not limit the location places, fall into this category, forming a set of systems.

The separated categories are ambiguous; they can move to one another or meaning can proceed from the local to the global context. Processes of activities in the landscape, including the creation of an art object or event, affects the result that is reflected in the landscape.

Two distinguished principles have been analysed, combining the *individual space* and the *individual space + group of artwork* categories. The first principle concerns the creation of the network in the landscape, defined as the Zone effect. The second concerns the effect created by temporal consequences in the landscape.

3.1.1 Creation of the Zone effect

The formation of the "Zone effect" (Alle 2012b) can be described as a system of artwork that is established through implementation in certain territory. Latvian art landscape is characterized by small-scale interventions in public space which do not require utilities and have a temporary character. In this aspect, the Zone effect is

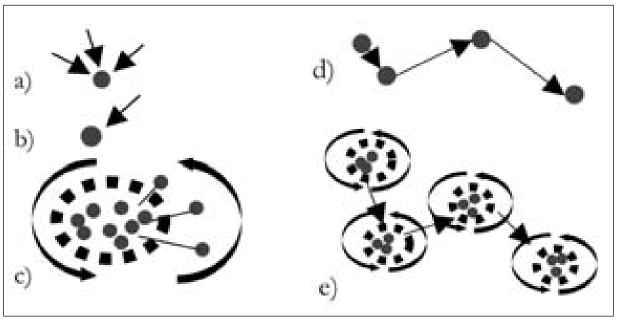

Fig. 1 Artistic expressions in the local and global perception context.

Legend: ● place, ⁘ territory, ⟲ a conceptual link; a) individual space, which repeatedly carried out several ideas, concepts; b) individual space where one idea or concept has been implemented; c) individual space + group, where one idea or concept is repeated within a certain area; d) individual space sequences that repeat; e) individual space + group sequences that repeat.

more strongly reflected in the settlements which are viewed as the component of the urban fabric combining the landscape and geography insight. The Zone effect is considered as the feature of the site that defines the emergence of artwork in the landscape and the level of understanding of the created artwork and involvement with the surrounding environment and society, specifying the nature and opportunities of the place-making.

In research the conceptual strategy used by Andrey Tarkovsky in his film *Stalker* has been used and adapted to contemporary, short-term and small-scale interventions in the urban landscape. In this context, the *Zone* is understood as an area where artistic actions have occurred and the *Visitors* are understood as artists – creators who stop at the site for a shorter or longer period of time.

Formation of systems characteristic to the Latvian landscape can be exemplified with activities in the public and semi-public spaces carried out by the art residency centre *Serde2* in Aizpute city during the period from 2007 to 2012. Most of the artworks existed in the time of their creation or during a season, only a few works are relatively permanent (Figure 2), which shows that the work of art is changing.

Fig. 2 Ieva Bertašiute „Drain", Aizpute, 2010

The system of small-scale artwork represents processes and outcomes close to the everyday landscape, providing moments of surprise and works in the aura making. Thus, the creation of a new site identity takes place through the coexistence of the viewer's perception and experience, the transitory nature of artwork, and the site. This process can be considered as 'writing [in] landscape', which can be used in local landscape planning, development and management strategies applying the artwork and the created effects.

Fig. 3 Luis Sezões, Maria Côrte-Real, Sofia Santos, Joana Nascimento "Symbolic Reconstruction of the Jelgava City Historical Rampart", along Ausekla and J.Asara Street, Jelgava, 2010

Such a dictated approach for forming the landscape could be formulated through the notion of the *curatorial landscape* that combines creativity and the implementation of the objectives of the public through the offer of curatorial tactics. The Zone effect as a mechanism is introducible at the local planning level to promote and define the landscape through the small-scale interventions.

3.1.2 Acceptance of the temporal effect

Contemporary landscape is characterized by a rapid change of landscape, including artwork that has short and changeable existence intensity. Thus, a characteristic part of the landscape changeability is the process concept. The emergence process of the artwork, movement and changes in the landscape take place over time. Moreover, time is understood as an integral part of the landscape and the art realization process. Time is also an important part of how people experience the landscape. Thus, creation, existence, and the end of artwork are characterized by the *temporality* of landscape, which refers to the social role inclusion.

Actualization of the temporal effect for *individual space* and *the group of spaces* in convergent boundaries of the local and global context is most vividly expressed in festivals. Festivals activate space in time and place where great emphasis is put on the attraction of the general public. Thus, temporal emergence of artwork into the landscape is expressed in the Festival of Light 'Staro Rīga' in Riga, as well as the Sand and Ice Sculpture Festival in Jelgava, Latvia, which characterizes common occurrence in contemporary townscapes.

The 'Staro Rīga' 3 has become a traditional event for displaying various sources of lights in Riga's urban landscape. The festival has been organized since 2008 by the Riga City Council and it corresponds with the celebration of Latvia's Independence anniversary. The Jelgava City Council initiated the international Ice Sculpture Festival, which has been organized annually since 1997, as well as the Sand Sculpture Festival with the first opening in 2007. Thus, the public space of the city is enriched by the input of cultural activities.

In the global perception scope the organizational form of festivals has a tendency to repeat the idea and to ensure the inclusion in the international system, or network. Thus, the system generated by the objects forms sequences both nationally and internationally.

Repetition in this situation contributes to the identification and the periodic rhythm in the landscape, by a certain beginning, period of existence and the end. The most active phase is in the period of existence, but the end leads closer to the original physical condition, function, meaning and recovery of the landscape, once again becoming part of the everyday landscape.

Through the duration of existence the artwork is expressed in space, which is connected to the formation of experience of spectators or participants. Positive features of the urban environment show the activation approach, formed in collaboration with local authorities and attracting international actors. Festivals activate the space in which they occur. The identity of the space is revealed in its use and importance. Space and implemented art interventions and actions invite viewers to observe. Temporary works of art, especially, change the relationship between the audience and the environment. Thus, the presence is a significant part of experiencing art. Consequently, the observing experience is one of the most important parts of this interconnection. Thus, during the existence, the work of art has reached a new identity, as well as having changed the view of the landscape and the depth of understanding. Sometimes the landscape loses its topicality at the end of the Festival (if the selected area of an event is less active), and it again becomes minimally or partly used in everyday life.

Time dimension in addition to the festivals has been understood as representation and symbolization of a historical object or actions in the present landscape. Thus, the impact of the past associations to the present day can be interpreted, which refers to the historical continuity of the landscape. The emergence of temporary artwork in the landscape increases the dynamic capabilities by creating the temporal effect, which could be defined as the notion of the *temporal landscape*.

3.2 Landscape continuity approach

Landscape continuity approach is based, on one hand, on the existing landscape archives, memories of the past and, on the other hand, on the new contribution that in the interpretative creative process is 'presented' by other means, character or narrative, and allocated a new meaning.

Bringing in new elements in the historical landscape is perceived in two ways: a direct interpretation of the historical landscape elements by introducing new artifacts or complementing the first; and bringing new elements in the historical landscape without associating meaning with the landscape. *Variety of interpretations* is examined on the first occasion, while the second occasion is examined in the context of input by new elements and making *linkage* to the historical landscape. In one area both means of elements can be exposed, which do not exclude each other. The research includes the overall changes and *impacts* in the historical landscape, which is reflected through the *layering* in the landscape.

3.2.1 Variety of interpretations

The interpretation process takes place by unfolding' the landscape, by selecting material for interpretation that points to the landscape cognition and awareness before the implementation. At this stage, the artist's creative process, the ability to notice, interpret and engage a new story becomes significant. Thus, creativity and improvisation ability, as well as being the creator's *being-in-the-world* and *being-with-others*, represents a great part of the place and creator relationship. The case studies show how most that have been *brought forward* are the physical objects and the place-related personalities, their activities, narratives, and events related to the history of the site. Frequently it is the material of traditions and identity that have mainly determined the selection of the interpretation material. Mostly historical values and evidences have been transmitted in relation to the collective memory, but the individual memory transfer can be distinguished additionally. The second relates to the artist's as an individual's personal relationship with the historical events or their consequences in the present landscape. Case studies highlight that often the existing landscape with the historically formed layers, both tangible and intangible, are hidden. Thus, by researching and drawing attention to them through the process of interpretation, they may be highlighted and restored once again. For creation of a variety of interpretations four major forms can be distinguished:

(1) interpretation of physical objects that includes consideration and re-definition of various visible and hidden landscape elements or processes. One of the provided examples is the environmental artwork "Symbolic Reconstruction of the Jelgava City Historical Rampart" (Figure 3), implemented in 2010, Jelgava, as part of European project 'Art Landscape Transformation'. This example reflects on the place of the city rampart that was demolished in the early 19th Century with metal nails set into the horizontal surface forming a line that symbolizes the location of the rampart. Thus, the cultural landscape heritage potential that contributes to increasing the historical value has been highlighted. Both cartographic materials, observations at site, and exploring the views of local residents through their memories have been used as methods to search for the historic location of the rampart.

(2) the place-related personalities, their activities, narratives, and events expressed with the space-related involvement, reflecting a wide range of values and evidence. For example, the Open-Air Art museum at Pedvāle (hereinafter in the text 'Pedvāle') can be described both as a traditional, historical landscape with its values and identity interpretation in a symbolic manner, appropriate to the contemporary art trends, and interpretation of the landscape, giving a new character, role and added artistic value to the historical landscape.

(3) the re-definition and interpretation level of the historic archive expressed directly and indirectly. Direct refers to direct or non-figurative way of presenting ideas. Indirect refers to a symbolic or abstract way of expression. The direct interpretation implements an idea of a direct form, physical and non-intermediated, open narrative or materially exposed idea that does not require further explanation. In contrast, the indirect interpretation requires an explanation and information that informs about the message. It emerges through interest and questions of people, at the same time revealing an opportunity for the closest, most prominent and most relevant message to be 'read' for each individual separately.

(4) Impression caused by the artist's and landscape linkage is the next form of continuity of the historical landscape, expressed in terms of the diversity of interpretations. A significant linkage between the artist and the landscape has been provided by sculptor, Ojārs Feldberg in Pedvāle, located in a specially protected cultural site 'Abava Valley' that includes Firkspedvāle and Briņķpedvāle manors, and is a cultural monument of national importance. The sculptor has assigned a key role to the landscape, highlighting the sense of the landscape and the artist's creativity, indicating a respectful attitude to the landscape.

Approbation of creative ideas in a landscape starts from local problems and understanding of the different levels. Thus, activities in a landscape encourage one to think and to see things that have not been observed previously or that provoke questions. It can be concluded that one of the additional ways in which the landscape is being brought forward is through the possibility that the artists or 'creators' express themselves.

Thus, such a great potential for creativity and contribution could be called the 'creative landscape'.

3.2.2 The linkage or interaction of new elements with the historical landscape

New art elements that are not directly related to historical aspects and that have been introduced into the historical landscape are adapted to the setting and reflect a new story or myth. Thus, the existence of a new element in the landscape defines coherence to the site by searching connections with nature or elements created by people (the shape of the earth, the river and other landscape elements). Continuity of the landscape may be created through the activation of the historical landscape, increasing the added value and diversification. The changes created by an artwork and the impact on the landscape can be expressed in three stages (that includes aesthetically dynamic relationships between nature and art as defined by Donald W. Cranford (1993)):

- *insignificant* – no damage to the environment, incur in the environment, aesthetic symbiosis;
- *medium* – may cause some inconsequential damages, carry the combination of a parasitic and dialectical relationship (a parasitic relationship is manifested through destruction and dialectic synthesis through conflict interaction); and
- *significant* – causing damage to the historical landscape, degradation of aesthetic values of the landscape, carry the combination of a parasitic and dialectic relationship, the work of art dominates over the landscape.

According to the duration of the impact to the landscape, the artwork implemented into landscape can be classified into short and long-term. The short-term impact creates relatively short-term effects, disturbance and limitation in the landscape. In turn, the long-term impact corresponds to long-term operations, transformation of landscape functions, non-expiration of the generated elements in the landscape for a relatively long period of time, and repetition, and creates relatively long-term public memory and associations.The level of interaction between the landscape and contemporary artworks and the degree of contextuality are expressed as follows:

- *high* - a work of art is completely, inextricably related to the environment, both the landscape and the work of art exists only in mutual co-existence; the highlighting, emphasizing and use of the landscape occur;
- *medium* - a work of art is partly linked to the environment, it can exist in another environment without a complete loss of its characteristics;
- *low* - a work of art and landscape exist independently of each other, contrasting interactions, denial, ignorance, the emphasis on the materiality, idea and nature of the object.

All Latvian historical landscapes have distinguished stages of interconnections between the landscape, and contemporary artworks can be detected with insignificant or medium changes in the landscape. The long-term impact is reflected through the changing landscape function (see, for example, Pedvāle) and periodic recurrence in the same landscape (see, for example, festivals 'Staro Rīga' and Sand Sculpture Festival in Jelgava). Periodically recurring festivals or individual works of art (such as Krists Pudzens's temporary cybernetic sculpture 'The Red Queen's Race' within the framework of European project "Art Landscape Transformation", Jelgava, see Figure 4) has a short-term impact for each individual space where the artwork is situated. The example of Pedvāle shows that since land artworks have appeared in the territory of the museum, the experiments with foreign landscape forms have emerged, and at the same time becoming part of the landscape by being integrated in the plastic landscape of the Abava valley. Land art object 'Ritual Cut' made by Tanya Preminger in 2009 marked a strong semantic aspect in the Abava valley, stating that the Earth is a unified body of the entire planet (Figure 5). It has been examined in the meaning of the global landscape, without grounding it on the significance of the local historical landscape. So far, the park's temporary large-scale land artworks have been exhibited, and, due to erosion processes, they have disappeared, leaving marks in the landscape.

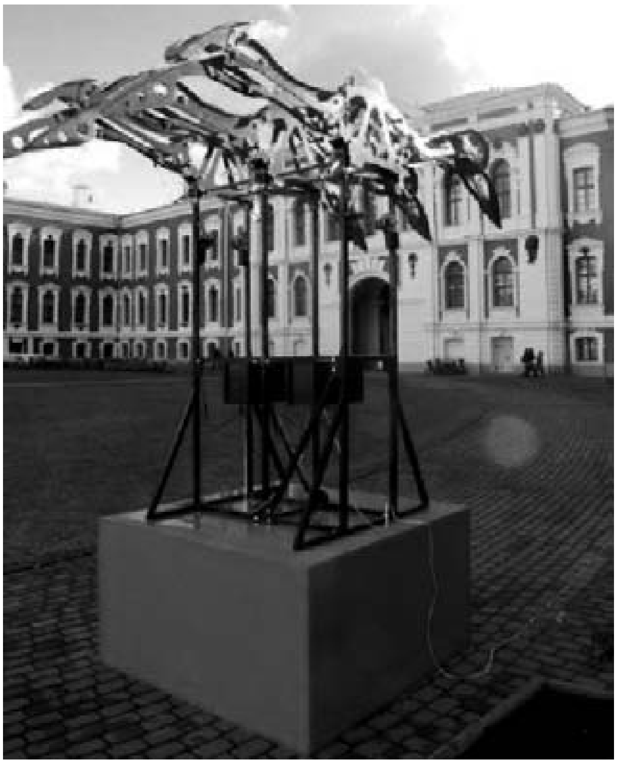

Fig. 4 Krists Pudzens cybernetic sculpture "The Red Queen's Race", Jelgava Palace courtyard, Jelgava, 1.10 – 20.11.2010

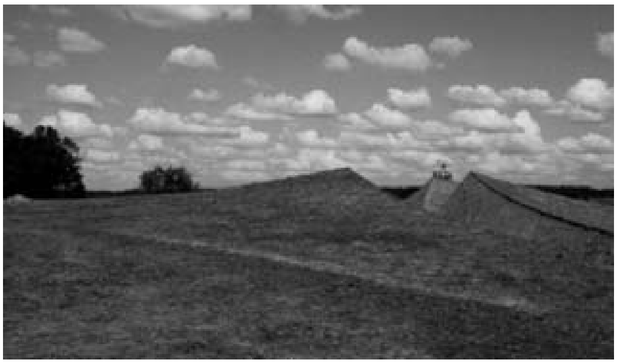

Fig. 5 Tanya Preminger land artwork "Ritual Cut", Open-Air Art museum at Pedvale, 2009

Not all forms of artwork expressions are applicable to the historical landscapes.

Thus, more applicable to the historical landscape are those that cause short-term impact to the landscape through insignificant or medium impact forms.

3.2.3 Layering in the landscape

Landscape forms layers during time and is concentrated in space by re-defining, transforming or by giving a new identity to the landscape. The following categories relating to the continuity of the landscape in time and space can be distinguished (Figure 6):

a) one type of landscape includes several interventions or events that result in one or more periods of time – the location can be separate space as part of the landscape, a sign of continuity or heterotopia (for example, the cemetery, the city) or a separate types of landscape;

b) characteristics of the landscape that have stopped at a certain period of time, and continued using a different meaning or structure, including thematically developed areas or storytelling landscapes (Potteiger & Purinton, 1998), created new *heterotopia* or interruptions, changed the landscape structure, function without interrupting or creating a new *genius loci*.

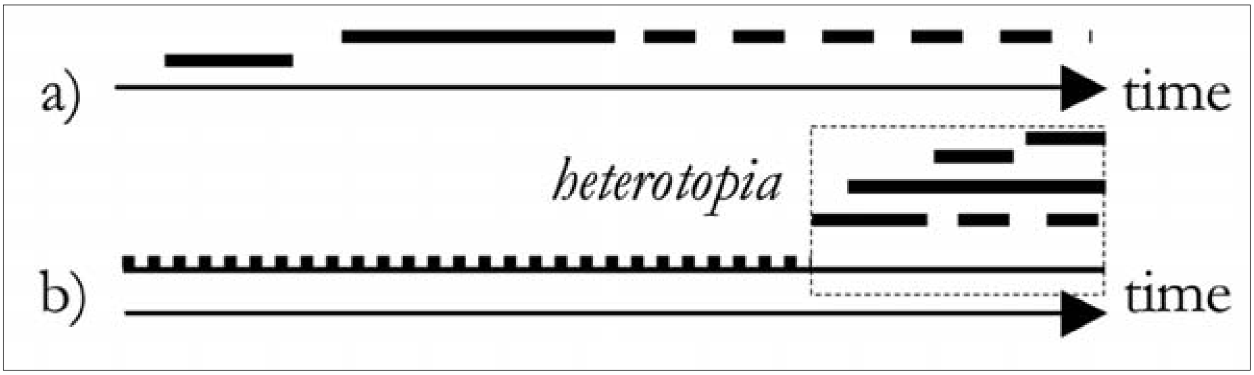

Fig. 6 Landscape continuity in time and space

A phenomenon included in categories contains the artwork, created at different periods of time or which temporarily pop up in the landscape to last relatively permanently. Space can attract attention repeatedly at another time and context. Both categories include both small and large-scale works of art or events, with or without a single subject.

The first category relates to the use of multiple landscape elements and preserving the original landscape structure, meaning, and function, which makes it possible to implement new elements continuously. Landscape continuity is practiced on more occasions in a long-term manner, by emerging several art objects and events together. The landscape does not change within one implemented object, it does not obtain a lasting change, and it is activated in the moment.

However, one art event in the landscape is capable of generating short pulses that can pass over to permanent forms, repeating at one or other spaces. After losing the affirmative, temporal art elements, the landscape returns to its original character and form of expression. This category shows a rather 'different' view during the existence of the artwork.

The second category represents a changing function, meaning and structure of the landscape, respecting the cultural heritage landscape. For example, when Pedvāle acquired the Melina Mercouri International Prize for the Safeguarding and Management of Cultural Landscapes (UNESCO-Greece)4 in 1999, the museum was portrayed as a living landscape that plays an active social role. The museum, on the basis of natural environment, is promoting both the arts and national traditions. Identity changes allocate high value to the landscape, enrich it and take more active use of the opportunities offered by art nationally and internationally. This category reflects that the elements changing in one space bring the landscape into a continuous process of life, where appearance and disappearance occur.

In space dimension, the ongoing layering repeatedly allocates multiple identities to the landscape, creating a saturation that resonates in the landscape through the expressions of singularity and complexity in the landscape.

H. Okano and D. Samson (2010) have adopted the *local*, *global*, *singular identities* and *multiple identities* dimensions of the public space distinguished by Kand and Yoshimi. By adapting this approach, saturation caused by interconnections between a landscape and contemporary artwork by different methods is expressed.

Accordingly, in this research the *singularity* describes the landscape, which reflects one type of identity, interaction, and inclines toward the use of individual and one type criterion. *Complexity* characterizes the landscape, which is reflecting multiple layers, depicting multiple identities that have been formed by the processes of globalization and include use or highlighting of all criteria. The local and global scale applies to both the territorial scale and the scale of meaning, and amplitude of participating actors (such as, landscape – society - an artist - the idea). Global vision focused on the landscape planning, management and development side, but local vision is grounded in historical, philosophical and artistic dimensions of the local culture.

The local and global perspective is characterized by different approaches to planning, namely by spatial, temporal and social dimensions.

Spaces with multiple identities allocate diversity, difference, and multilayeredness, giving the landscape a flexible form. By contrast, the singularity is characterized by the use of individual single-layer (for example, historical, social, etc.). The latter expresses non-flexibility for creating changes in the landscape. The more actors that are involved and mutual interrelations found, the more intensively the formation of multiple identities develops. It can be concluded that in this manner the dynamics of the landscape and the ability of changes influenced by the implementation of the artwork in the landscape are revealed.

4. Conclusions

Two research approaches for interconnections between the landscape and contemporary artwork have been identified and examined: *the expression levels approach* and *the continuity approach*. Each group of approaches supports a number of subordinated and interrelated principles. The presented principles reveal that the definition or re-definition of the landscape can take place using a new landscape feature and through emergence of the meaning in the landscape.

The landscape expression levels approach reveals the context of the local and global consistency of landscapes that should be viewed together both in terms of making the individual space and a set of systems. Thus, the Zone effect and the temporal effect are brought into the discourse, to be used at the local planning level, which determines the territory or spaces where it is advisable to develop works of art or events, including predictable forms of artistic expression. Temporal acceptance facilitates the achievement and strengthening of space dynamics. The subject additionally requires the expansion of the 'writing [in] landscape' determining the opportunities of the *curatorial landscape*.

The landscape continuity approach ensures understanding both of space and time limits. In the context of the cultural heritage landscape, a direct historical interpretation of value and evidence of landscape continuity activates the historical nature. In landscape development, both contextual artworks based on site (site-specific) and non-contextual artworks must be used in the planning process that both reinforce and contrast with the historical development of the landscape, providing a 'different' view to the landscape. For the emergence of contemporary art in the historical landscape, it is essential to develop: first, the transfer of the historical aspect, *bringing forth* in today's landscape, which is reflected in the diversity of interpretations, thus approaching the essence of landscape, characteristics and the current situation. The place awareness and cognition is the first important step in the successful integration of the artwork in the historical landscape. The next crucial step is the ability to interpret and present the selected 'quotation' in a different perspective, which is the expression of creativity. Second, the inclusion of non-contextual artworks in the historical landscapes which do not tend to search for the essence of the landscape, requests the quest for the linkage and adaptation in the setting. Suitable forms are those that produce short-term effects. By the artwork emerging in the landscape, a new, different kind of view has been created, modifying and transforming the first. Layering in the landscape points to the change of the landscape's identity through the function, meaning and structure.

The proposed approaches can be useful for the elaboration of appropriate methodology and instruments and more purposeful integration of contemporary art in landscape planning, development, and management. Through the awareness of the preferable conditions and created consequences, the choice is to be made in accordance with the established aim. It allows for awareness of the variations of the contained methods and contexts, which are not limited in the space and time and the individual creativity, but allow for evaluation and use of the potential provided by art to achieve the aims, choosing the most appropriate one. Further research and analyses on landscape transformation is required, highlighting the landscape dynamics.

Acknowledgements

The paper was supported by the Project "Support for the Implementation of Doctoral Studies at Latvia University of Agriculture." Agreement No. 2009/ 0180/1DP/1.1.2.1.2/09/IPIA/VIAA/017.

Notes:

[1] http://www.onedaysculpture.org.nz/_symposium/chris% 20wright%20 formatted.pdf

[2] http://www.serde.lv/

[3] http://www.staroriga.lv/

[4] http://whc.unesco.org/en/activities/514

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Landscape as Portrayed in Garden Design
Context and the Mediation of the Designer/Artist

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The history of garden design is rich in examples of landscape representation. Over centuries and across cultures, the garden has represented a means of evoking a larger territorial context. In academic teaching one can return to the theme of the landscape "transferred" onto the garden. Traditionally this was achieved through miniaturization and symbolism. This approach can be questioned and notions of scale, familiarity and history can be overturned. Through allegory, amplification and de-contextualization, projects strive to be geographically and culturally "transversal". The aim is to follow artistic procedures for a design approach that can be applied to any site, reflecting local identities.

Keywords: landscape re-presentation, landscape evocation, land art, allegory, miniaturization, context, landscape education, history of the garden, local community participation

1. Introduction

This paper will examine the evolution of a particular aspect of *conceptual* or *artistic* garden design which uses the garden as tool of landscape re-presentation. Over centuries and across cultures, the garden has represented a means of evoking a larger territorial context. Traditionally this was achieved through miniaturization and symbolism. This approach can be questioned and notions of scale, familiarity and history can be overturned. In educational training one can return to the theme of the landscape "transferred" onto the garden. The garden as representation of the larger territorial landscape serves as a powerful pedagogic tool, providing a central metaphor for students' creative work that allows for a useful and fairly objective set of evaluative criteria. In practice, using landscape as a metaphor is also a critical tool for community engagement. While it is often the task of the landscape architect to lend poetry and meaning to a laundry list of community concerns – more dog walking zones, children's playgrounds, cycle paths – the reference to familiar or nostalgic local patrimony can become a synthetic element that allows this poetry to integrate seamlessly with more banal programmatic requirements. What is at risk with this approach is that the garden (or park) becomes a field of literal transpositions, or in the worst case, of kitsch. And so it is incumbent upon us as educators and practitioners to seek innovative ways to draw, represent and re-present, so that the poetic impulse and subtlety of great garden design is preserved.

2. The challenge of historical context

To greatly generalize a complex and diversified process, one could say that by the end of the 1970s landscape architecture had reached a crisis point, where it became increasingly difficult to be innovative within a "style" that had its roots in the Romantic or English Garden and had had two hundred years of evolution. Over two centuries, landscape architecture gradually shifted from a discreet art form practiced for the pleasure of a few, to a public craft for the vast public. One of the consequences of this was that function often prevailed over form contributing to a general lack of interest in landscape architecture as artistic expression. An innovative exception, originating mainly in France during the 80s, used gardens within the practice of landscape architecture to experiment with new forms and concepts. This focus on gardens, apart from the obvious consideration that their smaller size is ideal for experimentation, also has an historical explanation. Gardens have always been the place for innovation and "follies". What changed was that designers borrowed techniques and practices from the *studio artists* and applied them to gardens. Before analyzing the specific theme *of landscape as portrayed in garden design* we need to retrace its historic origins, with its continuities and discontinuities.

2.1 History of the garden

It is important to point out that the proposed new approach to garden design has in fact, deep roots in garden history. The Orient, with the classical Japanese garden, an allegoric representation of vast nature in a confined space, offers an example of this. Contrary to the 18th century European "landscaped" garden, it does not intend to recreate a series of fully-scaled seemingly natural, yet idealized scenes; rather it draws its composition from an abstraction of nature through an artistic approach within a precise set of conventional rules. In later evolutions, starting in the 17th century, the Japanese garden introduces the representation of known landscapes, notably Mount Fuji, in miniaturized form as seen in Suizenji-Jojuen landscape garden in Kumamoto *(Fig.1)*.

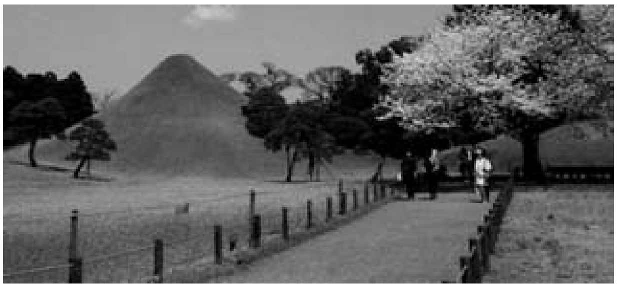
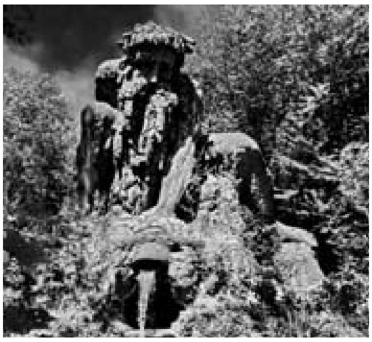
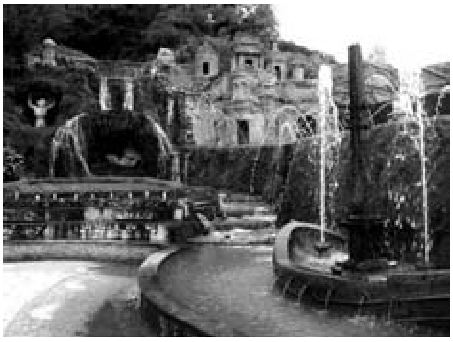


Fig. 1 Suizenji-Jojuen landscape garden in Kumamoto.

The garden reproduces the 53 post stations of the Tokaido, the important road, which connected Edo with Kyoto during the Edo Period.

The Mannerist European garden also introduces similar *tools* as is the case of the "Apennine Colossus," the statue of a giant by Giambologna at the Renaissance Tuscan Villa Demidoff *(Fig.2)*, which provides an allegory of the surrounding chain of mountains.





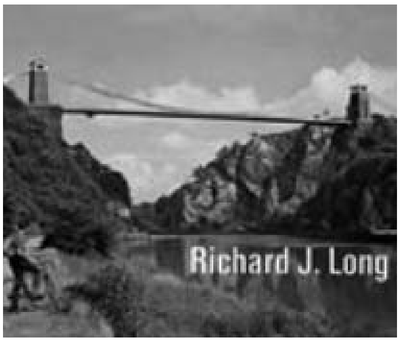


Fig. 2 (left) The "Appennine Colossus" by Giambologna, Pratolino, Firenze, Italy
Fig. 3 (center) Rometta Fountain by Pirro Ligorio, Tivoli, Rome, Italy
Fig. 4 (right) Richard Long, 'Sculpture' exhibition (1969) invitation

More complex References: are made in Villa d'Este's (Tivoli, Italy) elaborate Fountain of Rometta (Fig.3), designed by Pirro Ligorio (ca.1570) to represent ancient Rome. There is a stucco statue of the river God Aniene on the Tiburtine mountain summit. Below him, half-hidden in a grotto, Appenines holds the mountain from which the Aniene river is born and whose waters merge with the Tiber. Even the Tiber island is depicted in the fountain in the form of a boat representing both a miniaturized version of the original and drawing from the myth of its origins.

2.2 The Role of Land Art

Land Art has contributed to the unfolding of a particular school of garden design, whose conceptual basis is to be found in the landscape, be it surrounding or remote. In the early works of Richard Long, notably in his first solo exhibition *Sculpture* (1969), the artist creates a direct link between his piece in the gallery – a chain of wooden sticks collected on a walk along the river Avon - and the landscape that inspired the piece (Lailach 2007). The invitation for the exhibition - a postcard depicting the Clifton bridge seen from the banks of the river *(Fig.4)* reveals the intention of the artist to consider the landscape as an *anticipation* of the art work, so strong is the link between the two. Inverting the base hypothesis *Landscape as portrayed in garden design* we witness the *Artwork as portrayed by the landscape*. Dennis Oppenheim's *Mt. Cotopaxi transplant*, a model he presented for the exhibition *Earth Works* (1968) held at the Dwan Gallery of New York, was already pushing the boundaries of landscape portrayal in art. It is a simultaneous representation of two different landscapes, by superimposing the Mexican Cotopaxi volcano on the US geographical centre, Smith Centre, Kansas.

2.3 Contemporary design

Examining this lineage in garden design also in contemporary landscape architecture, one observes that its relevance has not waned. As the examples will testify, this approach is continuously evolving and through miniaturization, allegory and symbolism, produces the most varied outcomes. The *Australian Garden* in Melbourne *Fig. 5* by Taylor Cullity Lethlean, part of the Royal Botanic Gardens at Cranbourne, goes far beyond showcasing the Australian flora and its habitats; it captures the essence of the Australian landscape. A common theme through the garden's design is the exploration and expression of the evolving relationship between the Australian people and its landscape and flora. The garden highlights the tension between the natural landscape and our human impulse to steadily change it. This tension is not eliminated; rather it is the driving creative impulse for exploration, expression and interpretation of the landscape and its flora. *'Distinctly Australian landscape patterns have been referenced in a bold, graphic and sensitive way to provide a unique visitor experience. In doing so, the project has successfully reinterpreted what an Australian landscape is'.*[1]

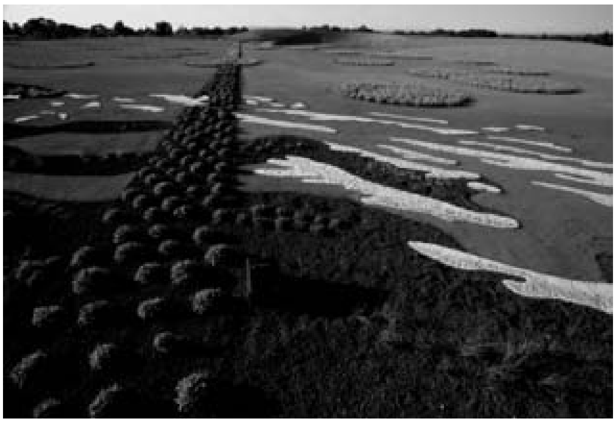


Fig. 5 The Australian Garden in Melbourne by Taylor Cullity Lethlean

In *LAND-I archicolture's* work, a design collective based in Rome and Singapore which I co-founded with Raffaella Sini and Roberto Capecci, the theme of landscape "transferred" onto the garden has appeared frequently. The approach has been to question and overturn notions of scale, familiarity and history.

At Cornerstone (Sonoma, California) we decided to invert the idea of miniaturisation by de-contextualizing a large pebble from a Mediterranean beach, metaphorically throwing it to Sonoma and blowing up its proportion to obtain a surreal object. Therefore in "Stone's throw" (*Fig. 6*), as the garden was called, a giant stone was cast in-situ to reproduce almost identically the pebble we had singled out from an Italian beach. We created a walkable space, a landscape in itself which plays on the idea of context and scale, hence the title.

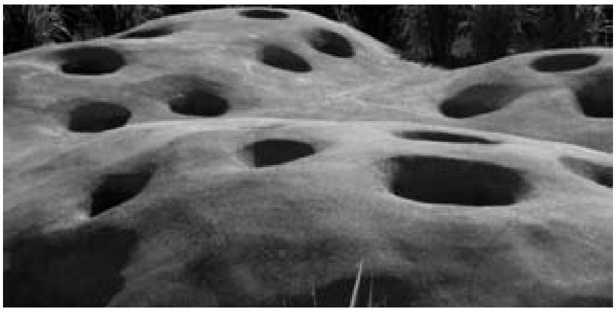
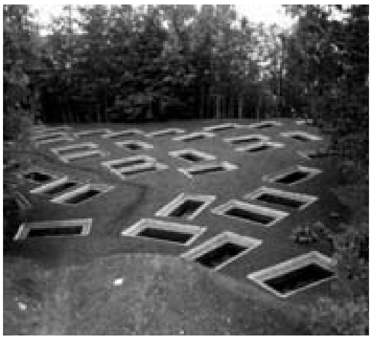
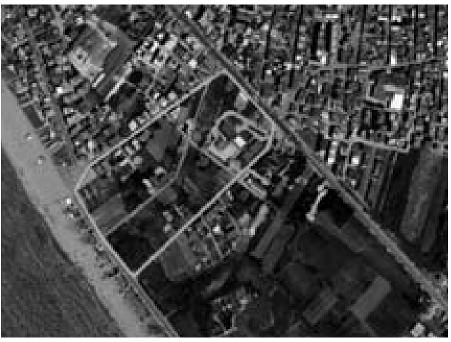


Fig. 6 Stone's Throw, Sonoma (California) by LAND-I archicolture





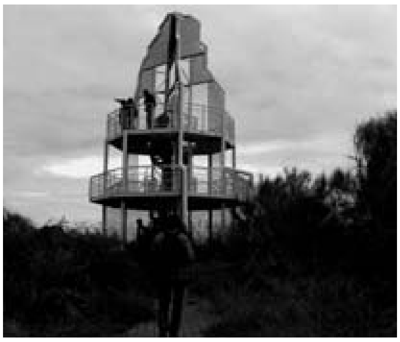


Fig. 7 (left) "Ombre", Metis Festival (Quebec) by LAND-I archicolture
Fig. 8 (center) "Workin' on 4" workshop, case study area, Mondragone, Caserta, Italy
Fig. 9 (right) Watchtower in the Nimes-Caissargues Rest Area on motorway A28, by Bernard Lassus

the garden "Ombre", built for the 2002 edition of the Metis Festival (Quebec), the visitor walked freely amongst a series of identical holes in the bare ground placed in no apparent order *(Fig.6)*. These holes or *empty graves* created on overall image very similar to southern Italian archaeological sites. A Mediterranean necropolis is superimposed on the banks of the Saint Lawrence river, to achieve a series of effects that are formally site-specific while being culturally dislocated. Through allegory, amplification and de-contextualization, these projects strive to be geographically and culturally "transversal."

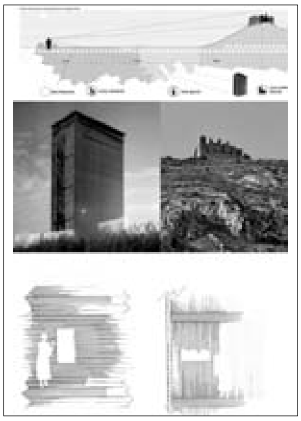
3. Theory in practice

I recently completed an intensive workshop called "workin' on 4" in Caserta, Italy. The students were asked to work on a waterfront area in a coastal town riddled with illegal buildings and weak town-planning enforcement *(Fig.8)*.

The students chose to work on elements of the landscape that reflect some residual quality of the landscape. A survey of landmarks visible from the area was carried out during the site visit. Alongside the theme of the dunes, the skyline of the nearby mountain dominated by the ruins of a castle and a monumental drying tower used in agriculture were chosen as links with the context.

Inspired by the work of Bernard Lassus on the A28 motorway in France (*Fig. 9)* the students chose to work on the concept of the watchtower or *belvedere*, a recurrent element in historic gardens.

As in the example by the French artist-landscape architect, the form of the tower is inspired by and replicates the shape of the object (the drying tower) to which it wishes to connect. The otherwise solid wooden elevations have openings placed exactly in the direction of the landmarks replicating the scaled profile of the landmarks (*Fig.10)*, quoting Lassus again (*Fig. 10).* The use of fragmentary landscape as a source of inspiration allowed the students to experiment more freely.



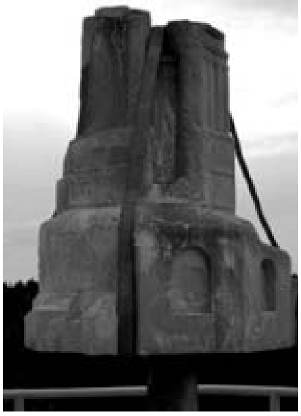


Fig. 10 (left) "Workin' on 4" workshop, students' works
Fig. 11 (right) Sculpture on the Watchtower in the Nimes-Caissargues Rest Area on motorway A28, by Bernard Lassus

My colleague Raffaella Sini form *LAND-I archicolture* coordinated a Participatory Art Project between NUS – National University of Singapore and SAM - Singapore Art Museum in August 2012.

The work was centred on the idea of *mutual perceptions* between Rome and Singapore. The concept centred on the difference in flora and landscapes between the two geographical spaces. The resulting idea was based on the fact that the two continents were metaphorically connected by the wind, which blew in the heart of Asia and led to a few fallen leaves in the Roman autumn. The idea of autumn and seasons represented the very identity of the European landscape as opposed to tropical *static* flora. Oversized autumn leaves were cut out by the students (*Fig.12)* and placed on the skylight of the train station. Their underground shadow materialized the three-dimensionality of the flight and transformed the underground "space" that was experienced by visitors.

In a workshop in 2000, Professor F. Ghio from University Roma 3, had the students experiment with the sand and the possibilities it allowed to create a new and different micro-landscape starting from the same element.

They carried out an applied exercise with the sand in order to study the behaviour and the forms that it generated (*Fig.13)*.

Working with fixed formats (20x20, 20x30, 20x40) and different features of the same material (sand, shell, almost white and very fine sand or else gathered on the beach, etc.) provided diversity. The structural and visual quality in relation to the void and volume, the ratio between the basic material and additional objects offered multiple results for the research.

In addition to the proposed structure (container), it was necessary for every student to find a proper order in the development of the trial.

The tutors chose one or more major forms, forms that could be natural or artificial reproductions of the landscape or "views" of it. In these forms one could recognize elements of landscape design such as walls, terraces, connections, bridges, etc. levelled or inserted in the sand. Through creativity we identify the relationship between form and content of the studied material: starting from the void, producing the *encounters* and combinations of different elements (sand, metal, wood) in order to generate a new perceptual entity, a new landscape.

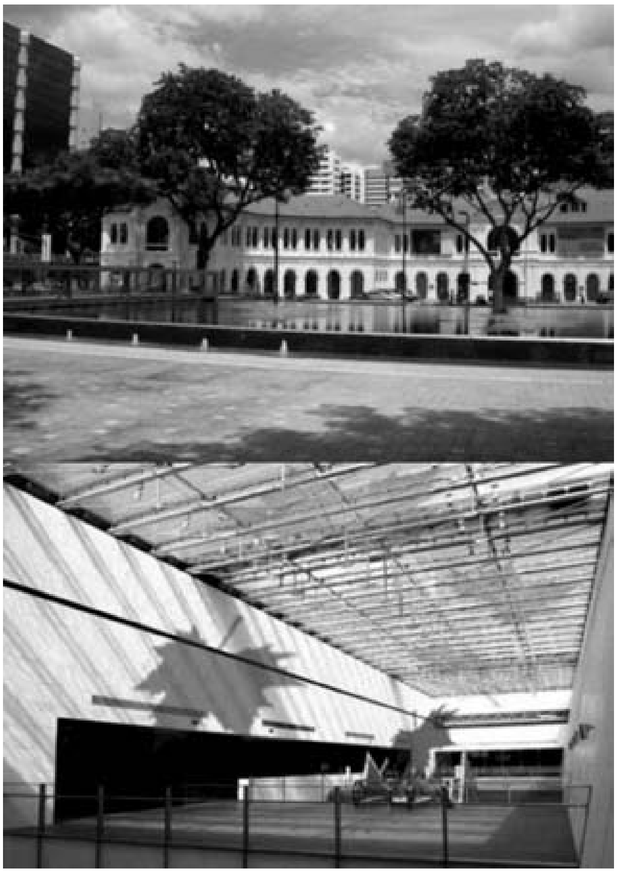


Fig.12 Participatory Art Project between NUS – National University of Singapore and SAM – coordinated by Raffaella Sini

In this process, other components, such as light and water interact, highlighting the texture of the sand and some of its qualities such as geometry, structure, composition and density, and transforming it into a new expression.

The experience of these workshops showed us educators that our approach can offer an important tool as it forces the students to reflect on the identity of a given site. As we have seen through the examples of designers who work on the concept of *landscape as portrayed in garden design*, this approach is very open and varied.

4. Conclusion

The branch of landscape architecture and garden design – which I favour as a practitioner and as an educator – that draws its inspiration from contamination by the practices of abstract art, plays an important role in the profession, but is at present not sufficiently emphasized in academic teaching. In particular, a pedagogic rubric for *landscape representation,* hitherto described, as a tool of aesthetically and culturally exploring the potential of landscape to function as a medium and means of expression could be developed. The idea that a site always hides traces of a previous state, or its capability to express an immediate or extended context should encourage the exchange and dialogue with cultural and educational institutions, and the local community.

After a generation of cross-pollination between the practices of studio art and landscape design, we have reached a critical point at which we as educational institutions and professional designers are at once able to accept the abstractions of art in our environments, and to bring a more inclusive, less self-referential approach to the artistic metaphor in landscape design.

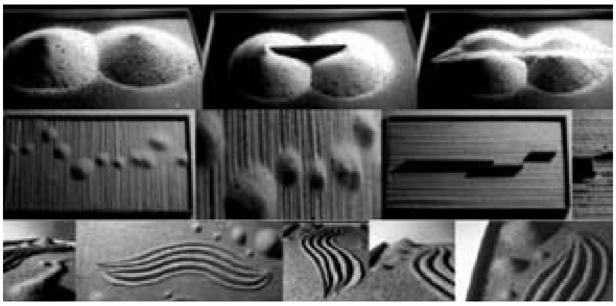


Fig.13 Workshop within the Landscape architecture course led Professor F. Ghio from University Roma 3

Notes:

[1] http://www.tcl.net.au/projects/cultural-interpretative/australian-garden

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The Landscape as Palimpsest

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Abstract: The landscape-palimpsest is a landscape that establishes itself on a tablet of constant re-writing; yet which aims to maintain an overall "personality", ensuring that each new sign connects to make sense of the new total form. The landscape project to which we refer has therefore a relational value within the overall system. It is not a "finished project", but intends to plant a virtuous seed in the territory, able to trigger a transformation process with the outcome of "landscape quality". This outcome is not considered a "second effect" or a "maquillage", but directs the transformation goals from the beginning. A vivid example of this concept of landscape design-process is the proposal for the Tindaya mountain by Eduardo Chillida, which proposes laying out the extraction of stone to make an epochal sculpture.

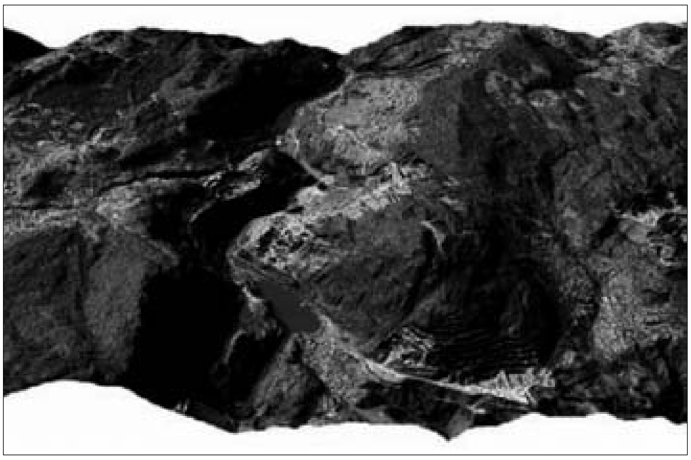
Keywords: Landscape, Palimpsest, Quarry, Regeneration, Recycling, Reclaiming, Constellation.

1. Introduction

We consider the landscape as a palimpsest, on which, in time, the community over-writes its human history. The landscape-palimpsest is therefore a landscape that tends to found itself on a continuous rewriting, aiming however to maintain an overall "personality", or making sure that every sign that we add or delete could contribute to give meaning to the new figure of the whole (Barbiani, Marini, 2011). For this reason, the landscape project to which we tend has a main relational value within the overall system. It is not a "finished project", but rather intends to plant a virtuous seed in the territory, able to trigger a transformation process with outcomes of "landscape quality" i.e. with aesthetic and cultural value, as well as physical and economic value. In this sense, the landscape comes from a new (design) "interpretation" of the territorial characters: they are not just "found" and "preserved", but rather "revealed", remarked, rewritten, reinvented....
The difference of a similar design operation – in respect of works of transformation marked by targets substantially oriented to yield quantitative and economic outcomes and functional efficiency – lies in the fact that the "landscape" outcome of the project can no longer be considered as a "second effect" or a retrospective "maquillage ", but can take part in the design and change process from the beginning and can even influence the design choices from the beginning. The aesthetic and cultural goals require guiding the transformation from the beginning and thus controlling the formal results in the best way possible, while taking as reference points the quantitative targets and economic choices induced by socio-political development.
We can evoke, as a demonstration of this concept of transformation design, the example of the amazing project for the Tindaya mountain in Fuerteventura, designed by the sculptor Eduardo Chillida: a project which aims to steer the mining process of stone quarries for the completion of an astonishing piece of art.
"Many people work in the mountain extracting stone, without realizing that while they remove stones they are actually introducing significant spaces inside the mountain. So, why not plan this process to create a sculpture?"(De Baranano, 1997).
The research is inspired by this philosophy, resulting in a consulting assignment entrusted to us by the Autonomous Province of Trento, which we carried out during 2012 (team: E.Schir, with R.Bocchi, I.Jansana, J.M.Palerm, E.Beordo, M. Bottura, D. Cappelletti, M. Del Buono, A. Gaspari, A. Giovanardi, A. Gomiero, C.Lorenzi, G. Nardin, C. Perenzoni, B.Plotegher, F. Postal, P.Sandri). The research addresses the issue of re-designing the extraction sites (quarries) in a pondered ratio with landscape values, avoiding the logic of merely "restoring" the previous state, but trying to design a new landscape, certainly different from the former but capable of coherently interpreting the basic characteristics of the existing landscape.
The overall objective of the research is to rethink the quarry landscape in view of its sustainable development based on a balanced relationship between social needs, economic activity and the environment. The aim is to combine mining with a rethinking of its territorial context as it relates to tourism, cultural and social development, and to transform the waste-landscape into an opportunity for creating "new landscapes". The research proposes a strategy, a methodological process, starting with an analysis of the site and its context, exploring the critical problems and the potential issues towards a regeneration of the quarries which could strengthen the identity of a "new mining landscape". The testing ground for this study is the territory of the porphyry quarries in Trentino, whose important production provides a strong identity *(Fig. 1).* It is important to recognize the irreversibility of the process: that is, to recognize that the signs that mining has left on the land are not only indelible but, as the result of an entropic process that transforms the landscape, should not be hidden nor camouflaged.
Different scenarios for the mining landscape are determined by how and to what extent they transform the place, or when – in what phase – they take part in the excavation process. The terms and the extent of this process can be significantly described by the transformation of the section of excavation.

2. The relation strategy: the constellations

The valuation of this heritage in "virtuous" landscape terms lies especially on an interpretative recognition of the system logic that can govern the regeneration of potential resources within planning policies related to each local community.
We use as a "logo" and metaphor in this sense, an illuminating work of the artist Claudio Parmiggiani – Phisiognomiae Coelestis (for Aldalgisa) 1975, watercolour photography – in which the portrait



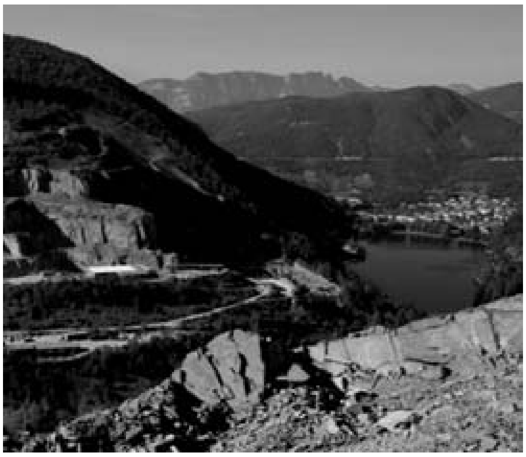


Fig. 1 Development of the LiDar system analyzed
Fig. 2 Visual and use relationships between the quarries and the lake

(bare back) of his beloved woman is briefly and abstractly "identified" by the constellation of moles on the skin of her back: the imperfections of the skin become in reality – through the abstraction and the "systemic" highlighting of the moles' constellation – the signs characterizing and identifying the woman, her true, more faithful and intimate, portrait.

Similarly, the detection and "systemic" grouping in a constellation of the wounds inflicted on the land by mining can become the basis for the definition of the fundamental characters of the territory itself (for example, the district of the porphyry quarries in the valley of Cembra and Valsugana in Trentino) and hence its specific "nature", when precise meanings are attributed to the socio-economic "constellation" and physical and land-use relationships among the different quarries are established – according to a precise strategy or a regional policy, which can also mean a real local marketing strategy.

This creates the possibility for outlining a layout, clearly perceivable to the visitor, highlighting the access and route within a "special" territory, typically characterized through the definition of privileged "gates" and "paths", able to orient the perception and use for the permanent residents and even more for tourists and city-users, like a prelude to possible programs of multiple use of the territory according to the features of a "cultural landscape". Highlighting space-time sequences – the "movements" inside the "constellation" – can outline a track, a story-board, which tells and explains the stratification of stories, in terms of images and sensations which cross this territory and characterize its landscapes. Tools to refine this strategy are primarily the selection of formal features in different parts of the routes (variability of local sections, morphologic sequence of hills and depressions resulting from the geological features of the plateau, alternation of rocks and vegetation blankets and forests...) and the recognition of the perceptual characteristics (visual guidelines and scenarios, panoramic skyline and landmarks, sensations of compression and expansion *(Fig. 4, 5)*, sound environments, passages from sun to shade, from hot to cold, reflections on the lake surface, chromatic effects of alternating meadow-forest-rock, etc.) *(Fig. 2)*.

The methodology of the analysis on the case study is summarized in an analytical matrix in which the elements and relationships between elements that characterize and constitute the identity of each constellation are "boxed" within three keys (context, form, process). On the one hand, the schematic translation of the analysis allows the identification of the elements that compose a system, on the other hand, it offers the tools (frameworks, surveys, visual maps, etc...) with which they can be assessed. For example, in the system a strong perceptual-scenographic character, linked to natural morphology and strengthened by the relationship with the quarry fronts, clearly emerges, as well as a variety of uses and vocations related to the presence of historic, archaeological and naturalistic features.

The analytical matrix identifies a scale of critical elements and priorities for action, and thus pinpoints those sites where an intervention of transformation, sewing up broken "synaptic" connections, triggers a domino effect for the enhancement of the character of the entire system. In these places it seems necessary to design a landscape layout able to emphasize and enhance the values of morphology and perception of the different landscape scenarios that can integrate them with suitable uses, not only agricultural or productive, but also of leisure or cultural value. The preferred design strategy seems to be the one capable of enhancing the scenic vertical character of the stepped walls of the quarries or the historic landslides of the excavated material. The "routes" inside the area can develop according to a principle of overlap and interplay between the various paths and trails that already exist for sports and leisure, for cultural heritage, for agricultural purposes, etc.., equipped with small centres preferably located in correspondence with the points of intersection of multiple different routes and at panoramic viewpoints.

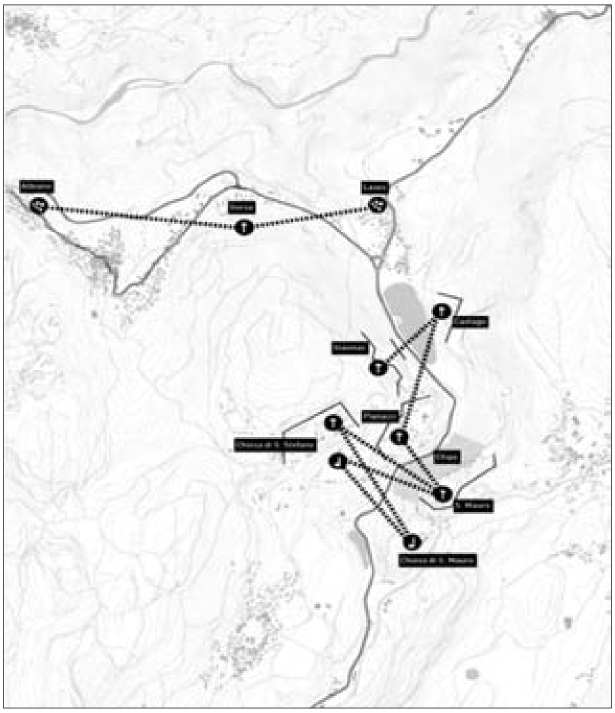
The two general strategies for the regeneration of mining sites (exploiting the characteristics of the environment and emphasizing the scenic nature of the quarries) can be encoded by further defining the methods of excavation, the timing of regeneration with respect to the activity, and the uses that characterize not only the site regenerated, but the whole system in which it is inserted. The first is connected with the development policies in which each extraction site is located and thus derives from the strategies related to what we have called the "constellation", which is the coordinate system of the quarries throughout the territory. The second is related to the design choices concerning the forms of each landscape and their character and potential for perception, hence – in a word – for a specific "project of landscape", obviously measured with the compatibility or potentiality (geological, geotechnical, physical, morphological, pedological, botanical and forestry, etc.) of the site investigated.

3. Strategies of transformation

3.1 The declination of the "regeneration, reuse, recycle" of quarries
The ultimate goal of the research is to identify the various ways in which we can work to "reset", "recycle", or at least a "return to uses and meanings" in the exhausted quarries (and also in those parts of the still operating quarries), exploring the possible overlap of compatible uses and meanings other than the mining and production activities. Most of all, the goal is to establish the guidelines under which these different "modes" can be selected and applied according to the different local situations and the possible "vocations" of each quarry. This multivalent approach is meant to suggest a change of direction with respect to current practice which – considering that necessarily the presence of quarries leaves marks of defacement of the original landscapes and are therefore to be judged as negative and degrading elements – assumes that the main goal for the intervention is compensation towards a "re-naturalization", i.e. a return as faithful as possible of the status quo or even a "camouflage". In fact, our research aims to demonstrate that this procedure is by no means the only feasible or necessarily the best – especially considering the fact that the return to a pristine state is generally not easily achievable and is likely to become in many cases a mere "maquillage". Instead, the types of intervention that our research has identified are manifold and can be briefly summarized as follows:

1 – Regeneration in favour of spontaneous processes of repopulation to protect the character of biodiversity which occurred as a result of the disposal.

2 – Reintegration of characters of the mountain landscape, with works by restocking forests.



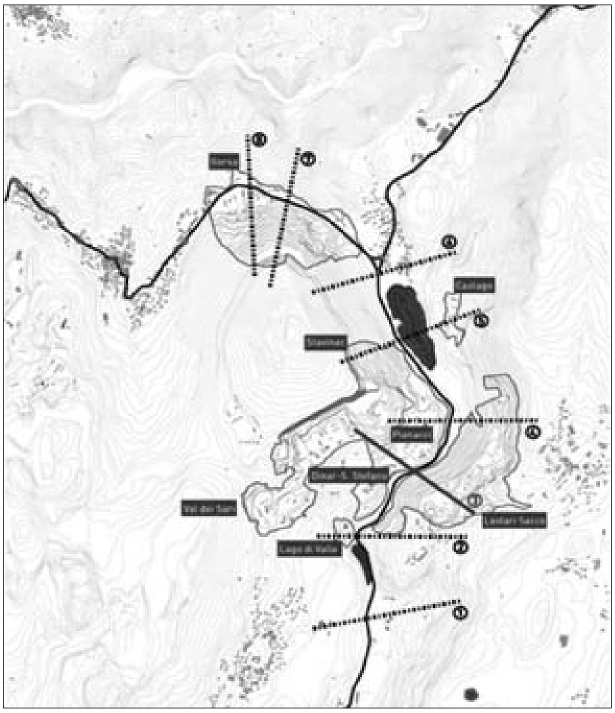


Fig. 3 Relationship between the elements of the constellation
Fig. 4 Variability of local sections along the main street: the 8 sections/doors

3 – Reintegration of characters of the agricultural landscape, with new cultivation of the excavated sites.

4 – Regeneration in favour of the insertion, even if only temporary, of plants for renewable energy (photovoltaic, thermal, wind, etc ...).

5 – Regeneration in favour of an accentuation of the "formal" and "spectacular" outcome of mining, with works modelling the soil and rocks and a possible reuse in terms of leisure activities, entertainment or art installation.

6 – Regeneration in favour of new production plants or new facilities, even with a new built environment.

When you consider that many of the sites in question maintain the presence of mining activities and other industrial activities and indeed often involve an expansion to more or less long-term activities, the choices above should be compared not only with a "static" or " synchronic" picture, but with a framework in diachronic evolution. This introduces the logic of a "landscape design" able to govern the formal results of the progressive mining activity itself, and then to establish standards of behaviour that relate to the same ways of excavation and its stages of progression.

For this reason, research has also outlined possible ways to prepare the control of the progress of mining, in a regime of maximum compatibility among the objectives of economic and productive exploitation of resources, the occupational and safety ones and the formal or perceptual results garnered by processing and modelling the landscape.

3.2 The stages of the transformation
3.2.1 Landscape recycled
A first strategy is dependent upon the necessity to intervene only after the total disposal of the mining activity. In this case the design works only "a posteriori" – it is aimed at recycling the degraded site. The project aims primarily to contain the damage caused by a process planned with the sole objective of maximum yield. A new

scenario in this context can check for possibilities and compatibility to use the site for new public activities.

This scenario may also include the transformation of some abandoned areas where human intervention is limited to the securing of a site excavated, leaving nature take its course, favouring the creation of new ecosystems.

This is Gilles Clement's "third landscape". But still, if this "wasteland" is the object of a gaze, and if his wounds and incisions on the rock and soil are loaded with aesthetic value and "artialization" (Clement, 1997), the scenario of this transformation will be the landscape as it appears, "embellished" (Roger, 1999), without any need for further action.

3.2.2 Temporary landscape

Periods of crisis in the sector or policy choices may result in the suspension of mining while material stocks are still present in the site. In this scenario, the possibility remains open, after an interruption of the excavation, to "re-open" the excavated sites and continue the mining activities. How should the the site be used during this period of "suspension"? The hypothesis of this type of landscape project, which we can call a "waiting landscape" (Lynch, 1976), proposes the temporary use of the site, with actions and resources directly proportional to an ephemeral use of the site.

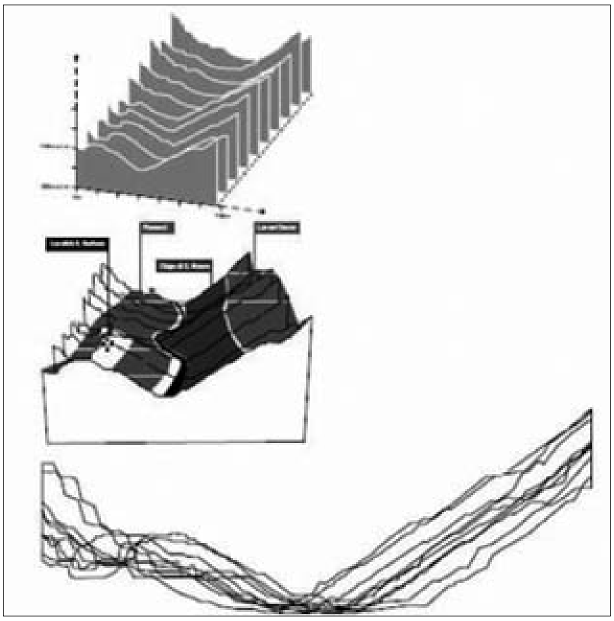


Fig. 5. Compression and expansion of the sections

3.2.3 Progressive Landscape

Another scenario is possible if the plan foresees the progress of mining activity.

In this context, the new transformation – limited only to a part of the whole plot – will involve the simultaneous extraction with a different use of the rehabilitated areas. The scenario is that of an evolution in stages which can gradually cover the entire site. The project will then have to plan the progressive stages and forms of the mining activity, to assess the timing and the manner of the redevelopment during the extraction process (Trasi, 2004).

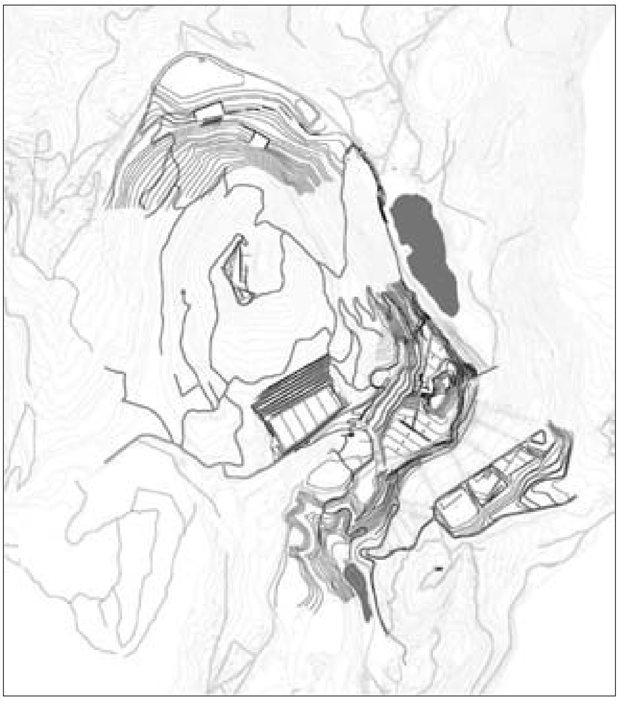


Fig. 6 Masterplan of the "Gorsa" constellation

3.2.4 Preventive Landscape

If the project succeeds in the initial planning stage of mining and on the methods of cultivation, we will be able to control the type and morphology of the excavation, and it will be possible to actually act "a priori". We can foresee the subsequent use of a different context, invert the logic of the excavation, so that it can be no longer the last end, but the means to transform and create a place *(Fig. 7)*. It is the idea of a landscape "under construction", "waiting for a different future". The steps are the same of the "landscape in progress", for distinct stages, but in this case, the transformation is faster and less expensive in terms of resources and energy, and may be limited to a single change of intended use.

The excavation work is intended to create, then, and not to destroy. In overturning the "logic" of the excavation results, the material that must be removed from the site (we can define "discarded" as non-functional to the construction of the new identity of the site), becomes an added "value". In this logic the enormous incidence of waste on the volume of material extracted (for porphyry, for example, it corresponds to 70%) assumes another weight: the ultimate goal is no longer linked solely to the exploitation of natural resources. The importance of a "prior landscape project" lies in the capability of pre-figuring the formal aesthetic results of the excavation and finalizing those results with the techniques of the mining process itself. Again the interpretation of the landscape and the reading of the context will direct the selection of topographical features and the potential future environment will shape the new profile of the mining landscape.

3.3 Modes of transformation

Processing methods and modes of transformation can be significantly described by the transformation of the excavation section. By relating how and to what extent the quarries are transformed, we can "encode" five different types:

1. No or minimal transformation / safety of the fronts. This category may include those interventions linked to the mere safety of the excavation fronts preventing the effects of leaching or risks of landslides. Another variation of this type of transformation can affect the choice of "leaving the site as it is", letting nature take its course, developing new ecosystems.

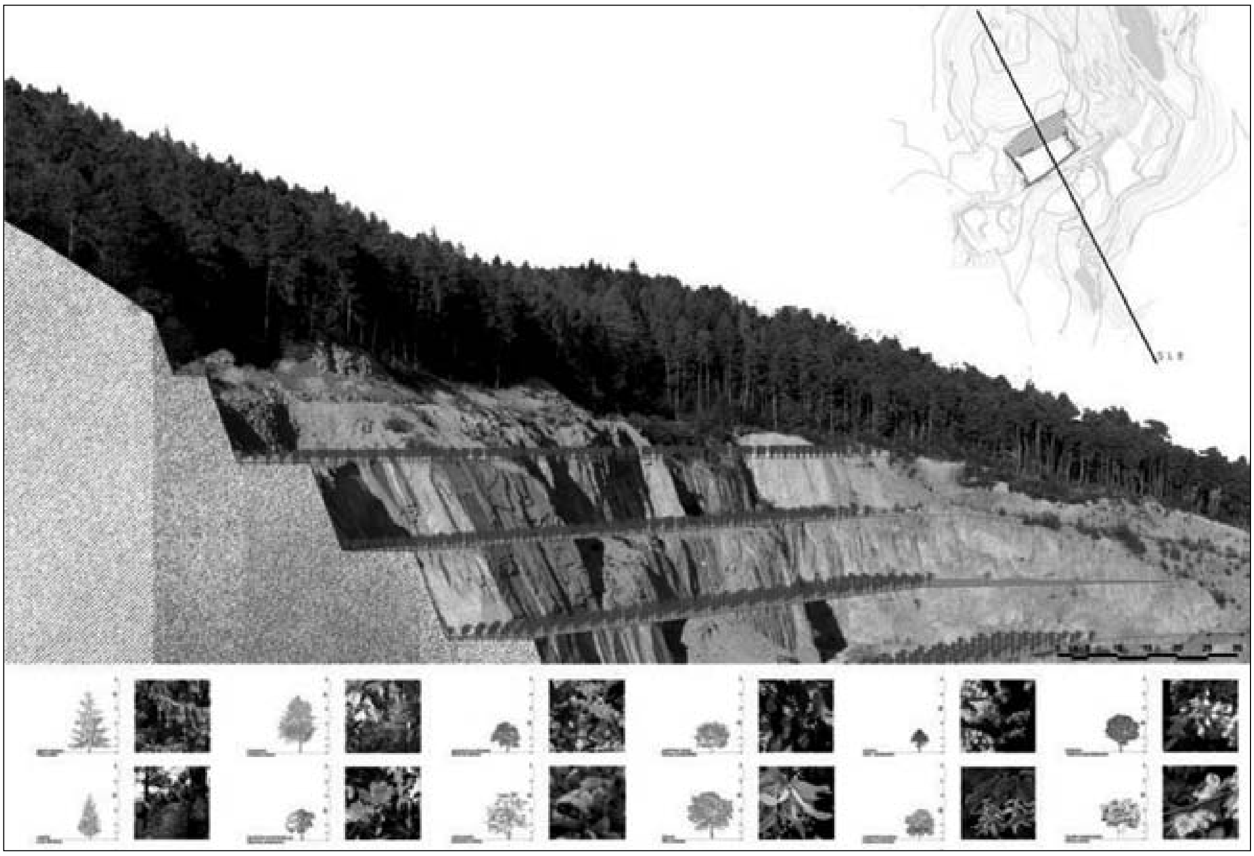


Fig. 7 The transformed section in the "preventive Landscape" in the Fornace quarry site (agricultural use).

2. Transformation for insertion / engraving in the excavation site. This happens during the excavation activities or subsequently (recycling project); the goal is essentially to transform the ground, digging further, while maintaining the general configuration of the steps of excavation, as a function of a future use. In this category we may include all those minimum interventions (eg. draft microtopography to direct the water drainage) or more substantial ones (construction of underground structures, stereotomic projects) for a new use.

3. Transformation through covering or filling the excavation section. This category includes renaturalization or reforestation, which provide coverage or fill the section of trench with soil and vegetation to "camouflage" the "wound" of the excavation. The coverage of the excavation, more or less marked, may affect agricultural or park or forest redevelopment. This category also includes interventions where filling is made through water (for agricultural purposes or leisure).

4. Transformation through support. This is achieved when, at the end of the excavation, the quarry is converted to another function. New structures (tectonic projects) may be temporary or permanent.

5. Transformation for modification of the excavation. This type of strategy affects mainly those operations in which the type of the excavation is predetermined by a form (section) which we wish to achieve a given objective, different, or at least further, compared to the simple "extraction" of matter. This strategy is the one that allows multiple reuse of the extractive, in this context, with a simple change of land use.

The cultivation, following the criteria of sustainability, would become functional to the later conversion of the quarry, greatly reducing the cost of processing.

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For Active Pedagogy in the Landscape: Workshops of Land Art

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Abstract: The study of a project and its practical realisation by students of landscape architecture constitutes an efficient mode of learning to develop certain skills in related to the visible and three-dimensional volume of space. For that purpose, we have developed workshops of land art. These workshops allow the students to seize the essence of a place temporarily in the landscape to express artistic intentions through sensitive analysis of the site. This work makes reference to land art, now to the art of intervention. The beauty and the power of the landscapes of the Loire very have motivated us naturally to experiment this active pedagogy for ten years. The purpose is to share and exploit this experiment taking into account its contributions, its interests, and its limits.

Keywords: project, pedagogy, landscape, land art, art of intervention.

1. Introduction

We aim to point out how active pedagogy can be useful for students working in the landscape. This kind of education or teaching is in priority practised at the school of landscape during workshops (in order to make a project).

Pedagogy concerns "the process of the action of educating, teaching and training: to teach, to learn, to instruct and train are all related to the pedagogic activity as well as the order of ideas which guide the exercise" (Morandi 1997).

Active pedagogy considers the learner as the main actor of what he learns (Pain 2003).

It is more an inductive approach than a deductive one that is proposed here. The project workshops developed in the landscape schools in France are relevant to the dynamics of this training.

For example, the programs of French landscape architecture schools devote half of the time to the development of projects (EFLA). This being so, and taking into account our own experience of landscape architecture studies, we are well aware of the role of learning through action. Most of the time, those workshops enable students to discover a real site and a precise demand from a client which involves a way of providing pertinent answers to their questions. The main means of expression used is drawing and representing an overall plan with simulation of the transformation of a space. Another way to train students to create a project is to analyse a site and a client's requirements, to find a concept, to draw the project and then to build what they have imagined and drawn outdoors. This is the kind of pedagogy we have been testing for ten years with future landscape architects making land-art.

Land-art is not necessarily a new phenomenon. For example the Neolithic stones of Carnac in France and Stonehenge in the United Kingdom can be considered as a form of land art. However, land-art is currently being practiced by numerous artists, landscape architects, and land owners. The beginning of the modern era of land art is often associated with the un-built playground designed by Isamu Noguchi, entitled Play Mountain in 1933. But the period of development of land-art began in the USA at the end of the sixties with Robert Smithson's theories. At that time artists decided to escape the conventional circuit of the art market and refused to be exhibited in museums. They created art in the landscape with the landscape and for everybody (Beardsley 1984, Tiberghien 1993, Lailach 2007, Kastner 2010, Adrian 2011, Dempsey 2011). Many of these land art designs have spatial design concepts, expressing ideas about the environment. Therefore, students studying the arts and landscape architecture are often very interested in the opportunities to explore land art as outdoor studio projects to express conceptual design ideas.

This paper presents the final result of an experiment of land art outdoor studio projects in the Loire valley.

2. Challenge tackled

Active pedagogy places the learner at the heart of the training process. It aims to encourage, by insisting on the importance of initiative and group work, and it involves the necessity of acquiring effective skills, and the use of one's knowledge in the context that is targeted.

Literature in the field of active pedagogy (approach through the project) insists on the interest of associating learning through action, self-training and tutoring (Corajoud 2010, Mucchielli 1994, Resweber 1995).

The cognitive processes taken into account (reflexion, listening, understanding, remembering, invention, self-evaluation) are made all the more efficient as the student is the main actor and the pedagogue is the tutor.

What is at stake in our "in situation" pedagogy is the help we can give students to acquire precious skills indispensable for future practitioners.

We target four main pedagogic objectives here:

- to be made sensitive to Art *in situ* to express artistic intentions in relation to a site,
- to analyse a site plastically, in a sensitive way,
- to understand the scale of a site,
- to discover, to study and use tools and plastic means of expression *in situ.*

The link with the plastic aspect of the landscape and its aesthetics characterizes the French landscape schools in a singular and definite way (Donadieu 2009).

Moreover, our recent researches in the field of perception of the visible landscape (Bouvier 2007, Duchesne et *al.* 2012) point out the importance of an education of vision in the process of training landscape practitioners. The first works reveal that beyond the permanent perception linked to the physiology of the human visual apparatus and to the characteristics of brightness of the visual stimuli, the training of vision by an attentive observation of the landscape, favoured by the activity of drawing for example, enables one to develop an aptitude for discerning and synthesising our perception. Better "trained" vision would show less dispersion of the smallest ocular movements called 'micro jerks' during observation and a more important proportion of more stable movements called 'fixations'. It is during these fixations that the integration of the visual message occurs.

3. Approach applied

3.1 Study area and methodology

The study area is along the Loire River in France. The Loire is a major river and empties into the Atlantic Ocean in the west of France. It is known as Europe's last wild river (Joliet, 2011). Much of the river has sandy terraces and fluctuating flow. Along this river, on the right bank is the town of Ingrandes sur Loire. The town was once the historical border between Brittany and Anjou and is located between Nantes (downstream) and Angers (upstream). *Fig. 1*, Ingrandes sur Loire is on the north side of the river and a dike is in front on the south side of the river. A bridge crosses the river according to a south north axis.

A series of river groins direct flow in the south side of the river towards a channel adjacent to the town.

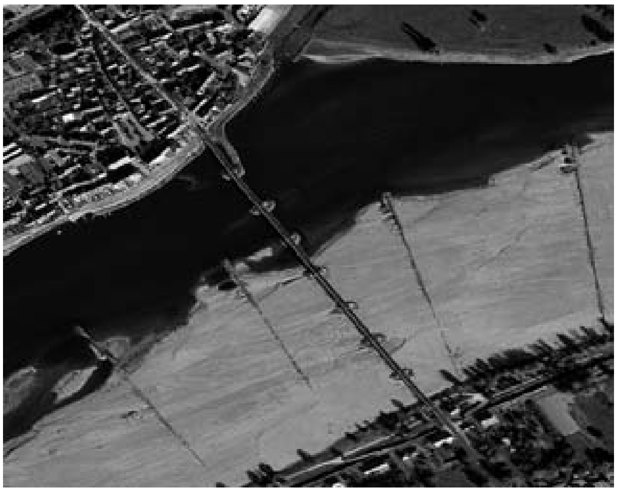

Fig.1. View of a part of the town on north, the bridge over the river and river groynes and dikes on the south. (Copyright © Bing 2011)

The students were allowed to select sites on either side of the river, downstream from the bridge at Ingrandes sur Loire.

Students had to form teams (eight members maximum). The students were first year masters students in landscape architecture from INHP Landscape, Angers, France (now Agrocampus Ouest).

The exercise was initially begun as a spring exercise, but was moved in the curriculum to the autumn.

Prior to selecting the sites, the students were presented lectures on the history of land art.

Afterwards, the students were introduced to the site in a fieldtrip. Materials such as cloth, sticks, wire, and earth were the primary materials for the exercise. Upon completion of the project, the land art would be dismantled, leaving no trace within the city and only landforms on the sandy terrace.

The students had four days to construct the land art and a morning to dismantle the exhibition.

The students prepared a wide variety of conceptual models made in the classroom. Styro-foam was a key modelling material in these models. In *Fig.2,* a second series of models considered creating land art along the Loire River.

For most students this was a relatively easy exercise. The students primarily presented models that were free-form, like sculptural elements. The studio models related to riverine land art often attempted to explore the interaction of river water and land, creating a constantly changing land art image.

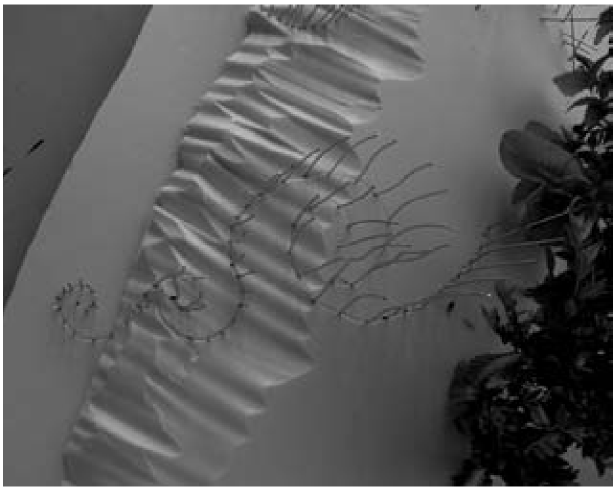

Fig.2. A model with styrofoarm showing a spiral just in the contact of sand and water. (copyright © 2005 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

. There were around six works of land art every year produced in the Loire Valley. Each group must choose a place to realize the plastic proposal. The participants mainly chose to work with the non-urban portion of the study area because of the opportunities to work with landforms. The urban portion of the study area can pose a more challenging intervention opportunity.

This work is estimated according to three criteria:

- the quality of the sensitive analysis of the site and its transcription by a medium of choice,
- the quality of the realization *in situ,*
- the global coherence of the approach.

3.2 Results

Through this selection of realizations from the ten years in which the exercise was conducted, the perception of the students shows a certain constancy in the plastic analysis of the site.

The most perceptible variations are mainly associated with the water level of the river and the energy of the current, the quality of the light and the climatic variances.

A strong contrast appears between the heavily built-up right bank, structured by piers and built facades, and the left bank presenting a very vast areas of sand interrupted with weirs/groynes and decorated with vegetation along the weirs/groynes. The proposals sometimes focus upon a chosen landscaped component, and sometimes look for a relationship between both banks.

The concepts of the interventions represent two predominant ideas:

A – The relationship between man / nature: contrast between anthropogenic regular forms, and the natural, mainly irregular forms, plus both man and nature's beneficial or harmful action in the environment, substantial and unpredictable;

B – The landscape of the river: micro-topography of the sand, forms of the water and the current, the works associated with the river (such as the weirs/groynes), the bridge, the alleys, the materials transported by the current (such as floating wood), and wind energy.

3.1.1 Expression of the man/nature relationship

A first series of propositions show shapes with curbs symbolizing the representation of the relationship maintained between man and nature.

Fig. 3, The project is surrounded by a generous area of sand intended to maximize the dynamic and plastic effect of the proposal. The sphere (representing man) is in contact with nature (the sand) and engenders a more or less beneficial effect upon the environment, as indicated by the circular waves. A more literal and alternate interpretation suggests the evidence of shock waves by humans across the environment.

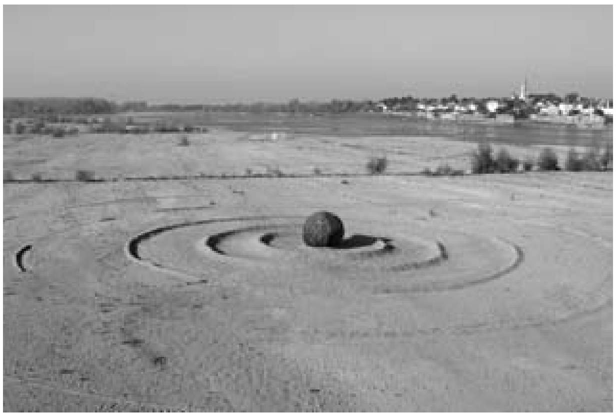

Fig. 3. The large dark ball (man) and nature (the sand). (Copyright © 2008 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

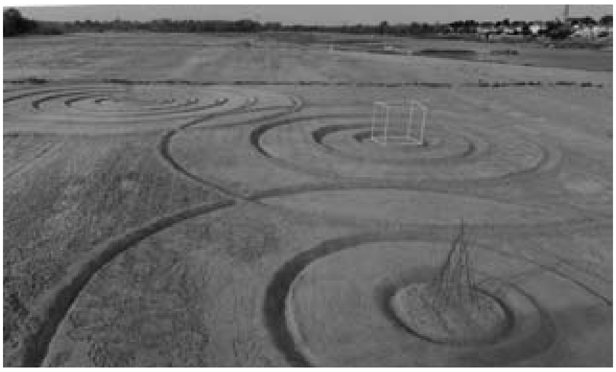

Fig. 4. The town (sculptures of coloured bamboo) and the river (sand circles). (Copyright © 2011 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

Fig.4, This piece of work expresses the town (bamboo sculptures) in contact with the river (sand circles). It was the largest project carried out in the ten years.

We found a picture of the site (*Fig. 5*) after the workshop only with those shapes in the sand from the Internet website © Bing. And we took a picture during the floods of Loire in 2011 revealing this singular topography (*Fig. 6*).

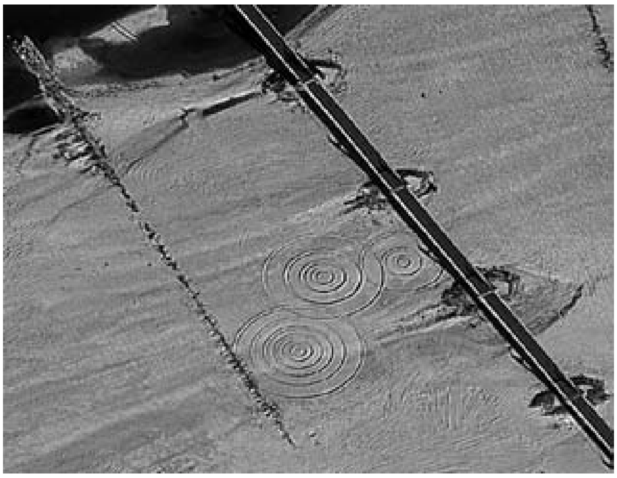

Fig 5. The circles on the sand near the bridge. (Copyright © Bing 2011)

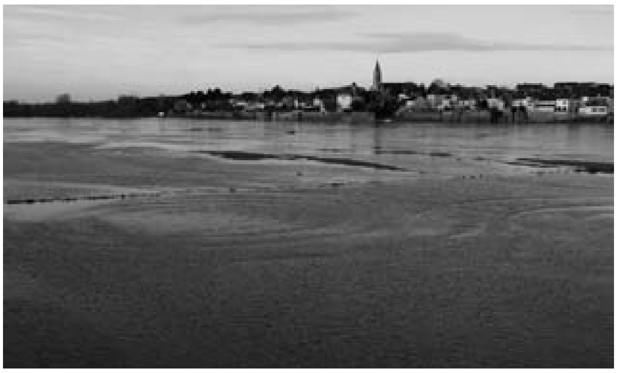

Fig. 6. The circles on the water during the flooding of the Loire. (Copyright © 2011 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

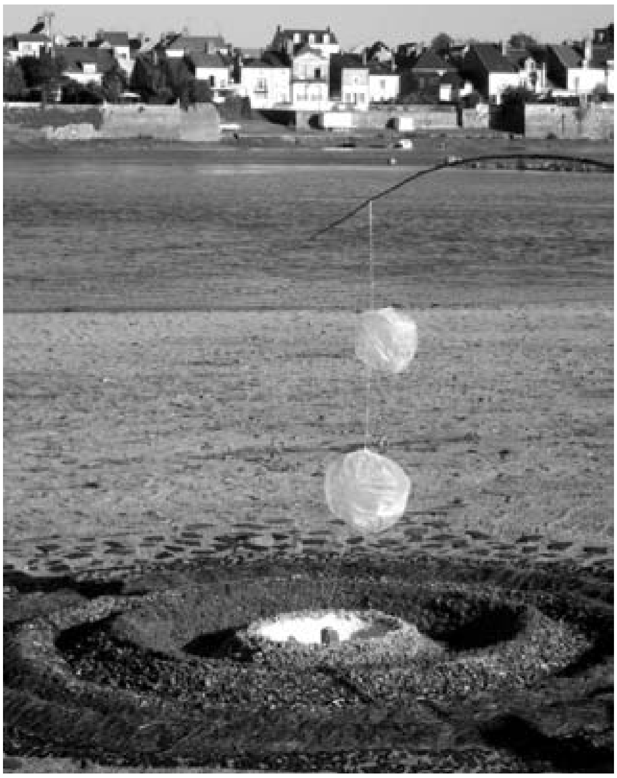

Fig. 7. Action of water: erosion of materials. (Copyright © 2012 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission)

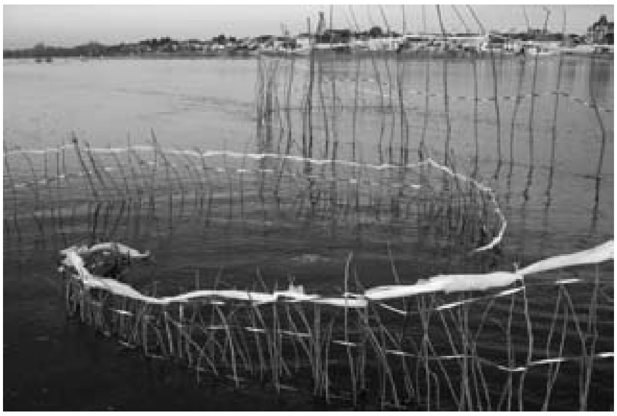

Fig. 8. Spiral forms in the river (copyright © 2005 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

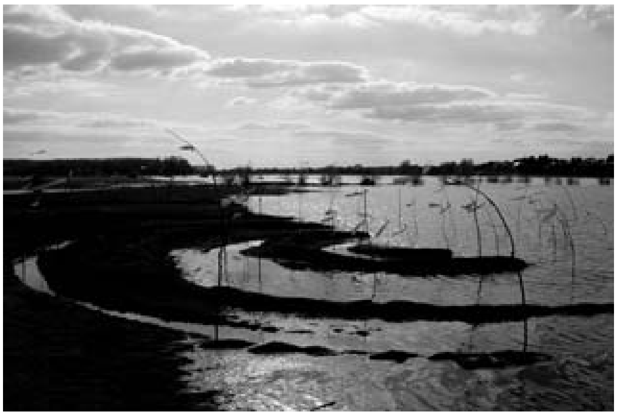

Fig.9. Spiral forms in the river (copyright © 2005 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

In *Fig. 7*, the transformation of materials by the river is symbolized by different circles installed in the sand. The scale of this work is very limited (some meters wide).

In *Figs. 8, 9, 10*, three projects developed a form based upon spirals. When the group visited the study area, the swirling spirals of the fast moving river made an impression on them. Therefore they decided to create spiral forms. The two first ones are in contact with the water and the third is in an alley.

A second family of projects represents wind and energy.

In *Fig. 11* suspended from the bridge across the river, ribbons give the intervention a tremendously mobile and short-lived silhouette.

In *Fig. 12*, the proposal consists of representing sand supporting an accumulation of white sticks (the clear facades of the structures) and prolonged by black flags (roofs slate).

3.1.2 Landscape of the river

In this part, propositions illustrate elements representative of the site.

Alley

In *Figs.13, 14, 15*, the alleys are arranged or symbolized using perspective effects and playing with the light.

The image presented in *Fig. 13* is from a project entitled "Alley on the Loire ". The intervention resides on a sand bank and consists of transposing the geometry of the alleys across the river and providing a way to access the river and to notice the urban landscape across the river. An ornamental pond cut into the sand stresses the reflection of verticality and the 3-dimensional effect.

On the *Fig. 14*, this project proposes a point of view on the church cross an alley.

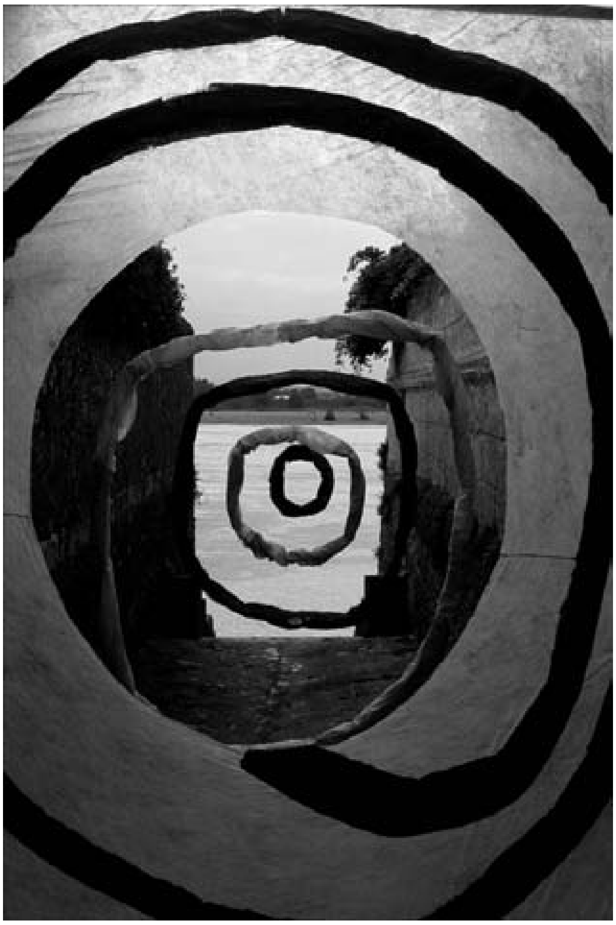

Fig. 10. Spiral forms in an alley , effect of focal point. (Copyright © 2011 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

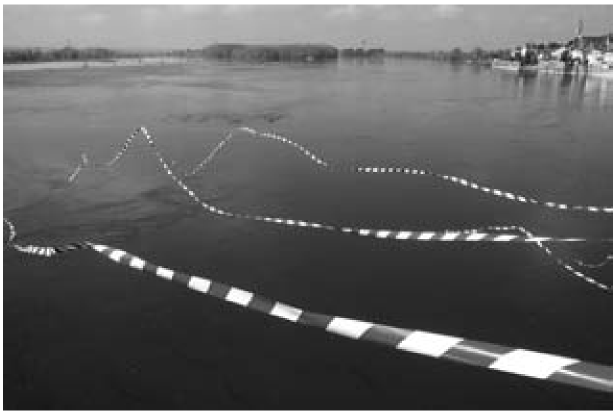

Fig. 11. Ribbons flying in the wind. (Copyright © 2004 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

Boat

According the history of the river, boats used to sail to transport salt, vine and hemp. Some projects evoke this past playing with the wind in *Figs. 16, 17* or using floated wood in *Fig. 18*.

Bridge

Fig. 19 illustrates a project entitled "Escape". The presence of the bridge crossing the river is the source of inspiration for this intervention. Without claiming to answer the use or value of a wavy object, the design is associated with a footbridge symbolizing the wanderings of the river along its sinuous bed. An alternate inter-

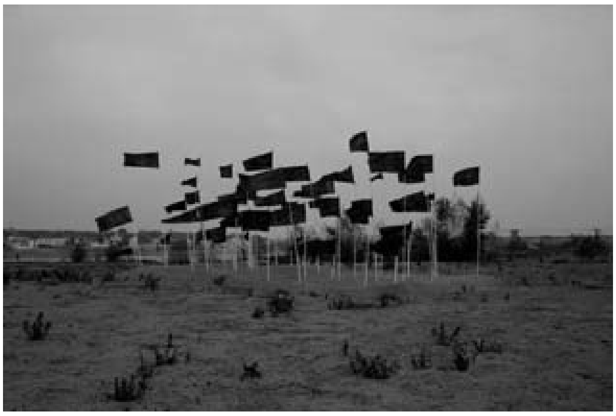

Fig.12 A composition of black flags on white bamboo poles over sand. (Copyright © 2007 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

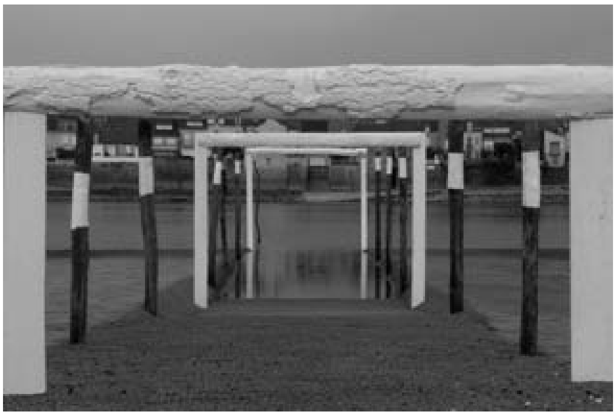

Fig. 13. Alley on the Loire. (Copyright © 2009 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

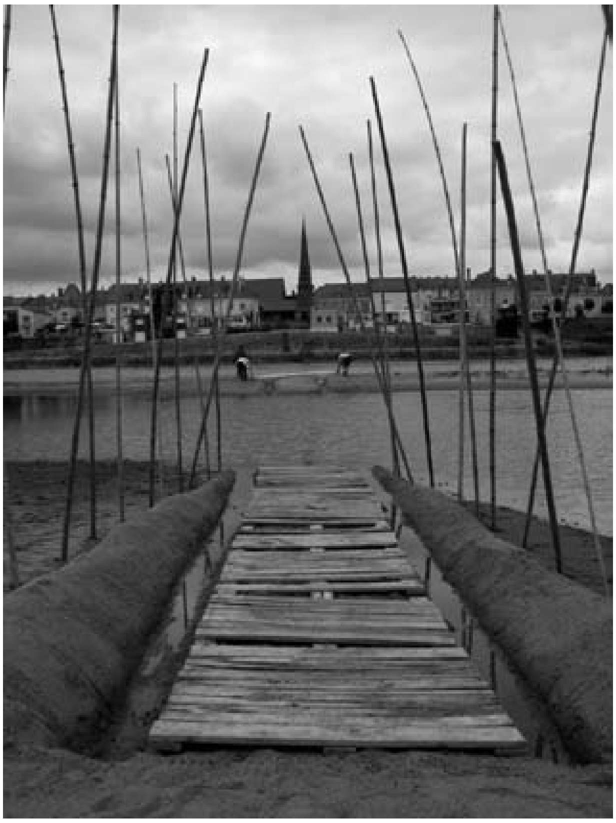

Fig. 14. Working in process of an alley. (Copyright © 2011 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

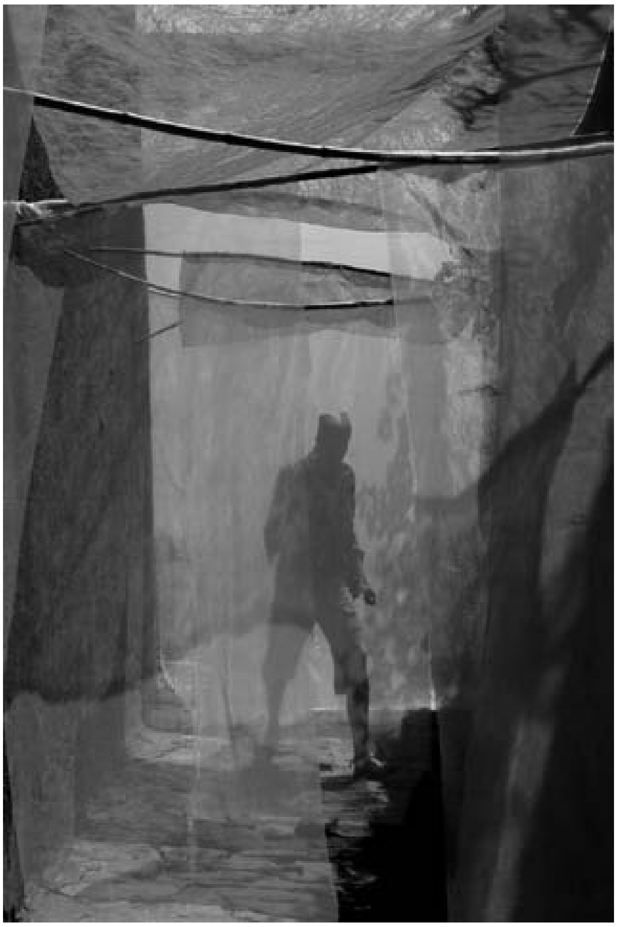

Fig.15. Layers of fabric and light interact in this alley. (Copyright © 2004 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

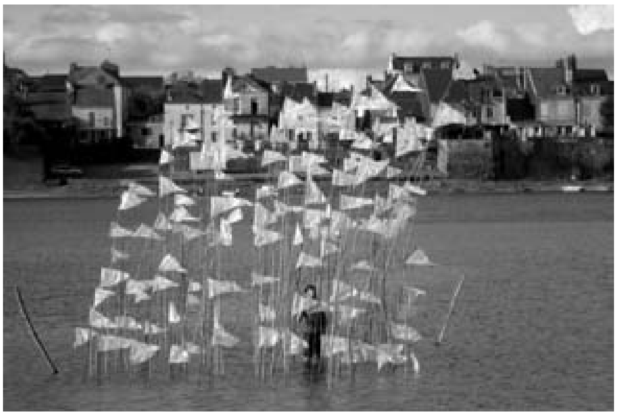

Fig. 16. The silhouette of a boat (Copyright © 2012 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

pretation is that the intervention appears to be a large lawn chair overlooking the river.

Micro-topography

The energy of the water after floods transforms the bank of sand creating new topography.

In *Fig. 20*, a project called “Bustle”, the micro-relief, indicated by nearby hydroelectric power lines, pay tribute to the morpholgical power of the river.

The depressions behind the weirs/groynes along the river become the visual support of this proposal. To glorify these discreet morphological and plastic components, vegetation accumulations like

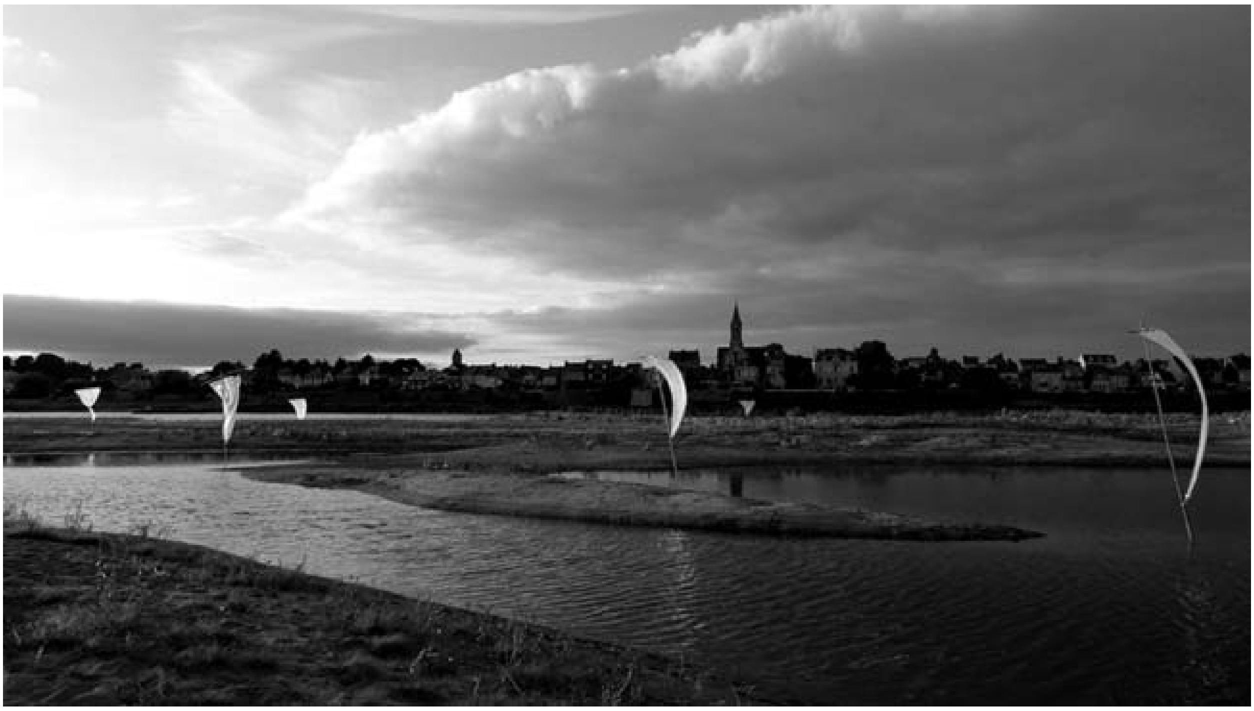

Fig. 17. The silhouette of boat sails (Copyright © 2011 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

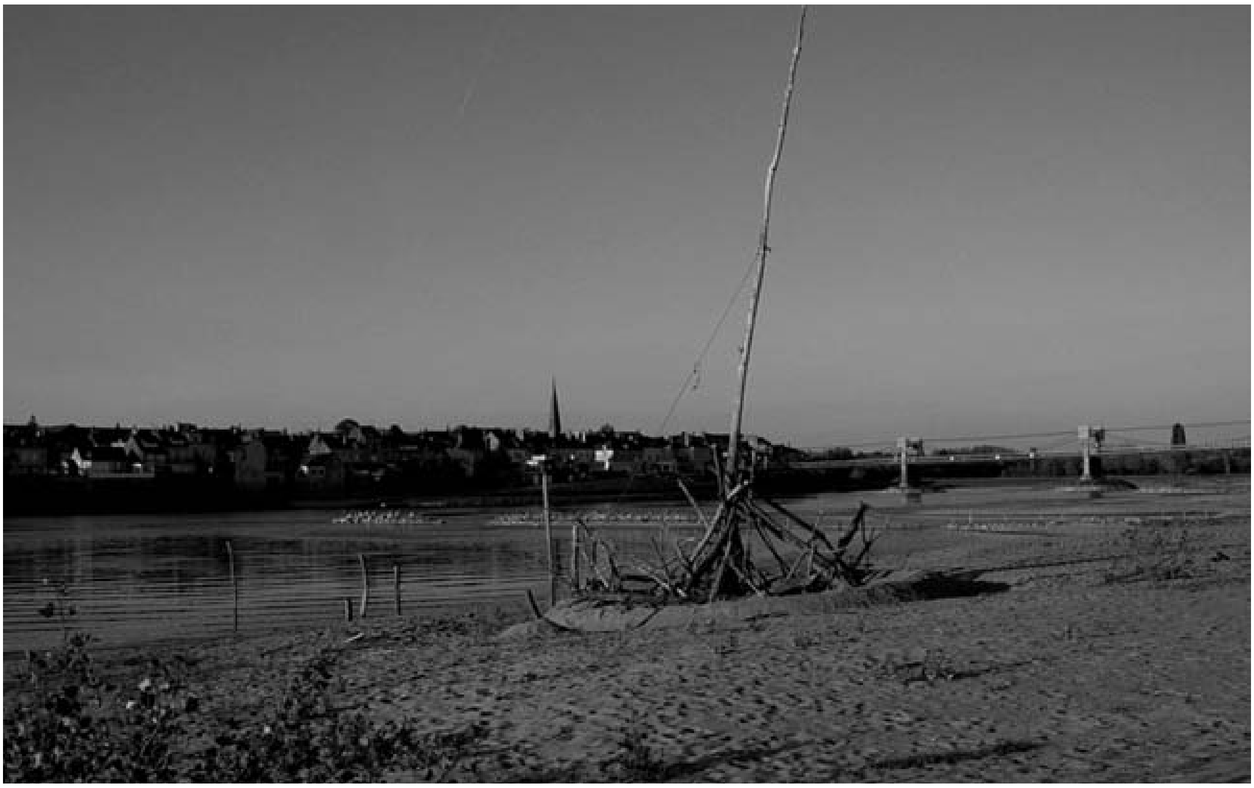

Fig. 18. A failed boat (Copyright © 2009 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

sediments are arranged in hollows according to a chromatic gradient along a weir.

4. Conclusion

We believe that this pedagogy was successful on several levels. First, students rarely have the opportunity to completely implement their designs on a full scale in an actual/real situation. These series of exercises led to full scale interventions.

Second, the series of exercises related conceptual model studies with actual implementation and demonstrated the link between the two.

Third, this original approach made students rely upon several pedagogical factors. They learn by doing, they have to adapt their project according to the duration of work, and they have to give meaning

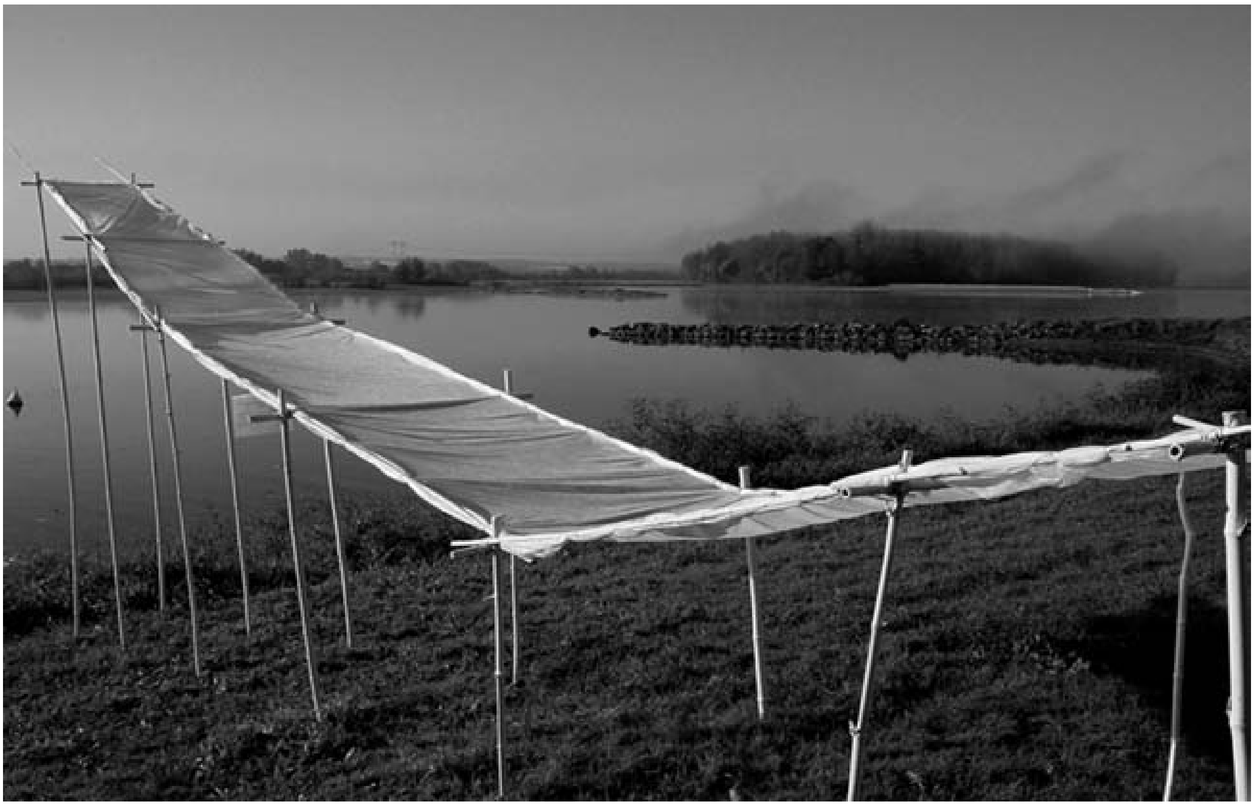

Fig. 19 Escape. (Copyright © 2009 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

and defend to their realizations, ideas and concepts. It is also a training experience for students to gain insight into the sense of place and the appropriateness of the interventions.

Fourth, even though this approach is ephemeral (only five days do discover the site, to invent ideas, to build and uninstall) and no systematic maps and quantitative information (only plastic and sensitive impressions of landscape in the study), the questions raised are symbolic of the process of designing a landscape project. The

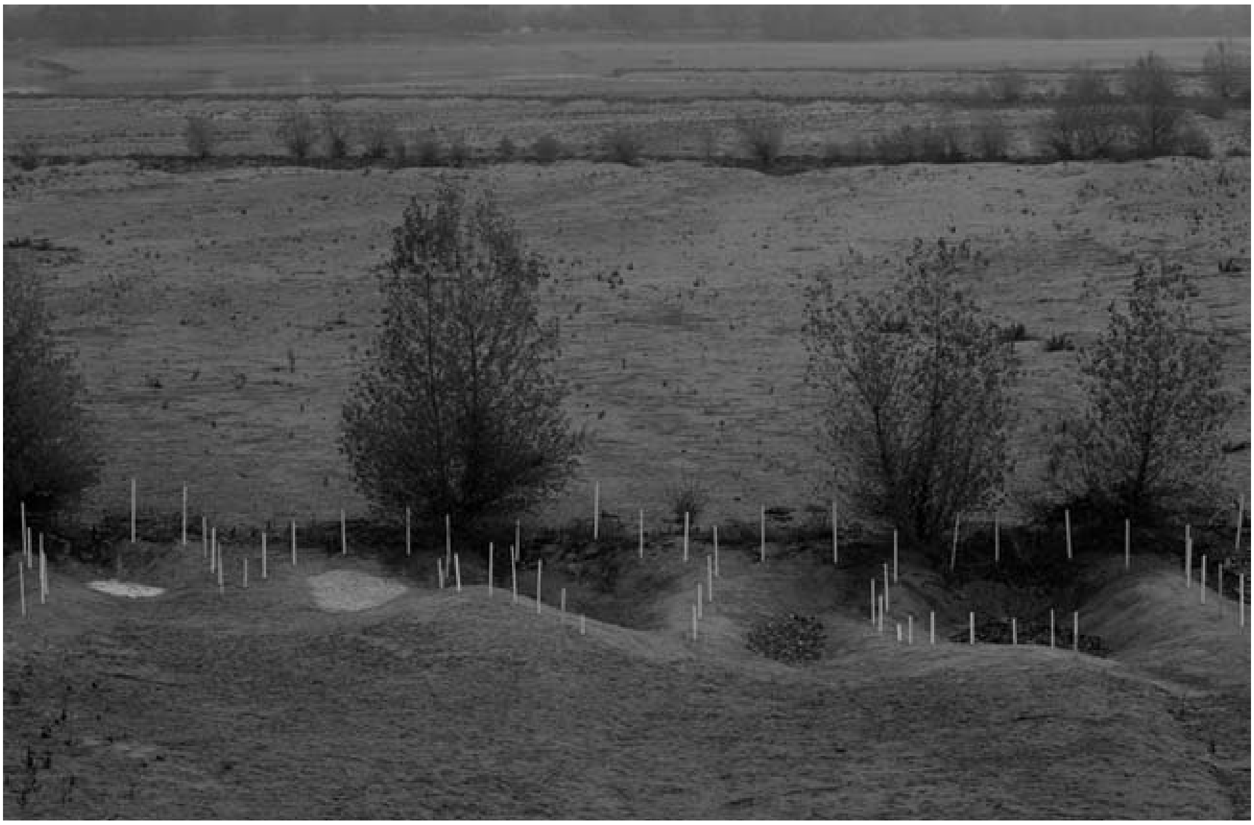

Fig. 20 Bustle (Copyright © 2009 Vincent Bouvier and Muriel Bouvier, all rights reserved, used by permission).

students have to develop a command of the site, analyze (to absorb like a “sponge”), prepare diagnostics, make propositions/conceptions, build realizations, evaluate and adapt.
In addition, we can understand how very important photographs come about and create a lasting memory of the work, because the projects must be removed/uninstalled. For some of the students, the brief nature of the projects brings sadness, but their memory through pictures is reassuring.

We would urge other programs in landscape architecture and land art to explore opportunities in their area/region to initiate studies related to land art. We found the experience very rewarding. It would be interesting to see the commonalities and differences between various sites and students from other academic programs.

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Cinema, Nature and Landscapes

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Abstract: How can fiction movies be used for educating young people on the beauty of landscape, be it natural or resulting from human activity? Movie images trace through their sequences a path which belongs to the history of cinema and also to the history of landscape and its vision. Decoding the environment around us is provided by a cultural memory, coming from painting, from literature or from audio-visual images. Cinema provides us images which help us understand how the landscape around us changes and how we can interact and modify the landscape. This journey between landscape, nature, literature and, especially, cinema was the argument of a master's course (November-December 2012) of the Faculty of Foreign modern languages and literatures of the University of Bologna.

Keywords: cinema, landscape, views, western, science-fiction, wilderness, Neorealism

Landscapes and cinema

1. Introduction

How can fiction movies be used for educating young people on the beauty of landscape, be it natural or resulting from human activity? Movie images trace through their sequences a path which belongs to the history of cinema and also to landscape history and to its vision. Decoding the environment around us is provided by a cultural memory, coming from painting, from literature or from audio-visual images. Cinema provides us with images which help us understand how the landscape around us changes and how we can interact and modify the landscape.

It is well known that painting acquires consciousness of the importance of landscape and its interpretation since the Fifteenth century. Piero Camporesi (1992) in his essay "Le belle contrade" shows that literature starts to think about the landscape only one century later, even though some precursors can be already detected in the Fourteenth century pages of Petrarca. The word denoting the landscape was born in German languages at the end of the Fifteenth century (the first appearance is in Dutch: Landskap) and in Romance languages actually in the Sixteenth century.

After this moment landscape becomes an essential element of poetry, of travel reports and of any other form of writing until the flourishing of the novel in the Nineteenth century. Cinema inherits from literature this consciousness and reflection, sometimes adapting novels where landscape and nature are true characters just as human beings, sometimes bringing into the images sensations and functions coded by literature, such as the delegation to nature of psychological deepening and the definition of the character and the situation. Romanticism and its vision of nature sharing the pathos of the events have inspired the cinema of the first decades of the Twentieth century. Even sooner the Lumière brothers and other movie-makers proposed to the public the so-called *views*, which often owe their celebrity to the books that described them and put them at the center of the attention and praise of readers first and movie spectators later. On the screens dominate the images of cities (among others Paris, Rome, Venice, Tokyo, Saigon) and natural beauties (such as the landscape of Swiss Alps visible from Zermatt, the Reno falls and the Niagara falls), up to the construction of a new genre in embryo, the one of travel movie: naïve framings where the relevant element is motion and where the consciousness of the landscape function remains marginal.

What is the genre that better than others can help the rediscovery and consciousness rising of the role of landscape? Certainly the western, an American genre par excellence, typical of Hollywood cinema. The natural landscape is an element which characterizes the actions and cinema can, within the genre, display its ability to highlight the beauty of wide spaces of the American environment. In 1939 John Ford sets in the Monument Valley (located in the American south-west at the border between Arizona and Utah) the events of "Stagecoach", whose story is inspired by a metropolitan novel by Maupassant, reread by the American Ernest Haycox, author in 1937 of "The Stage to Lordsburg". The director exalts the wild beauty of the Monument Valley, transforming it into the epitome of Western landscape, one of the icons of the Twentieth century: "I have been everywhere in the world but I consider this place as the most beautiful, the most complete and the most calm of the planet" he declared later. The empty sandy desert surrounds isolated red mesas or buttes: in its harshness and desolation it is the ideal landscape for the adventures that the coach travelers face, a metaphoric microcosm of the nation that was considering its political and social identity adapting its own Manichean vision to the conquest of a continent. From this perspective the sparse hills scattered here and there become the ideal hiding place for the American Indians threat, the enemy which succeeds in aggregating the travelers independently of their social position, allowing invisible barriers which could not be overcome in a normal condition. The places enhance the spectacular aspect of actions and with their beauty render believable and justified the conquest action. As the poet Walt Whitman has written in "Specimen Days", the prairies and the plains satisfy the aesthetic sense just as well as falls or the big natural parks. Moreover, for him the simplest elements of prairies are sublime. When after meeting many islands Christopher Columbus perceives the mainland, he compares the landscape of forests and rivers he sees to the earthly paradise. Such a comparison drives somehow the farmers in the transit from east to west of the New World. The landscapes they meet are different and varied and each one presents itself as a surprise: many of the movie sequences dedicated to the conquest of the West compose the scenes on the basis of analogue situations described in the Old Testament.

Behind the ideology of the landscape of the Far West stand various models: it is however impossible not to cite Herman Melville ("Moby Dick" in particular) and Henry David Thoreau. Even another director of western movies, Anthony Mann, uses in an exemplary way the natural landscape in "The Man from Laramie" (1955), a western reminiscent of Shakespeare's King Lear, where Technicolor and over all Cinemascope (his aspect ratio is almost twice as wide as the common Academy format) capture the vastness of the scenery and the landscape is really a character in the story. Action is constructed with framing changes, widening the vistas. The wilderness is exalted and little by little softly raises the spectators' interest, and this is the beginning of a route which will bring the western genre to abandon the glorification of the farmer's enterprises to cope with new basic themes, with some concern of the ecologist alarms.

Environmentalism will then find a different way out in a genre of movies completely different, such as "Koyaanisqatsi" by Godfrey Reggio in the eighties and "Into the Wild", directed by Sean Penn in 2007. Based on the homonymous John Krakauer's novel, the movie was inspired by the real story of Chistopher McCandless, dead while trying to become a something unique in the wild and uncontaminated nature of Alaska. At the base of the choice of the young person who, right after his degree, abandons the consumer society, stand the pages of Thoreau and Jack London: Penn integrates the uncontaminated landscape that he has discovered during long site inspections to the quest for identity which drives Christopher's long travel: the protagonist follows his desire to live in the wildest nature, reaching with his death the most complete adhesion to the environment. Thoreau's thought appears to be central in the historical development of United States: it is the idealistic stimulus, in contrast with the expansionist objectives of the pioneers, which succeeds in exerting its influence in the epoch of the West conquest and in the description of the epic provided by the literature and the cinema, until the contemporary naturalistic instances, which are expression also of the movements of preservation and respect of nature and landscape.

Different is the attitude of the Italian neorealist directors, in the period immediately following the Second World War. Roberto Rossellini directs "Paisan" (1946) where the war images (it is the story in episodes of the rise of allied army along the peninsula until the stall of winter 1944-45) stand out on Italian landscapes from Sicily to the Po river with a strong contrast between the beauty of landscape and the horror of battles and death. Natural landscape (the Sicilian coasts, the Po Valley around the delta) and metropolitan landscape (Naples, Rome and Florence – all cities slashed by the damages of war events), where the protagonists, characters of a choral drama, live tragedies perfectly integrated with the nature and urban layouts, which participate in the dramatic events, without any concession to melodrama. As P. Adams Sitney (1995) writes, the literature of the United States had a large influence on Italian writers and artists throughout the Fascist Period, also for its aura of intellectual resistance. The comparison to this literary influence is encouraged by the look and the tone of the film: "the cool, clinical direction avoiding melodrama, the cinematography distinguished by long takes and attention to landscape and cityscape in its extensive use of exterior shooting"

The director, founder of the neorealism, seven years later, changes his tune and in "Voyage to Italy" uses the landscape of Naples and his neighborhoods (including Capri) to show an algid British couple whose crisis bursts out while in contact with the almost unbearable beauty of these landscapes. "I consider "Voyage" to be very important in my work. It was a film which rested on something very subtle, the variations in a couple's relationship under the influence of a third person: the exterior world surrounding them". The director sees with the eyes of the two foreigners the Italian landscape, manners and natural piety. "Voyage to Italy" introduces the strong relationship between the consciousness of the characters and the landscape, which becomes a mental view. Quite significant is the scene where the two lonely figures of Katherine and her husband walk through the vast, empty ruins of Pompei. The Italian environment changes the attitude of Katherine towards the reality: she becomes less romantic and she realizes that her aestheticism prevents her from understand the Italian reality. The environment becomes a powerful third character in "Voyage to Italy": the confrontation with this otherness is the central story of the film.

Rossellini's "Voyage to Italy" has something in common with another Italian director, Michelangelo Antonioni, who in his movies links landscapes and his heroines (or heroes) who are the protagonists of his stories. In "L'avventura" (1960), the sea of the Aeolian Islands and the abrupt rocks of the little Basiluzzo island, silent but meaningful, watch and observe, in communion with the events, Anna's disappearance. In "Blow up" (1966), Antonioni sets in London the realistic and fantastic adventures of a photographer, who wanders in the luscious greens of Holland Park and takes pictures of a murder: "I actually painted trees, streets, houses. [...] I changed a small part of London to make it more London than London" explained Antonioni. The grass was greener, the red more violent, to show the power that a visual artist has over reality. In "Zabriskie Point" (1970) the desolate and parched Death Valley (the real star of the film) becomes the ideal scenery of the fight against conventionality and consumerism.

The work of Michelangelo Antonioni inspires in the Seventies the German film-maker Wim Wenders, who makes use of European landscapes (particularly German ones) as a coherent set for his stories of loneliness and identity crisis. But it is in "Until the End of the World" (1991), a science-fiction movie, that Wenders explores landscapes all over the world recording dreams and visions and taking pictures with a special camera that will enable the blind to see (specifically, the protagonist's blind mother). Reality in this way changes and seems fantastic.

2. Science-fiction and environmentalist views

The students' research and the final part of the course, consisting in a seminar, were focused on this genre.

The topic to which special attention was devoted concerned to the danger of depletion of our planet's resources. How did science-fiction cinema imagine humankind's living conditions after the repeated absence of respect for natural laws and the destruction of the conditions for the sustainability of life? What are possible counter actions created by screenwriters and directors with their movies? Research took into consideration a large corpus of films starting dating from the Seventies, years during which the first ecologist theories spread out. The present analysis was concentrated on three films: "Silent Running" (1972) by Donald Trumbull, "Blade Runner" (1982) by Ridley Scott and "Avatar" (2009) by James Cameron. In "Silent Running" all flora on Earth becomes extinct after a nuclear war and the choice of technologic life. Only a few specimens are kept in a fleet of orbiting greenhouses, on a group of space stations that are sent just outside of the orbit of Saturn. When Freeman Lowell, the astronaut/forest ranger, is given orders to destroy the last of Earth's plant life, he rebels and kills the other rangers to prevent the destruction of the remaining domes. Freeman remains alone with the company of three drones. After a series of accidents, Freeman will let himself be killed by a nuclear explosion so as to allow the last dome to continue its travel in space with plants and animals tenderly attended to by the only surviving drone, as can be seen in the final scene. Subtly inspired by hippy culture, the film was dramatized by Deric Washburn, Steven Bochco and the future director Michael Cimino. It was directed by Donald Trumbull, special effects developer for "2001, a Space Odyssey" by Stanley Kubrick. The environmentalist ideas are emphasized in the story and showed as fascinating thanks to the idyllic scenes which depict the last surviving forests, in striking contrast with the technology that surrounds them. Anyhow, ecology tends to merge with an out-dated conventional "rebellism": even in this case, the fear of technology appears (as in Kubrick's movie), and from the science fiction of the Fifties and Sixties comes the obsession of nuclear weapons, identified as the element which destroys nature. If Kubrick's work in 1968 had led science-fiction into philosophical speculation, "Silent Running" brings this genre back to the structural ingenuity of science fiction movies of the Fifties, weakening the meaning of the message. The students, though touched by the ecology of the story, indicated that the movie had confused their expectations of sci-fi movies.

"Blade Runner", directed by the visionary Ridley Scott and adapted from Philip K. Dick's novel "Do Androids Dream of Electric Sheep?", introduces in the science fiction genre the theme of the air pollution. In a dark, post-apocalyptic Los Angeles, 2019, it is impossible to really see the sun: the planet has become inhabitable, in a state of ecological degradation and industrial decay. Most animal life was exterminated by the climatic change and it is only possible to have artificial copies. Humans who can afford it are forced to retreat to the "off-world colonies", where genetically engineered organic robots called replicants live - visually identical to adult humans-fabricated by the powerful Tyrell Corporation. Their use on Earth is forbidden and robots are exclusively used for dangerous, humble work on extra-terrestrial colonies. The protagonist, Rick Deckard, an expert, but reluctant blade runner (a person trained to track down these renegade replicants), is charged to hunt a combative group of recently escaped androids. The chase will allow Rick to know love but also the doubt of being a replicant himself.

Students drew their attention onto the symbolic meaning of contrast between darkness and light, high and low, which became a visual syntax of the movie's theme. Pollution darkens everything: in the Los Angeles skylight only two large light beams appear arising from the Tyrell Headquarters, a gigantic pyramid shaped skyscraper (perhaps resembling an Aztec or Ancient Egyptian pyramid, but also the skyscrapers of "Metropolis", the 1927 Fritz Lang movie where the rich live on the surface and the workers in the dark interior of the Earth). The pyramid is seen as an icon of absolutism and superior power. According to Christopher Knowles, "Blade Runner" "presents us with this kind of technocratic dystopia that some of these elite cult types would see as the paradise of their apotheosis. The cognitive elite in their penthouses and the poor, teeming masses huddled in the streets and the middle class a distant memory. The constant rain is kind of like the piss of the new gods in that regard. Maybe Scott incorporated some of those symbols as part of the overall social critique of this world that runs throughout the film". In the ending of the 1982 theatrical version Rick runs away with Rachel (an experimental replicant), driving into an idyllic pastoral landscape, full of light. The director's cut, on the contrary, deletes this ecologist scene and the movie ends in Rick's apartment, with doubts about Rachel's expiration date and whether Rick is also a replicant or not.

Darkness, shadows, and rain are characteristic of another filmic genre: the film noir of the Forties. Ridley Scott makes a hybridization of the two genres, not only for the visual dynamics, but also for the atmospheres and the suspense. "Blade Runner" is a futuristic version of the film noir style. But in the 2019 L.A., nothing natural exists and the city is mechanical and polluted. As in "Silent Running", all natural resources have been drained. The pessimism about society of the film noir changes in a negative attitude towards pollution: the destiny of the planet is to destroy nature and fall into darkness. Ridley Scott said that his film is "extremely dark, both literally and metaphorically". In Scott's dystopian future there is no hope to see the sun light, no hope for the future. This reflects ecologist thinking in Eighties, when the awareness of the danger was not so diffused.

On the contrary, in "Avatar" James Cameron transports the spectator in a fairytale where the distant planet of Pandora is the epitome of a natural, intact world, with lush forests (without cities and roads), respected and revered by its inhabitants, the Na'vi, a modern version of Rousseau's ideal of the noble savage. On the other side, the humans are avid, cruel, unscrupulous and fierce. The story is based on a Manichean worldview: it is no accident that "Avatar" can also be read as a literal metaphor of Western colonialism. But James Cameron opts for the happy ending: his hero leaves the Earth and has another life in Pandora. The fictional Na'vi life world of Pandora has connections with deep ecology and the Gaia hypothesis, which both suggest that the physical constituents of the Earth and the biosphere are closely joined into a complex interrelated system. That world mirrors the diversity, integrity and wholeness of healthy, earthly ecology. According to Salviano Miceli, "the Pandora big forest and astonishing mountains (inspired by Southern Sky Columns, sandstone pillars some of which are over 1000 meters high in Zhangjiajie National Forest Park, in China's Hunan Province) are conceived as an enormous human body, with invisible ramifications where every element is a part of a whole. A whole who breathes, suffers, but, more than anything, has consciousness". That world cleverly mirrors the diversity, integrity and ineffable wholeness of our own healthy, earthly ecology.

If "Blade Runner" is immersed in the dark, in "Avatar" the colors of nature have the upper hand: green, yellow, orange and especially blue, in different shades. Also, the Na'vi skin is this color. It is the color of the sky and of the sea, metaphorically the color of the purity. Inhabitants of Pandora live in symbiosis with nature, whilst populations of the Earth have depleted all natural resources: the contrast is symbolized by the colors (grey for the humans) and by the technology (giant bulldozers and colossal mining machines). Cameron's visual syntax appeals to colors for highlighting the difference between the attitude of the Na'vi and those of the invaders. The 3D camera technology contributes to creating in the audience not only an empathy with the characters but also a real identification with the pain of the inhabitants of Pandora.

"Avatar" is an entertainment movie, a popular culture vehicle, but it has been cause for reflection for millions of moviegoers: the students of the course at the end feel that it contains some of the most compelling ecological messages ever delivered to a mass audience in a sci-fi movie. More than the previously analyzed two movies, "Avatar" seduces and supports sensitive ecological understanding of the natural world.

3. Conclusion

Since its beginnings, the link between cinema and landscape is fundamental: the analysis carried out in the course shows how cinema contributed to observe in a different way natural landscapes (the sweeping panoramas in Westerns for example) or cities as Roma, Los Angeles or New York. In some cases the cinema's influence changes the landscape and its vision. In others, landscape is essential in the formation of cinematic space and gives meaning to cinematic events within historical context.

As social constructions, landscape and film both reveal new meanings or suggestions, inviting the audience to reflect upon the complexity of the world that surrounds us. Films can become interesting didactic tools to explore the past, the present and the future of the Earth's landscape.

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Sounds from Outer Space: Soundscapes in Sci-Fi

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Abstract: This paper is focused on two literary works which offer amazing soundscapes set in outer space: *War of the Worlds* (1938), an adaptation by Howard Koch and Orson Welles inspired by the homonymous novel by H.G.Wells, and *The Martian Chronicles* (1950) by Ray Bradbury. These two exemplary works are a perfect expression of a crucial period in the history, culture, and literature of the US, which coincides with the golden age of radio. Also, both works focus on Martians, the former telling of their invasion of New Jersey, the latter telling of the American colonization of Mars. By offering a wide repertory of sounds which reflect the sound environment of America from the end of the 1930s to the end of the 1940s, these works not only provide a lot of precious material to analyze but also prove that these imaginary soundscapes actually reflect human fears, desires, and colonial purposes; moreover, these soundscapes may help researchers to remap the literary canon including an evaluation of the aural quality of literary works.

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Keywords: Sound, Soundscape, Outer Space, Radio network, Mars, Martian.

1. Introduction

> *"It wouldn't be right, the first night on Mars,*
> *to make a loud noise"*
> (Ray Bradbury, *The Martian Chronicles)*

Soundscapes are more frequent than one might expect in fiction, since literary imagination does not rely merely on sight but includes an enormous repertory of sounds as well. True, there does not exist an aural equivalent for the word "imagery"; nonetheless, sounds provide a rich texture in any type of fiction. In my paper I intend to introduce the early steps of a research project of mine in the field of science fiction.

Even though the lack of atmosphere and water in outer space obviously excludes the possibility of sound, many products of literary imagination do contain sounds, noises, music, languages – in short, full soundscapes. Many contemporary artists have created electronic sounds connected to outer space. One example is the instrumental "Red Planet Ringtone"[1]. It was composed by David Bradley in 2012, it lasts 10 minutes and 24 seconds and it costs $133. It is described as a "sci film sound track, a bit like old 1950s' horror sci fi. Dark and unearthy with many ambient electronic sounds. It takes you on a journey to an alien planet. Edgy, cautious atmospheric, entering the unknown! Black holes, galaxy discoveries, floating peacefully among the stars".

We can actually hear "Sci Fi sound effects" on many other websites, such as "Xen World" (3 minutes and 46 seconds).[2] A most interesting video clip is *Planet Sounds (Weird Sounds)* by US rock group Nebula, founded in 1997 by Eddie Glass (guitar) and Ruben Romano (drums).[3] It lasts 7 minutes and 21 seconds and contains the sounds of the Earth, Uranus, Miranda (Uranus's moon), Saturn, Neptune, Jupiter, and Io (Jupiter's moon). Unfortunately, some planets, including Mars, are not there. Some people have commented on this video by saying that space is a vacuum, and sound cannot travel in a vacuum. The artists have replied that since you can convert one form of energy into another, these sounds come from radiowave energies collected by satellites that scientists send into outer space, which are converted to sound energies.

A truly fascinating video clip is *Mars Science Laboratory Curiosity Rover Animation*, which was been produced by the Jet Propulsion Laboratory, California Institute of Technology (NASA). It contains an 11-minute animation that depicts key events of NASA's Mars Science Laboratory mission, which was launched in late 2011 and landed a rover, called *Curiosity*, on Mars in August 2012. Throughout the animation we do not hear any sound from Mars, but we hear the constant mechanical and electronic sounds coming from the rover. I wonder if these sounds are plausible or not on the surface of Mars, but probably the authors wanted to offer a practical and recognizable human reality in order to balance the sense of solitude and vastness of the red planet. And I am sure everybody knows the famous video clip entitled *Music from Space*, where Cady Coleman gives an exclusive performance of the song *Get Yourself Paroled (Honey I Miss You)* on her flute.[4]

This is just to say that between sounds and space there is no real opposition and the two of them can peacefully coexist. In particular, my research is focused on two literary works which offer amazing soundscapes. The first is the notorious "panic broadcast" *War of the Worlds* (1938), an adaptation by Howard Koch and Orson Welles inspired by the homonymous novel by British author H.G.Wells (1898); the second is *The Martian Chronicles* (1950) by the great novelist Ray Bradbury, recently deceased.

2. Why Mars?

There are two main reasons why I have chosen these two exemplary works from among hundreds. The first reason is that they are a perfect expression of a crucial period in the history, culture, and literature of the US, which coincides with the golden age of the radio, from its beginning to the rise of television. Since "a soundscape consists of events *heard* not objects *seen*" (Schafer 1994, p.8), it appears natural to choose radio as a privileged field of analysis. Regular radio broadcasting in the United States dates from 1920: by 1928 the United States had three national radio networks, but radio drew large audiences throughout the Great Depression of the 1930s and World War II thanks to President Franklin D. Roosevelt's "fireside chats". It was only after the war that television replaced the radio as the predominant form of entertainment and news vehicle, and yet in 1969 there were 268,000,000 radios in the United States, that is, about one per citizen (Schafer 1994).

While the golden age of science fiction is linked to the cinema and television more than to the radio, the two early examples I have chosen are deeply rooted in the so called "radio days". Not only is *War of the Worlds* a radio drama, but the empty space where the radio waves move is close to outer space: as Peter Conrad observed in his introduction to the drama "Welles solemnly advised that mankind was being studied 'across an immense ethereal gulf' by extra-terrestrial scrutineers and predators. That gulf is the empty space traversed by radio"(Conrad 2003, p. 111). In *The Martian Chronicles* this presence of the radio is important as well, since it guarantees communications among Martians, humans, and even between Mars and Earth. Not only that: there are telephones and phonographs, the three of them being "the three most revolutionary sound mechanisms of the Electric Revolution [...] With the telephone and the radio, sound was no longer tied to its original point in space; with the phonograph it was released from its original point in space" (Schafer 1994, p. 9).

The second reason is that both works focus on Martians, the former telling of their invasion of New Jersey, the latter telling of the American colonization of Mars. By offering a wide repertory of sounds which reflect the sound environment of America from the end of the 1930s to the end of the 1940s, these works not only provide a lot of precious material to analyze but also interpret American nostalgia for the past – the lost world of pilgrims, pioneers, and self-made men – and the fears for the present and the future – the newly discovered vulnerability of the United States, the atomic bomb, area 51, and the cold war.

But why Mars among all planets and galaxies? In a website entirely devoted to *The War of the Worlds* I found this explanation which supports my own choice:

"The way science has viewed the red planet has been integral to the development of the fictional Mars, and it is perfectly possible to trace how literature has changed along with our scientific understanding. Equally, it is also fair to argue that if not for the intense interest in creating fictional Martian landscapes and the way these worlds have captured the public imagination, we might not have expended so much effort and resource on attempting to visit this distant world. If we ever land a man or woman on Mars, it will be in large part thanks to the legacy begun by H.G. Wells".[5]

My analysis of the fictional soundscapes described in these two works is a small contribution to the remapping of American literature from an aural perspective. As we shall see, all sounds the two works include are evocative of states of mind, attitudes, fears and expectations, and tell a lot about the social and political background of America.

3. War of the Worlds

War of the Words is an episode of the American radio drama anthology series *The Mercury Theatre on the Air*. It was performed as a Halloween episode on October 30, 1938, and aired over the Columbia Broadcasting System radio network. It was directed and narrated by actor and future filmmaker Orson Welles, who was at the time just 23 years old. The fame of this episode is not linked to its artistic quality, however, but to the fact that, being performed as a series of simulated news bulletins, many listeners were convinced that an actual alien invasion by Martians was currently in progress. In other words, the events described in the program *sounded* so real that people believed they *were* real. Not only did Welles have a "fascinating, hypnotic voice" (Salotti 1978, p.12), but "in adapting the book for a radio play, Welles made an important change: under his direction the play was written and performed so it would sound like a news broadcast about an invasion from Mars, a technique that, presumably, was intended to heighten the dramatic effect"[6]. At the same time, "he and Koch achieved an ironic distance between themselves and their sign-systems, as if they were trying not only to grip the listener but to joke about the power of radio itself" (Naremore 1978, p.25).

This power was fully revealed. The nationwide panic showed the extreme vulnerability of the United States in a crucial period of history: in the same year Hitler had invaded Austria (March) and Italy was on the verge of concluding its colonization of Lybia (January 1939) (Caccia 1997). It was clear that America was not ready for a confrontation with an enemy power: "If Americans had fled like children before a joke, what would happen in the case of a real invasion?" (Higham 1985, p. 128).

Apart from the panic that spread across the country, apart from the legal problems that ensued, and apart from the fame that Welles obtained, this event was astonishingly important for at least a couple of reasons. First, it unmasked the hidden potentialities of the radio as a mass medium. It was not until thirty years later that Marshall McLuhan acknowledged such potentialities when he defined the radio a 'tribal drum', "arguing that it attuned and synchronised the central nervous systems of the people who listened, creating a state of trance" (Conrad 2003, p. 111). Moreover, a radio program, being based on the transmission of waves and not images, absolves the speakers from the need to produce visual proofs of what they say: in our case, it was only possible to describe the scene as "indescribable", and Wells and his team were only able to give "eyewitness accounts" of sights the listeners *could not see* (Conrad 2003, p. 112).

Second, this drama revealed the great power of sound while creating the first modern American science fiction soundscape. And by sound I do not only mean the voice of the narrator speaking on the radio, but also the many sounds we encounter in the course of the drama. Peter Conrad rightfully lists "the battery of special effects in *The War of the Worlds*: hissings and hummings from the spaceship, the clanking of extra-terrestrial metal, the coughing of pilots flying through suffocating smoke, and the thud of bodies hitting the floor" (Conrad 2003, p. 118), but in my opinion he misses the point since he explains them just in terms of "special effects" and praises the "indiscriminateness of the microphone, which recorded not only voices but noises" (Ibid.) On the contrary, it is obvious to me that these noises provided much more than a mere soundtrack – that is, a full soundscape. I have made a list of these sounds, dividing them into three categories:

1) Sounds in the studio

Voices – the announcer, a journalist from the Observatory of Princeton, Professor Pierson

Music – 'Ramon Raquello and his orchestra', a solitary piano playing Chopin

Applauses

2) Sounds referred to by the narrator

Explosions on planet Mars (p. 26)

Ticking sound from the vibration of the clockwork of the telescope at the Observatory of Princeton (p. 30)

Noise of the impact of a flaming object, which is heard as far north as Elizabeth (p. 40)

Noise from crowds like New Year's Eve in the city (p. 108)

3) Commentary

Faint humming sound (p. 52); Clanking sound of a huge piece of falling metal (p. 56); Shout of awe from the crowd (p. 58); Hissing sound followed by a humming that increases in intensity (p. 62); Screams, explosion, crash of microphone… then dead silence (p. 64); Piano (p. 76); Whisper (p. 70); Boom of heavy gun (p. 94, 96); Bells ringing over the city (p. 106); Voices singing hymn (p. 108); Sound of boat whistles (p. 108)

At a certain point, before the invasion, a journalist asks professor Pierson: "Would you please tell our radio audience exactly what you see as you observe the planet Mars through your telescope?" and he answers "Nothing unusual at the moment" (p. 32). There are many examples of this inadequacy of sight, and even when the "flaming object" arrives on Earth, its impact is measured not only in visual terms – the flash is visible within a radius of several hundred miles – but also in terms of the distance – the sound is heard as far north as Elizabeth (p. 40). Sound imagery is of course much more powerful than visual imagery for an audience made of radio listeners, but there is something more. The owner of the farm onto which the flaming object falls is "listening to the radio" when the event happens (p. 46), which creates a sympathy between the listeners and the characters of the drama. Moreover, when asked by journalists: "Then you saw something?", he answers: "Not first off. I heard something […] a hissing sound. Like this ssssss… kinda like a fourt' of July rocket" (p. 48). So the man's experience is clearly an auditive one.

We must get as far as page 82 if we want to finally find the "invaders from Mars" mentioned as such. It becomes clear that the Martians have not come in peace and that human weapons are not sufficient to defend the Earth. Quite interestingly, the order of evacuation is given not on the radio but through the sound of a much more traditional medium: "The bells you hear are ringing to warn the people to evacuate the city as the Martians approach" (p. 106). Applying Schafer's lexicon, the above-mentioned sounds of guns and explosions obviously belong to the realm of "Sound Imperialism", and the speaker himself can be regarded as "imperialistic" because he can dominate acoustic space (Schafer 1994, p. 77); on the contrary, the bells convey a sense of the divine, being considered the expression of a higher power – that of God. For this reason Schafer refers to their sound as "Sacred Noise" (Schafer 1994, p. 76). At the end, a few humans survive while all the Martians are killed by bacteria against which they do not possess immunological responses.

The 1930s are the so-called "radio days", the years of the "fireplace talks", but they are also the years of the Depression, and from Europe there came worrying rumors about totalitarian regimes and a possible World War. There was a war scare after the Munich agreement (which had been signed on September 30, permitting Nazi Germany's annexation of parts of Czechoslovakia) – such an agreement or *dictate* was even alluded to at the beginning of the drama – together with a latent anxiety caused by years of economic depression (Naremore 1978). What better moment for broadcasting an interplanetary – albeit fictional – war? The sounds we hear are exactly the sounds of fear and the sounds of war. The Martian invasion reproduces the methods of human invasions; the Martian point of view is missing. It would be Bradbury, twelve years later, to upturn the perspectives.

4. The Martian Chronicles

The Martian Chronicles is a collection of stories set from 1999 to 2026. Taken together, these stories tell – in the author's words – how "the People of Earth came to Mars" (epigraph). The choice of the verb *come* instead of *go* is crucial, meaning that the stories are narrated from the viewpoint of Martians and not the opposite. This book, which reflects the anxieties of the '40s and early '50s, is the story of a new frontier (Mass 2004). In his literary attempt to fill the gap between men and aliens (Nolan 1972), Bradbury is not so much interested in science or realistic descriptions (for instance, he does not bother about there being no breathable atmosphere on Mars) as he is in philosophy (Eller and Touponce 2004), myth, metaphor, and allegory (Weller 2005). On the one hand, his stories confront contemporary concerns such as racism, the anti-Communist witch hunt, environmental pollution, and nuclear war (Weller 2005); on the other, they are based on an analogy between the invasion of Mars and the invasion of the Wild West, when, in the author's words, "things were plenty empty, still, and lonely" (in Weller 2005, p. 156). Yet, places were not as silent as we might expect.

Every story tells an episode in the fictional history of the colonization of Mars, and is narrated from a different perspective. Martians are given voices, points of view, habits, traditions, cities, and sentiments; some of them are friendly, others aren't; in the end, they all die from imported human diseases – again – and are replaced by Earthmen who sort of metamorphize into Martians.

I have read many articles on this book and though it is easy to find comments on the "beautifully impossible" *landscape* of Mars, with its imaginary blue hills (Weller 2004) and two real moons, it is almost impossible to find comments on the *soundscape*, to the extent that one might think that there are no relevant sounds at all on Bradbury's Mars, which is absolutely untrue.

February 1999: Ylla is the second story, and the first one to be set on planet Mars. Quite interestingly, it opens with sounds: that is, music that comes from a metal book with raised hieroglyphics over which a Mr K. is reading in the Martian way: "he brushed his hand, as one might play a harp. And from the book, as his fingers stroke, a soft ancient voice, which told tales" (p. 2). It is surely astonishing that Bradbury, as early as 1950, imagines a variation of the phonograph which is a sort of e-book, or I-pad, ante-litteram. But it is almost as interesting to underline that Bradbury chooses to start his *Martian Chronicles* with a Martian soundscape and not a landscape. Little by little, music coming from the book and other aural elements are added: "Mrs K stood between the pillars, listening to the desert sands heat" (p. 2); "In the distance she heard her husband playing his book" (p. 3). Then there are:

(a) water, wind, echo – the so-called "keynote sounds" (Schafer 1994, p. 9) created by a landscape's geography;

(b) songs, voices, footsteps;

(c) the humming of a weapon (compared to an insect hum), a voice-clock (saying "time, time, time, time"), two shots – all these (b and c) belonging to the category of "soundmarks" or community sound (Schafer 1994, p. 10). The clock in particular is an important feature in the soundscape since it measures the passing of time audibly. In both the works under examination the clocks mentioned are mechanical and this means we have what Schafer called "The Sound of Time" (Schafer 1994, p. 55).

We must point out that while sounds (a) and (b) are neutral or pleasant, sounds (c) have a negative connotation, being associated with war and haste. Even though the insect hum provides a link between weapons and the natural world, and the speaking clock is as gentle as "water tapping on velvet", the two shots which dramatically end the story also end a human life. The tale, which started with a chanting book, finishes up with gunfire – two sounds which are very different from each other, one representing harmony and happiness, almost a lullaby, the other being associated with death. The arrival of men on Mars cannot but bring disgrace to both. What is significant is that Bradbury tells it through sounds. His soundscape is what Schafer would call a "hi-fi soundscape" because discrete sounds can be heard clearly in it because of the low ambient noise level (Schafer 1994, p. 43).

The following story, entitled *August 1999: The Summer Night,* mentions "a serene music" which "flow[s] up like blossom scent on the still air" (p. 14). It is a "strange song" sung by adults and children, whose words the Martians do not understand; it clearly comes from another world or dimension. Since these people are telepathic, they are probably receiving signals from humans before they land on Mars. Again, I wish to underline that these signals are not visual, but aural.

In *August 1999: The Earth Men,* the human beings who have arrived from planet Earth are not recognized as such by Martians. Firstly, they do not call themselves such, their planet's name being Tyrr; second, they do not believe Earth men are *real* and dismiss the close encounters in the course of which they have spoken to each other as "sensual hallucination" and "auditory fantasy" (p. 29). Here again, the sense of sound is absolutely central.

In *April 2000: The Third Expedition* we have piano playing, bell ringing, victrolas and dances, and in the next one, *June 2001: And the Moon be still as Bright*, we find a harmonica which […] gives a sound like a dying animal" (p. 56). In *December 2001: The Green Morning* the sense of hearing is solicited from the incipit: "[…] he crouched by the path and cooked a small supper and listened to the fire crack […] The thing that he wanted was Mars grown green and tall with trees and foliage […] the trees would distill an icy air for the lungs, and a gentle rustling for the ear when you lay night in your snowy bed and were gentled to sleep by the sound. He lay listening to the dark earth […] His ear to the ground, he could hear the feet of the years ahead" (p. 74).

The project of the protagonist sounds romantic, almost ecologically utopic, and yet it is covertly colonial, since it implies turning Mars into another Earth. In any case, the use of sound is again central.

5. Conclusion

I could go on and on but I must hasten in order to get to my conclusions. In *August 2002: Night Meeting* we have a surreal description of how time *sounds* on Mars – whatever this could mean: "Time sounded […] like water running in a dark cave and voices crying and dirt dropping down upon hollow box lids, and rain" (p. 80); in a story inspired by Edgar Allan Poe's *The Fall of the House of Usher* (*April 2005: Usher II*) Mars is as soundless as Poe's landscape, and is called "this dim, soundproofed world, this ancient autumn world" (p. 104). Finally, in *November 2005: The Luggage Store* we find radios, which make interplanetary communication possible, and in *December 2005: The Silent Towns* (23rd) there are telephones, which extend intimate listening.

What I think is clear by now is that Bradbury transfers the sounds and the noises of contemporary America onto Mars. As we go on reading the book, we find an increasing number of motors (p. 174), radios (p. 131), the power hum of electric lines (p. 146), watches ticking (p. 148), and telephones ringing (pp. 147-156), while Mars natives only hear music, or the wind and the rain (p. 119). Together with progress, disease and pollution, Bradbury exports the Earth's noises to the Red Planet. And the "long tumultuous shouting sound like the voice of a thousand waters" that concludes *Usher II* is more easily associated with a nuclear explosion than to Poe's story.

In conclusion,

1- Literary imagination makes it possible to have soundscapes in outer space;

2- These imaginary soundscapes actually reflect human fears, desires, and colonial purposes;

3- As a consequence, these soundscapes may help researchers to better understand the culture which generated them and to remap the literary canon including an evaluation of the aural quality of literary works.

… As Sherlock Holmes used to say, *the game is afoot!*

Notes:

[1] http://www.audiosparx.com/sa/realtones/tones.cfm/rtone.true/sound_group_iid.5058 (22 Aug 2012).

[2] http://www.youtube.com/watch?v=H6l0X5CHDsk (22 Aug 2012).

[3] http://www.youtube.com/watch?v=ToXaNUjNfS4&feature=related (22 Aug 2012).

[4] http://www.youtube.com/watch?v=vy6uOooVFuw (22 Aug 2012).

[5] http://www.war-ofthe-worlds.co.uk/bookhome.htm (21 Aug 2012).

[6] "War of the Worlds, Orson Welles, and The Invasion from Mars", in http://www.transparencynow.com (21 Aug 2012).

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Landscape Games: Maps and Atlases as Concepts for Landscape Production

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Abstract: This article uses two works of art as conceptual tools to consider the production of landscapes. In order to analyse these landscape games, we will use two cartographic instruments: the map and the atlas.

Keywords: Landscape games, Maps, Atlases, In site, Ex site.

Since the 1960's, landscape has become a central theme in relation to the environment. This is due not only to the fact that the environment has become the object of world-wide preoccupation since social movements demanded a less damaging treatment of the environment, but also due to this very relationship. At that time, the modes of representation took into consideration the artificiality of the context – roads, mining camps and electric fields – owed to the human presence itself.

Landscape was considered an artificial construction because of its human influence. Visual arts and other disciplinary fields related to the environment and its epistemology, such as anthropology, geography and urbanism, focus on the images produced and, at the same time, the production of landscapes. The main question for these sciences is to consider the representation/presentation of the world as a construction of the artist/anthropologist/geographer – space/landscape relationship.

In the 18th century, landscape was represented in art as an overwhelmed and unknown nature, a frightening reflection of a state of spirit outlined on the canvases of the romantic painters, of which Caspar David Friederich is one of the greatest. Romanticism took the landscape and transformed it into a reflection of the human condition. The next step in Modernity through urbanism was to take landscape as an image, to be scanned and geometrized from nature, and to be incorporated within the city as a garden or a park by 19th century landscapers. Landscape as an image of the world, far from touch but within reach of a gaze, is the modern kind of landscape, as the famous Corbusier sketches testify. The picture in question portrays the architect in front of a window observing the world on the other side of the glass, as is clearly observed by Inaki Abalos. Today, landscape is conceptualised as the product of a narrative that sees itself as fiction more than description.. In studies involving landscapes, especially due to the efforts of diverse lines of the visual arts such as land art, landscape became a subject construction.

In the 21st century, it is now an operative concept in order to consider the schizophrenia in which our perceptive apparatuses find themselves today: the multiple scales and varied information from different sources associated to the diversity of forms of representation – and even presentation – produce something like a 'spasm' in our sensibility, which refers to the term used by Gilles Deleuze in his book about Francis Bacon (2002). 'Spasm' in Bacon paintings is what we perceive: not a frozen moment like a photograph, not multiple views at the same time like a cubist painting, but the moment of becoming in its transitional point.

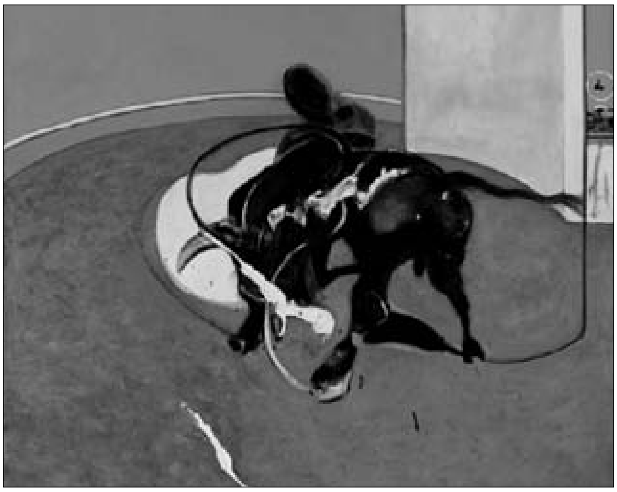


Figure 1. Francis Bacon. Study Bullfight, N. 1, 2nd version.
Source: http://www.bornrich.com/entry/francis-bacons-bullfight-valued-at-more-than-35-million/, accessed on 11/10/2012.

The landscape is both what we see and what we do not see and, even more so, it is how we see or do not see landscape itself. We are in different places at the same time: we constitute geographic information via satellite and, at the same time, subjective units within a mass of individuals that inhabit the cities. We don't consider landscape or nature, because we are in nature. Both the content and the very form of production of the landscape, including its epistemological and conceptual frames, are interrelated and deepen the characteristic of artificiality that is intrinsic to the very notion of landscape. It is an object driven by a subject and not an impartial reflection-copy of a real one. The philosopher Anne Cauquelin says that a category is always constructed from the notion of landscape games- a game between who looks and what one looks at.

These landscape games, defined by this ambivalence or spasm, represent a process of perceptive possibility and this process is experimented on daily and in a radical manner. We walk around the city with an image of an electronic map in our minds to guide ourselves, even without Google Earth or our smartphones in hand. On the

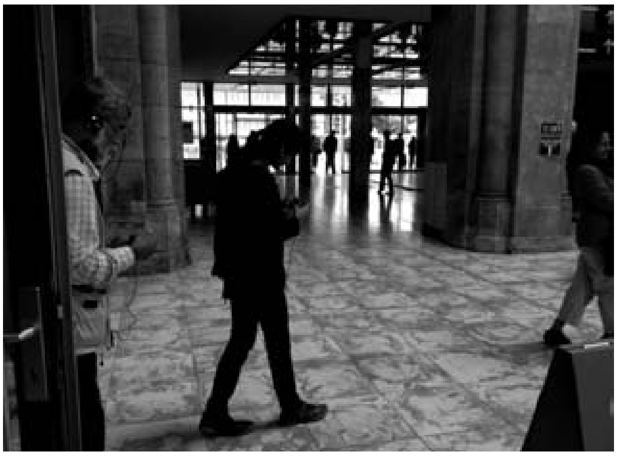


Figure 2. Alter Banhof walkers
Source: http://accaartblog.com//accessed on 11/10/2012.

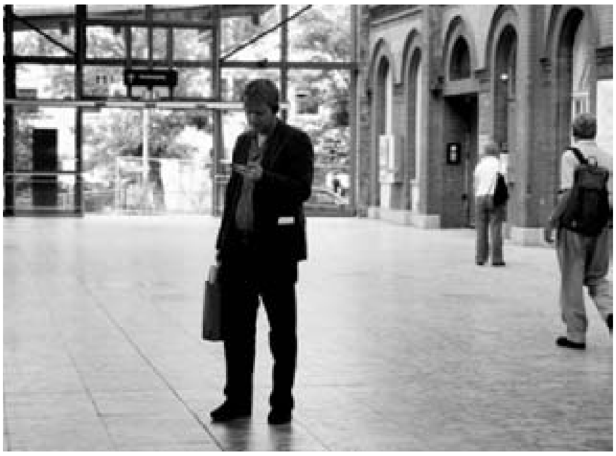


Figure 3. Alter Banhof walkers
Source: http://d13.documenta.de/#/panorama/ accessed on 11/10/2012.

other hand, however, when connected to the internet, we wander through Google Earth to find that place we already know because we were already there. Such a "spasm" caused by the questioning of the landscape, in which we are part of the construction of the same image, is a territory where the more productive works of art are being produced in their most varied forms, alongside spatial knowledge. There are various proposals that try to make this category ann object of discussion for ways to see and construct images of the world vis-à-vis their space-temporal dimensions. And for the cases that I wish to discuss here, there is a large number of design or artistic experiences that simultaneously try to raise awareness about what we see and not what is there in front of us.

The two works that I will discuss here in the section, "Arts. Landscape representation and spatial design in an interdisciplinary setting: a global challenge" are radical games that in order to understand the production of landscapes from the cultural perception of the people, produces spasms. They both call into question the landscape as a construct that is collectively produced and endless. Starting from a critical interpretation of the participative artistic piece Alter Banhof Video Walks by the artists Janet Cardiff and George Miller, presented in Kassel's DOCUMENT XIII in 2012, we seek to discuss how such a representative overlap can produce different on-site readings on the part of those who experience the work, building new landscapes where it appears that there is nothing new, and then, producing new ways of learning contexts. We therefore question how this kind of cartography is capable of producing a space-time map open to the interference of the many agents that produce their own space and interpretation. In this way, we seek to discuss this work as a map where possible and multiple landscapes are produced by an epistemological framework based on a common understanding that unites and divides too.

Then starting from the work of two designers, Sep Kamvar and Jonathan Harris, authors of the interactive site We Feel Fine, we seek to unveil the possibilities of interpretation and visualization – and thus representation – that such maps together are capable of creating. More specifically, what type of topologies are these kinds of cartographies able to produce? What landscape emerges from the virtual technologies? In other words, we intend to discuss the atlas dimension of the work, not only because it is a gigantic set of maps, but because it also forms a unity that radiates an infinite possibility of readings and interpretations by mixing information by the most diverse agents.

Maps

While in Germany, wandering the streets of Kassel in search of the works of DOCUMENT XIII, I arrived at the city bus terminal. Once I entered, I saw many people armed with their ipods walking around and looking at the space, laughing and looking at the screen of the cellular phone/player as much as the empty space of the building. This was the scene that I saw on arrival at the work of the artists Janet Cardiff and George Miller (Figure 2). This was a spectacle of collective hypnosis, where art lovers are confused with passers-by using their cellular phones without any link to the work of art itself (Figure 3). Watching one of the videos posted on YouTube by one of the participants in this aesthetic experiment1 we see how the construct comes about in a simple and powerful manner.

The person enters the terminal, goes into the indicated store, talks to the counter and receives, to see the work, an ipod with earphones. At this moment, the assistant gives them the instructions: go in front of the store where they got the ipod, sit on a specific bench in front of the window display and turn on the video. During the whole process from here on, when seeing images and listening to the audio, you have to obey the instructions given by Cardiff's recorded voice. Thus begins the synesthetic experiment where past and present, real and virtual, vision and prospection, hearing and fantasy merge, constructing a landscape where its uniqueness is created by its *ex* and *in situ* conceptual form.

Ex situ. While walking through the station obeying Cardiff's instructions, we see the terminal's space through the ipod's HD screen – and we have to give special attention to HD because High Definition is "more than real", as it is constantly advertised to us. We see the artist's tour already done on the screen, mixed with images of a dream, of other sounds that are as much a part of the environment on the day she recorded there, as the interventions she produced for the place that remain until that moment. We see through this screen cum perceptive prosthesis, and because we look at it continuously, the images of the artist, her point of view or vision becomes ours. We see ballerinas dancing to the sound of a band from the entrance to the terminal, performances put there by Cardiff and Miller. We experience in HD events that are not there anymore.

In Situ. What gives the work its complexity is the fact that, at the same time as we direct our eyes and ears to the ipod, we walk following the artist's script, seeing the lived space of the Terminal in front and around us at that very moment.

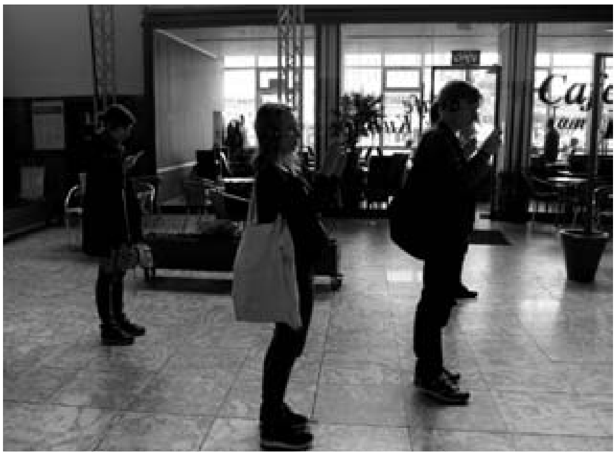


Figure 4. Alter Banhof vídeo walk. Source: http://www.revistabrasileiros.com.br/2012/06/12/artebrasileiros-na-documenta-13-3/, accessed on 10/11/2012.

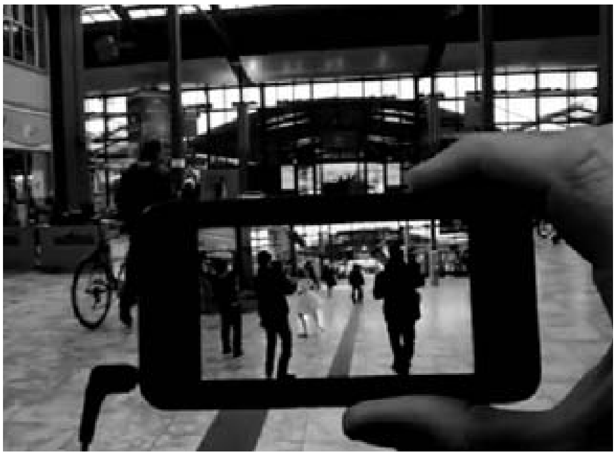


Figure 5. Alter Banhof vídeo walk.
Source: http://accaartblog.com//, accessed on 10/11/2012.

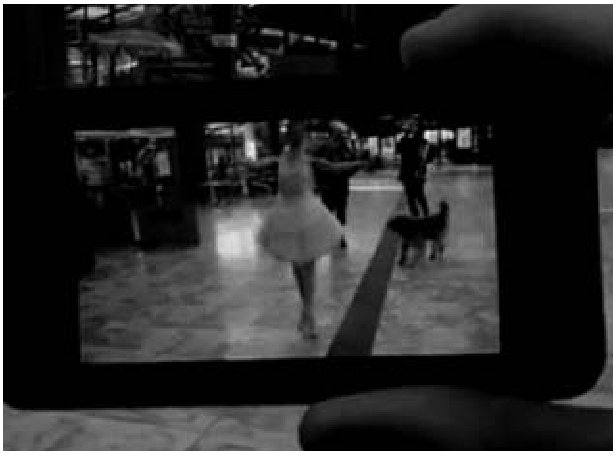


Figure 6. Alter Banhof video walk. Source: http://manpodcast.com/post/28268352547/this-weeks-modern-art-notes-podcast-features, accessed on 10/11/2012.

Ex-In Situ or about spasms (fig 4-6). By walking and observing the terminal, and at the same time watching and listening to the screen, an immersive environment is created into which we sink. The frontiers between what is real and what is virtual are fused. It is like drowning when a wave thrusts you into the sea: you never know if your head is in or out of the water because the images are muddled. It is not just a few times that I confuse what I'm looking at or what is real. A person that appears in front in the video made by Cardiff *ex situ* diverts me from the same space *in situ*. A virtuality inside the reality is made possible, without it being any less real. There exists the double possibility that both of the walks or tours are taking place now because they interfere in the same way as the body behaves in the terminal.

This tour of a place of Modernity such as a Bus Terminal, defined by Marc Auge in his famous book NonPlaces as a space of stretched and weak relationships, just goes to show this ambiguous possibility that is glimpsed by this same anthropologist. NonPlace is a negative because it points out the possible images of what is not yet produced or what was produced.

Even more interesting is how such an experiment conceives the landscape category as a construct in a well-defined space and time. Normally, when producing a map, we know that it belongs to a well-defined context. The author is completely indifferent because he obeys a series of cartographic norms that tend to a supposed objectivity and impartiality. In *Alter Banhof* an inversion of values is produced. The map produced by the duo and which we continue experiencing as a work of art, in each interpretation, in each tour, changes because it asks us to engage through vision – this sense that we used to label as an insensitive one.

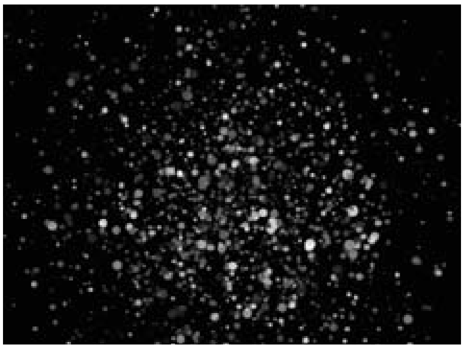
This question is asked not to spectators, but to engaged participants in the production of a meaning. It calls for pleasurable, momentaneous and subjective readings. It is a well-defined but elastic and multiple context. It could be any time since it overlaps with another time, that of the artists. There is no impartiality but subjectivity in the construction of a narrative that contemplates memory, if we think along the lines of Walter Benjamin's concept of reminiscence. There is not a reproduction of the past but an incessant fictionalization of it, because it is situational and contingent, giving us traces of what was left behind. The reference is not true, but open.

Atlas

The Atlas is usually thought of as a set of maps. Potentially then, if the map represents the cartography and image of a place, the atlas is a structure where all the images of the places coexist. In this total approach, the atlas is one and all true. However, it is in itself a map in the same way because it is a world within various possible worlds in as much as maps are. If we consider the atlas based on this logical approach, it tends towards the infinite. In *We Feel Fine. An Exploration of Human Emotion, in Six Movements* made by the designers Jonathan Harris and Sep Kamvar (www.wefeelfine.org) an infinite geography (and not a history) is created in real time. It is an atlas of data that has no limits.

What was mapped out in the three years in which the project occurred on the internet was the imminence of the personal sentiments of each character registered in the world-wide network of blogs and other social network sites, crossing them in the most different ways. What was left after those three years was a site mixed and structured with visually complex sentiments: *traces*. A territory, a geographic trace of a history is what the site is. It was formed as a complex landscape represented not as space but as a web of relations in time by an image (Figure 7-11).

By clicking on the word "beautiful" or on a small yellow-coloured ball, a page is opened with data on how many people wrote the word "beautiful" in their personal blogs, or what the percentage of people



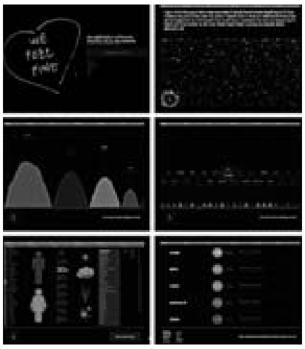


Figure 7 (left). Imagens do site. Source: http://www.smashingmagazine.com/2007/08/02/data-visualization-modern-approaches/, accessed on: 17/01/2011.
Figure 8 (center). Imagens do site. Source: http://www.tikirobot.net/wp/2006/06/21/we-feel-fine/, accessed on 17/01/2011.
Figure 9 (right). Imagens do site. Source: http://consumerbeat.wordpress.com/category/universo-online/page/3/, accessed on17/01/2011.

who use "beautiful" as a context, in their blog is, according to the size of the ball, percentages about diverse subjects related to a word or, even, what is being said when the word "beautiful" is used on social networks, as well as the given meanings – ironies, parodies, etc.

You can argue that there is no way to have a precise measurement or that all the percentages, graphics and visualizations are just potential projections of what can exist. Moreover, the social networks do not say exactly what is going on, or which feelings the people have about the most varied themes posted on the sites. It can also be said that whoever writes on these sites falsely represent themselves. But that is the potential: it is a framework that exposes a way of dealing with the infinite and even the multiplicity of interpretations that can arise from the most different identifications: an exposition of the modus operandi language – visual, photographic, videographic or etc – used to deal, many times, with what is unknown. Being geographical, in the space of a screen, in a non-historic time, since there are no dates or chronological periods, there is no past and no future; there is only the constant creation of forms and meanings taking up geographic space on computer screens. One image related to how to build relations can potentially gauge data relative to space. That is how such a work becomes an instrument for considering landscapes: not a static image, but a dynamic one, produced by various agents and interests, and desires. And what is a desire if not a potential new situation?

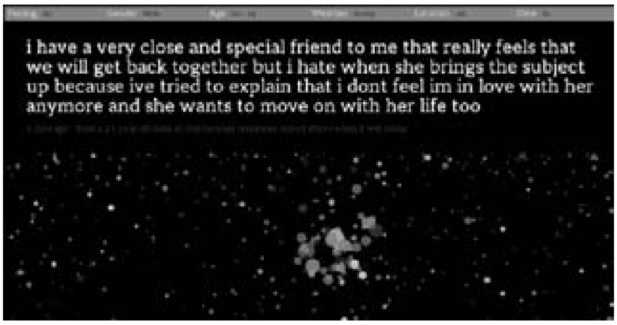

i have a very close and special friend to me that really feels that we will get back together but i hate when she brings the subject up because ive tried to explain that i dont feel im in love with her anymore and she wants to move on with her life too

Figure 10. Imagens do site. Source: http://googlesystem.blogspot.com/2007/04/visualizing-human-feelings.html, accessed on 17/01/2011.

Considering the site as a map or as cartography of moments, there are imminences interrupted and unfinished. Why use the term imminence? Posting on blogs and other social networks covered by this site, there are no 'ready' lives, but a landscape of life in process. In We Feel Fine there are no 'ready' names, but always between what they are and what they can become.

The imminence of the movement kept in the movement of the word itself. The power of the "imminence" concept is in its paradox: it is death but not accomplished: this is the intense movement to be mapped by the site.

This paradox or 'spasm' is pedagogical insofar as it attests to the capacity of the site, as an instrument of enabling relations and results of the most diverse kinds. In a free association given by clouds of information, games are played producing landscapes that are always momentaneous and not taken as "true".

Notes:

[1] http://www.youtube.com/watch?v=sOkQE7m31Pw

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Imagination and Empathy. Artists with Trees

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Abstract: This paper considers trees as the subject of a collaborative, interdisciplinary approach to art research and inquiry. We will explain how the work moved from ideas about emancipatory intent to empathy as a method for theory-informed artistic experiments with human/non-human interrelationships. The paper will focus upon an iterative approach to the framework, tools and technologies we have developed to enable exploration of empathic exchange with trees. The framework is constructed around a philosophical approach to empathy. We conclude with an assessment of the project as a means to leverage the evolution of our own subjectivity where theory is tested and new knowledge is gained through sustained experience and practice with trees.

Key words: Art, Design, Ecology, Ethics, Empathy, Environment, Philosophy, Planning, Trees.

1. Introduction

Tim Collins and Reiko Goto Collins are environmental artists, researchers and authors working together since 1985. Over the last fifteen years they have sustained a research-based approach to art that has focused on the aesthetic conditions of the post-industrial public realm with specific attention to environmental systems such as rivers, forests, and landscapes. The primary themes that inform the research began with the ethical and aesthetic entanglements found in ecological restoration, which brought us to ideas about the emancipation of natural systems from the constraints of industrial culture. This has led to new ideas about empathy between human and non-human entities. The former themes were always pursued in situ, attending to landscape and ecosystem conditions as well as the culture, policies and activities that shaped it. The empathic approach embraces individual living things in nature; working through ideas of subjectivity and subject – object relationships. The most recent work engages the invisible impact of clouds of carbon dioxide on trees.

As full time research fellows Collins and Goto Collins led two projects within the STUDIO for Creative Inquiry in the research centre at Carnegie Mellon University in Pennsylvania. They worked at two scales, first a 6 square mile watershed, a project that unfolded over three years, then at the level of Allegheny County on a project that took five years, covering 745 square miles with three major rivers and fifty-two sub-watersheds. They sought to contribute strategic knowledge, data and experience to public discussions about specific woodlands and ecosystems. An iterative approach to community based art and design research contributed to the protection of remnant forest, the ecological restoration of an urban stream valley and the development of a new public space through strategic development of a public imaginary that informed a community plan, which was finalized during 'The Final Dialogue" (1999) an exhibition that culminated the work on the *Nine Mile Run* (1997-2000). Research on *3 Rivers 2nd Nature*, (2000-2005) contributed to changes to zoning policies that would protect steep slope wooded land, and riparian woodlands along the three rivers in Allegheny County, Pennsylvania. The work would enable the assignment of new public parks and strategic land purchases by the Allegheny Land Trust. Reports and white papers on policy issues were produced. Biological information was spatially located with GPS and GIS technologies. Soil studies and forest cover analysis would inform riverside landscape design and planning. (Comparable work on water quality was largely ignored.) Residencies with artists and landscape architects would test ideas 'on the ground' in dialogue with communities where convivial public space and aesthetics had faded with the industrial economy. Artworks from the residencies featured in the exhibition 'Groundworks' curated by Grant Kester (2005). Some of the artists sustained interests and would have a long-term impact on specific communities.

During the work in the Studio for Creative Inquiry, Collins focused on theory and practice; while Goto's focus was on the pedagogical application of ideas about post-industrial landscape recovery for a Pennsylvania State Grade School curriculum plan that integrated art and the environment[1]. They also collaborated on a chapter describing the ecological context (Collins and Goto, 2005) and mapping the methods of art and environment practice (Goto and Collins, 2005) for university based coursework. Writing about the *Nine Mile Run* Collins collaborated with an art historian to consider artist-led qualitative community-based brownfield assessment in an article for 'Public Works Management and Policy' (Collins and Savage, 1998). He explored the artist's role in creative dialogue about urban stream restoration in a journal on restoration ecology (Collins, 2001). He considered the project in terms of postindustrial public space and ecology for publications on interdisciplinary land restoration (Collins, 2002 and 2003). Writing about *3 River 2nd Nature*, Collins considered the application of aesthetic frameworks in post-industrial landscapes (2007 and 2008). Most recently Collins analyzed the theory, practice and outcome of *3 Rivers 2nd Nature*, considering the impact and effect of the work for an Art Journal (2010)

Moving to the UK in late 2005 Collins and Goto began to think about climate change and trees as a sink for carbon dioxide. They recognized that what they 'knew about trees' didn't always mesh with their experience. During a visit to a Free Air Carbon Exchange (FACE) experiment in North Carolina, the artists experienced an epiphany of sorts, when they realized that in the 'signs' presented by the sensor readouts at that site, one could start to 'see' the invisible breath and sap flow of a tree. The breath (photosynthesis and respiration) was reactive and dynamic, shaped by available sunlight and localized atmospheric CO2 (which is in constant flux) and humidity. This experience led to the development of 'Eden3' a project that embraced an experimental framework to develop a series of sculptural interfaces, tools and technologies that enable the exploration of empathic exchange with plants and trees. The first sculpture is titled *Plein Air*; it provides a platform for a structured approach to empathy; the work evolved through Goto's PhD research. The project is organized around the intent to reveal and examine the invisible and initiate a critical social imaginary about ethical obligations to other living things as a subset of the process. *'The research has been developed within the tradition of environmental art[2] practices that engage the world at a planning, policy or a landscape scale. Specific points of reference were established in Goto's case studies for her Doctoral research (2012); including Alan Sonfist's Time Landscape in New York (1978); Joseph Beuys, 7000 Oaks in Kassel Germany (1982-1986); and Helen Mayer Harrison and Newton Harrison's Serpentine Lattice focused upon the Redwood Rainforest of the Pacific Northwest of North America (1993). References: to similar science/technology informed artwork informing work on Plein Air include David Dunn's research on the sound of invasive bark beetles (2006) and Lise Autogena's computer model of Most Blue Skies (2006). Contemporary colleagues with similar topical interests in the UK research community would include Shelley Sacks' artwork on the University of the Trees (2011) and Jones' and Clokes' writing about the agency of trees in 'Tree Cultures' (2002).*

2. The move towards empathic research

In previous research the intent was to produce a transformation of values through shifts in ideas and perceptions in specific places. Strategic data was produced and experiential methods were refined through a theory informed process of iterative practice and reflection. Direct knowledge was accrued locally. Indirect knowledge or ideas about theory in relation to the practice of environmental art were communicated within the field through exhibitions and follow-on critical publications.

Having moved from thinking about nature as an agglomeration of subjects that needed release or abeyance from the constraints of industrial culture, Collins and Goto are now paying attention (one tree at a time) to singular subjects while considering ethical responsibility for anthropogenic impact on other living things. They decided that based on prior experience and current reading the best way to arrive at that level of attention is through a practice that assumes sentience in all living things and embraces empathy. During her PhD Research Goto worked through the historic definition and progression of ideas about empathy; she developed a critical framework to analyze her case studies and to inform her work and critical reflection on the development of *Eden3: Plein Air* (2012).

2.1 Research focus and method

Eden3 is an art-based climate initiative that develops critical methods, technologies and a series of artworks that support an interrelationship and a potential for empathic exchange between people and trees. Why trees? Trees are the largest most ubiquitous living 'things' in the world. They have a huge aesthetic impact on day-to-day life and have always been an essential material resource. Since ancient times, they have had both utilitarian and intrinsic value. The first artwork in the *Eden3* series entitled *Plein Air* consists of a leaf chamber connected to high quality sensor technology embedded in a traditional painting easel with laptop computer processing equations that measure and sonify photosynthesis and respiration. What is being measured is leaf reaction and the reduction of carbon dioxide (in relation to other parameters) and the increase of humidity. What is 'heard' is the metaphorical representation, a data sourced sound of the tree leaf as it responds to changes in the local atmosphere.

With this artwork the artist-authors sought to elucidate empathy and an inter-relationship between cross species (tree - human) by revealing reactions to environmental conditions (light, temperature, humidity and atmospheric carbon dioxide) that are shared. Trees are alive, yet perceived as non-reactive entities operating within a time scale at the edge of human perception. Humanity affects our shared environment through anthropogenic production of carbon dioxide as a by-product of industry, transport and development, as well as by breathing. Yet people have little sensitivity to the local impact, the small-scale cause and effect on atmospheric conditions in places we frequent. A tree can actively react to small changes (in parts per million) to the amount of carbon dioxide in the air. *Plein Air* is an experimental approach to a relationship with another species that shares our everyday context. The research, in both its technical and artistic forms is focused upon elucidating the reactions of trees and creating conditions where attention is guided by aesthetic experience so that empathic exchange might emerge over time.

3. Experiments in art-based empathic research

It is obvious to most of us that trees do not have feelings, emotions or mobility and agency like humans do; there is general agreement that they respond to light, temperature and humidity as well as the chemistries of soil and air. Furthermore most can agree that humans and trees share and shape the environment; although in different ways. For the most part we do not perceive a tree in its subtle quick response to changes in the environment; this is part of what makes them foreign to us, a perceived temporal dissonance. Yet… we have an ability to read the physical state of plants and trees; we can all recognize life and death over time and seasonal changes. Most people sense/see vitality or ill health in plants, many can see more complex shadings of wellbeing linked to available moisture, soil, light, nutrients or predation. When we limit ourselves in the concepts that inform our perception we may or may not respond sympathetically, when we reach beyond our available concepts and commit ourselves to intimate and consistent attention we aspire to empathy. The artist-authors posit that it is possible to experience plants and trees empathetically, through careful observation, experience and memory, through the process of metaphorical projection; and that this can be leveraged through physiological monitoring of photosynthesis and respiration. Below I will focus on the three developmental tracks of this research; theories of empathy, work with sensors and sound output and the form and practice of working toward empathic exchange with trees.

Beginning with the original German term '*einfühlung*' or 'feeling into', Goto's literature review revealed the evolution of the sense of 'inner imitation' through work in psychology, and philosophy by authors such as Edmund Husserl (1859-1938) and Max Scheler

(1897-1920). Goto would eventually settle on the work of Edith Stein (1891-1942) (who studied under Husserl). Stein's study begins with the idea (shared with Husserl) that empathy is "…a kind of act of perceiving, sui generis" (Stein, 2002, p.11). A perception that is unique, of its own kind. While Stein was open to the application of empathy beyond human-to-human relationships (as is Goto); it is important to note that the idea of living things as sentient subjects remains controversial. Until recently mainstream science has been unwilling to consider ideas like sensory perception, communication, memory, agency and knowledge in plants. But there are some cracks in that armour. Prof Anthonty Trewavas has written a series of rigorous articles that explore 'plant Intelligence' (2003), arguing that plants are territorial and competitive; forever changing their 'architecture, physiology and phenotype' in the intelligent pursuit of resources for growth and reproduction. (Trewavas, 2005, p. 413). More recently Prof Daniel Chamovitz (2012) argues for awareness (rather than intelligence). Making a case at the bio-chemical level for specific sensory perceptions that enable responses to changes in the environment. It is important to note that this work has vociferous critics: Richard Firn's response to Trewavas' 2003 paper, makes a point-by-point rebuttal before demanding limitation on anthropocentric description (2004). The artist authors would argue that this moral constraint against anthropocentrism must be reconfigured as a caution; to intend no harm or overt obfuscation, rather than a line separating humanity from everything else in the world.

3.1 Theories of empathy

"Empathy…is the experience of foreign consciousness in general, irrespective of the kind of the experiencing subject, or of the subject whose consciousness is experienced."
(Edith Stein, 2002, p.11).

Empathy is a practice that is both developed and refined through intimate attention to people and things over time. Following Stein empathy is an act of perceiving in which we reach out to the other to grasp his/her/its state or condition. It consists of one's emotional and physical experiences. Empathetic experience is focused towards something foreign rather than something familiar.

Unlike empathy, sympathy reflects one's own experience and extant understanding rather than reaching beyond it. Sympathy is assuming feeling in another is based on what we already know about our self and our interests. After an empathic experience intellectual understanding can emerge and be expressed as a new idea. Empathy requires an ability to move the sense of self from the foreground to the background and back again; it requires an ability to reach beyond self-interest. Empathy is a relationship between subjects. It helps us to enrich and extend our self-image through relationship with 'another'. It motivates something within us that enables different expression than that which we know on our own. It adds something to the world that would not otherwise exist.

In Stein's theory of empathy a symbolic relationship has precedence when focused on the countenance of the other – such expression is a symbol of body and mind relationship. It is not a sign (like language) that indicates specific meaning through intellectual knowledge and reflective understanding. With empathy we not only understand but we feel the other's health, well-being or emotional state. Empathic projection helps us to imagine ourselves as if the other is looking at us and judging our behaviour. Lakoff and Johnson define it as an "…imaginative experience of the other" (Lakoff and Johnson, 1999, p.566). This specific imagination is cued by the empathic relationship between what is perceived and the perceiver. Imagination works through metaphor to enable our understanding of the 'other' and the environment. This is key to an empathic approach to non-human living things.

3.2 Sensors and output

Our intention from the beginning was to embrace key elements of our experience in North Carolina; and develop a portable sculptural interface that would support extended aesthetic experience and the potential for an empathic relationship with trees over time. A significant part of that experience is recognition of the speed of reaction as a tree leaf responds to changes to carbon dioxide and sunlight. Another significant point was the move from sign/screen output to sound/symbol output so focus would remain on the tree and environment. This mediated experience with sensors is an interruption in the perception of trees as lumbering things out of sync with human temporal experience.

The sound of *Plein Air* represents the trees' response to atmospheric changes particularly in relation to carbon dioxide caused by human respiration, transportation, home heating and industrial exhausts. The plant physiology sensor system compares atmospheric conditions to the conditions relative to a leaf. The sensors monitor: CO2, humidity, temperature, airflow and light intensity. Mathematical equations based on these parameters give us photosynthesis and transpiration; sound is produced in relation to these numbers. Collins and Goto have maintained from the beginning the whole sculptural interface needed to work in real time to sustain attention to the trees over hours. The development of the sculptural interface began with purchase of off the shelf components[3] for plant gas analysis. The sensor system developed in a series of steps beginning with initial array of dual-use components, followed by separate leaf/atmosphere sensors, then refinement of the use, calibration and maintenance of the increasingly complicated system. High-resolution 'real time' sensor data was possible but live data into the sound system was not. A musician colleague developed a sound playback programme[4] that would 'process and play' saved text files after running the system with trees. This configuration was the first prototype of *Plein Air*; an unwieldy array of sensors, pumps and monitors with eleven separate power supplies. The sensor system and the post processing of sound was tested and refined during a practice-intensive residency at the Headlands Art Center in California.

On-going experiments to secure 'real time' sound with data output from the proprietary sensor system required increasingly invasive 'hardware hacking' procedures that resulted in equipment failures. During a subsequent research residency at the Crop Technology Unit[5] at the University of Wolverhampton the team had access to climate-controlled chambers and a greenhouse. Mat Dalgleish, an electronic musician, was a key team member, he found a young engineer able to go into the circuit board to isolate the data flow and split the output, bringing it into a set of Arduino microcontrollers. The data was then delivered back to the computer through USB cables where it was to be processed and the sound synthesized through a programme developed by Dalgleish with Max/MSP software. At that time the sound system and sensor systems were working separately but in relationship to one another. The power supply had been simplified and integrated into a single unit.

As technical issues were resolved the goal was to find the right sound; to insure the symbolic experience had perceptible cause and effect relationship with the sensing equipment. This is an important element of the work as an instrument of empathic exchange between people and trees. Original discussions revolved around scale, volume and timbre; trying to sonify each parameter with a separate 'voice'. This led to the need to simplify things until it was decided to focus on photosynthesis, respiration and sunlight. In the first iteration of the prototype, digital musicians crafted 'experimental instruments' but they also linked the data-to-sound programme to the GS Wavetable Synthesizer that is internal to all Microsoft operating systems. This provided the artist-authors with a choice of 128 musical timbres and sound effects. Goto ran hundreds of experiments with the first and the second prototype sound programmes before concentrating on electronic instruments with the timbre of woodwind instruments. She also worked with a programmer to produce sheet music and experimented with live interpretation of the data readout with a recorder and a then an accordion, a performative process that reinforced empathic awareness.

For a 2010 exhibition the whole sculptural interface was 'tuned-up and rebuilt' by a technology consultant[6] and in a series of follow on sound/data experiments preparing for exhibition[7] both the woodwind and two other computer 'voices' were considered in discussions about best legible scale/data relationship a piano voice was decided upon for its potential for empathic experience. However, during the exhibition it became increasingly clear that the piano voice was an overwhelming presence within the contemplative space of the gallery installation. The mise-en-scène had been carefully developed for empathic relationship with a tree was compromised by the sound-image of a piano. This observation would lead to another round of work with musicians Clare Cullen and Michael Baldock who crafted a sophisticated Max/MSP programme that explored pitch, rhythm and dynamics integrating a programmed harmonic synthesizer with an innovative multi-rhythmic voice processed through a granular synthesis object[8]. This was a significant improvement, the timbre and tones used carried few images, and where it did so, the images were suggestive without being descriptive. After four months of recent work with this sound programme both Collins and Goto felt that there was another refinement that would deliver a tighter relationship to the cause and effect embedded in the sensor/data flow; to refine the potential for empathic attention and exchange was/is needed. Current work is underway to finalize the sound of *Plein Air.*

3.3 Form and Practice

Work on *Eden3* was complicated by the fact that trees are in leaf only five out of twelve months per year in the UK, and when in leaf, there are complications of weather to worry about. What was initially conceived as a simple group of sensors had grown into a very complicated array of electronics with too many cords and connectors. What was planned as a lightweight tool to be used outside with trees in the landscape evolved into a studio/lab tool with a massive battery pack. Our practice moved from planned use in the landscape to sustained everyday experience in our home/studio environment. Initiating deep consideration about what it meant to use, to perform and to live with the system and trees over time.

Empathic projection defines the theoretical approach and method of this research. The challenge was to develop artwork that provides a reason for 'being with' trees. In the first year working in California with the system spread out across a work table. Collins developed various structures to contain the equipment before meeting a group of 'open air' landscape painters. Many had folding wooden easels that caught our eye. This was the original historic tool that enabled artists to move into the landscape; it was an important point of reference for the project. A painting easel was purchased, too light and too small for the entire system, but it became the organizational metaphor for the development of both the form and practice of *Plein Air*.

There were only two options for the development of this research; to be with trees, or for trees to be with us. In the best of all worlds, Collins and Goto would work three to five days per week in-situ with native trees rooted in their native habitat. That would require a relationship with a nearby urban wood, a forest research facility, or significant personal property. As they are not settled in the UK they made a decision in 2009 to purchase potted trees that were 48 to 60 inches tall. Over the years they have worked with the trees first as a means of testing and developing the sensor and sound system, then as a means of developing a form and practice that could be tested and then presented in exhibition. Iterative development of the prototype has resulted in a robust heavy-duty sculptural interface that stands up to prolonged use within the studio as well as in public galleries, enclosed gardens and greenhouses. It has become an interface that encourages 'being with' trees rather than a tool for short term performative actions, (small epiphanies) outdoors amongst trees. Final development involves a reconsideration of the sound software and a strategic reconstruction of the *Plein Air* easel reducing the visible complexity of the system so that the traditional form of the easel and the tree is foregrounded in the viewer's perception.

The practice of working with trees has changed over the period of the project, moving from the initial effort to manage the equipment and see patterns in the research; to an attempt to recapture the epiphany of our initial experience in North Carolina, to a more long term project, of 'being with' trees, through the interface. Empathy is the method; the process can have no effect, or result in a critical social imaginary about ethical obligations to other living things. This can only emerge through an assignation of an inter-relational value and/or through recognition of a life force in common. The practice starts with the epiphanic moment when users realize that trees react instantaneously to changes in sunlight and carbon dioxide. This 'aha factor' is easily replicated and has been used in lectures with a tree by Collins at the University of Edinburgh and in a performance with a tree at Nottingham Trent University by Goto. The performance however has larger implications as this involves expression informed by close attention to the data; an imaginative interpretation of the other. Here the sensor system and the sound system are pulled apart; the tree/sensor relationship becomes the focal point for embodied perception and expression. After the epiphany there is a period of potential confirmation of one's perceptions, where empathic exchange can open up. Having worked with the system over years Collins and Goto feel this is best developed by engaging others.[9] The first opportunity was through preparations for an exhibition that began with refinement of systems and practice in our home studio/greenhouse then tested first in a series of 'field experiments' in public parks and wooded groves. This was followed by a six-week exhibition of the system, documentation of the fieldwork and a provocative video installation dealing with ethical obligations to living things. More than half of the fieldwork sites were urban, all in public spaces. The form and function of the sculptural interface engendered curiosity in this context but little sustained interest. As Collins and Goto were present, most wanted an explanation; to 'know' rather than to listen to and experience what was going on. These are indications of sympathetic engagement where there is sensitivity to the experience but it is processed through what is known, rather than resulting in a relational, imaginative projection. Installing the sculptural interface in the gallery, within a greenhouse[10] with trees was more effective. Without someone present to explain things, viewers would sit in a chair provided for that purpose. Here there was more potential to engage the tree and the imagination through the sculptural interface, although as discussed previously the voice chosen for the exhibition was not satisfactory. The primary insight from that exhibition was that human beings could find it challenging to 'read others' but whether human, pet, wildlife or tree the potential for empathic exchange emerges (for most of us) when we can sustain an intimate interrelationship over time.

Exhibiting the system revealed issues which are being worked through in the final design and reconstruction. The artist authors want the complexity of the system to more or less disappear from the viewer's perception. Arguing that the painting easel emerged as a metaphor unto itself, it is an important compositional element of the artwork. It provided a classic sculptural body that counter-balanced the scientific system. The easel embodies a history of visual attention to, and human expression of the landscape and nature. But this is connected to empathic projection; the ability to embrace and express (to embody) the condition of the other.

4. Conclusion:

Previous work in Pennsylvania dealt with the restoration of post-industrial ecosystems, working with scientists we initiated new knowledge and refined key points for public presentation and discourse. Out of this came ideas of strategic knowledge, concepts which had potential to reshape human perception, experience and values – the structure upon which decisions and policies are made. Strategic knowledge was the how, the why was to relieve some of the pressure on nature, to let the aesthetic potential of urban trees on steep hillsides and remnant forests along river banks realize their full potential.

Our current research is theory informed, developed and tested in a series of iterations; our results to date are soft cultural outcomes rather than impacts on public perception and policy. The artist authors submit that the confirmation of empathic exchange with a tree is difficult to document. The best answer is embedded in indicators such as a sustained relationship with trees, an inquiry that develops over time.

It has become increasingly clear that the 'work' is focused on human subjectivity and the potential to open up the ethical-aesthetic conditions for appreciation and the potential ethical obligation for other living things through empathy. This has led us to read into ideas of subjectivity and integration of subject, object and environment. Collins refined a set of philosophical positions on ethical obligation that would become the script for a time-lapse video *A Tree is a Living Thing (The Schelling-Piper Experiments)* which can be viewed online.[11] Goto is refining ideas about the aesthetic perception of forests within the context of the iconic Scottish Caledonian Forest through the 'Principles of Association' found in David Hume (1969); an on-going creative inquiry that has not as yet yielded an outcome.

We are increasingly aware that access to and control of the system can be important pathways to empathy. To consider the context, to choose the leaf and to attend to the output is a powerful experience. As a result we are now in the development stages of *Spirit in the Air*, the second artwork in this series, and a highly efficient battery powered hand-held system has begun. Developed with newly available sensor technology it will result in a production run of multiple units for use in cultural and educational context.

The systems will interrelate by producing harmonic sonic experience that reveals source and flow of carbon dioxide. The leaf chamber will be redesigned so that the performer's hand and the tree's leaf are intertwined; a series of gestures will be developed to concentrate attention on the human/tree relationship. It will shift the relationship between expert user and viewer in important ways. Finally, this technology also reveals potential for a robust system that could be set up in an urban grove or protected forest as a semi-permanent installation; a *Symphony of the Trees*. The project moves from an expert moderated system, to a performative/interactive user based system, to an installation where a grove of trees is engaged over the length of a season. From a structured relationship to an improvisational relationship then to an open relationship, each setting has its own unique potential to explore the empathic relationships that may lead to the ethical-obligation for living things.

Notes:

[1] Goto, R., Lucas, V. and Pantazidou, M. (1999) *Urban Watersheds and Brownfields* [online]. 3 Rivers 2nd Nature, [cited 15 November, 2011]. http://3r2n.collinsandgoto.com/revalued/urban-watersheds-brownfields/index.htm
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[2] For an overview of this specific 'planning/policy' aspect of the field see Kester, G. (Ed.) (2005) *Groundworks: Environmental Collaboration in Contemporary Art.* The exhibition/publication was one of the outputs that emerged from 3 Rivers 2nd Nature.

[3] http://qubitsystems.com/

[4] Carola Boehm, University of Manchester.

[5] Supported by Prof Trevor Hocking a plant physiologist and his technician.

[6] Solutions for Research Ltd. http://www.solutionsforresearch.co.uk/

[7] *Plein air: The Ethical Aesthetic Impulse*, Peacock Visual Arts. http://eden3.net/exhibitions/peacock/index.html

[8] See Michael Edwards' mdeGranular~ http://www.michael-edwards.org/software/mdegranular/mdegranular.html

[9] Collins is currently speaking to a colleague about social science methods to assess empathic awareness in others.

[10] With a high density discharge metal halide lighting system in place.

[11] http://eden3.net/exhibitions/peacock/video/index.html

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Learning from Landscape, Learning from the Sky

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Abstract: The works of some contemporary artists are notable for the extraordinary interest they show in landscape considered as a strong and powerful tool between chthonic forces and perceptual implications. Their works form an identifiable or hidden alliance with the environment, setting free the power of the *genius loci*, and transforming the enjoyment of the work-of-art into a spiritual and physical experience. Some of these artists – i.e. J. Turrell, H. Voth, C. Ross, J.L. Adams – however have paid a special attention not only to the geographical horizon that marks their works, but also to the celestial landscape that becomes such a powerful resonance chamber between micro- and macro-cosmos. These land-formed works have their roots in ancient wisdom traditions, but they can also teach us a new way to design and protect the landscape, the culture that embraces all cultures.

Keywords: Representation, Geometry, Land Art, Archaeoastronomy, Contemporary Art and Architecture Criticism.

1. Introduction

The writer and environmentalist Barry Lopez has outlined, in a concise and vivid way, the notion of landscape described as "the culture that contains all human cultures, all forms, all artefacts, and languages" (Lopez 1976). This definition has an anthropological flavor which crosses disciplinary boundaries, and allows to observe, from an alternative point of view, the natural and artificial environment as a kind of palimpsest of signs that displays a language which is secret, but understood by the most careful and experienced observer. It is the responsibility of the designer to find out the encryption key for this *esperanto* which resonates in this space. The current environmental, political and cultural situation shows more and more how an interdisciplinary approach is the keystone to act in the landscape, to prefigure its changes or to save its natural and historical distinguishing marks. The work of some contemporary artists, less tied to the professional establishment than architects, have shown how it is possible to intervene in uncontaminated natural settings, with discretion but also with a creative approach, transforming the earthly landscape in a mirror of the heavenly one, that is around and above us. The effect is that of expanding dramatically the perceptual field of landscape to an unexpected context, however always present in our lives. Without realizing it, our lives already take place in outer space, and precisely in the atmosphere, sharing with the earthly world only the contact with the ground touched by our feet, by the foundations of the buildings we inhabit. The rest of our body and of the architecture is projected into the atmosphere, in a landscape of which we barely know the coordinates; but this *locus* deserves to be explored in all of its iridescent beauty and complexity. In this paper, I'll examine briefly some land-formed works that have been able to configure resonant spaces between sky and earth, creating attractive places in which the physic and the metaphysic play in communion – often unexpectedly with regards to the artists' expectations – and that are interesting not only because of the philosophical components of their imagery, but especially for the composite character of the concepts of configuration and of spatial perception they imply. These are works where different disciplines meet - architecture, sculpture, engineering, astronomy and anthropology -, showing us how today the relationship between art, architecture and landscape is extremely subtle. This emphasizes the interdisciplinary nature of design, here still defined as the place where art and science mutually exchange information, sources and semblances.

2. As Above, So Below

2.1 Land-formed works between earth and space

The works here presented are part of a selected group of land-formed installations within a wider research program (titled 'As Above, So Below') that the *Imago rerum* group, under my scientific coordination, is developing at the University IUAV of Venice, in collaboration with the artists responsible for the individual projects. For each of them, digital surveys and then reconstructions of their architectural configurations have been carried out, also creating an interactive model of the sky in which it's possible to georeference every single space – be it already constructed or only designed – in order to simulate the perceptual and geometrical structure of the sidereal phenomena with which they establish a direct or indirect relationship. Through these digital clones it's possible to analyze *in vitro* the singular components articulating these projects, also identifying the contributions from different disciplines, and providing a useful didactic tool for analysis and representation in the teaching of landscape design.

2.1.1 Hannsjörg Voth: Himmelstreppe, Goldene Spirale, Stadt des Orion

Hannsjörg Voth (Bad Harzburg, 1940) is a German artist whose works in the desert can be considered of landscape architecture in every meaning: it consists of three installations/buildings built between 1980 and 2003 in the plain of Marha, a plateau situated between the Atlas Mountains and the Sahara, eloquently symbolic of the place's strong metaphysical character. In these three projects, the dualism between earthly and celestial landscape is identifiable in two keywords, and in their play of opposites, upon which the whole philosophy of the artist founds its poetic: upwards/downwards. Voth's imaginative world is full of signs and symbols that are exhibited in his structures based upon the four elementals, most often in *zero* landscapes. Built between 1980 and 1987, the *Himmelstreppe* (Stairway to Heaven) represents, in Voth's words, the desire to go beyond the human limits: 52 steps, between two triangular walls, ascend to the sky, thus alluding to an upward-looking psychology, which has its negative counterpart in the inverted image of the fall. Thus, in *Himmelstreppe*, as one goes upwards, consequently he/she goes down. Once at the top of the Stairway to Heaven, in fact, a small ladder leads down steeply to some small rooms skilfully placed under the outer steps. This work is also a naked eye observatory; being perfectly oriented from west to east, during the winter nights the constellation of Orion can be seen, rising through the slit in the middle section on the eastern façade,

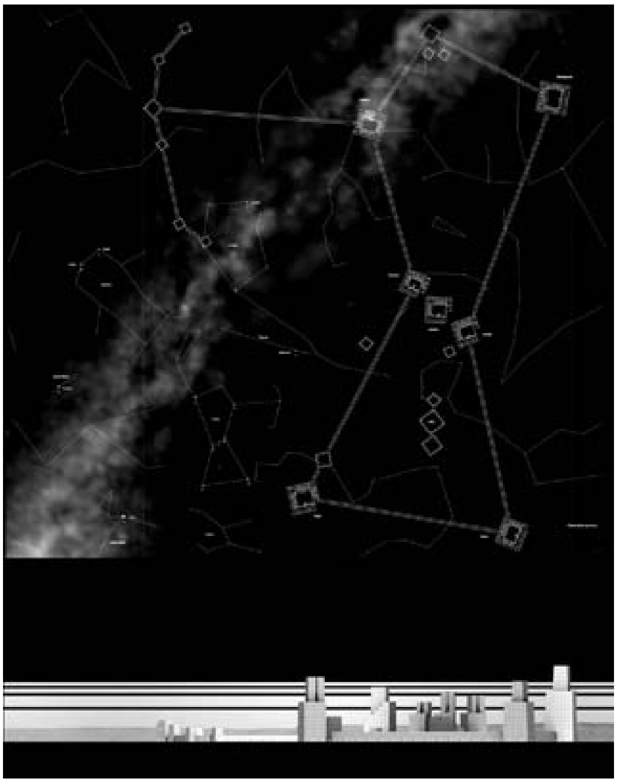

Fig. 1

and then continuing its journey until its setting, below the stairway. The *Goldene Spirale* (Golden Spiral), built between 1992 and 1997, is a house as well. As for the Stairway to Heaven, to access the installation you have to climb up, and then down to the bottom: a large spiral ramp leads smoothly to the center, at a height of 6 meters, from where a steep helical staircase descends instead downwards, first toward the living space, and then into the chthonic depths, as far as the water surface at the bottom of a well. Based upon the golden ratio, it represents an act of wrapping and transformation from embryo into a chrysalis and then into a new life; the circular, symbolic movement starts from the bottom of the water inside the well, a little pond upon which a small golden vessel floats as a symbolic 'ark in the desert'. This movement is growing, going ideally up the dizzying spiral staircase, from darkness to light, up to the top of the Spiral, where it opens to the landscape with great dynamism, eventually embracing the whole plain. The circular, physical movement, however, starts from the outside, from the vastness and solitude of the surrounding landscape, and it increases slowly upward, winding along the big ramp, and culminating at the top. Then the motion, that remains circular, changes direction, and the visitor is thrown down into the steep spiral staircase that descends 27 steps to a first level – where the artist's house is hosted – and then, down in the dark for other 100 steps to the water source, on the bottom of the well. The helical staircase, a fascinating sculpture made of light and shadow that is thrown vertically into the depths of the Earth, makes the world appear to anyone who looks from the top of the spiral towards the bottom as a circle rotating around its own axis at a dizzying speed. The aim of Voth's third desert work, *Stadt des Orion* (Town of Orion), completed in 2003, is to represent the constellation of Orion upon the Earth. The 7 main stars of Orion are architecturally represented with an equal number of towers-observatories, while the 15 smaller stars are identified by smaller towers built, as the bigger ones, in dried clay. The position of each star in the constellation determines the exact position of the towers in the plan. The whole installation occupies an area of 112 x 91 meters. The 7 main towers are real astronomical buildings: on their tops, reachable through a limestone staircase, some seats are arranged with their backs slightly inclined towards a certain portion of the sky; from there the viewer can see the stars belonging to the principal constellations nearby Orion, in the sky. The visit at Voth's 'City of Stars' lasts an hour and a half, during which it is possible to observe the apparent movement of certain stars and constellations. The distance between a tower and the others, proportional to that between the stars represented in the celestial maps of Orion, is calculated in order to allow the passage from one to another tower in the time needed to see the emergence of the various stars within the visual field framed by their astronomical positions. The height of the towers - from 3.00 to 16.50 meters-, their width and thickness are all derived and based upon the dimensions of the stars' magnitude. A naked-eye astronomical observatory, then, but also a huge sculpture representing, in three dimensions, the constellation of Orion on the Earth.

2.1.2 Charles Ross: Star Axis.

The Star Axis is a great architectural installation, made of granite, sandstone, concrete and stainless steel, whose proportions and composition are based upon precise archaeo-astronomical relationships. The author of the work - the mathematician and physicist Charles Ross (Philadelphia, 1937) – by means of the underground rooms that shape the project, aims at making visible, at the human-scale, specific alignments between the Earth and some celestial objects and phenomena. Its chambers and the archetypal tunnel - running through the work like a backbone - offer places where the viewer can experience the Earth's rotation at different temporal stages: each hour of the Earth's rotation; the celestial configuration of the seasons; the increments of the historical cycle of 26,000 years linked to the Precession of the Equinoxes, etc. The Star Axis becomes the place where time and space interpenetrate, allowing its visitors a perceptually tangible experience of them. Located on Chupinas Mesa in the northern New Mexico (USA), the project area was purchased by Ross in 1975, and dimensionally it consists of a 11-storey tall structure: although huge, the work at the same time tends to disappear in the vast desert landscape that surrounds it. On this plateau, Ross has modelled with dynamite a sort of amphitheater - where the walls are tilted and oriented in relation to certain celestial alignments -, and then inserted a 65 meter high concrete cylinder with a diameter of a bit more than two meters. The Star Axis' upper part soars above the mesa's floor for about 20 meters, and it's surrounded and supported by a dry wall of stones. This earthwork is composed by five main elements. The Star Tunnel, whose axis is exactly parallel to the Earth's one, allows you to retrace cinematically, during its crossing, the whole history of the dynamic alignment of the Earth with various stars, until the current one in relation with the North Star. The Solar Pyramid marks the daily and seasonal movements of the Sun across the Shadow Field. Instead, from the inside of the Hour Chamber we can observe every hour the Earth's rotation. And finally, the Equatorial Chamber shows us, during the night, the visible stars at the celestial equator. At the center of Star Axis has been inserted an inverted cone, covered with local stone, within which stands the Star Tunnel, for its first half free to interact with other architectural elements, while for the second half it penetrates into the granite of Mesa. You can enter the Star Tunnel from the complex's base and climb a 60 meters long staircase, whose slope, as we said, is parallel to the Earth's Axis, extending ideally towards the Celestial Pole. The Star Tunnel's top is crowned by a stone circle that frames the sky: through it, from the first step of this monumental staircase, it is possible to frame visually the smaller circle of the circumpolar North Star's orbit, whose image is apparently equal to that of a coin placed at the distance of an arm (1/2°) from the observer; but from the last step, the circular window covers a larger visual field (95°). So the way to the top of the tunnel reveals the circumpolar orbits in

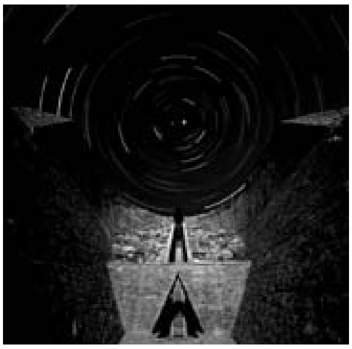
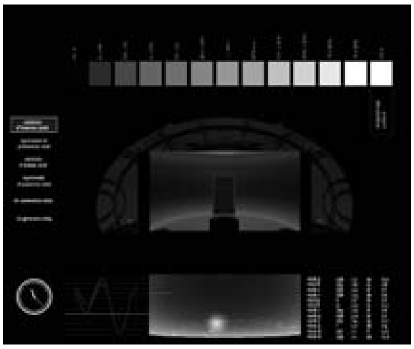
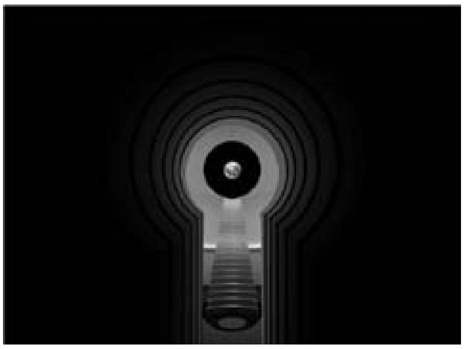

Figure 2 (left).
Figure 3 (center).
Figure 4 (right).

expansion and contraction from 11,000 B.C. to 15,000 A.D. The timeline engraved on each step identifies the temporal celestial articulations that can be accessed visually on the way: so, the visitors can observe the orbit of Polaris as it appeared to Nefertiti in 2,700 B.C., to Plato, or to Leonardo da Vinci, and as it will appear again in 13,000 B.C. The Star Tunnel's stair emerges over the Mesa with a pink granite Solar Pyramid, 52 feet tall, whose geometry is determined by the Summer and Winter Solstices: it acts like a giant sundial, which shows the daily and seasonal movements of the Sun through its cast shadows. These *skiagraphic* projections expand and compress themselves, in time and space, defining an area with a curvilinear edge named Shadow Field, a shady epiphany of Precession traced by the solar time. From the Hour Chamber, inside the Solar Pyramid, you can see and perceive, every hour, the rotation of each star framed in the northern sky. The North Star is located at the upper vertex of a triangular opening - subtended by angle of 15° -, which communicates with the surrounding terrestrial and celestial landscape. Each star takes exactly one hour to go from any point along the left edge (west) of the triangular opening to the right one (east). It's a sort of space for meditation and observation. In 1980 Ross was tormented, for five consecutive nights, by dreams that suggested him to add a stone structure shaped like a cone as a support for the construction, and that this would have required many more years of work. The currently visible result of these prophetic warnings is the Equatorial Chamber, where you can experience the intersection of Earth's axis with the Equator. The opening toward the sky frames the stars passing upon the Equator and upon the Earth's axis and the North Pole. It is placed at the entrance of the Star Tunnel, and these two elements converge, forming a perfect right angle. The whole project is based upon rigorous scientific calculations, but one of the reasons why its implementation has taken so long is that at every step of progress, Ross became increasingly aware that his predictions will be called into question. It is for this reason that, for every new addition, the artist first builds a full-scale wooden model, which he inserts in the real building to see how it responds to the celestial alignments concerning it. The scientific computation requires a way to confront empiricism. According to Ross, mathematics and physics have become the means to analyse the light in order to discover its properties and shapes. The architecture then becomes the place where to perceive how the Earth's environment extends itself to the stars' space.

2.1.3 John Luther Adams: Sila, the Breath of the World

The artistic project was developed by the American composer and environmentalist John Luther Adams (Mississippi, 1953), currently living in Fairbanks, in the central Alaska. A student of Leonard Stein, James Tenney and Lou Harrison, and deeply influenced by Henry Cowell, John Cage and Morton Feldman, he interprets the language of music as built out of 'acoustic', rather than discursive, images. Be it electronic, orchestral, chamber, or for a percussion ensemble, the starting point of his music always resides in the commitment to transform into music the patterns derived from observation - not only visual and acoustic - of the Arctic landscape where he has chosen to live since the '70s. Symmetries, dynamic and harmonic relationships, micro- and macro-structures, intonations following logics that are different from the equal temperament, are all active elements in his compositions that narrate the abstract processes of nature. The installation, designed for the city of Venice, should be the first of the project *SILA: The Breath of the World*, which transforms the data representing the atmospheric conditions of the Earth into music and light. The reference model and prototype for SILA is *The Place Where You Go To Listen*, an installation at the Museum of the North of Fairbanks and designed as well by J.L. Adams, where data coming from the natural surrounding environment is processed in real time by a software – built by New York composer Jim Altieri – which turns it into an ever changing sounding (electronic and acoustic music, diffused by 14 speakers) and coloured light (coloured LEDs that light up a screen made of glass panels) environment, somehow similar to James Turrell's works with regards to the idea of building a *ganzfeld*. In this specific case, among the environmental factors associated with the changes of the installation, there are: seismic movements (associated to very low frequencies, therefore perceptible - above all senses - with the touch), the Earth's magnetic field fluctuation/Northern Lights (which activates the sound of bells and control their tuning, based upon a harmonic scale proportional to the prime numbers from 2 to 31); day/night cycle (a Day Choir and a Night Choir based upon a different use of the series of harmonics; the acoustic pressure's location for the day choir follows the actual path of the Sun outside the building, so that the Sun can be 'listened to' from the exact direction where it actually is outside); and the moon cycle (a cyclic glissando of one month duration). The overall sonic spectrum covers more than 10 octaves, and visiting the installation after months can allow the visitor to experience a variation of the tonal center of about 4 octaves. To manage such a complex information system, John Luther Adams has been able to count on the collaboration of a team of experts, including, for example, the physicist Curt Szuberla, who created a software which continuously calculates the position of the Sun and of the Moon; and the seismologist Roger Hansen, who worked on the seismic data streaming from five survey stations around Fairbanks, in real time.

2.1.4 James Turrell: Roden Crater Project

The Roden Crater project, located in a remote area of the Painted Desert (Arizona) is a land-formed work designed by the American artist James Turrell (Los Angeles, 1943) during over thirty years. The intent of the artist is to transform an extinct cinder cone, generated by centuries of geological activity, in a landscape work of art capable, by means of light declined in all its possible manifestations - physical and metaphysical -, of establishing a close dialogue with the natural celestial and terrestrial environment that surrounds it. For the actual design, Turrell has been supported the help of architects and engineers (who have ensured the maintenance of high quality structural and normative standards), and of astronomers, as regards the cardinal and sidereal orientation of the individual spaces. Although monumental in scale and without precedents in its conception, the Roden Crater project is not meant to commemorate historical events or occurrences, but instead to be a kind of temple where human perception can be celebrated in the uniqueness of its experience: the individual who will have the privilege to enter in the hidden body of the crater or to move along its open paths, will have the opportunity to redefine not only his/her perceptions of natural phenomena, but also to commensurate him/herself with the scale of celestial events, in a perfect correspondence between the resonant micro- and macro-cosmos. The Roden Crater project is thus a synthesis of years of hard work for James Turrell, or better a lifetime's work. The light, true hinge of the whole project, will penetrate into the crater's surface through openings and tunnels, suitably oriented and almost invisible from the outside: the underground spaces will function as luminous bellows and dark rooms, the pools will act as subterranean lenses to amplify the effects of the reflecting light coming from the desert, and the long tunnels will work as conduits to capture the optical images of the Sun and the Moon, on particular days of the year. The shape of the rooms, which make the whole project, is not determined by aesthetic principles, but by their main function: to take in, direct and maintain the light. The structure has been conceived entirely in reinforced concrete, even if, for art spaces and paths, Turrell has decided the use of local stone, like sandstone, basalt and volcanic ash, the latter chosen for its propriety of absorbing the light's radiation. As mentioned, the Roden Crater is a natural Strombolic, extinct volcano, whose birth dates back at about 300,000 years ago; it rises up for about 150 meters on the Painted Desert, and is located about forty miles northeast of the city of Flagstaff, Arizona, on the borders of the Navajo and Hopi Indian reservations, on the boundary line between Anasazi (the Ancient), on the east, and Sinagua (Without water), on the west. The intense team work has allowed Turrell to define a more complex project, with the aim to involve the viewer in an accumulation of sensory experiences related to the perception of light and its interactions, in real time, with the atmospheric and the terrestrial landscapes, but also to events happening in outer space, clearly visible in various positions of the crater, although they occurred millions of years ago. As is evident from these brief notes, some perceptual phenomena related to the specific atmospheric and environmental contextuality are naturally available at the Roden Crater, predating the artist's intervention, and not entirely predictable and controllable through the action of geo-topographical reshaping; but also this uncertainty, due to the natural *klinàmen*, represents, for the Californian artist, the site's vocation to accept a number of architectural interventions that enhance the environmental quality of the landscape, becoming a sounding board of the power of solar, stellar and lunar light. It is not accidental that the shape of each chamber resembles that of an eye, capable of reshaping your perception. It is like this that James Turrell started to think about a series of chambers, mostly underground, connected by tunnels and surface paths, that could allow to experience the revelatory and sculptural power of light, in all of its beauty. The decision to place these spaces within the Roden Crater's magmatic body, depended both on the need not to spoil the sensual natural shape of the volcano – "a place with a wonderful sense of power in the physical architecture of its geological formation" –; and also on the fact that their chthonic location would enhance the perceptual capacities of the observer: in fact, in low light conditions, the visitor's pupils dilate to the extreme point, as in Turrell's Dark Spaces, becoming extremely receptive to any photonic presence. The openings of every chamber would have aimed at establishing an ever-changing relationship between architecture, sky and surrounding landscape, and these natural elements have been sensitively remodelled by the design choices of the artist. Moreover, the transition from the intense and silent desert light outside, to the misty darkness of the partially buried spaces, would once again have emphasized the processes of concentration and perceptive selection which have always characterized, even in the temporal sense, the whole work of Turrell. This huge project has not yet been completed in its entirety, since the complex movements of the desert land and the removal of massive lava blocks – necessary operations for the construction of the underground chambers and tunnels - require big financial investments, which James Turrell is handling through selling his works, but mostly thanks to an intense fund-raising activity. Until now, almost 1.35 million cubic yards of volcanic ash and lava debris have been removed, through an extraordinary organizational effort by the construction companies involved in the project. Only some of the 15 underground spaces - Sun and Moon Space, Alpha Tunnel, East Portal (or Alpha space) and Eye of the Crater - are complete today, and the access to the Roden Crater project is currently limited to the people involved, at different levels, in its execution and documentation; but when the construction will be finished (perhaps in the second decade of the twenty-first century), a maximum of 14 visitors at a time will be allowed to enter, although only 8 of them will have the possibility of staying there during the night: the circulation and use of the singular spaces will be free, despite the possibility of choosing ad hoc ways suggested by the artist himself and by the technical and scientific team who worked on the project. Of course, the selection made, in total autonomy, by the visitor affects the way he/she'll perceive the luminous - atmospheric and sidereal - phenomena and the acoustic ones, through the sequence of spaces and paths. The waiting list started two decades ago, and is already very long; James Turrell ironically states that the names of the lucky visitors could be extracted at random, even if, one day a week, the visit should be limited to schools.

3. Conclusion

The analyzed examples show that it is possible to intervene in both terrestrial and celestial landscape using a new approach that mixes traditional knowledge with new technologies, echoing the motto of Immanuel Kant: "Two things awe me most, the starry sky above me and the moral law Within Me."

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Walking Landscapes: a Cognitive Perception for Planning and an Hermeneutic Approach to Local Community Education

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Abstract: The European Landscape Convention has broadened the conception of landscape and the meaning of territorial heritage. The fundamental distinction between enduring heritage and unstable heritage of a territory is being erased by fast and hard processes of unsustainable land-use transformations. The cognitive perception of landscape and walking along historical routes that have created long-lasting identities can provide a hermeneutical understanding of the complexity of connections underlying a territory's resilience. Several trials conducted with students of landscape architecture on the historical route of Via Lauretana have successfully increased the creativity of each final project. At the same time, the route has provided a subject of study and a landscape tool for studying the cognitive process of perception, imagination and action with the main goal of creating sustainable territorial models.

Keywords: process, landscape, semiotics, perception, imagination, action, hermeneutic vision, public participation, historical route, Via Lauretana

1. Introduction

When we speak of "cognitive perception" of landscapes, we mean affirming the existence of a process of understanding that accompanies a vision and interprets it by using a person's background knowledge.

Understanding is one of man's essential activities, which underlies his unique capacity for interpretation, i.e. his relationship with history. Put more simply, man realises himself by interpreting a world that he is part of, discovering and deciphering the purpose of his own existence.

The landscape is never an inert locus; populations have occupied it, re-worked it and handled it, depending on the goals of exploitation and the various productive uses that have occurred over time, taking on identities each time that have been planned by them and attributed to them.

The populations «therefore use the landscape in different ways that reflect the various approaches to the natural environment, which change in time and in space» (Venturoli, 2005). What is constructed by this way of using and transforming the landscape in the history of man is a common language of the inhabitants of a certain territory or of a community. It is through this very language that man manages to interpret the signs and symbols that are discovered by each community's knowledge of history and ancient roots. These are cognitive processes that originate in the early years of each person's life. Cesare Pavese (2000) stated that «(...) as a child, one gets to know the world through mediation of signs (cartoons, fairytales, stories) and not via immediate contact with objects, as objects are only baptised through the memories that one has of them». The individual that walks through the mosaic of a landscape for the first time, coming from a totally different reality, can be compared to a child in his early learning stages, from the point of view of the cognitive process and his cognitive perception capacity.

2. Landscape and semiosis

A semiotic approach to landscape allows one to experiment with the fact that «(...) each portion of the sensitive world on which we decide to carry out our interpretive activity, such as, for example, the physical world within which the landscape is structured via anthropic action, which can be considered as a "text"» (Volli, 2005).

As we know, the relationship between sign and text has been interpreted in various ways during the twentieth century, by semiotic theory. «Text as a global sign, as a succession of signs. The second case is sometimes considered to be the only one possible in the linguistic study of the text. In the general cultural model, however, the other type of text (...) is also necessary, as it doesn't break down into signs; it is a whole that is articulated into separate parts (…)» (Lotman, 2006).

Cognitive perception of the landscape, intended as a text to be interpreted by the observing subject, presumes not only an understanding of the semiotic language diffused in every historical reconstruction of the landscape's transformations,but the causes that have generated such transformations, and also the intention of using such knowledge to optimise them as part of a community development project. Georg Gadamer's philosophical approach to hermeneutics (1995), which «(…) explores the analysis of existence and its interpretive conditions, using a text, read in its context», may refer to the landscape and the territory, which are the places and roots of man's existence throughout history. We can, in fact, imagine that the exegesis of a text corresponds to the need for analysing and reading the landscape during its historical transformations and that a hermeneutic approach to landscape corresponds to analysing the text that it comprises, carried out in its own context. This initiates a learning process that is hinged on experience, thus moving the matter of understanding from the text to the subject, i.e. to the perceiving individual.

The need for a new approach to reading and comprehending landscape comes from both the complexity of the transformations that have taken place in Italy and Europe since the Second World War and, above all, from the modern individual's difficulty in developing a real process of understanding the landscape due to the pervasive cultural standardisation that it suffers from. Anyone who lives in a certain place tends to forget the relations of identification, and does not recognise the genius of the place. This sense of loss in tracing the identity-providing roots of the places where we live and reside is proof of a progressive reduction of a modern person's capacity to learn through the traditional experience of what Heidegger called an existential path (Heidegger, 2005).

Amazing technological innovations and applications have occurred and developed since the middle of the last century, expanding and aiding access to sources of information and documentation. This has also progressively caused modern man to distance himself from reality, from the experience that comes from the direct observation of phenomena, from the emotional and sensorial perception of nature, from the visual and cultural classification of shapes and distinguishing signs in cities and other anthropic-dominant landscapes, creating an aseptic dimension beyond the natural context, through virtual reality. This is very different from the sensation that Goethe perceived during his trip to Italy, drawing the castle of Malcesine on Lake Garda and discovering that the inhabitants of that place didn't realise the importance and significance of the genius loci that the same landscape represented and had maintained over time, rather believing that the famous German poet was, on the other hand, a «miserable spy paid by foreigners». The perceptive phenomenon of that community concerns a simple collective sense of disorientation that is typical of the distinction that (2006) explains the different attitude that the tourist (outsider) has compared to the inhabitant (insider). In modern times, the perceiving individual's sense of bewilderment comes from a widespread lack of learning processes and interpretive codes that allow identification and comprehension of various, complex phenomena which he finds himself immersed in each day. The clear continuation of individual and social difficulties in understanding the process and qualitative and quantitative requisites used to achieve a tangible, significant sustainability of local territorial models as a necessary competitor to global models traces its roots to the same cause. It is in some way related to this the fact that planning has progressively and deeply moved away from the populations' direct experience and their territorial contexts and, by undergoing economic processes, has often referred its own grounds to abstract, standardised models that are considered valid for all continents and for most communities that live in their various landscapes.

3. A hermeneutic pedagogy of landscape

In drawing up an education process for learning, we must start from a basic evaluation of education: «(...) a continuous improvement process of knowledge and abilities, but also a means for building relations between individuals, groups and nations required for development» (Delors, 1997).

In modern society, characterised by relations between complex systems, the learning process acquires its value not so much as a tool used for individual development, but mainly by its capacity to identify relations between the systems that development is based on, and to interact with them in profitable terms. Hermeneutic research has already acquired an extraordinary capacity for stimulating the education and learning process in various fields; especially in historical studies, it has played a vital role in the difficult evolutionary search for the meaning of texts, in which it is possible to trace the identity-providing roots and strong signs of human thought. In this study profile, the contrast between objective and subjective is the focus of the entire historical interpretation process.

In landscape studies, there are several similarities and contiguities with the research process of interpreting the text-landscape, both from a historical point of view and from an ecological point of view, such as to hypothesize the same type of contrast between the objective and the subjective. An objectivity relating to paradigms, models and tools can refer to scientific visions, while the individual and social visions are characterised by forms of relative subjectivity. If individual subjectivity of the perception of landscapes is formed and evolves due to the influence of cultural endowments and a person's social sphere, the diversified set of the groups' social perceptions suffers from the interactions between their members, expressing a pondered subjectivity, which can be understood in relation to the groups' social models. If we consider these various characteristics, the construction of interpretation processes for landscapes, whether scientific or technical, like the social profile, is not a means unto itself, but is rather the essential cultural basis on which it is possible to develop landscape projects truly and efficiently. Of these, open-mindedness and curiosity in relations to diversity is extremely important. Gadamer (1995) wrote: «whoever wishes to understand a text must be ready to listen to something it has to say. Therefore a hermeneutically educated conscience must be sensitive above all to the alterity of the text. This sensitiveness does not require objective neutrality or oblivion regarding oneself in the interpretive process». Exactly the same as what happens to anyone who wishes to understand a landscape (text) in which, if there is no particular sensitivity in the individual,the contrast between subjective and objective becomes a tangled hotchpotch. In fact, continues Gadamer, in his same paper: «(...) hermeneutics must move away from the fact that the subject who interprets a text has a relationship with the items that are being historically transmitted and has or acquires a relationship with the tradition that such a transmission is expressed in». If we apply the same concept to the interpretation of the landscape, we realise that the problem is not so much the amount of objectivity pertaining to the expert knowledge, which sets the goal of interpreting and planning the landscape's transformation, but that this interpretation must be transferred and communicated to the subjects who have a traditional type of bond or who have a cognitive perception of the landscape system where their community lives. In the past, there was a kind of symbiotic relationship between the inhabitants of a place and the place itself, therefore it was commonplace that «(…) one relates to how the place is, and the place itself is, how it is in relation to how its inhabitants are» (Teti, 2006). The difference between this common sense of place of the past and modernity is evident, for example, in the ways in which beauty is identified and communicated, almost as if it was a consumer item. Even modern conception of travel is structured in a simple "spacing" (Aymard, 1986), that allows one to visit strange places without having to make them one's own, while remaining anchored to our original context, and the securities and habits of another place, which we left without intending to. It now often occurs that inhabitants of an area have lost most of the knowledge of place, therefore, as Franco La Cecla says (2004), «the culture of living» i.e., «the local mind»: a loss of the capacity to develop a cognitive perception of the landscape that can make the community aware of the identity and values of the genius loci of its own territory. Living or rather residing for those inhabitants only has a logistic and spatial meaning: they are the carriers of a modern pathology, which we can call "location amnesia" and that concerns both the inhabitant (insider) and the traveller (outsider). In modern society, in fact, the citizen is called upon each day to interpret the dual role of insider and outsider, adapting to rapid and frequent changes in perception and perspective. Paolo Castelnovi states (2002) that «(…) we all, each in our own way, take on elements of the landscape to testify our identities, but due to the effects of epoch-making and global processes (mobility, circulation of images, the abandonment of agriculture), our universe is no longer attributable to one place and

Fig. 1 A landscape of the study area in the Marche Region at Camerino (Falqui et alii, 2011).

a precise landscape, but is unfolded into a network of dispersed landscapes».

The cure for such a "pathological" cultural condition, due to which we are all more or less subject to location amnesia and for which, in many ways, it is not realistic to consider the only way to be the direct removal of causes, does not seem to be able to manage without a rehabilitative education. This would in fact open up a new learning and recognition process amongst the inhabitants that now live in the varied cultures of modern society. The task is anything but simple and requires rather complex, burdensome tasks both in relation to the subjects (men) that enter a new process of learning and appropriation of their habitat, and in relation to the objects (landscapes) of the multi-identification that the subjects express depending on their various perceptions.

A hermeneutic approach is also required for professionals and experts of landscape studies to ascertain truthfulness, rather than objectiveness as the experimental method in educational processes. This reference to truthfulness has several basic reasons:

man is an intentional, symbolic being, not just a biological one;

the data and facts on which a project is based are always complex and simplification brings about a loss of wealth of information, encouraging errors in diagnosis and in later project phases;

each context is a relational entity characterised by a set of complex systems; the complex systems are characterised by the non-linearity of causal relations; each subject is inside and outside a complex system, which he cannot completely control.

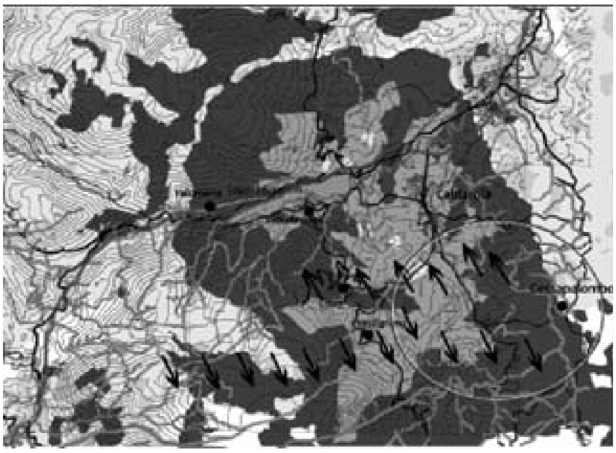

Fig. 2 Sample of map of study (Falqui et alii, 2011).

Fig. 3 Sample of photo of study (Falqui et alii, 2011).

4. Approach applied

The use of a hermeneutic approach to landscape may interest the players and the spectators of the landscape theatre that Eugenio Turri speaks of (2006) in different ways, which are, however, of equal importance.

In an educational experience carried out in the Marche Apennines (fig. 1) during a landscape architecture residential laboratory (Falqui, Galeotti, Idone, Serenelli, 2011), the students became the players, equipped with tools of cognitive perception of the landscape, and the inhabitants of the communities which are included in a historical itinerary that organises the territory and contributes to the evolution of the landscapes that range from the Early Middle Ages to the early twentieth century, became the spectators. This is a segment of the Marche Mountains, the Via Lauretana corridor that connected Rome with Loreto.

The students' interpretive capacities were probed before the experiment. For this purpose, they were divided into groups to study the same territory from complementary points of view. The various groups' work highlighted knowledge and concepts that were considered suitable for stimulation, in order to develop the ability to interpret the landscape. Various field tests then checked the changes in sensitivity to identifying the identity-providing characteristics of the landscapes that had taken place in each student, compared to the beginning of the empirical educational path.

The materials and techniques used for processing and representation were traditional ones, combining cartographic tools (fig. 2) and photography (fig. 3). This study approach comprised the type of relationship that was set up with the landscapes via the work period spent in the area. Site inspections, usually subordinate in time to study work, were reversed with regards to their weight within the study. Via full immersion of the groups, lasting several days in the landscape, the path of the itineraries that were identified in the preliminary studies became a tool for advance knowledge, useful for stimulating rather aware imaginations in the young designers, much more aware and rich than they had been before the experience.

5. Conclusion

The experience has produced interesting educational results, not only for the stated evolution of synthetic interpretive awareness of the landscapes' complex structures, but also for the enthusiasm shown for the work and the passion for the knowledge that it planted in the young students who were about to graduate. Proof of this is the fact that, with this opportunity, many of them have continued and furthered their study of these landscapes and the topics that were raised.

The residential laboratories may therefore be an educational means with a unique training value compared to other techniques, including seminars and reconnaissance and analysis site inspections.

Walking landscapes to experience them and meet the people that are part of them, becoming a temporary part of them, may result in a personal experience with a huge potential for education, information and imagination, also bringing about educational changes between expert knowledge and social knowledge, which are essential for bringing together landscape planning and design processes that correspond to the sustainability goals of environmental, social and economic models and to the new conception of landscape that was agreed in Europe (Council of Europe, 2000).

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Landscape Beyond the Map: the Lesson of Land Art

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Abstract: Landscape underwent a paradigm shift in twentieth century art. Land artists in particular broke away from an ancient tradition which, from the Renaissance, had conceived landscape as an image, and the observer as a disembodied eye. Yet far from being more authentic, the nature of Land Art is instead a critical nature. Its main value lies in the capacity to unmask and challenge the original artifice that originally reduced landscape art to an abstraction from nature. My aim is to cast light on how this *labor of the negative* involves at the same time landscape and maps, by way of a process that literally *mortifies* the marriage that at the beginning of Modern Age was set up between these two strategies of reduction of the world to an image.

Keywords: Landscape, maps, nature, site, non-site, Land Art.

1. Introduction. From land into landscape to landscape into land

"Expect of a country; territory that stretches as far as the eye can see; unfolding of a country that can only be seen from a single angle": this is the systematic definition of the term landscape of European literature. It appeared in 1690, under the entry *paysage* of Antoine Furètiere's *Dictionnaire Universel*, and it is useful to note that between this and the ones that we can still read in our dictionaries little or nothing has changed.

And yet the concept, born not accidentally just at the dawning of the modern era, is anything but intuitive. In the enduring meaning of "view, panorama; part of a territory that can be embraced by the gaze from a given point"1, landscape conceals an extraordinary extravagance of Western thinking: that is, the idea of a nature from which we are excluded, and with which paradoxically we come into contact by way of a preliminary act of distancing.

The exclusive domain of visual experience, landscape is indeed a "view" or "panorama" that is outlined before a disembodied eye. It is, as has been explained very well and more recently by Philippe Descola (2005), an invention proper to modern culture: the figure of a world that is objectified and autonomized by virtue of the gaze that man rests upon it. Art historians have widely lauded the purely pictorial origins of the concept and the term, indeed coined between the 16th and 17th centuries by various artists in the different European languages to refer to a new genre of paintings hinging upon the natural world (Franceschi 1997). But the history of landscape does not at all overlap with that of a simple pictorial genre, because more than the history of pictures of nature, it concerns the history of a particular way of seeing, and of an emblematic process: that of the reduction of the world to an image and the consequent entrusting of the knowledge of the world to the contemplation of its representations (Girardi 2011). This has been explained very well, and perhaps before and better than critics and scholars, by artists themselves. During the 20th century, many of them reacted to the idea of a landscape conceived of as abstraction from, or objectification of nature, placing at the heart of various investigations and interesting artistic experimentations the problem of the art/nature dialectic and the methods for the perception of the real.

With regards to this return to the "landscape into land" and the rediscovery of the "lure of the local", Malcolm Andrews (1999) and Lucy Lippard (1997) have explored a rich series of works and authors from the past decades. The critique of tradition has developed across very different solutions, and with methods that are to a lesser or greater extent innovative and provocative. An "elegant irony" for example characterises a photograph by Karen Knorr, "Pleasure of the Imagination: Connoisseur" (1986), portraying an observer who wanders with a listless air between paintings of classical and pastoral landscapes exhibited in the "immaculate symmetry of the room" of a museum (Andrews 1999: 1-2)2. Equally parodic *vis-à-vis* the mollycoddled participation in the natural world granted to the viewer of the classical landscape is a photographic triptych by Peter de Lory (*Fig. 1*), hinging upon the opposition between external and internal, and between "natural" view and "'unnatural' motel view decor.

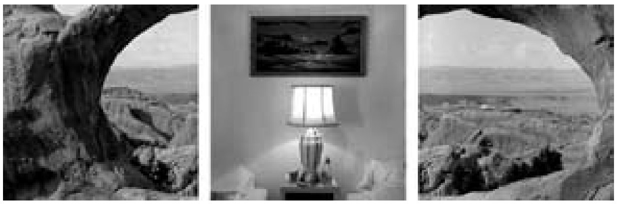


Fig. 1. Peter de Lory. A Western Landscape, triptych, 1989. (http://www.peterdelory.com/)

The landscape photographed live in the external panels is reproduced here in a domesticated form in the "predictable" and "velvet painting" of the middle image. This invites us to reflect on the contrast between "adventure and comfort, firsthand and mediated experience" (Lippard 1997: 12).

The crucial expression of the contemporary critique of the Western landscape tradition was the artistic activity that arose from within the so-called Land (or Earth) Art of the 1960s and '70s, known for its protest against museum art and for its works carried out in nature. The fact that Land Art corresponds to the true starting point of that reflection and consciousness is well-known (Andrews 1999; Tiberghien 1995; Kastner 1998). Less well-known, or not yet wholly clear, is perhaps the degree of sophistication that the reflection achieved. In our opinion, that sophistication touched its most complete and interesting form in the way in which it thematized the relationship that runs between landscape and cartography; that is, between the two forms of representation *par excellence* with which modernity has accustomed us not only to describe but also to access the world. As we shall try to show, however, it is precisely in the undermining of this ancient relationship that the great lesson on landscape in Land Art lies.

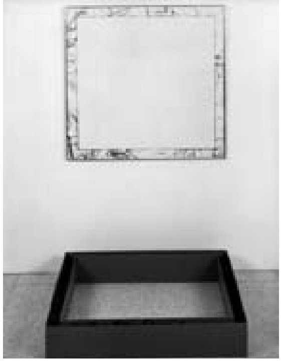
2. Non-sites: how to negate reality with maps, and traditional landscapes

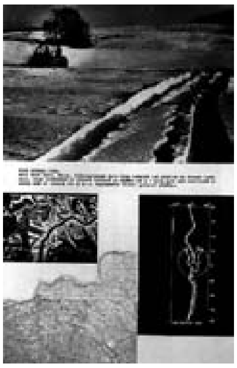
Land Art's interest in the cartographic object was clearly recognised by Robert Smithson, one of its main exponents and theoreticians. In an article published in 1968 in *Art International*, he recalls the appeal that maps exerted upon the artists, "From *Theatrum Orbis Terrarum* of Ortelius (1570) to the 'paint'-clogged maps of Jasper Johns" (Smithson 1968). Although the setting of art in nature and the direct encounter with the great outdoors are generally recognised as being characterising traits of Land Art, it is worthwhile noting that for many land artists such interests incisively accompany those in cartographic representation. According to a method particularly dear to authors like Robert Smithson, Dennis Oppenheim and Richard Long, the maps of the place in question are exhibited in the museum together with photographs that document the various interventions upon the landscape. How can we explain this parallel attraction for the direct experience of nature, on the one hand, and for its more abstract and aseptic representation on paper, on the other? Maps undoubtedly serve to provide information on the position of the works, generally situated in poorly accessible zones or little frequented by cartography itself. But if we look carefully this is not their only role nor it is their most important one. An effective compilation of the way with which Land Art comes to terms with the maps can be traced in Robert Smithson's "Non-sites," carried out in several variants in 1968. These are installations generally consisting of a bin (made of wood or steel) full of material (slate, mica, sand, aluminium, concrete, etc.) collected in a site and representations (maps, photographs or texts) that refer to the same site. *Non-Site, Franklin, New Jersey*, for example, displays five trapezoidal bins and five aerial photo-maps, they too being of trapezoidal shape, each one corresponding to the site from which the minerals originate collected in various earth boxes. Evidently the amount of raw material adds to the data of the map information relating to the nature of the site, to its "state of materiality that existed prior to any such shaping" (Rahtz 2012: 44). But by so doing it also denounces the limits of cartographic representation. Limits that are in actual fact the true theme of all the Non-sites. The title itself indicates this: as Smithson (1968: 193) points out, the negation is to be understood here as a warning. The demystification of the map reaches its apex in *Mono Lake Non-site* (Cinders Near Black Point) (*Fig. 2*), where the cartographic discourse is forced to be confronted with the representation of the desert area of this dried-up salt lake near Las Vegas. The result is a white square, very similar to the ocean map presented by Lewis Carroll at the beginning of "The Hunting of the Snark": not a void, but "a perfect and absolute blank" map that at last "the crew … could all understand" (Smithson 1968: 93). On the map, the visibility of the desert becomes invisibility. Lacking points of reference and figurative salience, the coordinates imposed by the grid of the geometric space are unable to prevail over a uniform and empty plain typical of this place, and consequently appear in all their evidence. By means of this paradoxical map, Smithson thematizes the "elusive" character of every cartographic account, together with its power to make us forget that the earth exists concretely, beyond its more or less useful representations. As pointed out by Tiberghien (2007), this amounts to an invitation to lose track of the sense of direction, to depart from geography to enter the real landscape, in the perceptive dimension of things. This invitation is perfectly coherent with the idea that is central in Smithson (1967: 44, 96), that "installations should empty rooms, not fill them," as no one better than the artist is able to explore "the unknown area of sites," that is all that the non-sites leave outside the galleries and at the margins of knowledge.

Non-sites: what value should we give this negation that sustains the whole Smithsonian site/non-site, reality/representation, referent/sign dialectics, including the linguistic play on the conditions of visibility sight/non-sights?3 We might be tempted to understand it as the synonym of the more celebrated term Utopia, if it were not that the latter indicates a place that does not exist (from the Greek *ou – topos*), as Louis Marin (1973) well explained, while Smithson's installations rather indicate a place (the map, the image of the country, etc.) that negates the reality and inhibits access to it. That is, they are self-reported as representations in which nature, to be presented, is refused. Unlike Utopia, at the same time island and map of the ideal city (Farinelli 2003: 12-13), the Non-sites are rather offered as models of imperfection. Their objective is not that of proposing images of the world, but rather deconstructing the truth and the reliability of existing ones. The heaps of rough materials exhibited each time along with the various representations of the sites also take part in this "labor of the negative". Collected, not by accident, in boxes in the state of fragments, slate, mica, aluminium, concrete, non-sites bring with them, besides the materiality of the places, the nostalgia of a lost totality. But the works now considered are no more than one of the many ways in which Land Art in general gave shape to this idea of loss, and of an access to the reality inhibited by its representations. The theme remains predominant among many other artists. The challenge to the representation is very often focused on its *rigor mortis*, captured by a rich series of ephemeral monuments. From the drawings of Walter De Maria on the surface of the Mojave Desert (*Mile Long Drawing,* 1968) or the El Mirage Dry Lake (*Desert Cross*, 1969) to the lines traced in the snow (*Time line*, 1968; *Accumulation Cut*, 1969) or the geometries etched by Oppenheim in a wheat field (*Cancelled Crop*, 1969), from Smithson's *Spiral Jetty*, at length swallowed up by the waters of the Great Salt Lake, to the pieces of wood left to decay by Michael Heizer on the flat plain of a dried lake (*Dissipate*, 1968), to the paths marked by Richard Long by walking along the untrodden grounds: there are numerous cases of artwork created to be destroyed in a short time period and to deprive the images that document them of any kind of reference to reality.

Let us consider in that regard the montage of images that bears testimony to *Time Pocket* by Dennis Oppenheim (*Fig. 3*).

The photo of a snowy landscape and two maps and a diagram at the bottom are brought together here to remind us of a single intervention by the artist: the line traced on the snow with a diesel-powered skidder on the icy bed of the Saint John River close to Fort Kent, in Maine. As we can read in the legend placed by the artist himself,4 the tracing marked on the snow corresponds to the boundary between two different time zones, besides that between the United States and Canada. The operation is very simple, but has the power to show how the coordinates that we can see normally on the map, and read without difficulty, acquire something paradoxical once they are concretized in reality. The impossible projection of the map on the landscape finds its most significant point in





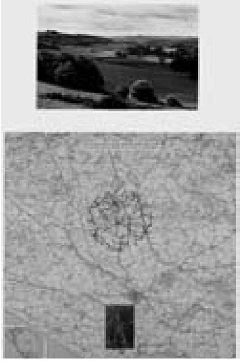


Fig. 2 (left). Mono Lake Nonsite (Cinders near Black Point), 1968. Museum of Contemporary Art, San Diego.
Fig. 3 (center left).Dennis Oppenheim, Time Pocket. 1968 Near Forth Kent, Maine.
Fig. 4 (center right). Richard Long. Cerne Abbas Walk, 1975 (Tate Gallery, London).
Fig. 5 (right). Abraham Ortelius, Salisburgensis Iurusdictio, in Theatrum orbis Terrarum (1570). (Biblioteca Universitaria, Bologna)

correspondence with an island in the middle of the river where the boundary line is interrupted to start again from its other extremity: the so-called "Time Pocket", "itself nothing but an interstitial emptiness between two hours" (Tiberghien 1996: 133).

In question here is the irreversibility of the landscape map, although it is precisely from the exploration of the latter that this certain as well as clear artefact of the world stems. In the display panel, a conspicuous break (made of a white background and by the legend to the work) marks the discontinuity between the landscape and the three diagrammatic representations of the site. To soften the detachment between the subjective visualization and the objectivated images of the same place there is here, however, the sign placed on the map by the artist to appropriate himself of the aseptic scientific image and indicate the "location" of his intervention. Authorial marks of this kind are commonly used in Land Art. Stephen Benn (1994: 14, 9) has well highlighted them, associating them with the need, typical of these artists, to make the map enter an "enunciative space". The superimposing of districts, images, photographs, writings and tracings of more or less regular paths, would, that is, be the sign of a process of aesthetising the map, transformed into "the structure of a personal performance", and into an image serving "to reproduce, and at the same time to authenticate, the artist's journey".

The best examples of this process can be found in the work of Richard Long, known for having put walking in nature at the heart of his new artistic vocabulary. Playful walks without a particular destination, generally made along untrodden paths and in places far from the important roads, are translated onto the map, if not directly onto the earth, in irregular lines, into undulating pen marks, zigzagging and with recursive traits, or into perfectly straight small segments that start and end in points that do not correspond to any particular cartographic sign: a dream of paths evidently "irrespective of obstacles" and contrary to the dominant values of the "instant mobility, purposefulness, and speed" (Taylor 2009: 184). Famous in this regard are the lines traced by Long directly on the ground with his feet, walking backwards and forwards on a meadow (*A Line Made by Walking*, 1967) and *Cerne Abbas Walk* (1975), visual document of "A six-day walk over all roads, lanes and double tracks inside a six mile wide circle centred on the Giant of Cerne Abbas"[5] in the Dorset countryside (*Fig. 4*).

Underneath the small photograph of the English countryside the Ordnance Survey map of a part of central Dorset stands out, with at the middle the drawing of the walk accomplished by the artist in the area around the Giant of Cerne Abbas. What results is a rather bizarre map, with two different overlapping linguistic registers, of which the one that is simply drawn by the artist has the clear power of highlighting the minimalist and chiefly utilitarian logic on which the true and proper cartographic code is base, articulated around a constellation of names, localities and indications as to how to reach them. By proposing the drawing of an external path to every toponymic foothold, without corresponding in any point of the image to the world outlined and socially consolidated on the maps, Richard Long appropriates himself in a subjective way of the cartographic space.

According to Stephen Benn (1999), to whom undoubtedly we owe one of the most interesting analyses on the cartographic *topos* in Land Art, the objective is to perform in an autobiographic key the map as index of the real, but such a reading should in our opinion be amended, and in certain ways even overturned. If Land Art embraces the issue of the illocutionary function of the map, it is rather to underline the limits, or even to cast doubt over its validity. The examples so far recalled seem quite clear on this common and recurring stance, which by showing the map in reality shows its belonging to the regime of representation, and the conditions of visibility that regulate its discourse.

"To see one's own sight means visible blindness": the maxim with which Robert Smithson (1966: 40) refers to his own artistic activity can easily be extended to summing up the type of investigation that the land artists in general reserve to cartographic thinking, and to the vision of opacity of the texts that it produces. It would not be mistaken to speak in this regard of an iconoclastic attitude, if with such a term we mean not the destruction of the image, but on the contrary the act of visual negation that ends up better highlighting nature and the symbolic power (Latour, Weibel 2002).

Through the exhibition of matter, the realisation of ephemeral works, the predilection for the desert, for the most peripheral areas of the world and for the frontiers, Land Art forces the map, along with the landscape conceived of as image, to come to terms with the categories of presence-absence, permanence-obsolescence, visible-invisible, internal-external, authentic-mediated, loss-possession, static-mobile, natural-artificial; that is, with the categories dearest to every reflection on nature and on the limits of its representation. It thus succeeds in the ambitious task of raising questions about the supposed perfect transparency of these two powerful modalities of reduction of the world to image[6], and giving shape to the idea, still expressed in the most lucid way by Smithson (1965: 6), that space has nothing that conforms with the human;

unlike Time, it has no "anthropomorphic representations", and if "There is no Father Space or Mother Space" this is because "Space is nothing, yet we all have a kind of vague faith in it".

3. Landscapes beyond map and land beyond landscape: the lesson of Land Art

Having clarified the role of maps in Land Art, we must explain the nature of the relationship that it entertains with landscape, which also remains the main argument of all land artists. In other words, how is the reflection on the cartographic vision of the world inserted within a more general poetic of the landscape addressed to ensuring, as Edward Casey (2005: xvii) has explained, that the invisible become visible. That is, that the experience of the country is no longer reduced to a simple image to be contemplated, but it assumes an atypical appearance, and is thus realised as a corporeal contact, in a "kind of intimate touching and close-up looking that occurs between parent and infant, between lovers, and between humans and certain animals?" The answer to this question should be sought precisely in the work that Smithson cites as the starting point of the ancient fascination exerted by maps on artists: the *Theatrum orbis terrarum* by Abraham Ortelius (1570), the first true and proper atlas in history. As well as, precisely in a unique image that appears in the first edition of this extraordinary text, the *Jurisdiction of Saltzburg*, by Marcus Secznagel (*Fig.5*).

In the heart of the volume that in the late 16th century consigns the first printed systematic standardised and serialised cartographic reduction to the world and to its knowledge, this image introduces a strong element of discontinuity inside the uniform succession of geometry tables. It indeed represents a landscape along with the map. More precisely, it is a matter of a map that extends above a landscape, and that presents itself as compared with the latter, as the clearest and most distinctive image. "*Vera descriptio*" states the inscription that appears at the top right hand side, contrasting it with the tile of "*genuina descriptio*" instead reserved to the landscape in the background.

Through the overlapping and the comparison between the two forms of description of the world born at the dawn of the modern era, this representation emblematically summarises the relationship that binds them at their origin. It reminds us in particular that they reflect the same cognitive attitude; that is, the one which, between the sixteenth and seventeenth centuries, gives rise to the process by virtue of which – to paraphrase the words of Martin Heidegger – the world is constituted "as image" and man "as subjectum". If in the abstract cartographic device such a process is taken to its most accomplished logical conclusion, it is in the landscape that its starting point can be traced (Besse 2000; Girardi 2011). The landscape, which is thus traditionally and originally understood as picture or painting of reality, as "appearance of a place," mute object, odourless, intangible offered to pure visual contemplation, to the detriment of all other possible sensorial approaches.

It is indeed in light of this tradition that Land Art should be read and understood. Far from being freed from the art of the past, it actually re-proposes a significant overturning of it. It is true that it again allows the map and the landscape to appear together in a work of art, but when this happens it is literally just to mortify the whole perceptive structure that made possible the relationship between the two: no map of Land Art is indeed allowed to be triumphantly overlapped upon the landscape, in the same way that no landscape-image is allowed to substitute the existing, the place, and the direct experience of the artwork.

Notes:

[1] http://www.treccani.it/vocabolario/paesaggio/

[2] http://www.karenknorr.com/photographs/

[3] According to Shapiro (1995: 182), to this 'pun' is added "a play upon 'cite'", indicating that "the sites become available, or sighted, only by the documentation that cites them".

[4] "Near Forth Kent, Maine. International Date Line reduced and plotted on frozen landmass. Line truncated at island located in middle of a 1 mile plot and continued at other end of island for ½ mile. Equipment: Diesel-powered skidder"

[5] This is the legend that we can read on a pasted piece of paper placed at the top on the section of the map of Dorset exhibited here by Long.

[6] Perfectly in line with this specific iconoclastic attitude *vis-à-vis* the map is also the great interest in geology that particularly animates the work of Robert Smithson. Against the vision of surface and linear order, for which things lie one beside the other and are considered on the basis of their vicinity/distance, the latter proposes a recursive and labyrinthine vision of the world, according to which things supposedly lie one inside the other (Farinelli 2003: 20-21).

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Imagination and Enviro-Mentalities:
Ways of Seeing in Australian Environmental Education

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Abstract: The unique Australian landscape has formed identity and culture. The complexities of representing our country are existent through our fiction, drama, poetry and art, and yet go unseen in the expository discourses of contemporary environmental education. Jordan (2012) suggests our "national imaginary" must now be seen in the context of globalization and sustainability. Whilst Education for Sustainability (EfS) offers a frame for learning about the environment, like landscape's imported gaze, it is constrained by 'unsustainable' discourses of development and progress. As educators we need the vision of interdisciplinary artists (Eisner 2002) in order to see the layers of our imagined 'scapes' (Appadurai 1996) and encourage a re-conceptualization of our relationship with nature (Buell 1995, Stevenson *et al* 2011). What implications can this have for ways of knowing and learning in EfS? This research attempts to find a place for imaginative intelligence in learning for sustainability. Indigenous and non-indigenous ways of seeing and representing the land in Australia are examined as a way to investigate how imagination can be effective in positioning educators as culture-makers as well as knowledge-producers.

Keywords: landscape, sustainability, imagination, environment, indigenous, Australia, art

1. Introduction

In Australia, relations between place, identity, culture and tradition are entwined in the matter of landscape. In this paper, 'landscape' is viewed as a cultural geography, as a way of seeing, and as a frame for environmental concerns. I attempt to craft a dialogue between Eisner's *Educational Imagination* (2002) and Buell's *The Environmental Imagination* (1995) through landscape, to speak to the profound influence our 'imagined' concepts have on our educational systems and ecological systems respectively, and to explore the significance of attending to our imagination in addressing the corresponding educational and environmental 'crisis'. In fiction, drama, poetry and visual art, the Australian landscape has been imagined in ways that reflect human relations as much as external resemblances. In *The Making of Australian Consciousness* (1988) the author, David Malouf refers to the psychological significance 'the Australian landscape' has to culture and identity. The landscape is a setting and also a character. In theatre and film the landscape is often an adversary bringing fire, flood and drought or great waterless distances to be conquered. The myth of the bush as the 'real Australia' arises in paintings, photography and fiction; celebrating the distinguishable uniqueness of Australian light, gum trees, grasslands and bush-life. The culture of landscape also carries the unresolved exchange of colonization; the dispossession of land from Indigenous peoples and the ever-since searching for true belonging for white Australians. Malouf suggests that through the imagination we can all come to an "inward possession of place…like our indigenous Australian's know this country, through their imagination" (Malouf 1998). Perhaps such inner ownership can advise knowledge making in education. However, trying to uncover some truths about imagination and its significance to Education for Sustainability (EfS) is a problematic task. The visible and concealed, seen and unseen, both blindness and vision are significant in bringing the complexities of knowledge of country to EfS in Australia. This paper engages with these dimensions of seeing/not seeing as currencies that may connect the Australian landscape and with imaginative ways of knowing it. This focus attempts to compensate for that which goes unseen and is 'rendered invisible' within reductionist worldviews. In order to explore a pedagogy of 'seeing', I look to Eisner's connoisseurship (1991) and "seeing as an artist" (2002) to inform a methodological process of "reading" the texts of EfS as environmental texts (Buell 2005). Artworks are read as metaphors to help critically construct knowledge in imaginative ways, and to carry our loaded cultural landscapes into contemporary educational context.

2. The Frame of Landscape

Landscape signifies the rich tradition of representing nature in art inherited from Europe. The word 'landscape' has its origins in Dutch, meaning "piece of earth" (Pearshall 1998; 1033). The Oxford Dictionary defines landscape as: "All of the visible features of an area of countryside... considered in terms of their aesthetic appeal…representing countryside…a particular situation of intellectual activity…compared with portrait" (Pearshall 1998; 1033-34). The layered meanings inherent in landscape are characteristically those which are aesthetic representations of what is visible, in contrast with images of people, and may act as a metaphor for intelligence. I will use these layers as avenues to explore ways in which the environment is framed, particularly to see how knowledge and culture can be carried by representations of what is visibly seen and aesthetically valued in related to education.

2.1 Representation

The trouble in representing a fixed world seems to be a post-post modern dilemma. However, Magritte's 1933 exposition, *La Condition Humaine* (Figure 1) is a Modern interrogation of conventional representation. His painting masks the landscape that he is trying to see in a way that suggests what is being represented is not the 'real world' but the inevitability of perception; that something of truth and reality is both lost and multiplied in the moment of representation. This problem of landscape concerned with appearances is a shared problem of research methodology and representations of student learning; where moments of knowing can be lost in attempts to represent them objectively; "…we see it (nature) outside ourselves even though it is only a mental representation of what we experience on the inside." (Magritte in Schama 1996; 12)

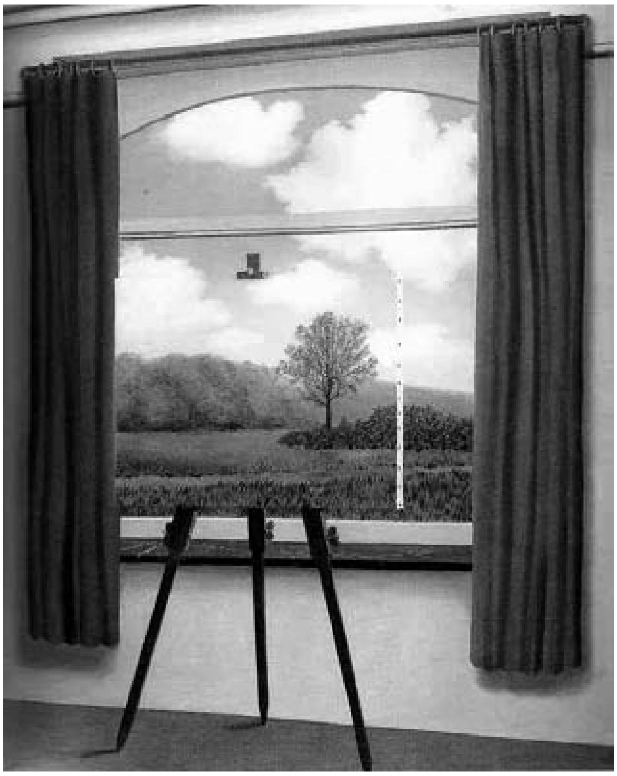

Figure 1. Rene Magritte, La Condition Humaine, 1933.

As a cultural theorist, Mitchell (1994) interprets landscape as a force of culture and politics far more complex than the apparent representation of nature. He declares landscape is a "social hieroglyph; an emblem of social relations it conceals" (Mitchell 1994; 15). That which is concealed is both the cultural 'imaginary' of the observer and the embedded, ancient, already-known, painted and sung landscapes of indigenous Australians (Rose 1996). He asserts, "1. landscape is not a genre of art but a medium, 2. landscape is a medium of exchange between the human and the natural, the self and the other" (Mitchell 1994; 5). Just as representing the land in Australian art is a powerful enactment of exchange, EfS also involves an exchange between knowledge and environment, culture and nature and may be enhanced by becoming mindful of these self/other relations. We might improve approaches to 'environmental education' if we can create a frame that includes human-nature relations, agency and risk of loss.

2.2 Separation

The concealment of the artist's vision and that which goes unseen may be translated to the terrain of education. So long as landscape represents an external world separate from the artist, the problem of representation is enacted. The Modernist legacy of Cartesian dualism and the binaries enacted by objectifying the world 'out there' and the intelligent self 'in here' seems to be a constituent interface that is unresolved in education despite the theoretical influence of post-structuralism and post-modernity. Ways of seeing that separate and compartmentalise have been referred to as the "Modern Condition" (Latour 1993) and critiqued as being responsible for a "hyper-separation" (Plumwood 1993) of knowledge from nature, a "violent disconnection" (Abrams 1997) of the self from the world and the body from intelligence. The pedagogical implications of working within such an objectified world/imaginary elicit transmissive pedagogies and content-based curriculum concepts (Doll *et al* 2002). Learning is 'seen' as a transferral between binaries (world to self). The fragmentation of knowledge into discrete disciplines in schools and the predominance of indoor classrooms (Eisner 2002) can be seen to position the environment as 'other' than classroom life, both epistemologically and physically. The environment 'out there' and knowledge about 'it' may not represent the exchange so important to landscape relations. From his profound work de-constructing 'landscape', Stephen Muecke is adamant that institutions, like education, "insist on this separation between Culture, where people live, and Nature, which is there for people to use, visit and exploit" (Muecke 1999). As a teacher/researcher I have heard 'good' students decree their involvement in the school environment program "…because we have to save the environment". Despite its ethical appearance, the inherited divisions of 'human' and environment' enacted by this language may be disorienting for students. This, I argue, is a function of unseen relations resulting from constructing 'sustainability' within an anthropocentric frame. Hilary Whitehouse contends that all environmental education is contextualised by colonisation; evidenced by language that is anthropocentric and "technocratic" (2011; 296). In the state of Victoria, the Australian Sustainable Schools Initiative (AuSSI) is called the 'ResourceSmart Schools Program' managed by local government. The word 'resource' also carries assumptions that nature is there for human use. The simple title 'Resource' implies that efforts towards sustainability help 'the other' to aid human benefit, quality of life and development. Critically, this surface appearance does not paint the whole picture for students.

3. Seeing

On the surface, 'landscape', like knowing, carries the assumptions of truth telling; with a concern for reproducing the impressions of what is seen and faithfully representing the visibly evident. A recent exhibition titled, *Eugene Von Guerard: True Nature Revealed* (Pullin 2011) honours the work of the early settler landscape artist, whose Australian landscape paintings appear like a European countryside (Figure 2). This has been contentious because whilst Von Guerard's aesthetic ambition was heroic at the time, his sensibility retained a European vision. In Tim Bonyhady's, *The Colonial Earth* (2000), he refers to the successive generations in the Western landscape tradition who have claimed to "get the country right" (Bonyhady 2000; 82) His criticism of traditional dedications to exactitude and correctness emphasise that, in time, the 'telling voice' comes to represent an un-truth, or at least not the whole truth. Titles such as *Lying about the Landscape* (Levitus 1997) and, *Uncertain Ground* (Thomas 1999) exemplify a critical eye that has come to mistrust the representative assumptions and authority of landscape in order to encourage seeing landscape as a picture that may conceal as much as it reveals.

3.1 Seeing / Not Seeing

The impact of limited ways of seeing has been devastating in Australia: from silo enviro-mentalities that introduce species to 'fix' isolated problems, to 'blindness' that dispossessed, vilified and destroyed ancient culture, language and knowledge. The labelling of Australia as *terra nullius* (empty land/no man's land) in 1788 has been described as 'a legal fiction' (Whitehouse 2011; 299); a national imaginary existent from 1788 until 1992 (when overturned) that ignores belonging, insults cultural knowledge and

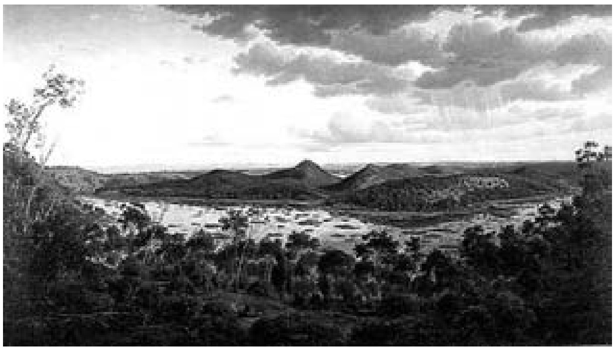

Figure 2. Von Guerard, View of Tower Hill, 1855

'renders Aboriginal people invisible as agents in the landscape' (Whitehouse 2011; 299). The underlying assumption of the "imperial gaze" (Muecke 1999) is that if western culture cannot be "seen" in a place, the landscape must be "unknown". Whettenhall (2010) chronicles the violence of the Australian frontier for the Gunditjmara people in western Victoria as a function of "seeing" due to an inability "to see country" through indigenous eyes. He wrote, "[t]he intricacies of knowing and managing country remained unexplored and invisible" (2010; 9). A particular view of nature (resource) and intelligence (smart) is presented by 'Resource Smart' that encourages seeing a relationship between landscape and knowledge, environment and intelligence. It could be seen to position EfS as rephrasing the unknown land of *terra nullius* into known and 'smart' land management. However, representing environmental knowledge as 'smart' within a 'resource' agenda could be seen to be a continuation of a colonial view that limits deeper understandings of both knowing and country, so essential to representing the land in Australia. The violence enacted by seeing/not seeing highlights the inaccuracies of assuming that what is seen is true and real. The importance of seeing beyond appearances and re-conceptualising initial assumptions emerges as relevant, cultural component of education concerned for environmental sustainability.

3.2 Seeing as an Artist

Eisner's influential chapter 'On the Art of Teaching' in his book *The Educational Imagination* (2002) unravels the teacher-artist (and researcher) as one who is willing to participate in the unpredictable, aesthetic, emergent process of teaching. Seeing as an artist in order to see deeply and see within, are developed as research efforts to apply Eisner's and Buell's recommendations to EfS in Australia. This requires an educated and attentive ability to 'see' beyond surface appearances to what may be hidden or obscure; as a teacher, researcher and as a goal of teaching. Being 'seen' and encouraged as an artist is at once, terrifying because there is no real way to know if you are 'getting it right', and encouraging because a certain freedom of crafting one's work realises whole new dimensions of progress.

3.3 Indigenous Australian Seeing

Differences between Aboriginal and non-Aboriginal ways of seeing in Australia can be perceived through traditions of painting the land. The communication of land in Aboriginal art involves 'other' ways of seeing and representing that expands ways of framing the environment. If EfS means becoming 'Resource Smart', the intellectual property of Indigenous Australian art demonstrates how knowledge and landscape can be communicated through imaginative mediums, and how knowledge and imagination may be deeply related to the earth:

Karl: "What is the word for knowledge in your Aboriginal language?" Tex: "We don't have a word for it. Our land is our knowledge, we walk on the knowledge, we dwell in the knowledge, we live in our thesaurus, we walk in our bible everyday of our lives. Everything is knowledge. We don't need a word for knowledge, I guess". (Sculthorpe *et al* 2006; xv)

Australian aboriginal representations of land are described by curator Judith Ryan as a practice that "…reveals through symbols and metaphors an unseen power or spirit essence abstracted from the land. It is concerned to distil what lies within the order of things rather than replicate through mimesis the concrete surface or physical appearance of the natural world" (Ryan 1998; 81). Muecke concurs with an "aura of authenticity" in Indigenous Australian artists that "has forestalled the label 'landscape'". Their conceptual, narrative and spiritual link with the sites they "depict" falls outside the horizontal perspective of the imperial gaze (Muecke in Thomas 1999; 46) Qualified by Eisner's advocacy of arts-based research and Buell's assertion of the importance of the imagination, what can be learned from these important and insightful expressions and evidence of knowing country?

3.4 Seeing as Knowing

In Australia, Aboriginal people have had to prove their knowledge of country in order to be granted its ownership. Willing to participate in this misnomer, in 1997 senior traditional owners of the Great Sandy Desert came together to decide how they would prove their traditional knowledge and ownership of country. Ngarralja described; "…we were wondering how to tell the court about our country. I said then if Kartiya (whitefellas) can't believe our word, they can look at our painting. It all says the same thing. We got this idea of using our paintings in court as evidence"[1].

The collaboration between more than 60 artists came together for the creation of the 10 x 8 meter large 'Ngurrara' canvas (Figure 3), meaning 'home'. Ngurrara was submitted as sole evidence in the National Native Title Tribunal claim in 1997 as a visual and narrative map of the artist's knowledge of country. The judge, Justice Gilmore ruled, "…the Court determines that native title already exists…The law says to all the people in Australia that this is your land and that it has always been your land". In 1997, Ngurrara canvas legally inscribed traditional knowledge of 76,000 km^2 of embedded culture, history and country. This is essential learning for environmental educators in Australia that demonstrates the embedded, invisible traces of culture in landscape and celebrates

Figure 3. 'Ngurrara' (home) painted by 60 artists, 1997. Permission by Aboriginal Art Directory, 2012

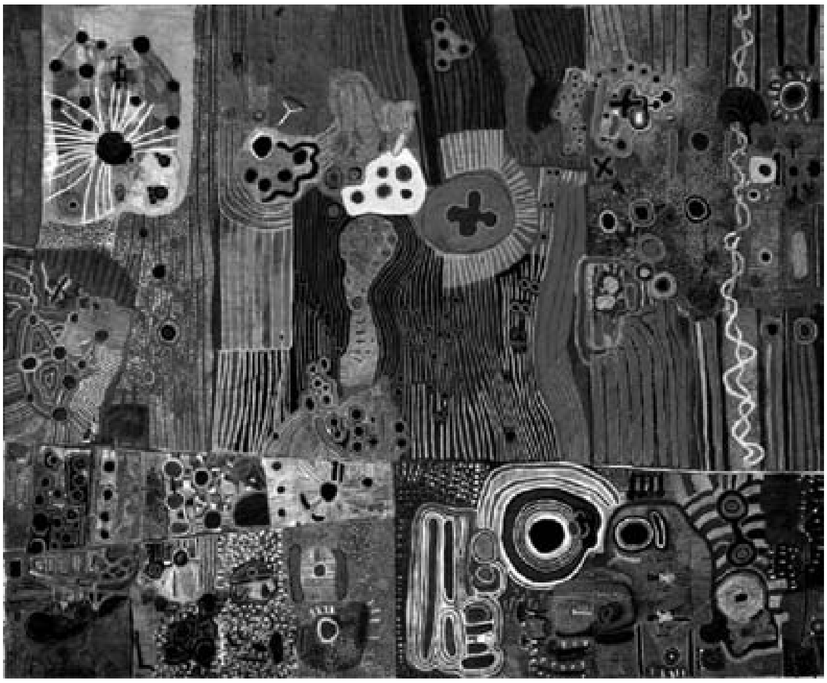

Figure 4 (right). En plein air, students as artists. Photograph by author.

the richness of the collaborative imagination to express what has been unseen, marginalised and neglected.

4. Imagination and the loss of seeing

Unlike conventional possessions, the intangible aliveness of intelligence and imagination can go unseen. Indigenous scholar, Mark Rose, insightfully compares how aboriginal people may have been dispossessed of land, but how white Australians, more intangibly, are dispossessed of knowledge (Rose 2007). Both are devastating ruptures in belonging that involve the loss of relating to, knowing and imagining country.

This 'white' loss of knowledge is not scientific knowledge, but could be compared to a blindness, or anthropocentrism. Deborah Bird Rose writes, "'t]he egocentric view of landscape wherein one sees oneself or one sees nothing at all, constitutes a kind of blindness; it closes off the evidence of what is really there" (Rose 1996; 18). My research (forthcoming) began when I realised, as an educator, that much of learning for sustainability requires imagining that which is 'other' than 'self', 'here' and 'now'; that which is beyond direct experience, and that which needs to be imagined in order to be deeply known, seen and possessed. Imaginative, arts-based mediums form an important palette to explore and express understandings that involve holistic perspectives that may not be communicated succinctly despite being understood.

4.1 The Loss of Imagination

Both Buell's *Environmental Imagination* (1995) and Eisner's *Educational Imagination* (2002) positioned a 'loss of the imagination' as the root of the educational and environmental crisis. "The environmental crisis involves a crisis of imagination, the amelioration of which depends on finding better ways of imagining nature and our relationship to it" (Buell 1995; 4).

The imagination in crisis involves the limitation of perceptions that are "preoccupied with a finite, near at hand, physical environment" (2007; 229) and unable to make connections between immediate experiences and the origins and consequences of this immediacy. These preoccupations are often addressed in EfS by, for example, looking at the unseen narratives emergent through life-cycle analysis, eco-foot printing, and understandings of embodied energy or embodied water.

Making connections between the bottle of water in the hand and its complex origins in extraction, manufacture and global cycles are not readily visible to the untrained eye. Nor is the relationship between the produce 'on the shelf' and its future as waste, litter or pollution. What I term 'origin' and 'future-focussed' inquiries (Where does it come from? What is it made of? What happens after it leaves my hands?) could be seen as critical aspects of 'seeing' and 'reading' the environment and environmental knowledge in EfS. Since research suggests that knowing 'about' environmental issues makes little difference to environmentally responsible behaviour (Prabawa-Sear *et al* 2011), the argument here is that EfS involves the development of visionary understandings well as formal knowing. Compellingly, Buell foresees a remedy for the loss of imagination in terms of 'seeing'.

His 'eco-globalist affect' (2007) describes the progressive expansion of small-minded ways of seeing that entails 'a widening of the customary aperture of awareness' (2007; 229). His conceptual 'aperture' re-imagines the movement of environmental awareness as expansion, like aperture, rather than as acquisition or transference of knowledge. Re-conceptualising environmental awareness as a process of expansion and contraction, shifts seeing/not seeing out of opposition and responds to the contraction of the 'loss of imagination'.

4.2 Re-Imagining

A central feature of imagination is the implicit, in-built capacity to re-imagine. Eisner's loss of imagination appears in the rational concepts of knowledge production referred to as the "formalist vision" of education (Eisner 2002). He advocates re-imagining the concepts that structure discourses and strengthening the role of imagination in students learning. Re-conceptualising pedagogy as "the art of teaching" (2002) invites us to consider its creative potential. This potential may include 'seeing' students, not as the teacher's artworks, but as artists themselves; working *en plein air* (Figure 4), or being *in* country; working towards 'an inward possession of place' through imagination. Seeing student's work as art moves toward valuing students as a part of culture, rather than components within a mechanized institution.

The importance of re-thinking, re-imagining and re-conceptualizing occur frequently in recent research. One example is a recent analysis of 60 Australian Environmental Education Research papers. The frames used to code research interests classified 're-conceptualization' as the most prevalent in the last 10 years (Stevenson *et al* 2011). Other authors argue that EfS demands a repositioning of not only 'the environment' as an agenda item in the list of curricula, but whole re-conceptualization of country (Whitehouse 2011), a re-imagining of the environment and our relationship to it (Buell 1995) and re-examination of the mediums and embodiments of knowledge (Weir 2009).

Few western perspectives have the capacity to understand the inter-dependence of all living and non-living things that are so essential to ecologically sustainable worldviews (Wier 2009). To assist with an emergent re-framing of EfS, my research argues for the acceptance of imaginative ways of knowing and 'seeing' that can re-imagine EfS practice, understanding and assessment as cultural acts of de-colonisation.

5. Conclusion

The insights of cultural theory, eco-criticism and environmental philosophy of a particularly Australian perspective, encourage critical, meta-analysis of dominant conceptual frameworks. They bring forth the notion that the 'ways we see' are individually and socially constructed 'imaginaries' that echo the ancient knowledges embedded in and embodied by Australian landscapes. The cultural terrain of landscape is multi-dimensional and its complexity is embedded in EfS whether this is seen or rendered invisible. What sustainability requires is a contemporary culture coming to terms with its 'blindness', and the unseen destruction that ensues when that which is immediate, convenient and visible is privileged over the full story.

The importance of 'seeing' recognises the cultural act of environmental education and is hoped to support a shift away from frames that represent teaching as the management of students within a resilient resource economy. My interest in disclosing something unseen about learning in this context rephrases the mediums of intelligence to slowly include imagination. This values teachers as artists who see and read the performances of learning and imagination in students.

If we can value students as artists tackling these issues, educators can move beyond the business of knowledge production to being recognised as artists and culture makers within an emergent country.

Notes:

[1] http://www.aboriginalartdirectory.com/news/feature/ngurrara-the-great-sandy-desert-canvas.php

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The Dynamism of Landscape - Diversity of Landforms and Viewpoints

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Abstract: This paper aims to discuss the educational aspects of a research project on the "dynamism of landscape" in the traditional gardens of Kyoto. New imagination of design is cultivated mainly by understanding and interacting with the traditional spirit of design, in favor of a changing view of nature and cultural climate. The concept of dynamism of landscape is characterized as the diversity of combinations of landforms and unique sequential viewpoints including borrowing landscape. Macroscopic analysis is carried out with GIS-based landscape visualization and visibility analysis including landform modeling. Microscopic analysis is conducted in relation to the imagination of the original designer, based on the principle of design viewpoints. These analyses create refined sensibility.

Keywords: Dynamism of Landscape, Landform Characteristics, Japanese garden, View and Viewpoint setting

1. Introduction

In modern cities, people generally have the desire to strike the proper balance between man and the natural environment by means of landscape planning or design.

In many traditional Japanese gardens, it is possible to be in close proximity to the natural landscape, even though the garden is situated very close to the city. Previous garden designers seem to have succeeded in properly using the landform characteristics of their surroundings to create natural scenery on a large scale. It is apparent that they excel in gauging the scenic characteristics and potential of the landforms, planning the site, and creating designs to bring to dynamism of landscape.

This brings us to their intention behind using landforms. Many researchers have studied Japanese gardens in the past, but this topic is rarely discussed. With regards to European gardens, some researchers such as Steenbergen, Smienk, have been presenting valuable works.

Japanese gardens were traditionally not created merely for the purpose of visual satisfaction; they had greater significance. Gardens were sometimes used as training places by Buddhist monks and also as ideal places for secluded life. In order to meet these demands, the technique and pattern of landscape designing was sophisticated to the extent that it was capable of showing a large-scale and rich natural landscapes and meditating deity in them.

This paper aims to discuss the educational aspects of a research project on the "dynamism of landscape" in the traditional gardens of Kyoto. New imagination of design is cultivated mainly by understanding and interacting with the traditional spirit of design, in favor of a changing view of nature and cultural climate. The concept of dynamism of landscape is characterized as the diversity of combinations of landforms and unique sequential viewpoints including borrowing landscape. Macroscopic analysis is carried out with GIS-based landscape visualization and visibility analysis including landform modeling. Microscopic analysis is conducted in relation to the imagination of the original designer, based on the principle of design viewpoints. These analyses create refined sensibility.

In this paper, by means of case studies, we examine the Japanese traditional gardens Jyojyu-in, Nanzen-in, Shuon-an, Sekisui-in, situated upon hilly terrains on the outskirts of Kyoto city (Fig. 1, Fig. 2), with students from a Kyoto University master's course.

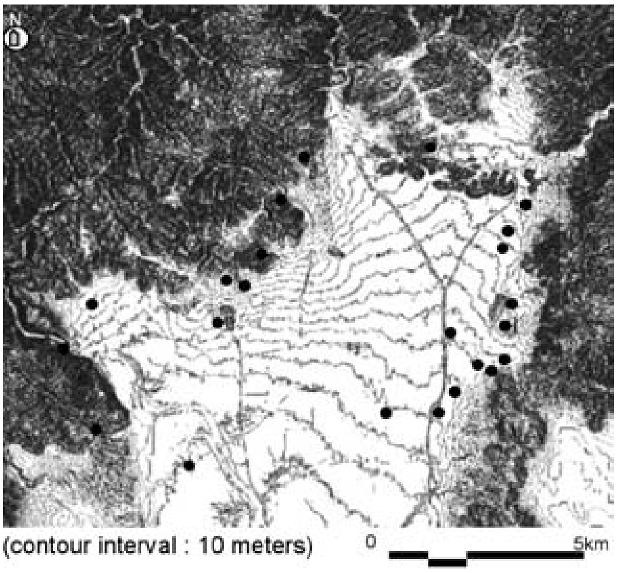


Fig. 1. The location of gardens in Kyoto city

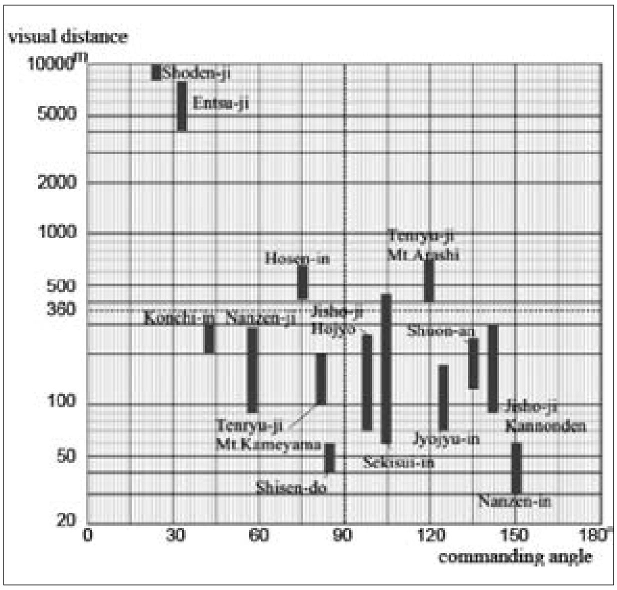


Fig. 2. The visual distance and commanding angles of mountains from viewpoints in the gardens

2. Three-layer model analysis

Scenery in a garden can be characterized by view settings and viewpoint settings. A view from the viewpoint wherein an observer views the scenery is composed of visual objects and their compositions, especially landforms. And a viewpoint is composed of both landforms and the building. Further, these properties are classified according to three scales and stages of landscape planning: topographic scale, site planning scale, and architectural planning scale.

2.1 Functions of the landform in Landscape Design

In the Japanese gardens situated upon hilly terrains, the surrounding landform characterizes the scenery in a definite manner. Garden designers are required to gauge the unique topographic characteristics of this land and its potential. Fig. 2 shows the visual distance and commanding angles of mountains that are measured from different viewpoints in the gardens. Distant mountains tend to be used as visual objects, and close mountains tend to be used for making ambient vision (Fig. 3, Ohno 1993) as elements of space structure. Mountains commanded at a small angle tend to function as a visual object. Moreover, mountains commanded at a large angle tend to serve as the chief element of the spatial structure. Distant mountains that are commanded at a small angle are often used for making borrowed scenery called "*Shakkei*". This paper focuses chiefly on the ambient vision and spatial functions of close mountains that are commanded at a large angle.

In order to determine potential functions of the landform, we consider three functions: (1) forming an enclosed space, (2) forming a viewpoint, and (3) composing a view with visual objects (Table 1).

1. Forming an enclosed space is considered to be the first condition when creating a Japanese garden (Shinji 1986). We often see Japanese gardens surrounded by mountains or hills. The enclosure may enable the conversion of a protected space into a private retreat. The enclosure can be emphasized and supplemented by landscape planning. It is important to study how site elements and architectural elements strengthen or weaken its enclosure.
2. Landforms such as perches, ridges, ravines, and cliffs, form a viewpoint and its characteristic of prospect and refuge.
3. Landforms like mountains and hills and their molds compose a view as visual objects.

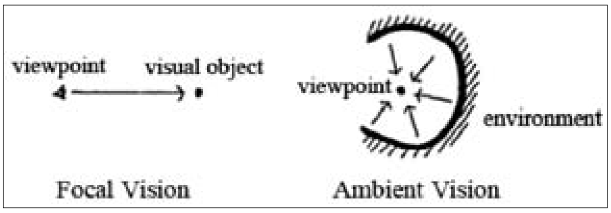


Fig. 3. Two types of acceptance of visual information (Ohno 1993)

Table 1. Trichotomic classification of landscape design

Landform Planning
Enclosure Forming: Topographic enclosure and shield
Viewpoint Forming: Prospect and Refugee potential;
overlook, ridge, cliff, terrace
View Composing: Visual objects: shape and surface of a mountain, ravine, field
Site Planning
Enclosure Forming: Enclosure of fence, hedge, layout of buildings and garden plants
Viewpoint Setting: Layout and aspect of buildings and gardens
View Setting: Layout of visual objects of a garden, rimming and leading of a view
Architectural Planning
Enclosure Forming: Enclosure of Architectural elements: wall, floor, ceiling, pillar
Viewpoint Setting: Open and close setting, hiding, screening, height of flooring
View Setting: Rimming a view with architectural
Elements: window, eaves, piazza

2.2 Three-layer model of landscape design

In order to understand how to use landforms in landscape design, we propose an original framework of a three-layer model of landscape design. This three-layer model is a trichotomic classification of landscape planning according to its scale and stage: functions of the landform, site planning, and architectural planning. Site and architectural planning are not independent from the surrounding landform characteristics, but are hierarchically related. Site planning is generally subject to landform characteristics, while architectural planning is subject to both landform characteristics and site planning (Fig. 4; a three-layer model). Therefore, we first discuss the above-mentioned functions of the landform. Second, we discuss the methods of site planning to realize the topographic potential, such as layout of elements of gardens: buildings and its opening, ponds, trees, paths, and fences. We then discuss the methods of architectural planning to realize the scenic potential, by focusing on windows, pillars, eaves, piazza, and alcoves. A characteristic of a view is approximately decided by the surrounding landform characteristic. To consider the method of using the surrounding landform characteristics for designing a view, it is necessary to discuss how a view is rimmed from a 360 degrees surrounding view, to discuss its location and view setting.

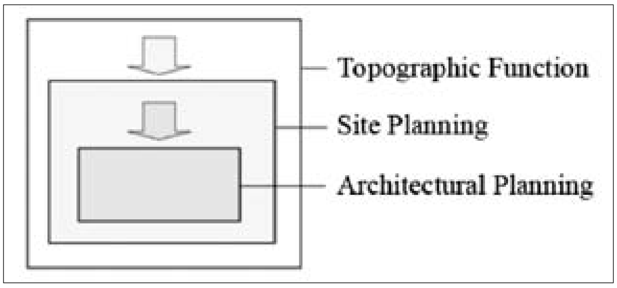


Fig. 4. A three-layer model of landscape design

2.3 Research Method

In this paper, we use 3D visual simulation models of landforms and buildings to analyze spatial and visual characteristics that landforms make. We use two kinds of maps - the 1:500 Present Kyoto City Map at a contour interval of 1 meter, and the 1:2500 Kyoto City Planning Map at a contour interval of 2 meters - and trace contour lines described on these maps and build 3D landform models by using computer graphics software, AutoCAD Civil 3D. Then we place building models on them by using AutoCAD and FormZ.

Besides, we use ArcGIS/Map to show a visible area. For simulation studies of views, we refer to the normal human visual field suggested by Eyama (1977) (Fig. 5).

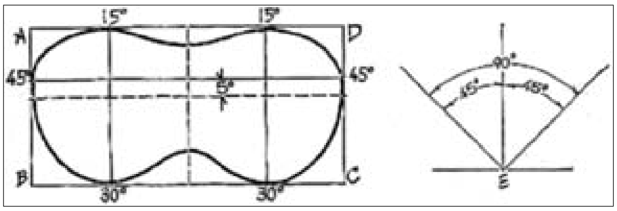


Fig. 5. Normal human visual field by Eyama (1977)

3. Applications and analysis

In this chapter, through case studies, we discuss a method of using landforms, focusing on enclosure forming, viewpoint setting, and view setting.

The site of Jyojyu-in temple once served as the Akamatsu's villa; in 1469–87, it was converted into a temple, where the monks of Kiyomizu temple resided. *Tsukiyamateizo-den*, a book published in 1828, described the garden of this temple as an "elegant and obedient garden" (Fig. 6, Fig. 7). However, the origin and the designer of this garden are not well known.

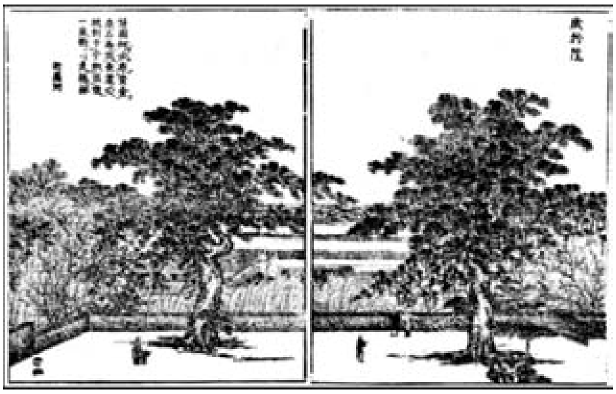


Fig. 6. The garden of Jyojyu-in temple Tsukiyamateizo-den (1828)

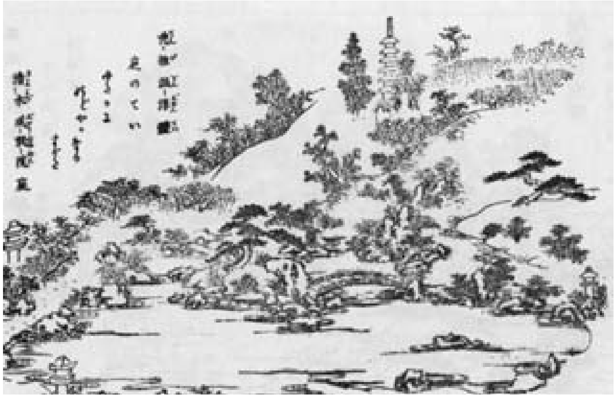


Fig. 7. Thewest garden of Jyojyu-in temple "Miyako-RinsenMiesyoEzu"

3.1 Enclosure Forming

Jyojyu-in temple is surrounded by mountains from the northwest to the north and in the east. The mountains form an enclosed space and converge within a 100–200 meter distance (Fig. 8, Fig. 9). The garden is enclosed by mountain ranges and the building, where the viewpoint is situated, lies to the south of this site. The building is situated in the east-west axis to create a strongly enclosed space in the north. It is notable that the building leans 12° from north to east (Fig. 10). This makes for a stronger enclosure. In this enclosed space, it is possible to develop an open building. The north commands a panoramic view of the mountains, which spread almost 180° and are not visible from outside.

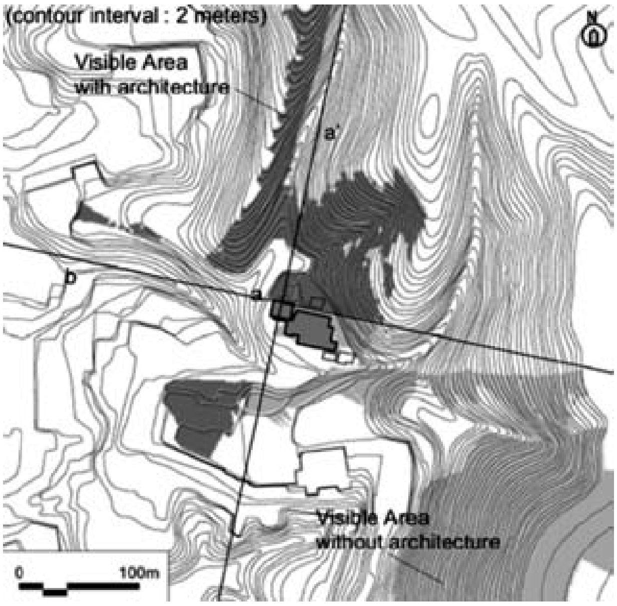


Fig. 8. Visible area from the viewpoint of Jyojyu-in

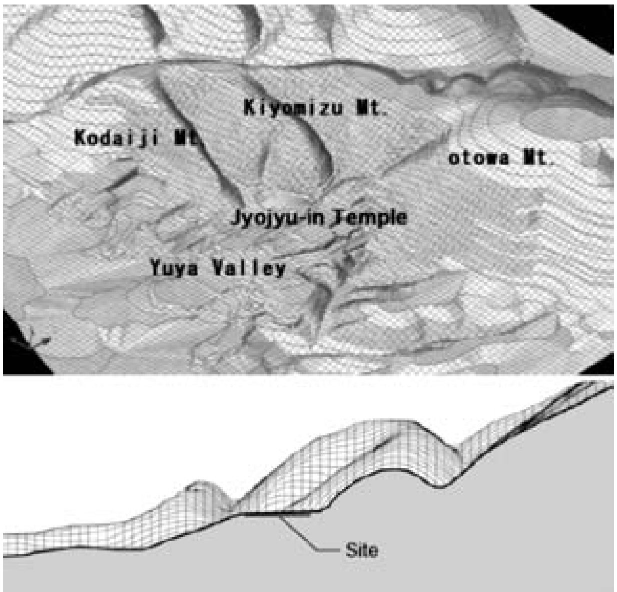


Fig. 9. The Site of the Jyojyu-in temple garden

3.2 Viewpoint Setting

The site is situated on a ridge. The building is situated on the west boundary of a cliff (Fig.9, Fig. 12). This makes a stronger prospect to the west. Although the site cannot be seen from outside, we can have a closed view of the mountains in the north, and an open view of fields in the west (Fig. 11).

3.3 View Setting

The building opens to the north and the west, and we have two different views. To the north, we can see the main garden with ponds,

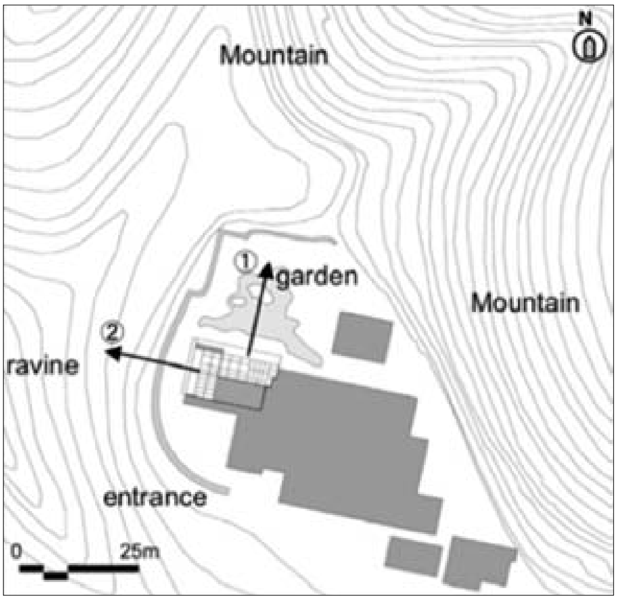


Fig. 10. Ground plan of Jyojyu-in

clipped plants, a panorama of mountains, and a ravine. Mountains on both sides of a view strengthen the depth of the ravine, and the ravine is seen in the center of the view. Its depth is emphasized by two garden lanterns. Although the site and the garden itself are small, a panoramic and grand view is created by using the verged mountains and ravine in the north. (Fig. 13, Pic. 1, Pic. 2).

To the west, a small and simple garden is designed to emphasize a view of the fields (Pic. 3). By using the landform characteristics, a view is completely divided into two different views by the layout of the building and the garden.

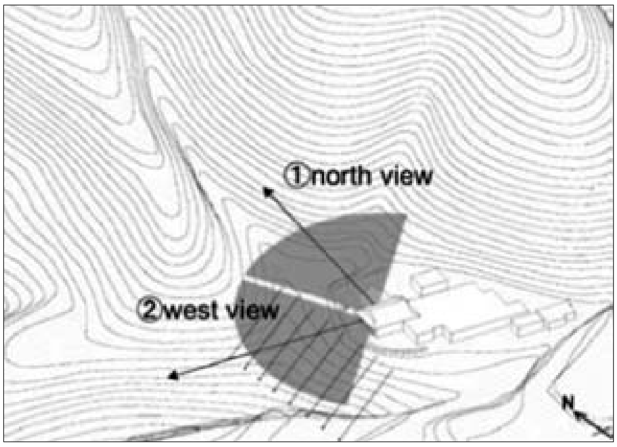


Fig. 11. View structure of Jyojyu-in

4. Conclusion

We have confirmed the method of using landforms in landscape design, particularly focusing on three functions of the landform: enclosure forming, viewpoint setting, and view setting. The Jyojyu-in garden selected as a case study is situated in close proximity to mountains.

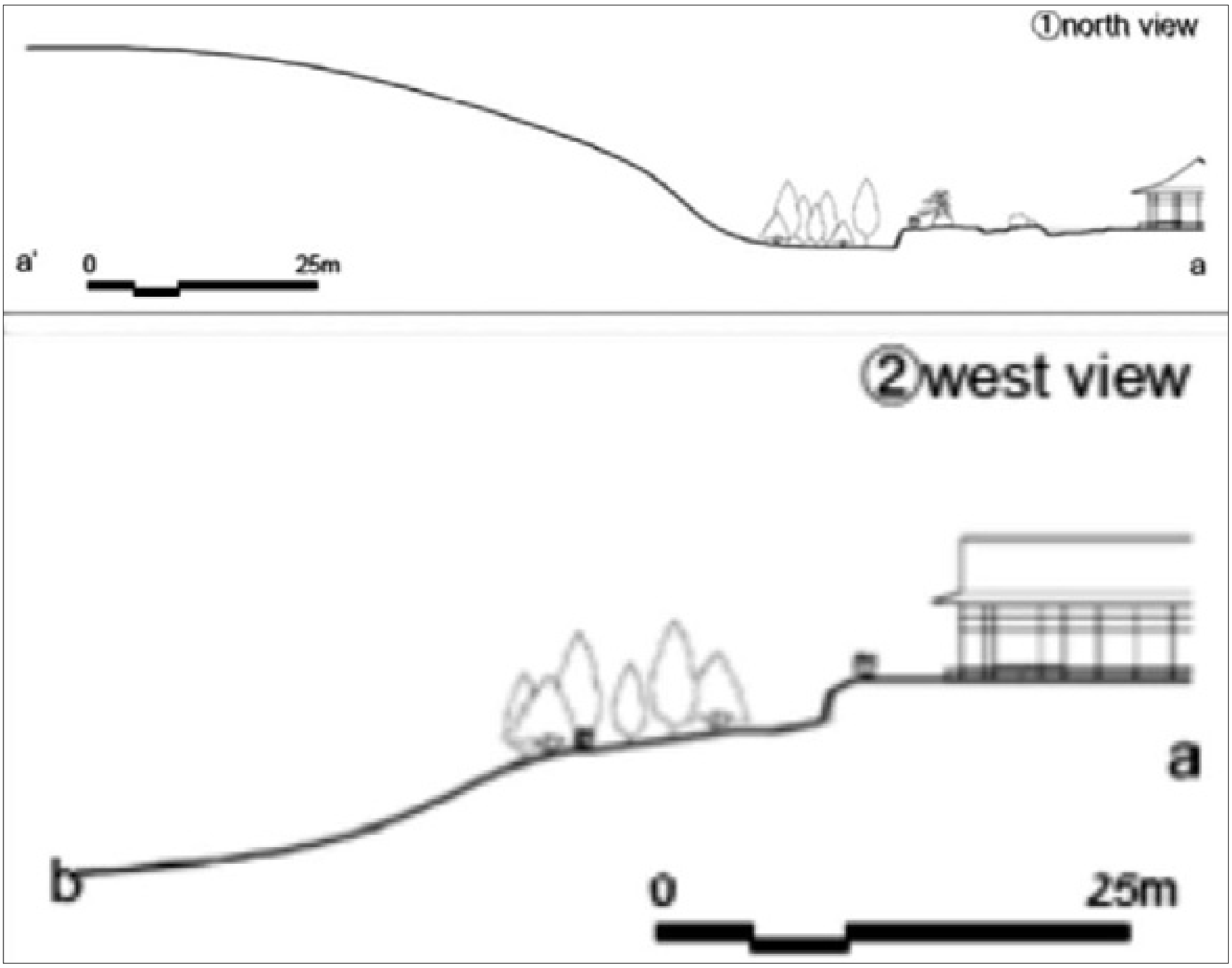
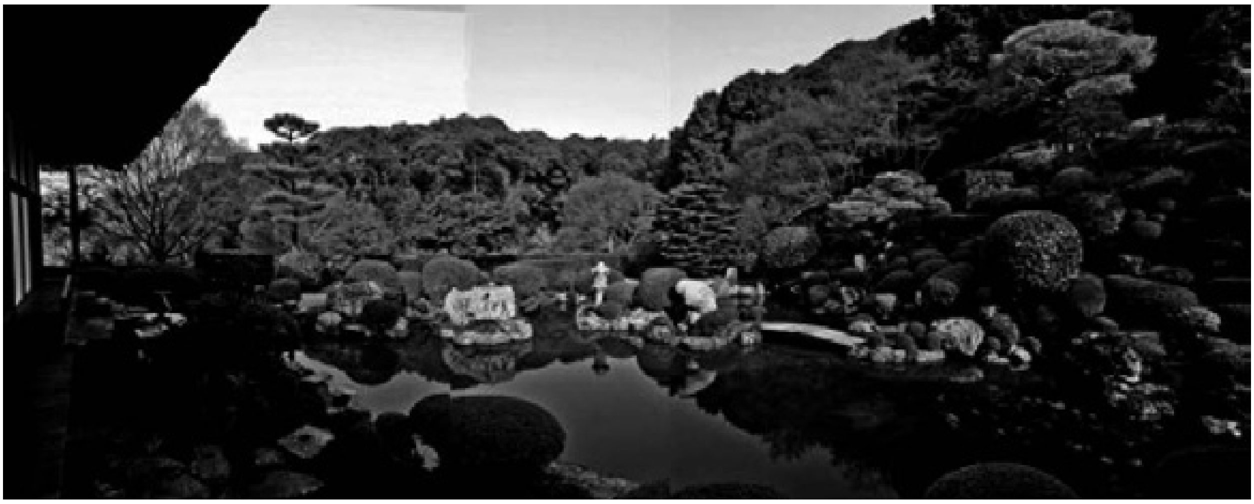
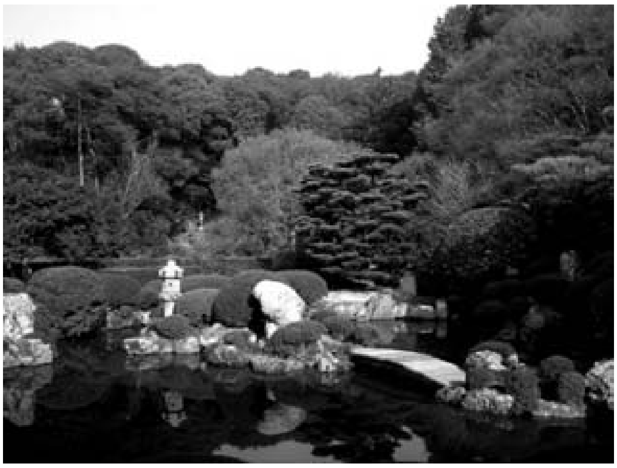


Fig. 12. Cross-sections of Jyojyu-in to a Mountain



Pic. 1. Dynamism of Landscape

Pic. 2. Jyojyu-in temple garden -north view-



Pic. 3. Jyojyu-in temple garden -west view-

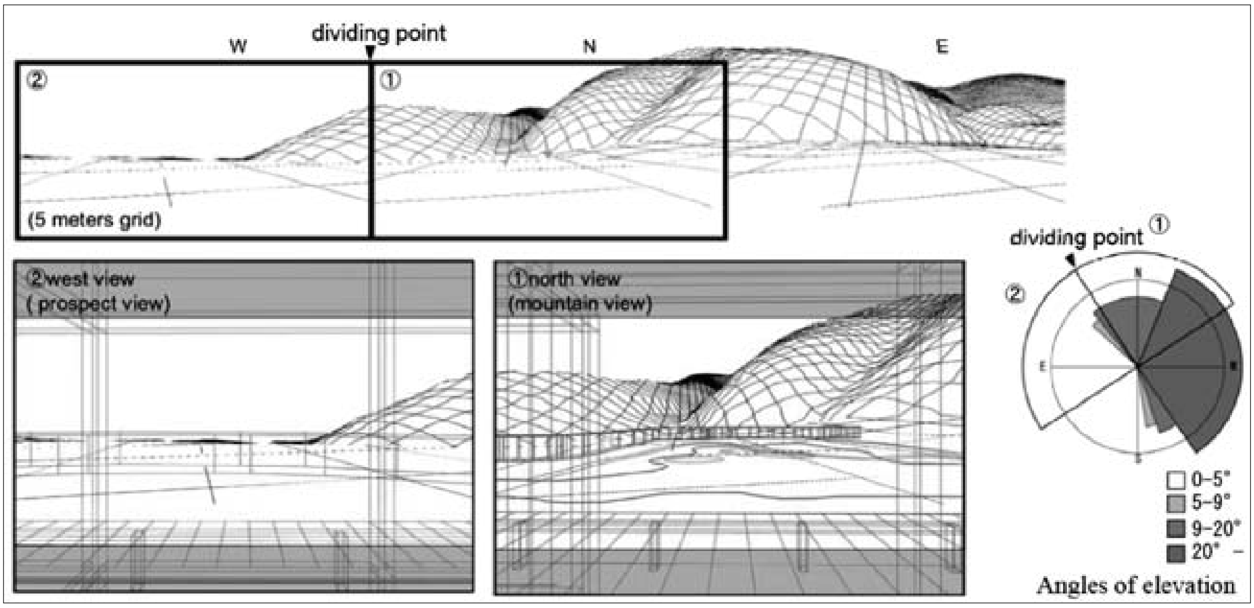

W
dividing point
N
E
②
①
(5 meters grid)
dividing point ①
②
②west view
(prospect view)
①north view
(mountain view)
N
E
W
S
0-5°
5-9°
9-20°
20° -
Angles of elevation

Fig. 13. Framing scenery at viewpoints of Jyojyu-in

Especially, in the Jyojyu-in, the continuous and synthetic silhouette line and side made by overlaying plural mountains, give a strong impression of dynamism to viewers, as shown in Pic. 1. Continuous line and side appears to people on the main viewpoint of the north veranda. It gains ground on viewers. Close and distant landscape elements create an impression of depth, and natural and rhythmical continuity creates an impression of dynamic landscape. It also means a linkage between natural landscape and the body. For example, we cannot feel dynamism in the general gardens with a borrowed scenery like the Entsu-ji where mountains are distant from a viewpoint. We understand that the dynamism of landscape is based on the continuous and synthetic landforms and their view setting in the enclosed space. The concept of dynamism of landscape is characterized as the diversity of combinations of landforms and unique sequential viewpoints including borrowing landscape. We find that an impression of dynamism is created not only by physical and changing factors of landscape like light and shadow but also by grand landforms. The view was absolutely designed by the landscape designer.

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‘Science’ and ‘Art’ in Landscape Architecture Knowledge Production

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Abstract: Within landscape architecture, two main approaches exist, one art-related and the other science-related. Much criticism has arisen of outdoor space design that relies on either one of the two approaches. This has caused many outdoor spaces to be avoided and underused. There are two underlying problems. Firstly, landscape architecture is not an art, nor a science. Due to this misconception, an epistemological problem exists, resulting in a lack of suitable methods to produce design knowledge. In order to overcome the epistemological problem of divergent knowledge claims in art (constructivist) and science (positivist), I suggest a pragmatic epistemological approach that combines the different ways of knowledge production. Based on this, suitable research methods need to be developed, mainly employing ‘research through design’ methods. These epistemological and methodological topics need to be studied in depth and eventually taught in landscape architecture schools. The application of such integrated design knowledge in practical landscape architecture projects will help to create outdoor environments that do not suffer the shortcomings of ‘landscape architecture as art’ or ‘landscape architecture as science’.

Keywords: Landscape Architecture, Science, Art, Epistemology, Knowledge production

1. Introduction of the problem

Within landscape architecture, the roles of art and science, and their repercussions on both the production of new disciplinary knowledge and education, have been repeatedly addressed (Baines and Hooftman 1994, Crewe and Forsyth 2003). Some discussions revolve around landscape architecture being either art (Treib 1993, Weilacher 1999) or science (MacHarg 1969, Rose 1939). Interestingly, the call for contributions to this conference ‘Landscape and Imagination’ also sees landscape architecture as an art.

The attitudes amongst professionals about landscape architecture being either an art or a science have brought about designed environments that show manifold problems. I will sketch these problems first. Then I will elaborate on the underlying theoretical and epistemological problems.

1.1 Practical problems

Currently, many outdoor environments in cities and landscapes are designed in ways that are unattractive and do not support human use and appropriation. This leads to underuse – an effect that we especially cannot afford in the ever growing urban environments (Lenzholzer 2008). Typical problems arising from this underuse in urban landscapes, for instance, include a lack of social control, decline of real estate values in neighbourhoods and on the larger scale ‘cities of long ways’ (causing air pollution and excessive CO2 production).

At first sight, such problems seem to be solved by landscape architecture with either aesthetically appealing ‘artistic’ design, or with good civil engineering solutions (e.g. water, climate, traffic).

However, it has already become evident in the past that separate solution approaches – be it ‘artistic’ or engineering – alone have shown to be insufficient.

The ‘artistic’ solution approaches have been criticized for several reasons. Often, these solutions were considered a mere ‘aesthetization’ of outdoor spaces. Also terms such as ‘window-dressing’, ‘face-lifting’ or ‘Verhübschung’ frequently occurred in these criticisms. These approaches led to the design of spaces that people sometimes did not ‘dare’ to use because they were too neat or too sleek. Another ‘artistic’ approach in the design of outdoor spaces led to places that were a ‘Gesamtkunstwerk’ or ‘Design Icon’ (example, see Fig. 1) that was designed to be looked at, but not to be used (de Josselin de Jong 2004, Hajer and Reijndorp 2001, Kesser 1984, Schneider 2003). Such environments were often criticized as mere self-fulfilment or ‘ego-tripping’ of the designers without showing respect to the users.

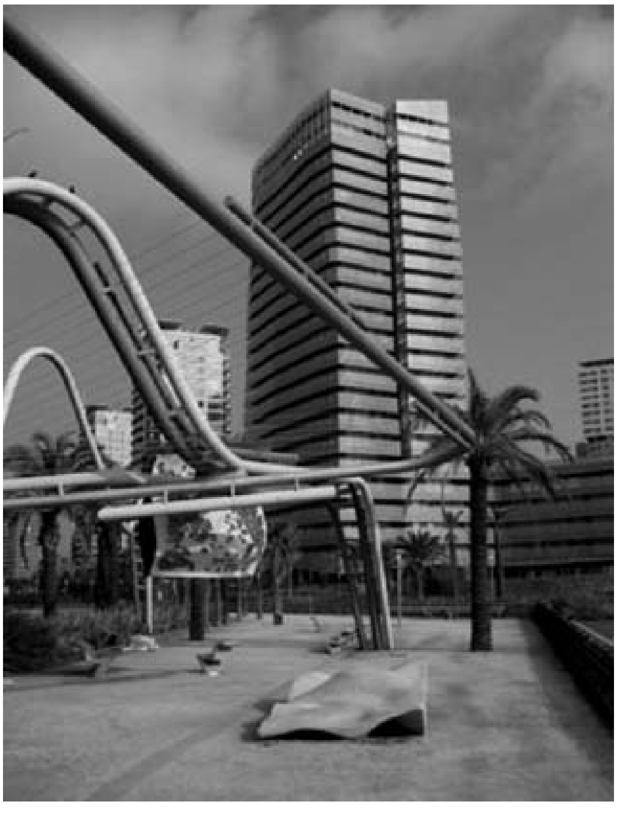


Fig. 1 Example of a ‘Gesamtkunstwerk’ public space, Diagonal Mar Park, Barcelona[1]

The roots of these approaches are generally situated in a tradition of educating landscape architects in schools with a Beaux Arts background (Treib 1993). In these schools, the inspiration of landscape architecture design was mainly derived from visual arts such as painting, sculpture and later also land art (Weilacher 1999). Within this context, the young landscape architects are educated as 'artists' that design from their own personal vision on the world.

The 'civil engineering' solution approaches have also been widely criticized since long before. The idea of landscape architecture as engineering relies on a positivistic concept: the idea that the environment consists of purely physical entities with functional relations. The most prominent outcome of this approach, being modernist, functionalistic landscape and urban design, is inspired by the idea of the environment as a machine and as a product of rational engineering. Consequently, functionalistic, mechanistic spaces in cities and landscapes are designed (see, for example, fig. 2). This has led to severe criticism amongst the public who often perceives these spaces to be sterile, inhuman and 'unexciting' (Ellin 1996, Marshall 2009). The roots of such approaches are mostly found in schools that have a background in technical and natural sciences where young designers perceive themselves predominantly as 'engineers'.

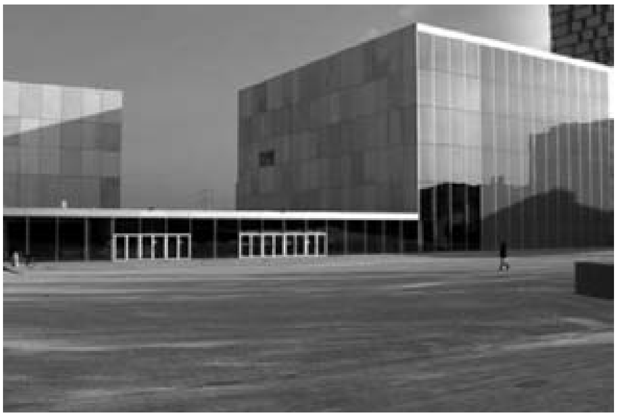


Fig. 2 Example of functionalist sterile public space, Theatre square Almere[2]

Unfortunately, these separate approaches continuously show a 'pendulum movement' in their application. In the Netherlands, but also in other countries, this has manifested itself very clearly in landscape architecture. Early landscape design at the end of the 19th century was influenced by the Beaux Arts and soon replaced with the first functionalist, modernist approaches. These fell into disgrace and in the 1980s the artistic took place, with a revival of the modernistic movement in the 1990s (Lenzholzer 2008). Such 'pendulum movements' are detrimental to the design of outdoor environments, because all the related problems are only partly solved, or rather replaced by new problems.

An analysis of the criticisms of the two design approaches can basically reveal the solutions. The criticisms refer to a lack of something- of 'comprehensibility', 'usability', of 'excitement' and 'humanness'. These are lacking properties that can be fulfilled by using a combination of the two approaches since they complement each other. An 'artistic' approach can enhance the excitement, aesthetic and sensory qualities and a 'scientific' approach the usability, order and comprehensibility.

The general solution to such a rather practical issue thus seems clear: an integration of the two landscape architecture design approaches of 'art' and 'science'.

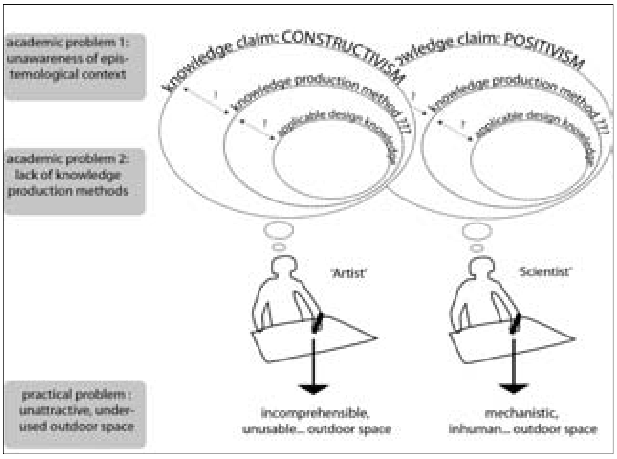
1.2 Theoretical problems

Consequently, one could argue that the solution simply lies in integrating the artist and the scientist in the person of the landscape architect. But this is a clear misconception- a landscape architect is neither an artist nor a scientist. Artists work in a different context where they are commonly free to choose their concepts and ideas, their methods, ways of representation and execution. They are often not obliged to serve a community or commissioner. Landscape architects, in contrast, cannot operate freely. They are bound to a programme, a site, a community, and commissioners. They do not have 'artistic freedom'. Therefore, the claim in the call for this conference 'Landscape and Imagination' (call section 5), that landscape architecture is art, is questionable. Nevertheless, there are also important commonalities that support the integration of art into landscape architecture methods (see section 2.2)

Scientists work on describing the world's phenomena and sometimes try to simulate or predict the behaviours of these phenomena. Landscape architecture, however, is not about describing the world phenomena, but about planning and making new phenomena in the environment. But also here, important commonalities exist that support the integration of science into landscape architecture methods (see section 2.3)

Although there are important commonalities between landscape architecture and art, and landscape architecture and science, the misconceptions that landscape architecture is art or is science lead to epistemological conflicts.

Whereas art is situated in a constructivist knowledge claim (Leavy 2008; Sullivan 2010), science is situated in a positivist knowledge claim (Creswell 2009). The position of landscape architecture, however, was never clearly defined.



academic problem 1: unawareness of epistemological context
academic problem 2: lack of knowledge production methods
practical problem : unattractive, underused outdoor space
knowledge claim: CONSTRUCTIVISM
knowledge production method ???
applicable design knowledge
?
?
knowledge claim: POSITIVISM
knowledge production method ???
applicable design knowledge
?
?
'Artist'
'Scientist'
incomprehensible, unusable... outdoor space
mechanistic, inhuman... outdoor space

Fig. 3 Overview of problems

Consequently, most landscape architecture schools do not have a critical stance towards their epistemological context. This can be noticed in the non-existence of discussions on this topic in the disciplinary literature.

As an effect, landscape architecture schools do not discuss their knowledge claims. There is no discourse on the question whether the knowledge claims from art or science are appropriate to the interdisciplinary nature of landscape architecture and its knowledge production. As a consequence of this 'vacuum', many landscape architecture schools do not actively participate in the production of new academic knowledge. This leads to a fundamental problem at the core of the discipline of landscape architecture: a lack of methods to produce new landscape architectural knowledge (Deming and Swaffield 2011, Lenzholzer *et al.* 2011, see fig. 3).

2. Proposal for integrated knowledge production through designing

2.1 Integration via a pragmatic knowledge claim

In order to stimulate more active knowledge production in landscape architecture, first of all, the two separate knowledge claims that many schools operate should be integrated into a 'pragmatic' knowledge claim (Creswell 2009). Within such a pragmatic knowledge claim researching landscape architects need to look into a broader variety of epistemological positions and the related research methods and evaluation criteria. This way, they can find the knowledge claims that suit their research topics and related questions best.

Many of these research questions relate to the processes or outcome of design activity: design products, either site related or more generic prototypes or design guidelines. To generate such design knowledge, the active employment of designing in the research process is necessary (Lenzholzer 2010: 111-120).

Therefore I suggest the use of methods of 'research through designing' whose suitability and usefulness has recently gained frontline attention within landscape architecture academia (Duchhart 2011, Jonge 2009, Lenzholzer 2010, Lenzholzer *et al.* 2011). In order to define such research through designing methods for landscape architecture, it is useful to turn to the disciplines of art and of sciences (and their respective knowledge claims, constructivism and positivism) to examine related methods in these contexts.

2.2 Meaning of research through artistic methods

Within the arts the writings of Donald Schön on "knowing in action" and "reflection in action" (Schön 1987) were important to shaping the ideas on research through artistic activities. Schön significantly inspired artists and art theorists. Eventually Christopher Frayling suggested that many artists and designers do "research through art and design" (Frayling 1993) to generate new knowledge. Later, others refined these ideas and gave many different examples of how art practice can contribute to the generation of new knowledge (Sullivan 2010, Leavy 2008, Gray and Malins 2004). They all emphasized that research through artistic practice is based on formulating questions that are relevant for knowledge production in the field, by identifying suitable, practice based methods, and finding answers or drawing clear conclusions. Especially the 'generative strength' of art practice, contributing to knowledge innovation through the generation of forms and artefacts, was pointed out, as opposed to more descriptive or analytical types of research (Barrett 2006). But also the ability to identify and formulate new problems seems special for artists (Getzels and Csikszentmihalyi 1976). This continuous quest for original form and innovation in 'artistic research' can be useful for research through designing in landscape architecture. Such artistic methods can help to find new problems for landscape architects, and also help to come up with original and innovative solutions. Such methods are thus specifically valuable in the phases of research through designing when problems, concepts, ideas need to be identified and new and original form needs to be generated.

2.2 Meaning of scientific research methods

As opposed to the arts, most sciences are descriptive and thus do not generate new forms or artefacts. But within the engineering sciences, such creation of forms and artefacts is actually the case and therefore, these sciences can provide useful research methods for landscape architecture.

In the engineering sciences a positivist knowledge claim is prominent, which is reflected in the writings of important engineering theorists (Simon 1996, Eder 1995, Hubka and Eder 1987). Mostly, hypothetico-deductive methods are used. These methods normally consist of several steps. Initially, this encompasses generating a design, either in 1:1 mock-ups, prototypes, in scale models or as a virtual model. The design acts as a hypothesis or conjecture which is subjected to testing (Zeisel 2006). The tests can consist of using the prototypes or mock-ups in experimental setups. Typical examples are, for instance, the testing of materials by exposing them to certain outdoor environments or by testing car, airplane or building models in wind tunnels. Recently, the trends in testing methods have shifted towards computer simulations where numerical data are frequently translated into visual representations. The tests results are mostly evaluated with quantitative criteria. Such research through designing processes is not only common in academia, but also in research and development departments in industry (Breen 2002).

The process of designing in engineering often has a sequence of designing, testing, evaluating, refining/ adapting the design and submitting the design to another circle of testing. Such processes are normally repeated until a 'satisficing' result is achieved. 'Satisficing' means that – given the context of many constraints – for a design, a design can never be optimal in all aspects, and can only be optimized for the aspect tested to a certain extent (Simon 1996).

These science-inspired hypothetico-deductive methods in engineering science provide predominantly numerical and rather objective information with a focus on testing measurable parameters such as functionality.

The important qualities of these methods for research through designing in landscape architecture lie in the objectiveness of testing and evaluating. These scientific methods can greatly enhance the validity and reliability (and thus also credibility) of the new knowledge about artefacts or designed space. Such methods including scientific physical or virtual simulations can be used to test landscape architectural design proposals. These methods can – apart from testing designs for real sites – also be used to test prototypes of spatial models that can then serve as generalizable design guidelines.

3. Conclusion

The qualities of art and engineering science methods in research through designing are thus complementary. To understand these qualities and their respective approaches, it is important to understand the major epistemological and methodological differences for researching landscape architects.

Therefore, the knowledge claims and their respective methods, and how to combine them in a pragmatic approach, have to be taught to the new generation of researching landscape architects.

In research through designing processes with a pragmatic approach, the methods from art and science can be used in certain phases of the research through designing process so that they complement each other. For instance, the generative strength of artistic ideas can help to invent new possible landscapes. These can then be tested with the rigid methods of a scientific approach, for instance on their functionality. Subsequently, the best solutions can then be evaluated and adjusted according to aesthetic parameters with artistic methods. And possibly the outcome will undergo a new round of further development and testing. However, to make such research methods 'teachable', a lot of research still needs to be done and especially educational experiments with research through designing on MSc and PhD level need to be conducted.

Eventually, when such combined methods have been developed, these methods will produce more integrated design knowledge that can then be disseminated. This will thus firstly happen in education and will later hopefully be translated into design practice by a new generation of landscape architects.

When this translation into built environments has taken place, outdoor spaces can be designed in a way that combines the good qualities of each approach - the originality and sensory appeal of artistic approaches and the functionality of engineering approaches.

This will make outdoor spaces more attractive and used. This way, the unnecessary waste of space in cities and landscapes can be put to a halt. In the example of the design of urban landscapes, this will contribute to solve the problems mentioned earlier: making outdoor spaces more safe and preventing economic losses in real estate while keeping the environment attractive. And last but not least, an intensely used city is a city of 'short ways' that creates less motorized traffic and diminishes problems like pollution and CO2 production. So, attractive and well used space eventually contributes to a more sustainable environment.

But this requires major changes in landscape architecture research and education in the first place - an exciting challenge for landscape architecture educators.

Notes:

[1] http://www.mirallestagliabue.com/project.asp?id=51

[2] http://straatkaart.nl/1315TJ-Traverse/media_fotos/kunstencentrum-kunstlinie-schouwburg-almere-A9u/

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Streetlight Design for Sustainable Landscapes in Metropolitan Tokyo

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Abstract: Route 1 goes from Nihonbashi, Tokyo to Osaka. The 2.9 km from Nihonbashi to Ginza is in the center of Tokyo where an international streetscape is found. Since 1874, Ginza's streetlights have been changed 4 times. It was time to change to new streetlights in the 21st century and our proposal was adopted. We came up with 4 concepts to help realize a sustainable society. They are: "innovation in new materials," "reuse of recycled products," "establishment of energy-saving systems" and "creation of symbols of area characteristics." The streetlights were designed to capture the view of the international city of Tokyo. By March 2011, 230 streetlights were installed. We believe that it was successful to create a sense of unity in the area and to create a sustainable luminous landscape in Tokyo.

Keywords: Street lights, sustainable, energy-saving, design, light landscape

1. Introduction

1.1 Background and purpose

Streetlights in cities have become elements greatly connected to improving the visual and scenic charm of cities while ensuring safe and comfortable walking space. In recent years, urban development has called for scenery that reflects the locality, history, culture and voices of residents, focusing on a sustainable society and creating an affluent urban landscape.

Since landscape is the "view of environment surrounding people," 1), the existence of streetlights must be considered as an element creating a part of that landscape. What kind of landscape quality should streetlights have in order to highlight an area's uniqueness, realize a sustainable society and create a good scenic landscape? What kind of method should be adopted to achieve this? In order to answer these questions, we designed "Four S for S" street lighting, which was awarded the Grand Prix at the "Tokyo Lights Ginza-Kyobashi-Nihonbashi Chuo-dori / International Design Competition For Street Lighting" (referred to hereinafter as "Tokyo Lights") in November 2006, and realized along Chuo-dori in February 2011. This paper describes the Four S for S.

We set four concepts for the design with sustainable society as its ideal: (1) the possibility of renewing cutting-edge technologies, (2) active utilization of recyclable materials, (3) construction of an energy-saving society and (4) symbols of local characteristics. These four concepts themselves are qualities expected in a modern landscape. It is the purpose of this paper to consider how to fit streetlights into an urban landscape by participating in and observing the process of "Four S For S" from conceptualization to completion.

1.2 Structure of the paper

This paper consists of five sections. How the required landscape qualities are provided for in the "Four S For S" as streetlights is examined in Sections 2 to 5. The transition in streetlights in Ginza, Kyobashi and Nihonbashi/Chuo-dori, which are target areas for installing the "Four S For S," is described, and the potential of the area provided with landscape qualities is clarified in Section 2. An outline of "TOKYO LIGHTS" and the concepts of the proposed basic design are described and the process by which the four concepts of the "Four S For S" were derived is clarified in Section 3. The proposal for the design competition is described, and how the four concepts were reflected in the design is clarified in Section 4. Furthermore, the coordination of the sustainable society concept throughout the process from design execution to completion is explained. Section 5 concludes by considering how streetlights should fit the urban landscape, as well as revealing the outcomes and challenges of the "Four S For S".

2. The main street of Japan: Chuo-dori

About 2.9 km of the road from Nihonbashi, the starting point of Japan's National Route 1 that runs through the center of Tokyo, through Kyobashi to Ginza 8-chome, the westernmost point of the Ginza area, is a representative main street of Japan called "Chuo-dori."

Ginza is the most elegant business district in Tokyo, where many sightseers from abroad, world famous brand shops and old prestigious stores can be found (Table 1).

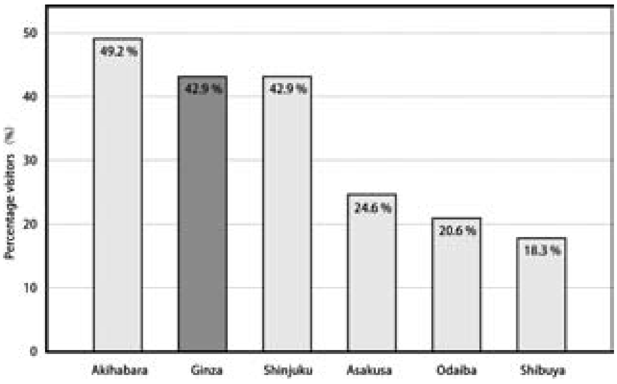


Table 1 Percentage of foreign visitors to cities in Japan 3

Due to redevelopment, the construction of high-rise buildings for business and commerce has increased in recent years in Kyobashi and Nihonbashi. The areas are as elegant as Ginza.

2.1 Transition of streetlights along Chuo-dori

In 1874, the first generation of gas lamps, which were the first ever in Japan, was installed along Chuo-dori. The light sources were replaced with arc lamps in 1882, and the streetlights were replaced by a second generation in 1921. They were replaced by a third generation in 1950. The fourth generation streetlights were installed in 1968. These fourth generation streetlights, which adopted metal halide lamps developed only a little while before, became symbols of Chuo-dori with their elegant design proposed for the Ginza shopping street (Fig. 1).

Throughout the changes of streetlights along Chuo-dori, one will find that new technologies were always adopted. The district has raised its value by sensitively reacting to the changes in the time, dealing constructively with the urban landscape.

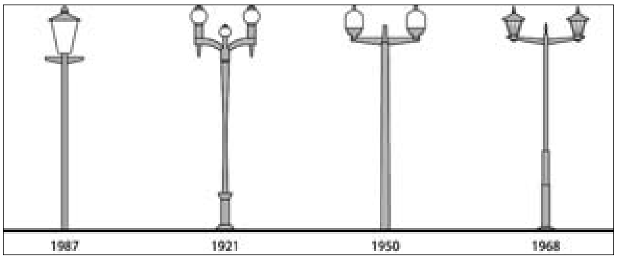


Fig. 1 Transition of streetlights in Ginza 4

3. Basic design concepts of the "Four S For S"

TOKYO LIGHTS
INTERNATIONAL DESIGN COMPETITION FOR STREET LIGHTING
www.tokyolights.jp
TOKYO LIGHTS
INTERNATIONAL DESIGN COMPETITION FOR STREET LIGHTING
www.tokyolights.jp

Fig. 2 Poster and guide of "TOKYO LIGHTS"

3.1. Outline of "TOLYO LIGHTS"

The fourth generation streetlights ran into problems in 2006 since 39 years had passed since their installation. Therefore, the 241 fourth-generation streetlights needed to be replaced quickly with the same number of new fifth-generation streetlights. The Tokyo National Highway Office of the Ministry of Land, Infrastructure, Transport and Tourism held an international design competition requiring "streetlights with dignity and charm suitable for Japan's three representative areas -- Ginza, Kyobashi and Nihonbashi -- and capable of serving as symbolic elements of Chuo-dori in the 21st century". The judging committee consisted of 12 persons amongst which were academic experts and local leaders (Table 2).

3.2. Process and results of judgment

By the application deadline, 280 designs (227 domestic and 53 overseas) had been submitted from 18 countries worldwide.

The judging committee selected the "Four S For S" as the best design.

3.3 Basic design concepts of the "Four S For S"

Post	Affiliation
Chairman	Emeritus Professor of Tokyo Institute of Technology
Vice-chairman	Professor of Musashino Art University
Committee member	○ Chairman of the Ginza Street Association
	Professor of Kogakuin University
	○ Chairman of the Tokyo Chuou Oodoori Street Association
	○ Director of Bridgestone Museum of Art
	Director of Edo Tokyo Museum
	Representative of Tanaka Hiroshi Design Office
	Professor of Tokyo of Fine Arts and Music
	Representative Officer of Architectural Communication Consultant
	Assistant Professor of University of Tokyo
	○ Vice Chairman of "Nihonbashi Hozonkai", Commissioner of NPO Hanakaido

Table 2 Judging committee of "TOKYO LIGHTS" (Those with circles are local leaders.)

3.3.1 The earth at night: Luminance and economic disparity

A satellite photograph of the earth at night was overlapped with a figure of gross domestic products (GDP) of countries around the world. A comparison of the figures showed that big cities in countries with high GDPs were bright, hence consuming a lot of electric power. It showed that economic disparity between countries is linked directly to the disparity in the consumption of electric power (Fig. 3).

We thought that it was important for Japan to show the world that it is working to quickly solve energy issues given the growing energy consumption of developing countries hoping to catch up with industrially advanced countries.

In proposing the streetlights, we decided to express the will to lead the world in the realization of industrial products with a low environmental load through design. Although only a small number of Japanese people were hesitant about consuming a lot of electric power in 2006 when we made the proposition, the Great East Japan Earthquake that occurred on March 11, 2011 urged them to seek conversion from nuclear power generation to recyclable energy, and rapidly made them conscious of energy conservation.

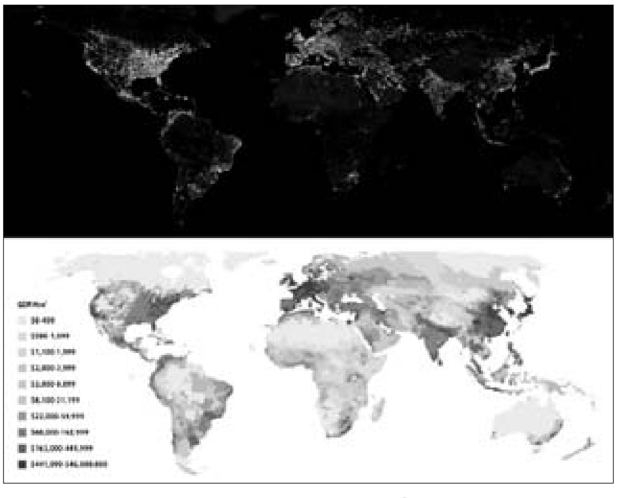


Fig. 3 Relation between the earth at night and GDP [5]

3.3.2 Japan's, Tokyo's and Chuo-dori's position in the world

After the defeat in WWII, Japan grew economically as an industrial country that exports high performance industrial products. We can be proud of the technical capabilities fostered during that period.

Today, it is safe to say that Tokyo is the biggest city in the world, since the population of Metropolitan Tokyo[6] is about 1.6 times that of New York City[7], and in terms of metropolitan GDP, Tokyo is also number one in the world, surpassing New York. Chuo-dori with Ginza at its center is a particularly elegant area. In terms of economy, the area encompassing Chuo-dori alone accounts for about 0.1% of Japan's GDP. It is the main street of the international city of Tokyo.

3.3.3 3R: Reduce, Recycle and Reuse

We proposed materials and production methods to realize the reduction, reuse and recycling of waste, assuming the replacement of the streetlights. Concerning waste reduction, 99.8%[8] of recyclable aluminum material that does not readily corrode was used for the poles, which are surrounded by glass plates. Reuse after future renovation and replacement of a little less than 80,000 glass plates was proposed.

3.3.4. 4S: Four S's for a sustainable society

We named four key words that start with S in the Japanese language to propose the building of a sustainable society.

(1) Possibility of renewal with cutting-edge technology: We planned a system for adopting new materials and new products that will be invented in the future with these streetlights.

(2) Active utilization of recyclable materials: Recyclable materials were strictly adopted.

(3) Toward an energy-saving society: Streetlights with radiating poles were planned with LEDs of low electric power consumption and long service-life.

(4) Road illumination as an expression of symbolic meaning: When streetlights with radiating poles are installed at certain intervals, a tunnel of light is created at night. It was proposed to visualize a symbolic character by unifying the landscape of Chuo-dori with light.

4. Design competition submission plan based on the four concepts and process of realization

4.1 Design of the "Four S For S"

We explored designs of streetlights that would satisfy the conditions of the design competition. We tried designs that exhibited less of a physical presence when the lights were off in the daytime to fit the modern age of information. The design plan became something like an architectural structure consisting of a framework and exterior materials that look like minimal art. Furthermore, we proposed a plan assuming an urban landscape created with light when all 241 sets were installed (Fig. 4).

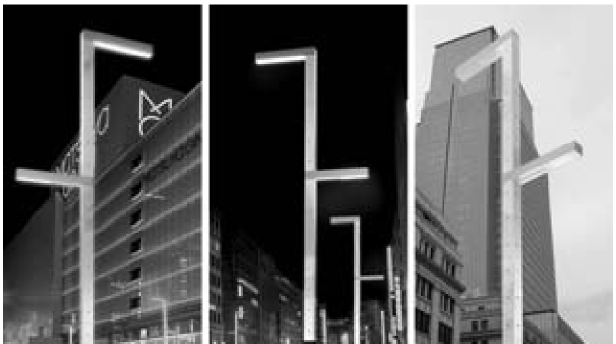


Fig. 4 Perspective drawing of "Four S For S". Ginza, Kyobashi and Nihonbashi from left.

4.1.1 Legs

High-strength rectangular steel was used for the legs as a measure against traffic accidents. Decorative aluminum plates were to be anchored to the four faces of the steel.

4.1.2 Poles

Embossed aluminum materials with X-shaped cross-sections were used as poles and tightly connected to the legs. Reinforced glass plates were mounted on the four surrounding faces using metal fixtures extruding from the poles. The flat dimension of one side of the poles was 250 mm.

LEDs were arranged vertically in the spaces between the poles and exterior glass to illuminate the poles.

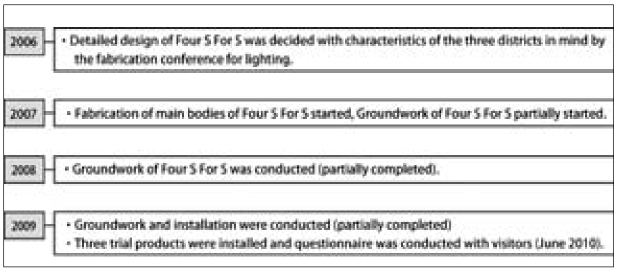
4.1.3 Lamp fitting

Rectangular cast aluminum was used for lamp housings. Polycarbonate was used for the bottom of lamp fittings to ensure safety.

A method that enabled the attachment of traffic signals, signs, banners, etc., to the poles was also proposed.

4.2 Design execution, production and pole construction of streetlights design

Soon after the announcement of the result, design was started on the main body of the "Four S For S" and a layout of the poles along Chuo-dori. All designs were completed by the end of March 2007 (Table 3).



2006	• Detailed design of Four S For S was decided with characteristics of the three districts in mind by the fabrication conference for lighting.
2007	• Fabrication of main bodies of Four S For S started, Groundwork of Four S For S partially started.
2008	• Groundwork of Four S For S was conducted (partially completed).
2009	• Groundwork and installation were conducted (partially completed) • Three trial products were installed and questionnaire was conducted with visitors (June 2010).

Table 3 Process from design execution to completion of the "Four S For S"

4.2.1 Establishment of organization toward realization

Concurrent with design execution, a "fabrication promotion conference for lighting in Ginza, Kyobashi, Nihonbashi/Chuo-dori" (referred to hereinafter as "Conference") was organized with the Tokyo National Highway Office as the business organizer and promoter (Table 4). The judging committee participated in the Conference to ensure that advice from experts in landscape, design and art and opinions of the three districts was reflected in the production of the "Four S For S" and that the concepts and design of the "Four S For S" were respected.

The "Four S For S" was a unique attempt at producing streetlights via a multidisciplinary group of manufacturers (Fig. 5).

4.2.2 Legs

With regards to the legs, high strength rectangular steel of STR400 was used for single poles and STR490 was used for joint poles, which was finished by hot-dip galvanization for the purpose of ensuring durability.

4.2.3 Poles

High-strength 6N01 aluminum was adopted for the poles, which

Post	Affiliation
Chairman	○ Emeritus Professor of Tokyo Institute of Technology
Vice-chairman	○ Professor of Musashino Art University
Member	○ Chairman of the Ginza Street Association
	Chairman of the Kyoubashi Ichinobu District Association
	○ Chairman of the Tokyo Chuou Oodoori Street Association
	○ Vice Chairman of "Nihonbashi Hozonkai", Commissioner of NPO Hanakaido
	○ Professor of Kogakuin University
	○ Professor of Tokyo of Fine Arts and Music
	○ Representative Officer of Architectural Communication Consultant
	○ Associate Professor of University of Tokyo
	○ Representative of Tanaka Hiroshi Design Office
	○ Director of Bridgestone Museum of Art
	○ Director of Edo Tokyo Museum
	Associate Professor of Maebashi Institute of Technology (Designer and supervisor of Four S For S.)
	Freelance Designer (Designer and supervisor of Four S For S.)
	General Manager of Tokyo National Highway Office
	Vice Mayor of Chuo-ku
	Director in charge of Road Maintenance, Department of Road Management, Bureau of Construction of Tokyo Metropolitan Government

Table 4 Conference members (Those with circles are judging committee members of "TOKYO LIGHTS".)

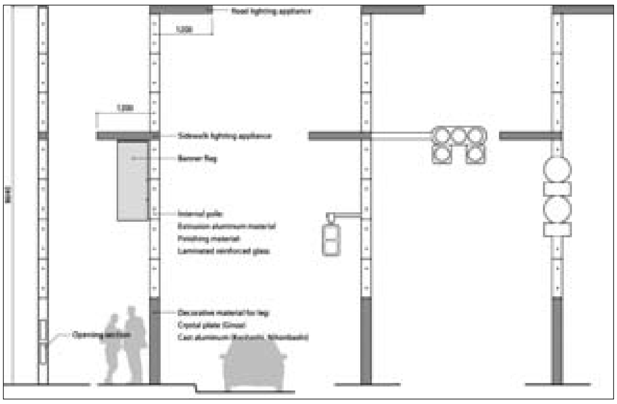

Road lighting appliance
1,200
1,200
Sidewalk lighting appliance
Banner flag
Internal pole
Extrusion aluminum material
Finishing material
Laminated reinforced glass
Decorative material for leg
Crystal plate (Ginza)
Cast aluminum (Kyobashi, Nihonbashi)
Opening section

Fig 5 Single pole and joint poles

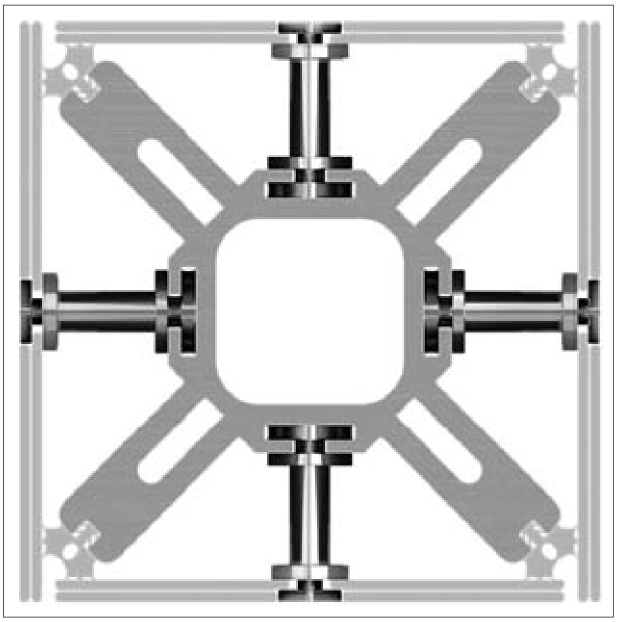


Fig. 6 Cross-sectional drawing of a pole of "Four S For S"

were 225 mm in size, reduced by 25 mm less from what was proposed for the design competition. In Japan, there was only one manufacturer[9] who could extrude hard aluminum 6N01 material of a large cross-section within less the 1 mm of error (Fig. 6).

4.2.4 Glass

Laminated glass made of two reinforced glass sheets was used for safety. Seven laminated glass sheets were used on one side of a streetlight and waterproofed by means of a translucent silicone gum gasket.

4.2.5 Aluminum decorative board

Decorative boards for the legs were designed with characteristics of each of the three districts, and materials were selected accordingly. Cast aluminum materials with different designs were used in Kyobashi and Nihonbashi. High-purity aluminum sheets were used in Ginza as a symbolic expression of a district that positively accepts forward-looking ideas. This material is currently available only in Japan.

4.2.6 Light source

Ceramic metal halide lamps of 150W were used for carriageways and lamps of 70 W were used for sidewalks. Total power consumption was 220 W. Two metal halide lamps of 400 W were used in fourth-generation streetlights and total power consumption was 800 W. Power consumption for the main light source was reduced to about one fourth.

Total power consumption of the LEDs in the pole of a single streetlight was 384 W. However, the lighting time of the LEDs was 4 to 6 hours from sunset to 11 pm. LEDs were used as supplementary light sources because production and dissemination were remarkable (Table 5).

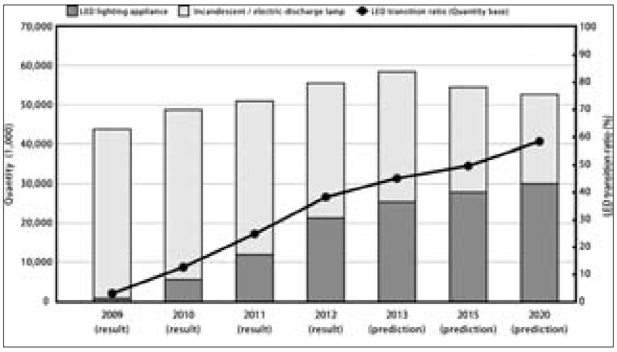


Table 5 Percentage of replacement with LEDs in lighting appliances market in Japan[10]

4.2.7 Assembly

The streetlight manufacturers conducted strength tests on the connection portion of the rectangular steel of the leg and the aluminum pole, examined the results and reflected the results in specifications of the materials. Parts of the rectangular steel of the leg and the aluminum pole were assembled within a precision of ±1 mm using a special jig. An assembly jig was made to facilitate work and enhance efficiency.

4.2.8 Pole installation

In the layout, the basic distance between streetlights was about 25 m, with streetlights facing each other from the right and the left of the street to create a tunnel of light at night.

The electrical companies installed the streetlights according to this arrangement layout. Only two poles could be installed per day along Chuo-dori because the work time zone was restricted. The work was continued for about two years and almost all of the 230 poles were completed by February 2011 (Fig. 7).

Although the Great East Japan Earthquake occurred just after completion and Chuo-dori suffered from strong shakes of low M5 intensity, none of the "Four S For S" poles suffered serious damage.

4.3 Change in landscape after completion of "Four S For S"

The **"**Four S For S" blends in well with Chuo-dori in the daytime as if it had disappeared. This is the success of the "invisible design"[11] we aimed for, whereby "people are the central players in cities and streetlights should play a supporting role."

At night, the road lights and poles are lit, and the "Four S For S" is suddenly transformed into an artwork of light. The series of art lights provides passersby along Chuo-dori with an urban landscape created by light. After 11 pm, only carriage lights are lit and "invisible design" returns as day breaks again, creating an urban landscape that changes throughout the day (Fig. 7).

We think that the "Four S For S" creates a sense of unity and distinctiveness throughout Chuo-dori.

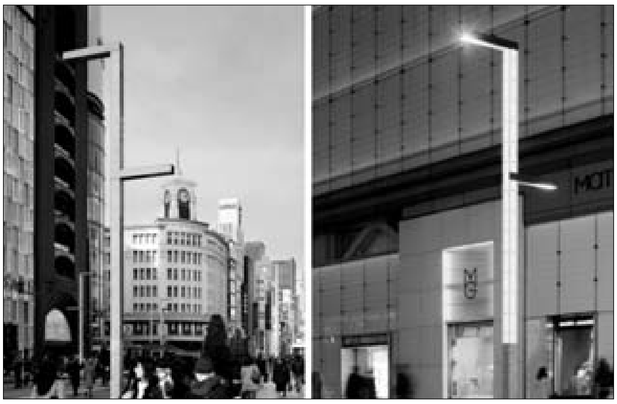


Fig. 7 Images of day and night of "Four S For S"

5. Discussion

In this paper, we looked at streetlights in urban landscapes of light from the start to the completion of the "Four S For S."

1) Details for verifying ways to realize a sustainable society and create a good landscape via streetlights were shown.
2) It was clarified by tracing the history of streetlights along Chuo-dori that Chuo-dori raised its value by sensitively reacting to the times and constructively dealing with urban landscapes.
3) We set four keywords that start with S for the construction of a sustainable society with the basic concept that the "Four S For S" expresses the will of Japan to solve global energy problems through the design of streetlights along Chuo-dori using advanced technology.
4) We verified the design of the "Four S For S" based on the four keywords, the proposal and execution process from design to completion, and clarified our commitment to realizing a sustainable society.

How to use streetlights to accentuate a locality, realize a sustainable society and create a good landscape was shown by verifying the process from conceptualization to realization of the "Four S For S."

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The Music Compass

An Optical-Chronographic-Musical Instrument
Celebrating the Identity and Cosmic Placing of Landscapes

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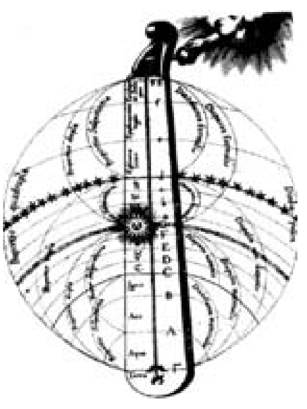
Abstract: The "Music Compass" is an optical-chronographic-musical instrument built through a process of meditation on the identity and cosmic placing of a specific landscape, and then used celebrating its own beauty: it is played through the exercise of look, touch and sounds. It can be built jointly by a working group, to represent a landscape in an archetypal and polysemic way, and, at the end of the path of knowledge and construction, the *genius loci* can be celebrated in a shared musical meditation. Here we present the theory and method for the construction of this instrument, and show a prototype of the Music Compass, built in reference to the landscape of the city of Napoli.

1. Introduction

Here you have the project and a first prototype of an artistic-didactic tool called the "Music Compass". It is a tool designed to represent the archetypal and polysemic qualities of places and their landscapes, stimulating an intuitive knowledge of space and empathy between human beings and the territories they inhabit, highlighting the various aspects of the beauty of landscapes, encouraging creative play and the invention of new forms of expression through multisensory perception and shared experience.

The Music Compass draws its broadly "secular" inspiration from the "music of the spheres", that great repository of the Western imagination constituted by Pythagoras, in the 6th century BC, Plato, 5th – 6th century BC, Ptolemy, 2nd century, Al Kindi, 9th century, and finally Kepler, 17th century. It retraces the specific tradition of the invention of real or imaginary tools intended to represent the musical order of the universe: the tetrachord of ancient Greece, the monochord (Fludd, 17th century) *Fig. 1*, and the "cosmic organ" (Kircher, 1650) *Fig. 2*.



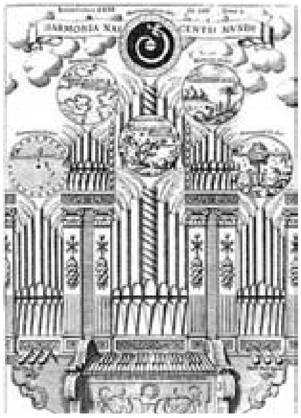


Fig. 1 (left). Robert Fludd (Robertus de Fluctibus), The Monochord (XVII cent).
Fig. 2 (right). Athanasius Kircher, The "Cosmic Organ" (1650).

We believe that the imagination of the existence of a "sound space", inaudible to the human ear, but intelligible to the human mind as a harmonical-mathematical proportion, purified of the mystical-religious aspects, is a very powerful source of stimuli for the extension of the multi-sensory experience, intuitive knowledge, and the exercise of creative thought.

2. Challenge tackled

The design, construction and use of the "Music Compass" is at once scientific, artistic and educational, requiring commitment and sound knowledge. There may be unexpected developments at every stage.

The preliminary study is very complex, involving four levels:

Level 1) Analysis of the landscape's "primary subject": the physical components of the environment: Earth (plains, hills, mountains, valleys, cliffs, islands), Water (rivers, lakes, sea), Air (sky), Fire (the direct and reflected light of the sun, moon and stars);

Level 2) Historical study of the landscape's "iconography": the palimpsest and synthesis of the figures used to describe the environment during historical time: visual (painting, photography, mapping, film), acoustic (sound, music), multisensory;

Level 3) Interpretation of the landscape's "iconology" (Panofsky 1939, Mazzoleni 2005): deep understanding of the *Weltanschauung* expressed by the resident community, of the historical processes impacting on the environment's morphology, as well as pursuing a synthesis between objectivity and subjectivity, between different geographical, historical and aesthetic cultures;

Level 4) Definition of an analogical correspondence and transposition system not only between physical and visual qualities, but also between these and the site's sound quality, so as to bring out its specific "musical voice".

Once the Music Compass has been built with scientific, historical and aesthetic rigour, it becomes an "open work" available not just to scholars but to everybody. It becomes in fact a sophisticated and unusual instrument that can intrigue everyone, inviting them to play on it and with it, while at the same time transmitting a deep subliminal awareness of the infinitely complex values of landscape.

3. The Approach

The Compass has the structure of a plastic-pictorial work and at the same time of a musical instrument.

3.1 The plastic-pictorial construction

The compass is constructed, in relation to a specific site, starting from a kind of map: a visual representation of its landscape, realized as a circular two-dimensional image drawn or painted on a disk mounted on a cylindrical hollow drum (this structure will serve as the sounding board in the next step of the construction). Although the image is flat and two-dimensional, it is not a plan but is constructed as a spherical perspective of the site (*pan-Orama*: "all-vision"), centred in a significant vantage point of the site (*pan-Optikon*, "the point from which you can see everything"). We call it the "Global Orientation Map" (GOM) of the site (Mazzoleni 1998, 2007).

The GOM is constructed through the sequence of seven actions:

1. Identification of the Point of Departure (centre of vision)
2. Construction of the Terrestrial Horizon (Earth Circle)
3. Construction of the Heavenly Horizon (Sky Circle)
4. Identification of the Terrestrial Orientation (natural and architectural points of reference)
5. Identification of the Heavenly Orientation (the equinoctial East direction)
6. Construction of the path of the Sun (the band covering the sun's path at the summer and winter solstices, with the equinoctial solar trajectory as medial line)
7. Identification of the Leading Cardinal Point(s) (direction(s) of the preferred view(s) of the landscape).

Actions 1 to 6 require a careful historical and geographical study of the physical characteristics of the territory and its anthropic changes. In order to properly determine the start and finish of this representative process, actions 1 and 7 require a thorough knowledge of the site's historical iconography and various cultural representations.

3.2 The sound apparatus

The GOM is itself a sort of compass that allows you to navigate, in both the visual and cosmological sense, in the landscape of that particular site. Now further technical and sensory skills have to be added to the object. A mechanical apparatus has to be constructed around the cylindrical drum, suitable for producing sounds whose ascending and descending sequence reflects the solar trajectory.

This apparatus may be constituted in different ways.

- The triple "Horizon-Keyboard"

Around the disk on which the GOM is depicted, three circular keyboards are built, reproducing the round shape of the sky's horizon and, by analogy, the different extents of the sun's path in the three phases of summer, equinox and winter. These keyboards feature the chromatic sound scale, ascending (from the East to the South) and descending (from the South to the West). In analogy with the measures of the daylight hours, they start with the same basic note in the East and end on the same note in the West, but they have three different extensions (maximum for the "summer" scale, medium for the "equinoctial" scale, minimum for the "winter" scale). Thus, they reach the peak in the centre (to the South) in three notes of different pitches, by analogy with the different angle of the sun above the horizon at noon in the different seasons. If one chooses to proceed according to the tempered scale encoded in Western music, the excursion of the "summer" keyboard will be an octave and a half (starting from the tonic at the summer solsticial East, 18 semitones for the ascending scale to the central (South) note which is the diminished fifth in the upper octave, and 18 semitones for the descending scale, ending on the tonic at the summer solsticial West, for a total of 37 keys). The excursion of the "equinoxes" keyboard will be an octave (starting from tonic at the equinoctial East, 12 semitones for the ascending scale to the central (South) note which is the tonic in the upper octave, and 12 semitones for the descending scale, ending on the tonic at the equinoctial West, for a total of 25 keys). The "winter" keyboard will be a half octave (from the tonic at the winter solsticial East, 6 semitones for the ascending scale to the central (South) note which is the diminished fifth, and 6 semitones for the descending scale, ending on the tonic at the winter solsticial West, for a total of 13 keys).

The triple "Horizon-Keyboard" will, therefore, occupy a large sector extending clockwise from the summer East to the summer West. For a GOM of a landscape in the latitude of the temperate zone of the northern hemisphere, it would cover roughly the arc ranging from NorthEast through South to NorthWest. The northern sector of the disk will remain free, since in every season, in the northern hemisphere, the North is characterised by the absence of sunlight and thus by "silence".

The musical performance in this case will result in the gestures of the arms and fingers following circular paths concentric with the heavenly horizon represented on the GOM. The position of the performer may be in the North, but she or he could also walk round the instrument, or come and go along its circumference, orienting herself/himself in the preferred direction according to the symbolic-musical intentions. The movement of the performer adds an additional component to the visual-gestural-tactile-sonorous use of the instrument which could take on the form of a dance.

- The "Simple Keyboard"

A different version of the music compass can be built using a more straightforward constructive criterion. In this case, the sound apparatus will consist of a single rectilinear keyboard, commanding a set of resonant parallel elements (strings or lamellae), oriented in the North-South direction. The keyboard will feature an ascending scale from the tonic on the left (summer East) to the central note (South), and then descending to the initial tonic on the right (summer West). The seasonal variation of the solar arc will not be visually indicated by the presence of three keyboards but will remain audible in the use of the keyboard: its whole extent will be used to express the light of summer, and two parts, one smaller than the other, to refer to the winter and equinoctial solar trajectories.

- The "Intoned Keyboard"

If a portable version of the instrument is required, the number of notes can be reduced. For example, instead of realizing a complete chromatic scale with all the semitones, the scale of just one key could be provided. In this case, the rising part of the scale (from East to South) will be in the major and the descending part (from West to South) in the minor.

3.3 The finished object

The complete Music Compass is thus a hybrid object combining: a conceptual diagram, provided for theoretical speculation; a graphic-pictorial work, for vision; a plastic work, for touch; a sounding instrument, for playing and listening to music.

4. A sample and a prototype

Here you have a sample Global Orientation Map and a prototype of a Music Compass related to a specific landscape: the city of Napoli (Italy). *Fig. 3* shows the first step in the plastic pictorial construction of the GOM. Here the Point of Departure (Centre of Vision) is identified in the foundation site of the first ancient city, Parthenope (7th cent. BC). Starting from this very significant point (*panoptikon*), as the origin's *Umbilicus Mundi*, the Terrestrial Horizon (Earth Circle) is drawn as the limit of the *panorama*, the three-hundred-sixty

degree all round vision. This limit is a circle not in the Euclidean but in a topological sense: a closed curved line, defining the first anthropic image of this land chosen by the ancient Greek colonizers, i.e. the first landscape of the site. On it, the Terrestrial Orientation is noted by natural and architectural points of reference. Around it, the Euclidean circle of the Heavenly Horizon (Sky Circle) is identified, with the point of the equinoctial East (Heavenly Orientation). The orthogonal diameters of the equinoctial East-West and the South-North lines compose the cosmic cross of this landscape. According to the Greek-Mediterranean tradition, this cosmic cross will be the archetypal reference for the city design, connecting it with its terrestrial and heavenly landscape.
Fig. 4-15 show the construction of the GOM.

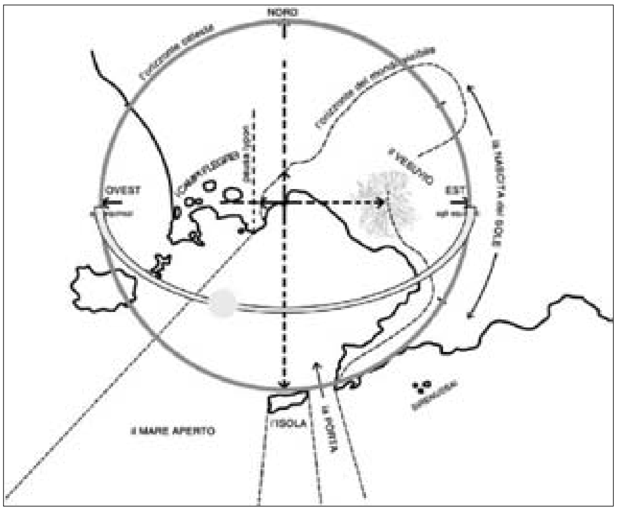


Fig. 3. Donatella Mazzoleni, The Music Compass relating to the landscape of the city of Napoli (Italy). The basic diagram deriving from the seven actions.

5. Conclusion

The Music Compass is a visual-tactile-kinetic-sonorous tool of artistic, scientific and educational value.
Its construction requires a thorough study of the astronomical and geographical location of the landscape, its morphology, the organization of the primary materials (Earth, Water, Air, Fire), and the stratification of the signs of human presence. And in addition, a complete knowledge of the iconography of the landscape, i.e. the graphic images, maps, paintings and so on with which the site has been represented by its inhabitants and by travellers in different periods of history. Finally, it requires critical and polysemic interpretation.
For its use, which is multi-sensorial (visual-tactile-choreutical-musical), it is necessary to activate a syncretic sensitivity. The user must be able to undertake without preconceptions a free and playful experience, with no other aim than the suspension of thought and entry into a global meditative exercise generating a state of rêverie.
When the term "music" is related to this tool of syncretic knowledge of the landscape it not only has the modern meaning of the "art of sound" but also regains the original meaning of the ancient Greek word *mousiké*: the total art of the nine Muses, divine daughters of Zeus and Mnemosyne (goddess not only of memory but also of forgetfulness): the "art of the harmony between all forms of human expression". In conclusion, the Music Compass is proposed as an innovative tool for inducing a deep awareness of the global values of landscape, for cultivating and disseminating them by means of joyful practices, and for nurturing creative thinking.

Fig. 4. View to the East: the rising sun at the equinox (photo Mazzoleni).

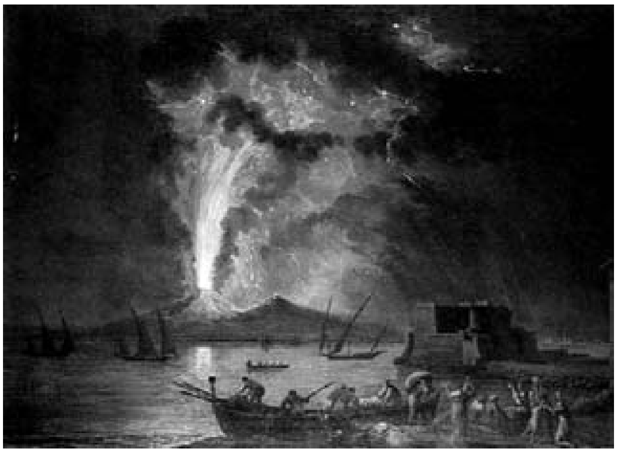


Fig. 5. View to the East: the explosive volcano (Philipp Hackert, The Vesuvio eruption 1779).

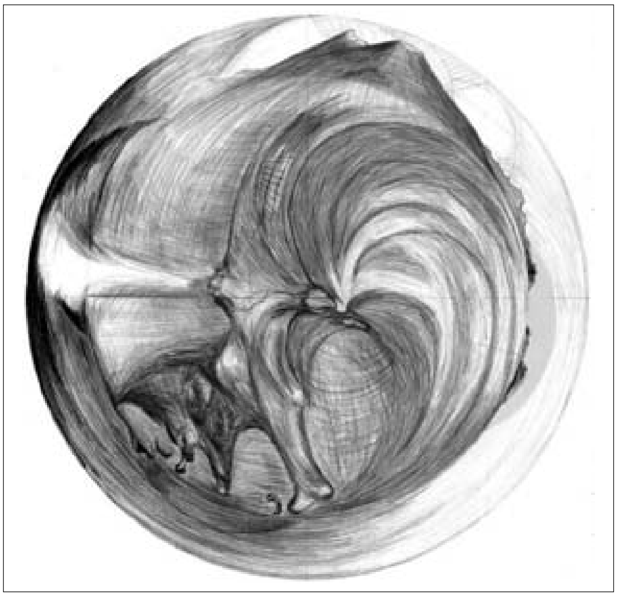


Fig. 6. Donatella Mazzoleni, The GOM of Napoli (Italy). View to the East: archetype of the rising Fire.

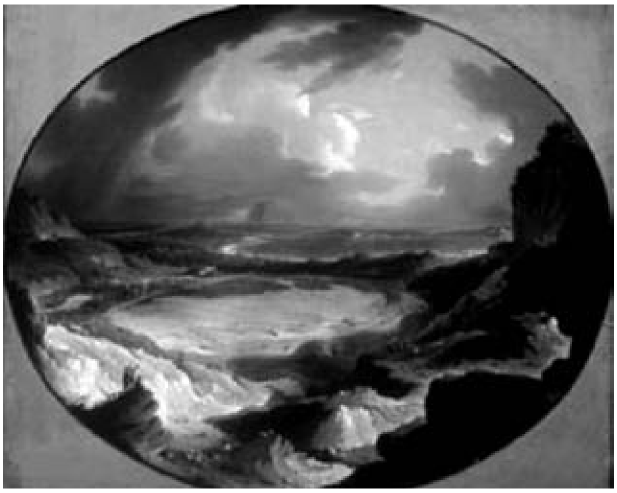


Fig. 7. View to the West: extinguished volcanoes in the Campi Flegrei area (Tommaso Ruiz, The Pozzuoli Bay, 1749).

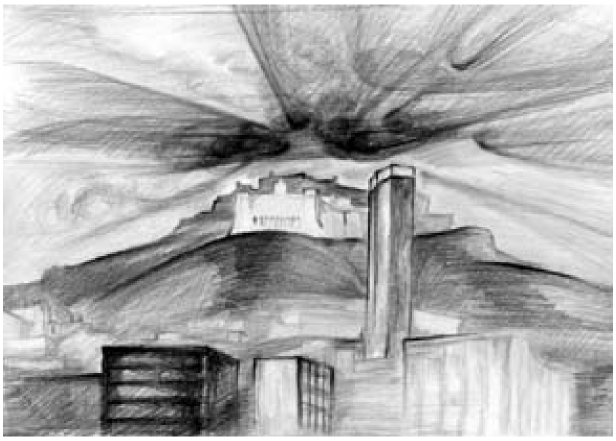


Fig. 10. View to the North: the top of the hills (Donatella Mazzoleni, St Elmo Castle from the sea).

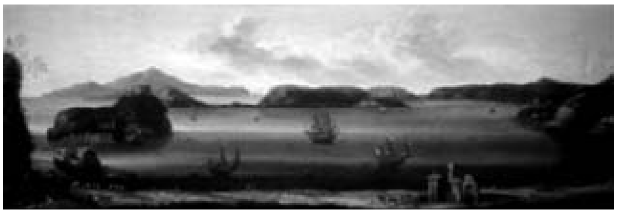


Fig. 8. Vision to the West: extinguished volcanoes in the coast and islands (Tommaso Ruiz, The Pozzuoli Bay, 1749).

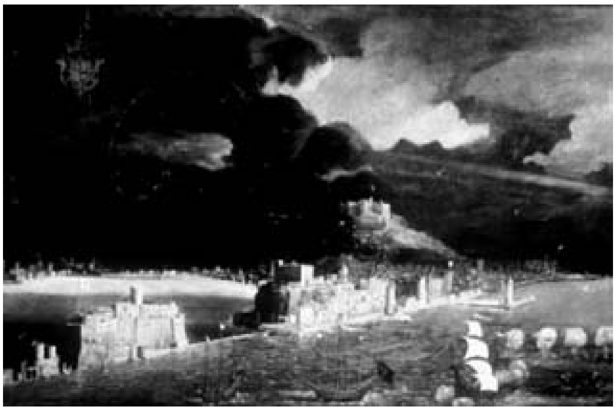


Fig. 11. View to the North: the hills and the winds. Didier Barra (1590 - ?), Napoli from the sea.

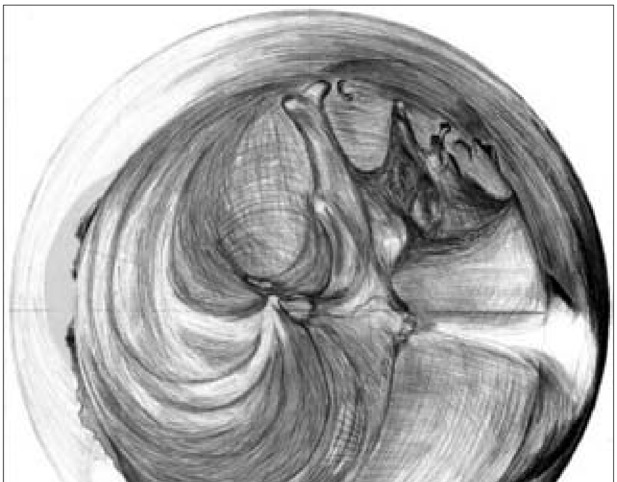


Fig. 9. Donatella Mazzoleni, The GOM of Napoli (Italy). View to the West: archetype of the welcoming Earth.

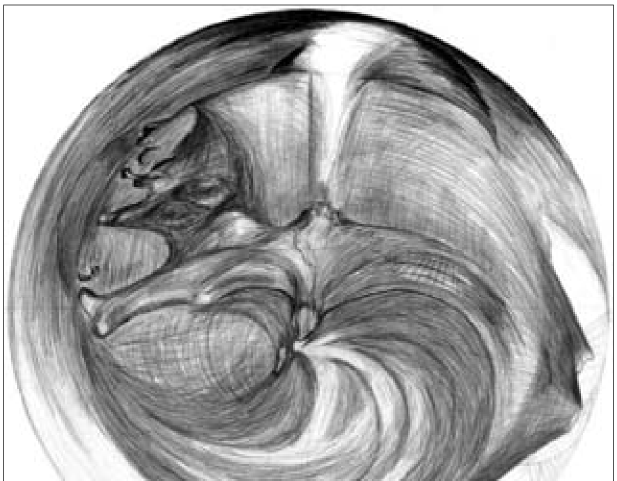


Fig. 12. Donatella Mazzoleni, The GOM of Napoli (Italy). View to the North: archetype of the breathing Air.

Fig. 13. View to the South: the sea and the Capri island, the mythological petrified body of the Siren Parthenope (photo Mazzoleni).

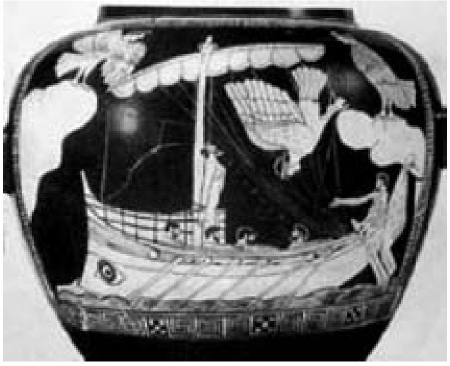


Fig. 14. The myth of the origins the challenge of Odysseus and the death of the Siren.

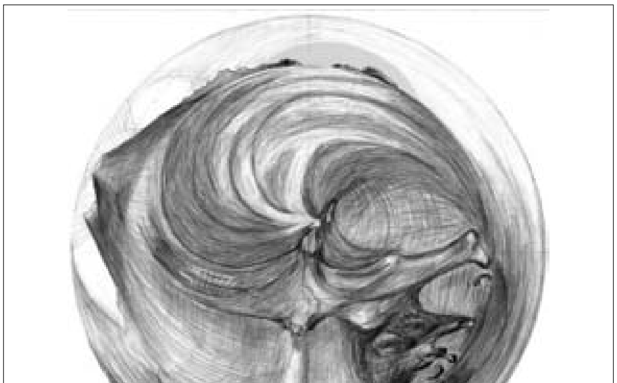


Fig. 15. Donatella Mazzoleni, The GOM of Napoli (Italy). View to the South: the Water of the Origins. Identification of the Leading Cardinal Points.

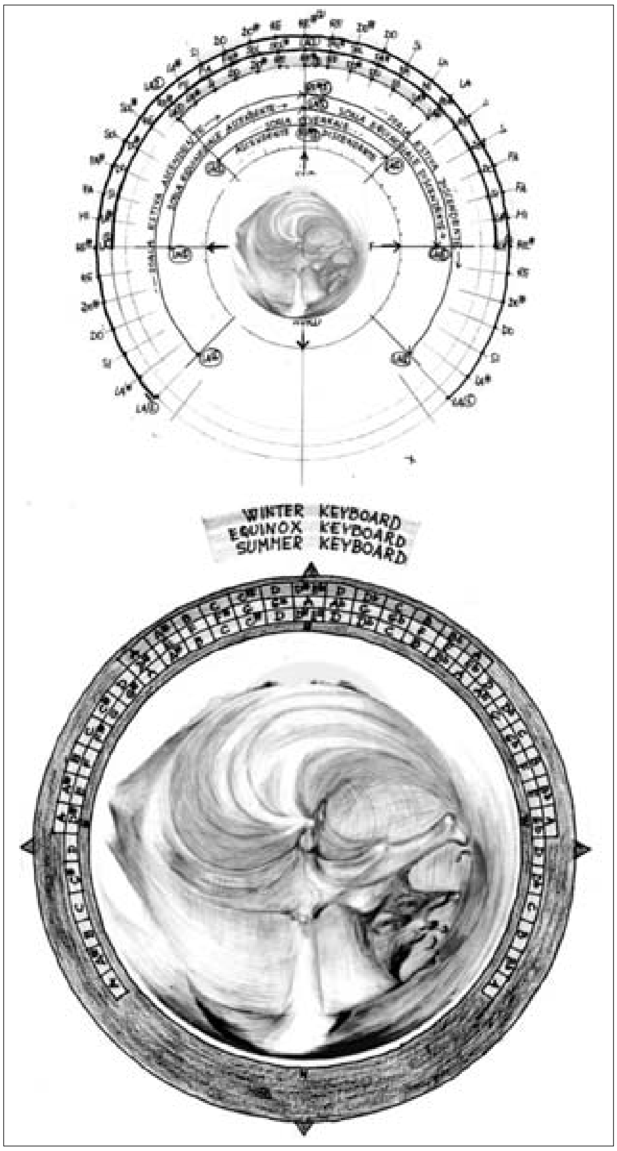


Fig. 16-17 show the construction of the keyboard.
Fig. 16. Donatella Mazzoleni, The Music Compass of Napoli (Italy). Version with the triple Horizon-Keyboard.

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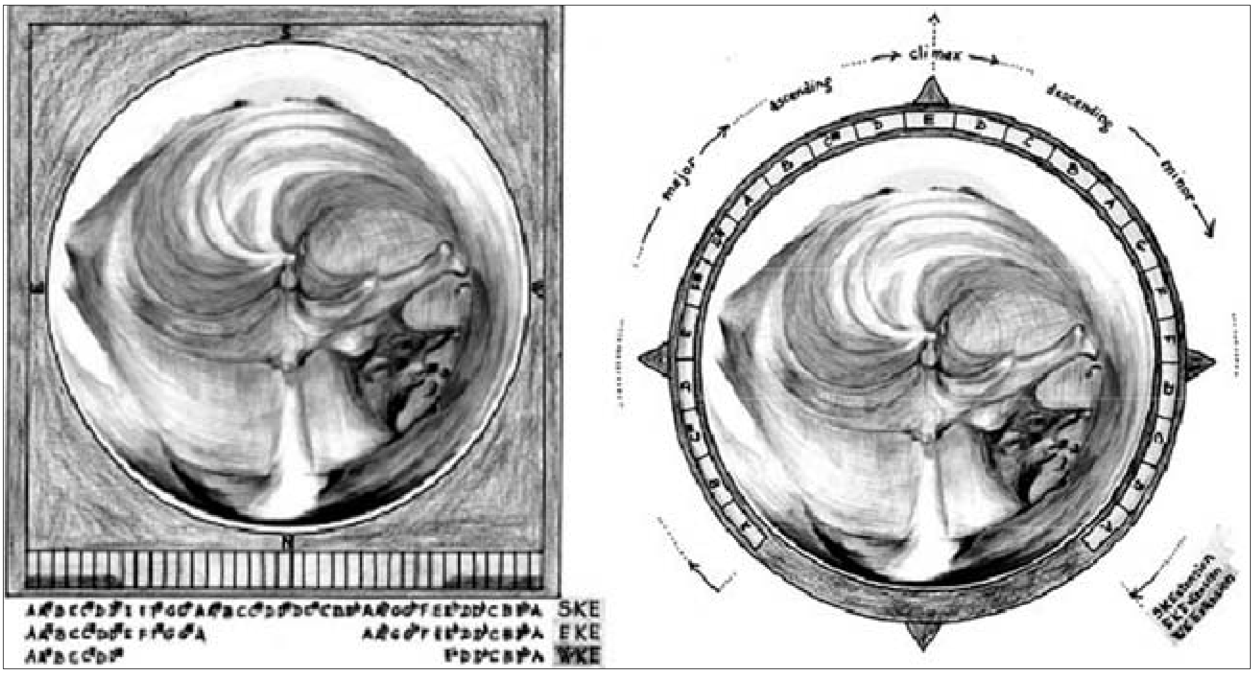
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Fig. 17. Donatella Mazzoleni, The Music Compass of Napoli. Versions with the Simple and the Intoned Keyboard.

Transdisciplinary Creative Practice

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Abstract: Transdisciplinary Creative Practice offers valuable intelligence by reflecting on ten years of the innovative Art Space Nature programme at Edinburgh College of Art. This masters programme responds to current imperatives to educate a new generation on the values of constructive problem-solving and real-world engagement, to advance knowledge of how creativity connects the intertwined contexts of spatial practice with socio-ecological environments, to contextualise knowledge and address complex worldwide issues. Animated by transdisciplinary sensibility, a critical platform for discourse is provided on the convergence of art, science and technology, on how spatial practice assigns politically aware and culturally astute values, to explore interwoven social and ecological factors and see the landscape as a living test for spatial thinking.

Keywords: Transdisciplinary, Education, Creative Practice, Art, Space, Nature.

1. Introduction

This paper will reflect on Art, Space, Nature (ASN), established at Edinburgh College of Art in 2003, as a two year MFA programme offering a framework of advanced study for individuals to develop practical and academic interest in the visual arts, architectural and environmental practice. The programme is devised as a platform for research led teaching to equip students with the necessary expertise to operate with a transdisciplinary sensibility to engage with complex environmental situations. While the programme is multifaceted in terms of specific projects, which in themselves offer particular insights into pedagogical approaches to environmental issues, this paper will reflect on the broader structure and ethos of the programme, on how we operate as a transdisciplinary framework to explore the intersections between people, society, and environment.

2. Programme Ethos

Working from the axiom of ecology, that all things are interconnected, we operate between philosophy, protocols, policies, places, people, and particles, animated by the belief that creative practice is charged with the potential to bring measure and insight to our anthropocentric condition. We seek to develop culturally astute, politically aware and visually perceptive individuals, responding to the current demand to educate a new generation through enlightened thought and engaged practice. In ASN this is articulated through a concern for comparative practice and theory to explore the opportunities for collaboration, both speculative and practical, to encourage a process of learning which involves drawing appropriately from multiple disciplines to redefine problems outside of normal boundaries. The principal goal is the development of the individual through exploration into visual and spatial constructs, where students are encouraged to be creative practitioners who combine these skills through synthetic forms of experimental practice.

3. Programme Structure

Fig. 1, ASN student Catriona Glover, experiment with air and material qualities, Edinburgh 2009. © ASN

The ASN programme provides a dynamic matrix of course options to assert the values of real world engagement and issue led practice, interrelated with theory and skill based learning, focused through our primary courses (40 credit) in Creative Practice: Contextual Assignments, as a set of carefully considered project contexts, from the global to local, urban to rural, studio to lab, field to form, that enrich practice through comparative spatial settings.

Recognising that the major grand challenges facing our society are embedded in landscape: climate change, energy needs, health and safety, food security, urbanisation and migration (Bloemers et al 2010), these contextual projects provide opportunities for personal assignments, as creative reactions to place specific or site informed practice, as a learning process that compels critical reaction, while challenging the consistency of personal interest across varying contexts, disciplinary, and situational boundaries. Each assignment offers a context where environmental issues are manifest, challenging field investigation models, site informed research and media techniques, to develop practical responses that inform visual output. These projects are not predefined through design briefs, where instead we encourage an open response through individual perspectives and interests, but equally rigorous in the process of project development and delivery. Alongside the core programme courses students can construct their individual pathway through course options summarised through two strands of interest. In the first strand in semester 1, 'The Creative Ecologies Studio' focuses on the more tangible scale of the human landscape, involving speculative exploration of interwoven systems and structures, which

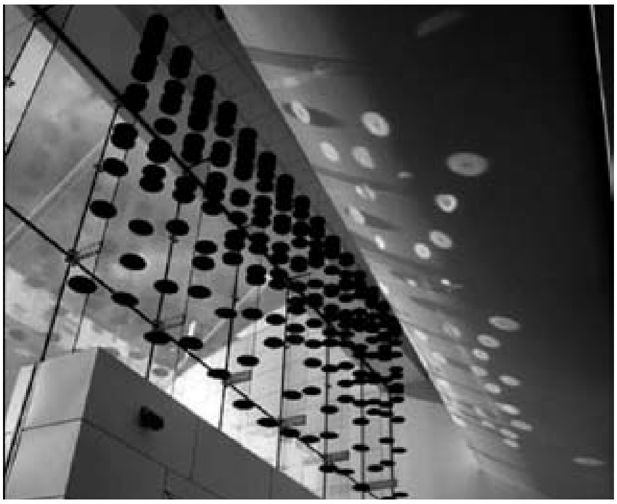

Fig. 2, ASN student Mel Perkin's permanent installation at the Edinburgh Royal Infirmary as part of Studio/Lab project with Queens Medical Research Institute, Edinburgh 2009. © ASN

extends in semester 2 in 'The Global Ecologies Studio', investigating systems at broader scales as the creative interpretation and measurement of ecologies (both social and natural) as a critical response to anthropogenic activity. In the second strand in semester 1 'The Exploded Studio/City' operates beyond institutional limits to explore the city as a situational domain, while in semester 2 'The Lateral Studio/Lab' explores the comparative setting of studio (art) and laboratory (science) cultures, exploring comparative modes of thinking and action, culminating in proposals and/or built forms that seek to bring insight to these relational contexts.

4. Project content

We recognise that creative practice involves knowledge of tools and techniques, to evolve personal creativity and application, often combined in interdisciplinary forms. In ASN we explore tool and technique, performance and agency, and sense and sensor as a creative process that evaluates tools through improvisation and performance, and as extensions of an experiential sense of place. At a broader scale we address cultural relationships between people, environment and technology, extending the idea of mediation to explore issues of cultural appropriation, such as energy production, information networks, settlement patterns and economic infrastructure, which raise associated questions of cultural value, social impact and physical integration, leading into broader cultural and philosophical enquiry, such as ecophilosophy and biosemiotics, which surround the issue of relational technology.. Travel is encouraged to explore comparative regional and international contexts, providing valuable intelligence on new strategic developments in contemporary practice, often involving intensive collaborative projects with external groups. The international dimension of the programme establishes that beyond the dynamic of multidisciplinary concerns, an aspect of multicultural negotiation is also of value in educating students of a sophisticated worldview. In this, global concerns, such as climate change, food production, social inclusion and aesthetic values, can be compared and reflected upon.

5. The Studio

For reflection in action, Schön established that the micro-culture, or specific design venue, was important in providing a setting to understand a problem better (Schön 1983). For the often diffused activity in ASN we greatly value the position of our own studio base as the specific venue for our activity and consistency of a stable working space and regular meeting point for students. The studio has become the hub for activity, with meetings, lectures, seminars, exhibitions and events contributing to a sense of a space that is collectively owned and controlled by the students, but structured to engage varying public activities. A great asset for the programme is that the studio has a gallery with public street interface, offering students an immediate context to test ideas, while promoting the public engagement of work within the studio structure.

Fig. 3, ASN students' performance work presented at the Yamaguchi Institute for Contemporary Art, Japan 2010. © ASN

Fig. 4, ASN student Darren Buchan's installation at Tent Gallery, Edinburgh 2011. © ASN

6. Assessment criteria

ASN operates to promote applied thinking, in many ways related to Argyris and Schön's theories on experiential learning and reflective practice. This in particular emphasises applied thinking as a process involving experimentation and the testing of ideas, creating praxis between theory to action and production, which Schön seen as a process that unified thinking and doing, where experimentation is a kind of action, and implementation is built into inquiry (Argyris and Schön 1976). The value of action as a basis for student research has been identified as oriented toward the enhancement of direct practice, as a form of self-reflective enquiry which improves the

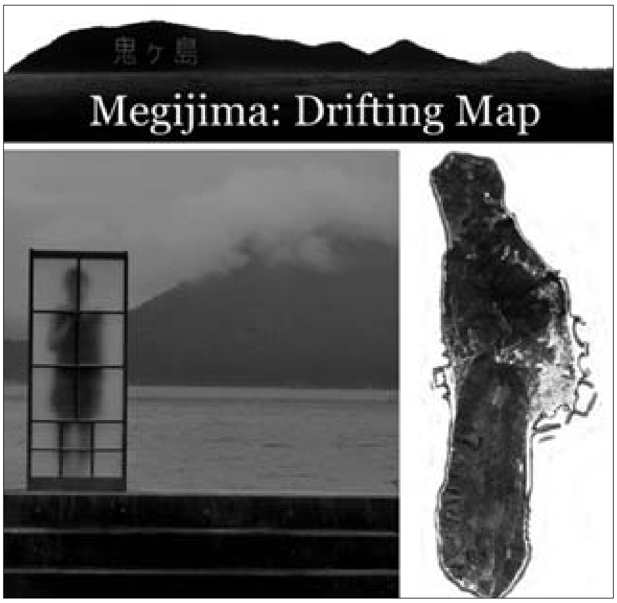

Fig. 5, ASN student's contextual assignment in Seto Islands, Japan, 2010. © ASN

rationality of practice, directly related to the situations, or contexts, in which practices are carried out (Carr and Kemmis 1986). This value is significant by informing how ASN promotes contextual and practice (action) based projects, strongly interrelated with student led (reflection and planning) learning as a process to interrelate between multiple and individual activity. The context in which the students work promotes a fine balance between the time for reflection and experimentation and the opportunity to critically examine work and contemporary issues. While the cultivation of the capacity to reflect in action (while doing something) and on action (after you have done it) has become an important feature of professional training programmes in many disciplines (Atherton 2009), ASN's programme also seeks to assess the students ability to plan future action as a logical reiterative progression through action, reflection and future application. This informs the basis for assessment, where the programme is structured through courses with a consistent assessment criterion that prompts the student on these three aspects and traces a pathway for individual development. ASN encourages a process of development that makes students increasingly self-critical and independent, where the programme is structured around a deliberate shift from directed, where projects are provided, to self-directed, and where students develop their own projects, providing a pathway for individual development. Within this, the act of reflection is seen as a way of promoting the development of autonomous, qualified and self-directed professionals (Jasper, 2003), where each project has an underlying reflective strand that prompts students to locate the contextual basis of their work, as a concern to develop a formal means to assimilate and document their activity to build a sense of formalism to their individual approach.

This centres on the logic that an autonomous practitioner must formulate the basis of their own practice, as an internal system that is then capable of negotiating the external challenges of contextual engagement through a critical stance. This critical process seeks to explicate the productive quality of individual practice, with particular consideration for conceptual clarity and detailed construction, as a rigorous appraisal of the pragmatics between conceptual proposition and material outcome, underpinned by visiting practitioners and critics who add critical perspective.

7. Multidisciplinary Perspectives

The value of multidisciplinary working is firstly evident in ASN's student cohort, where students are carefully selected to contain a variety of disciplinary and cultural backgrounds to provide a mix that acts as a great catalyst to the development of all the students on course, leading to fresh insights and new ways of thinking. In this way, the programme emphasises the value of inter-subjective connections, but equally promotes the role of subjective positions within it, providing a structure that emphasises the social group and context of working (Guattari 2008). This structure is further emphasised within the collaborative approach to teaching, where ASN forms a platform and forum where students can interact and work with a range of experts from varied disciplinary fields. This seeks to offer each individual a balance between practical skills, interrelated with theoretical reflection, where professional input supports a broad range of approaches to digital media, performance and installation art, arts publication, field and visual theory.

Fig. 6, Greenland field study with anthropologists from University of Aberdeen, 2009. © ASN

To explore the values of a multidisciplinary approach we have established formal partnership with experts in the arts and humanities, social and physical sciences, recognising that knowledge integration that crosses these boundaries is essential to fully interpret the way different factors come together in landscape by providing multidisciplinary information about historical, cultural, ecological and environmental factors (Bloemers et al 2010). Working with anthropologists, for instance, we have directly explored the premise that in order to understand environmental change we must view the landscape both retrospectively and prospectively, to better understand dynamics, timing and drivers of change, while recognising the established viewpoint that research targeting sustainable landscapes needs to include findings and methods from many lines of activity (Andersson 2006).

8. Graduate Attributes

To enhance the process of finding an appropriate means of personal expression, each student is prompted to document their individual project assignments in relation to a consistent line of personal research, as an extensive project and personal trajectory of speculative practice which offers the genesis of new things. This becomes a process of integration and assimilation, where research, creative practice and contemporary cultural theory become evident as a personal commitment to responsive practice. The objective is to enable each student to achieve an advanced position, to develop portfolios of the highest quality, covering a range of international contexts, and to demonstrate a refined and sophisticated grasp of contemporary issues through professionally aligned project delivery and documentation. From this, graduates can become more versatile in the their choice of career path, with portfolios that evidence a transdisciplinary sensibility, animated by a strong grasp of responsive, collaborative, and synthetic practice.

9. Conclusion

As a postgraduate programme ASN responds to current ideas and imperatives for educating a new generation on the values of transdisciplinarity and contextual engagement. Within this we are aware of the distinction of transdisciplinary studies in relation to other modes of interdisciplinary and multidisciplinary approaches, which can be generally summarised where multidisciplinary involves the juxtaposition of disciplinary perspectives, while interdisciplinary involves the coordinated integration of certain specialist approaches. Moving beyond these we see that transdisciplinarity crosses many disciplinary boundaries towards a more thorough assimilation of theory and approach. What is essential in our approach is the recognition that to achieve this basis of understanding for students requires the appropriate 'intellectual space' to support the quest for wider and deeper knowledge, allied with an objective to creatively synthesis resultant material. Our programme becomes this space, as a platform to reveal, explore and critically evaluate real world issues, and consider comparative modes of practice, and to then critically repackage these to engage complex environmental situations. In particular this process centres on a comparative critique of creative practice where students become increasingly aware of how we assign values through visual-spatial constructs. Within this structure we emphasis the values of dialogue and participatory practice, to encourage practice that is socially-focused. For students this builds experience in the process of collective decision making and inclusive thinking, where respect for the 'other' is an increasingly common value to negotiate complex projects. This also relates to recognition, identified in reports such as the Council of Europe's European Landscape Convention (2000), that the concept of landscape is a major force for social and environmental change or continuity, defining landscape as people's perception, which requires new modes of participatory action. In general, these aspects relate to the need for increased skills in inter-subjective dialogue, to better communicate and resolve often localised issues, while bringing issues into social decision processes (Peterson et al. 2003).

FFig. 7, ASN project review and consultation, Edinburgh 2011. © ASN

This focus on localised issues is also of great significance in the educational process, where long term and in-depth study is a challenge for increasingly fast track masters programmes. To address this situation we have established long term contextual projects to create a consistency of engagement through successive years of the programme, while providing a depth of knowledge generated through prolonged engagement and increased understanding through staff involvement and continuity with external organisations, where students can generate their individual response but set within a continuum of engagement. This recognises that the major challenges facing our society are embedded in landscape: climate change, energy needs, health and safety, food security, urbanisation and migration (Bloemers et al 2010), while identifying that issues are interrelated through scale, most generally seen as the local, regional, national to global. This establishes that while cultural imperatives and issues are often extensive, it is the local scale where concrete things happen, as the physical transformation of land, space and environment, relative to the scale of human action (Carpenter et al. 2001). These distinctions advance the notion of transdisciplinarity not only as the intellectual versatility of students, but as an increased mobility to discern and shift between modes of thinking in relation to contexts of action, while being critically effective in this process. This further sets transdisciplinary practice apart from more conventional educational projects through an increased emphasis on engagement, investigation, and participation, through issue led studies and real-world engagement, which demand working beyond institutional limits. Working beyond boundaries also reflects the value for multidisciplinary collaboration, as the need to enhance integrative approaches between arts and humanities, natural and physical sciences, to address issues that cannot be solved by one or even a few points-of-view. As stated in UNESCO's 1998 report, the advocates of transdisciplinary studies argue that they come from the nature of the 21st century world, with its loss of a unifying narrative of knowledge, the continuing destabilization of disciplinary boundaries, and the transgressive character of the times (1998 UNESCO Documents and Publications). In response, the values embedded in our transdisciplinary vision seek for a connective praxis between theory and action relative to comparative exploration of disciplinary expertise, to creatively seek out new forms of convergent and contextually responsive practice. In this process we see 'space' as the convergence of 'art', of creative and critical thinking, relative to 'nature', of spatio-temporal dynamics, as the essence of the Art, Space, Nature programme.

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A Rhizome of Landscapes: a Geophilosophical Perspective About Contemporary Global Spaces

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Abstract: Geophilosophy is an innovative and interdisciplinary approach to the study of place, space and landscape in the nowadays globalised world. In this paper I will analyse the concepts of rhizome and milieu, the former considered as a new model for the relation between global and local landscapes, the latter as the core of the processual relationship between culture and nature. Furthermore I will address the issue of the distinction between landscape and environment, considering the latter from an ecological rather reductionist point of view; in doing so I will refer to the bridge-notion of affordance, meaning with this term the wide range of possibilities that place gives to our perception. From this stand point I will explain the ethical and political consequences of these two theoretical remarks.

Keywords: aesthetics, affordance, ethics, geophilosophy, globalization, landscape, place, rhizome, space.

1. Introduction

Geophilosophy is a philosophical and interdisciplinary approach which focuses on the study of the contemporary issues of place and space, by conducting a genealogical analysis of terms such as landscape, milieu and territory. Geophilosophy belongs to the domain of environmental aesthetics and it is quite considerable in the definition and comprehension of contemporary landscapes. The term was firstly introduced by Gilles Deleuze (1991), then adopted in Italy and France by some philosophers (e.g. by L. Bonesio, M. Cacciari) who have extended the scope of investigation and have detached themselves from Deleuze's thought. Despite that, I argue that one of the central figures in geophilosophy remains, without any doubt, Gilles Deleuze, not simply because he invented the term but because, as I will show, he offers the possibility of applying the geophilosophical thought to the study of contemporary landscapes by introducing the model of the rhizome. Furthermore my approach is aimed at widening the thought on landscape towards the ecological perception by introducing the term affordance, used to describe the possibilities that the environment can offer.

2. Geophilosophy: space, place and landscape

The term geophilosophy was introduced by Deleuze with the aim of reorienting philosophy from concentrating on temporality and historicity towards focusing on spatiality and geography, because "thinking takes place in the relationship of territory and the earth" (Deleuze 1991, 86). Furthermore, according to him, ancient philosophy was born in Greece in the moment in which a deep bound between thought, events and space was established, thus philosophy was born as a non-accidental conjuncture between cultural concepts and space.

Starting from this idea geophilosophy has developed in these years a deep genealogical analysis of the concept of space, place and landscape. The distinction between the first two terms constitutes one of the theoretical bases of geophilosophical thought. It is inspired by a distinction proposed by the phenomenological geography of Eric Dardel (1952) between geometric and geographic space; the former considered homogeneous, uniform, neutral, and quantitative; the latter, instead, qualitatively differentiated. Thus, for geophilosophy, place corresponds to Dardel's geographical space. It is considered as recognizable, symbolic, mythical, and religious. It is local and regional; it is the landscape too, it is the concrete setting for local culture, and concerns the process of sense-making. In this respect I would like to strongly highlight that the connection between place and local is not a matter of scale: we can, on the contrary, characterize the term *local* as something regional, multiscalar, by providing an idea of local that avoids the peril of closure, tribal identity and localism. I think that this clarification is quite important to prevent possible misunderstandings especially in reference to some concepts such as *heimat* (Menatti, 2011, 2012).

Space, instead, is something global; it refers to measurement, calculation, infinite extension, and homogeneity. It is a term belonging to Modern Western philosophy, expression of Cartesianism and to a specific idea of nature in the history of ideas. E. Casey argues, in fact, that for many centuries, in philosophical thought and in the history of ideas, persists what he has called disdain for the specialness of place (Casey, 2007), implying that the place with its own qualitative, perceived, relational, and historical features has been substituted by the concept of Cartesian space, characterized as empty, calculable, infinite, and homologated.

Nevertheless the core of this paper is the idea of landscape considered as the visible and invisible shape of a place. It is well known that landscape is a cultural product of a society; it is not something universal and did not exist in every age. In the last thirty years many philosophers, sociologists and anthropologists have spoken about the definition of landscape: for example A. Berque (1995), comparing Western and Chinese landscape, affirms that some societies were not landscape-aware. Berque, quoting the famous assertion by Cézanne that the peasants of Provence had never seen (from an aesthetical and artistic point of view) the Montaigne Sainte Victoire, argues that many societies have worked with the environment, but never wondered about landscape. For many authors, landscape has been invented by city-dwellers and artists during the Modern Age, while ancient civilizations (e.g. Ancient Greece) did not have in its language a world for landscape. An aesthetic conception of landscape emerged both in China, about two thousand years ago, and in Europe during the XV century, within Flemish art.

As we know, an innovative concept of landscape, which overcomes the aesthetic reductionism, has been introduced thanks to the European Convention of Landscape (2000). I argue that one of the most interesting ideas of this document is its new conception of landscape: in the Florence Convention we read, in fact, that landscape does not merely mean a beautiful landscape (a postcard landscape). Indeed, the convention acknowledges that landscape is not only a view (landskaap), but also a place (lanshaft), with its own culture (Howard, 2004). The postcard model has distinguished for many centuries interesting and beautiful places (e.g. panoramas) from ugly ones. As a consequence, urban planning and environmental national laws have often safeguarded only postcard places, leaving an insane property speculation free to destroy places that were considered as ordinary or ugly. On the contrary, according to the Convention: "the landscape is an important part of the quality of life for people everywhere: in urban areas and in the countryside, in degraded areas as well as in areas of high quality" (Preamble). This is quite interesting for the analysis of globalized contemporary landscape and, as I will explain, in the clarification between place and non-places.

I want also to emphasize the aspect of landscape related to practices, and not just its symbolic and spiritual characteristics. I think that practices are an important element which needs to be taken into consideration. On the one hand it allows us to avoid the risk of making 'place' something metaphysical. On the other hand it enables the understanding of the connection between landscape and territory. I argue that landscape can be considered as a territory of practices (De Certeau, 1980), and I use the concept of territory as a valid instrument for describing the complex nature of a landscape. I quote De Certeau, not with regards to his controversial distinction between space and place, but in reference to the fact that the concept of practice can entail the idea of an experienced landscape (lived and composed of paths and continual reconstructions). By speaking of practice, I point out the sensible characteristic of a landscape and its evolution.

Thus the notion of landscape is composed by a wide range of elements, all entailing the relation between cultural and natural aspects. Therefore the term refers to a wide spectrum of concepts, and, as I said before, since landscape is everywhere and it is not merely a view, it can contain in itself the notions of place, space, territory and milieu. We can consider all these terms as several meanings of the concept: for this reason I will show later how the term environment is a fundamental part of the landscape too and how I absolutely reject the idea that the environment is simply a name for a biologistic description of place according to the modernist approach.

3. Territorialisation and deterritorialization: a model to understand globalized landscape

Contemporary landscape is a very problematic issue: one of the reasons is clearly that it is globalized. As I showed elsewhere, a parallelism can be identified between the space-place difference and the opposition between place and non-place by the French anthropologist Marc Augé. Even though I consider it important to take into consideration the distinction between places and non-places in order to understand the aspects and the dynamics of contemporary globalization, I advocate that contemporary landscape can be better described by using the concept of rhizome and by defining it through a continual dialectic between deterritorialization and territorialisation acts.

Deleuze introduces these terms in order to describe the processes of creation and dismantling of a territory, as two movements of a continuous dialectic characterizing the dwelling on the Earth. In particular, as he stated, in *Anti-Oedipus* (1972), in the Post-Modern world deterritorialization is related to madness and it implies the disconnection of the sick "body without organs" of the schizophrenic from the nature of his own body and of the Earth. In the same way Deleuze uses the word "territorialities'" to describe the neurotic (with his Oedipus territorialities). The schizoid, instead, for him is someone who is "continually wandering about, migrating here, there, and everywhere as best he can, he plunges further and further into the realm of deterritorialization, reaching the furthest limits of the decomposition of the socius" (Deleuze 1972, 35).

Thus schizophrenia becomes an interesting model to describe contemporary migrants and deterritorialization (Buchanan 2005). According to Deleuze ancient states and city states carry out a deterritorialization by adapting the territory to a geometrical extensiveness; the imperial *spatium* of the State and the political extension of the City are deterritorializing principles of an originally nomadic place, that once was connected with the Earth (Deleuze 1991, 85). But it is with capitalism and the despotic State that deterritorialization reaches its climax. For Deleuze modern societies are characterized by continuous processes of deterritorialization: what they deterritorialize with one hand, they reterritorialize with the other. These neoterritorialities are often artificial, residual, and archaic. Thus every territory in history is subject to both these activities.

The concepts of deterritorialization and re-territorialization can be applied to the explanation of the dialectic between local and global landscape: local is something connected with place, whichever its extension, and with the creation of territory; global, on the other hand, is connected with deterritorialization.

Nevertheless the issue is not so easy. I sustain that every culture entails local (earth as a place) and global (earth as a globe) actions. Every culture is characterized by both deterritorializing and reterritorializing movements. This kind of relation is never static, sedentary, but implies a continuous movement in connection to global fluxes. However, it is also true that globalization itself is a deterritorializing process because, as Deleuze points out, capitalism applies extensive measurements to the Earth that, on the contrary, needs intensive and qualitative modalities of approach. On the other hand, globalization does not just erase the differences and the specific characteristics of places (I think we have to consider also the different historical phases of globalization, not just the last one, dominated by the capitalism of trades). Rather, globalized world means a continuous dialectic movement between local place and global space. The poles of this dialectic are not in radical opposition, but are complementary. Global becomes the relation and the connection between different places. According to Deleuze's theory, in fact, territory is unpredictable in what concerns its shape (landscape) and the fluxes that pass through it: especially in the Postmodern age there is neither temporal stability nor spatial fixity. We cannot simply and nostalgically speak about a place whose qualities are erased by globalization; on the contrary, the fluxes that cross a territory can now erase its qualities and configure a new and deeper kind of landscape. Whether this shape is in harmony with a place (considered as historical, symbolical) or not, depends on the complexity of elements that need to be analyzed. Hence, the crucial point is to understand which kinds of deterritorializations and reterritorializations, which kinds of places and spaces have emerged in the Post-modern age. Non-places are surely a distinctive aspect of Post-modern deterritorialization, yet in this short paper I want to point out that the simple dichotomies between place/non-place and space/place as something contrastive are not enough to understand the contemporary landscape. Moreover, from the ethical point of view, I suggest, they are not enough to take care of all kinds of landscapes in the world. I argue that when a space is marked as 'no-place/junk space' or a similar definition, an aesthetical and, consequently an ethical (meaning by this the action of taking care) judgment is implied. As I said above, landscape is everywhere, is global and local, with each landscape entailing a specific kind of relationship with the human beings. The task of the philosopher is to understand the relationship between people and contemporary landscape, and to encourage the development of educational practices aimed at dwelling in a landscape, and feeling that landscape.

4. A Rhizome of landscapes

The rhizome (from the ancient Greek rizo-, root) is a biological term that denotes the modification of the underground stem of a plant. If a rhizome is separated into pieces, each piece may give rise to a new plant. In *Thousand Plateaus* (Deleuze, 1987) the concept of rhizome is used to denote a network in which, unlike in the tree-like organizations, any node can immediately connect with any other node. Networks replace hierarchies, but it is too trivial to associate the rhizome with the net: rhizome also involves the idea of process and it is aimed at explaining the relation between different concepts, which are only apparently in opposition. In fact, the notion of rhizome can express the relation between global and local, between space and place, as a conceptual model of the complexity of spatial systems and of the new configurations of globalized space. Carl Gustav Jung used the metaphor of rhizome to speak about the deep and invisible nature of life; Deleuze uses it to introduce a new model of science, language and space (Deleuze, 1987, 21). Deleuze's idea of space constitutes a pragmatics of the transit, of the dissemination of the sense (as Derrida would say) and it never closes the figure of space, that is, it is never completely defined and enclosed. Thus rhizome can be used to denote a processual network of landscapes. Applying this concept to the question of landscape has the two following consequences: (1) inside the rhizome we have different processual landscapes. I call processual landscapes every mutual relationship belonging and constituting a landscape and involving the couple nature and culture, human being and environment, ecology and history of ideas; (2) the identities of landscapes are not something fixed, pre-given, unchanging and decided a-priori, but landscape is always in evolution. Thus I can assert that the contemporary configuration of places implies a collection of rhizomatic landscapes mutually defined. The rhizome is important because it allows us to say that nowadays it's still possible to speak about identities of places, but at the same time we need to characterize identity as something not static, and that cannot be reconstructed merely through the concepts of *heimat* and *genius loci* (elements which belong to places, that are distinguished for their beauty or memory). In the Post-modern age, identity is something not clear, changeable. Above all, it is built on the relationship between us and the place, and between different places all over the world.

Furthermore, I suggest that rhizome is an open system: it involves the idea of a global space formed by multiple landscapes. Each landscape can be connected with others without necessarily following a unique and fixed trajectory. The production of places and landscapes happens according to different scales and relational modalities. The rhizome is a source of diversity: from the cartographic point of view it opens to infinite possibilities. The rhizome has never an end but, rather, "a milieu from which it grows and which it overspills. It constitutes linear multiplicities with n dimensions having neither subject nor object, which can be laid out on a plane of consistency, and from which the one is always subtracted" (Deleuze, 1987, p. 21). Thus the rhizome refers to the multiplicity of places, as well as to the important concept of milieu: Deleuze, in fact, uses the latter to denote the core of such a place-space, which is related to symbolic elements that are not always in evidence. I think that one of the challenges of thinking about the identity of place is constituted by elaborating a new concept of space made of a multiplicity of milieux. The concept of milieu is as crucial as the rhizome. The term is used in contemporary geography to denote places, landscapes and territories filled with cultural and social elements. We were not born in a milieu, but we create a milieu by an elective and emotional relationship. The concept of milieu allows us to go beyond the idea of place as something original, sedentary, and given by birth. Without the need to recur to a deterministic approach, we can say that the environment affords us to build a milieu. I think that the milieu is the historical, memorial, and at the same time potential, core of a landscape, according to a non-deterministic interpretative grammar that focuses on the relation between culture and nature. For this reason I think that the rhizomatic global space can be considered as made of milieux, multiple contexts, which constitute different places that we have to take care of.

5. Ecology of perception: the affordance

Such a complex topic as the notion of landscape requires an interdisciplinary approach. As a geophilosopher I study the genealogy of concepts such as place, space, landscape, milieu and territory, trying to embed them in the contemporary global horizon. Yet as a researcher of cultural studies and history of ideas I could miss an important point in analyzing the landscape: that is the ecological question connected to the term environment. The concept of environment is often criticized for being used in a reductionist and realist way to describe the physico-biological (objective) elements of nature. The problem is that the environment also belongs to landscape, and has a role in defining the latter, especially if we consider the environment from an ecological perspective.

Hence, I suggest using the bridge concept of affordance to connect the cultural study on landscape to the biological and ecological ones. Landscape is not only inhabited, but also perceived. Even though landscape is often considered only a cultural issue, belonging to humanities, or at least to human geography, I argue, that the study of landscape should comprehend also the ecology of perception (Gibson, 1979). In 1979 J. Gibson introduced the concept of affordance, that is "what the environment offers the animal, what it provides or furnishes, either for good or ill […] I mean by it something that refers to both environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment" (Gibson 1979, 127). The affordance is the propriety of the natural environment, offered to the animal and the human being. Two specifications are required: first of all, affordance is not a property, neither an a-priori, nor a universal measure. It is something unique for every animal and it belongs to (and within) the relationship between the environment and the perceiver. The perceiver (a human being) is not a Cartesian subject (characterized by the hardware/software dichotomy): "I suggest that natural vision depends on the eyes in the head on a body supported by the ground, the brain being only the central organ of a complete visual system" (Gibson 1979, p. 1).

Therefore a human being is someone emplaced in the place, in the nature and in the landscape, and the affordances are revealed as perceptional characteristics during the interaction between the environment and the perceiver. The human being and landscape (constituted by affordances) are in a mutual and dynamical relation: as a consequence we need to introduce the concept of 'processual landscape'. Affordances does not imply a realistic approach to the nature/culture problem, neither do they exist without interaction. Hence the processual landscape is the product of the dialectic between the culture and the affordances of a place. This relationship is neither realist, nor conceptually determined, but it is a process in continuous evolution, happening in the interaction between environment (and the complexity of the affordances and invariants) and the perceiver (a body in moving) in the place, who uses his nature and culture to create a relationship/boundary with the environment. This relation is what I called processual landscape. What continuously results from this kind of ongoing process can be places, spaces and landscapes.

6. Conclusion

In this paper I tried to make a short genealogy of the concept of landscape. The distinction between space and place, so important for geophilosophy, anthropology and human geography has been widened in relation to terms such as rhizome and processual landscape. The contemporary globalized world forces us (as an ethical imperative) to take into consideration several kinds of landscapes (e.g. the idea of the third landscape proposed by G. Clément). Furthermore I think that cultural studies should take into consideration the perceptive aspect of landscape: that is, introducing the concept of affordance, belonging to ecological psychology, in order to widen the range of study and to be able to deal with what nowadays is a higher and higher number of factors concurring to the creation of a landscape. In conclusion, this paper is aimed at preventing the risk of a simplistic cultural determination of landscape, but at the same time, preventing the risk of a realist approach to the issue of landscape.

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Landscape as a Play Action. The “as if” Stratagem

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Abstract: A core topic for landscape architecture education is how to deal with ordinary places, renewing perception and invention tools. We propose to use playing as a design method. In Italian, *paesaggio* is a noun of action derived from a verb. To play is to act, in a creative and adaptive way, mixing visible and hidden, actual and imaginary items. To image landscape could be a serious game of civic arts based on simulation, on the “as if” stratagem, taking city by surprise. Stressing the idea of landscape as result of actions (material and/or intangible) and producing landscape by playful in situ artistic interventions, we can feed awareness of the inventive potential of our eyes (how to look) and hands (how to transform). Among the open spaces of the city, car parks exemplify more than others the potential of imaginative new practices to activate ordinary landscapes of our cities.

Keywords: ordinary landscape, game, simulation, imagination, Public Art, parking lots.

1. Introduction

In Italian, as in French, the word landscape is a “noun of action”, as a union of the word *paese* with the suffix *-aggio* that, in our language, combined with verbs, serves to form nouns denoting the corresponding action. To speak of landscape inevitably means to speak of actions. Landscape is “activated” by eyes and mind: it is the result of acts of perception and consciousness, of cultural recognition. Landscape is, at the same time, the result of constructive actions, gestures and actions that are performed on concrete places, thus transforming them. Asserting that landscape should be activated through a receptive sensitivity (how to observe) and an inventive aptitude (how to transform) is to say that landscape cannot be interpreted otherwise than in terms of design. Every landscape, of whatever character, temperament, quality, size, is, inevitably, the result of creative actions: these are both to see and to transform and of course to *imagine*.

2. Challenge Tackled

2.1 How to see. Claude and Palomar

“What’s really going on, where we live, the rest, all the rest, where is it? What happens every day, the mundane, the average, the obvious, the common, the ordinary, the infra-ordinary, the background noise, the habitual, how to account, how to question, how do you describe it?”
G. Perec

The perceptive action (to recognize landscape) has long been directed at exceptional landscapes. It is around extraordinary landscape that the main aesthetic categories we still use today to refer to the landscape have been developed over time: the sublime, the picturesque, the grace, the wonder, the beauty (Milani 2001). In recent decades the landscape culture changed and extended its field of observation (extension implemented, not introduced, by the European Landscape Convention), including areas and situations completely new and in need of new decoding, often derived from the transliteration of traditional aesthetic categories in new lexicons produced by the epiphany of new landscapes (Lambertini 2006). This step has been achieved mainly thanks to other disciplines than landscape architecture. We perhaps owe the most significant contribution to photography, when some of the protagonists of the new art of the twentieth century turned their gaze to areas hitherto totally neglected, updating and widening the visual field to obvious places. We can refer to *American Photographs* by Walker Evans (1938), *Americans* by Robert Frank (1958), *Viaggio in Italia* (1984) and *Esplorazioni sulla Via Emilia* (1986), which include, among others, the looks of Ghirri Luigi, Guido Guidi, Mimmo Jodice. What we inherited from these experiences is especially the stress in looking at ordinary landscapes, of everyday and obvious life, the landscapes of Perec’s “background noise” (Perec 1996). These are landscapes that people create with their daily actions, sometimes referred to individual parts and objects, sometimes extended parts of the city and the urban fabric, which is complex and not granted to know, define, promote and implement What we learned is that to understand the presence of these new landscapes, we needed to waive any easy adjectives, categories or codes. We had to settle for seeing places for what they are, without looking up the absence of traditional interpreting and representing models, but letting them release their own expressive potential for what they are, a billboard, a balustrade enclosure that opens onto the countryside, the city or the sheds and the houses seen from the back. We had to identify ourselves in Mr Palomar (Calvino 1983), when he imagines to become nothing more than “a window through which the world looks at the world”, to see “the extension and succession of things under the sun, in their impassive calm”, once eliminated the anxiety and dissatisfaction produced by the vain search for known and familiar patterns. In 1997 Alain Roger wrote: “The current crisis of the landscape [...] betrays more than anything else to the sclerosis of our gaze, focused exclusively on the old, and the use of nostalgic bucolic models more or less overcome. We are not yet able to see what surrounds us, industrial complexes, the pioneer centres, the power of a highway” (Roger 1997). The protagonists of the Grand Tour travelled to Europe accompanied by the “Claude lens”, a concave mirror, just coloured in soft tones of grey and blue. They used it as a filter to look at the landscape, to train the adoption of “pictorial eye” and to take in the art in the landscape. Through the lens of Claude, the real landscapes looked very similar to miniatures, with soft edges, as if they were painted, in fact, by Claude Lorraine. The lens of Claude of our time may perhaps be precisely the objective of the Palomar telescope, of smart and ruthless accuracy, through which the astronomer reaches the peak of the sky, looking down.

2.2 How to imagine. From garden to city

“Yes! It is imagination that creates the landscape”
C. Baudelaire

Imagination is the faculty of representing in the mind and placing side by side images, concepts and thoughts, possible or unreal. *Imagery* is produced by the imagination of an individual or a community. It is a repertoire of representations, a projection of a set of imaginations that, adding and overlapping, multiply their narrative and expressive potential. The deadlock in the culture landscape, before the emergence of a project for ordinary landscapes, is due to the difficulty of developing a suitable imaginary to the manifestations of contemporary landscapes. It is a condition of aphasia, a result of the separation between data interpretation and the actual data. As Land Art was in the Sixties and Seventies a foundational opportunity to update the ability to look at the landscape as an "expanded field" (Krauss 1979) about the pairs nature/culture, formal/informal, artificial/natural inherited by tradition, so Public Art introduces new interpretative codes for the "inhabited landscape" (identified by the work of the photographers earlier mentioned) through installations, events, interactions, exchanges, actions, programs, dialogues that replace the usual practices of open space project, giving to imagination and narrative a central role. Michel Conan has defined the imaginary space as: "space alien to the ordinary experience of everyday life, in which the works of art, poetry, novel, drama, music or painting invite to experiment on an imaginary level, one by one, but with the guidance of the culture" (Conan 2002).

The strong innovative value of Public Art could be, leastways, the transposition in the urban environment of devices and design techniques extensively tested and applied in the garden, the form of architecture that best expressed imaginary and visionary projections. Gardens could be a storytelling or the metaphor of a dream, could simulate ideas and References: out of the ordinary perception of space and time: it is a magical place. As noted by Massimo Venturi Ferriolo: "The purpose of this art [garden design] is the creation of real forms with the free play of imagination", and "today, game turns out to be the key point of imagining landscape project" (Venturi Ferriolo 2001). We are referring to a landscape design approach rooted in time. Indeed, one could argued that simulation and narrative are intrinsically inherent with landscape architecture that inevitably deals with space-time dynamics. Stressing on landscape as a place of imagination, therefore, means to emphasize an intimate attitude of landscape architecture, as will be evident from any survey of the millennial stories of nature and art contained in the most beautiful gardens of the past and the present. For example, the English landscape garden was a coherent system of signs arranged so as to be clearly recognizable, shared by the designer and the public: an ancient temple dedicated to the Roman god, a character from classical mythology, a chinoiserie, just to mention some of the most recurring elements. Till today, landscape has retained its value of allegorical writing, charging on multiple meanings, obviously different from those encoded and read by the English nobility of the eighteenth century, but anyway attributable to an underlying theme that makes contemporary the narrative gardens of every age: the search for elsewhere. In conclusion we can say that Public Art is yet another opportunity to demonstrate the garden potential for testing solutions and design actions to translate to the city.

3. Game is something serious. The *as if* stratagem

"It is a chaos of clear ideas"
É. Faguet on Voltaire's work

Public Art teaches us that urban open space design can be a terrific opportunity to enrich and renew our *imagination* on the contemporary landscape and serve as an incitement to non-authoritarian *imaginary*, using simulation, people's direct involvement, and surprise, bringing play into the city.

Play can be adopted as an effective design method to imagine ordinary open spaces. Roger Caillois defines game as:
- free: the player cannot be forced to participate;
- separate: in space and time;
- uncertain: the performance and the result cannot be *a priori* determined;
- unproductive: creates neither good nor riches;
- set: with rules that suspend ordinary laws;
- fictitious: aware of its unreality (Caillois 1967).

From game we can borrow some salient features: suspension from reality, the unexpected juxtaposition or the layering of meanings, freedom and sharing of rules. Imagination, transformation, illusionism, are essential components of every game. Play means to pretend, to simulate and to act *as if*. So the available techniques for designers are no different from those proposed by Rodari in *The Grammar of Fantasy*: surprising, stimulating imagination and overcoming habits and clichés (Rodari 1973). We can call it the *as if* trick, based on simulation, according to which children see a ship in a chair, a machine in a box, a mountain to climb in a pile of sand. Numerous recent experiences of regeneration of public spaces of ordinary urban landscapes, mostly carried out by collectives of young people from different disciplines (art, architecture, landscaping, anthropology, communication, etc.) now show that the interplay between Public Art and urban space design is finally completed, as it has been in the past between Land Art and Landscape Architecture. The examples are innumerable. Just to say, we can quote some very recent works. In Seville in 2011 *Espacio Elevado al Publico* creates ephemeral interventions to regenerate one of the most difficult districts of the city: the Polygon Sur, an area of public housing built in the late Seventies, characterized by strong social conflicts, isolation and advanced material degradation - conducting a series of coordinated actions. *Vamos a hacer la calle* – this is the work's name - required a strong involvement of the public for a shared set of *événementiel* actions, including a festive *pasacalle*, drawing and writings on the ground as support for children games, creating a common out-door living room, building a fictional railway station which is also a viewpoint from which to view the world and be seen. In the same year *NYP Paysage* creates a virtual pool in Place Emile-Gamelin in Montreal, painting a rectangular area in the centre of the square with different shades of blue, as if it were water. Public swimming pools in Montreal are very popular and loved, perceived as valuable spaces because rare to enjoy due to the cold city climate. The pool of NYP is equipped with furnishings typical of a seaside space, including a deck and diving board. The result is certainly bewildering in the urban realm, but effective in completely transforming the place and turn it into an attraction for curiosity, into a meeting place completely out of the ordinary, where you can meet around or in the water. Through this transfiguration, the square has finally become visible and present in the shared imaginary. Since several years Enrique Longinotti, Hernán Ordoñez, Paula Seré for the Universidad Nacional de Buenos Aires lead practices of *urban typography*, with their students and the inhabitants of different American and European cities, aiming to override the literal city with new marks arising from exploratory exercises to find the communicative potential of everything that is not a design but is just ordinary landscape, and develop alternative methods for the creation of new forms of communication between people, places, spaces, objects and events. The aim is handling the visual elements of urban landscape to convey the true vernacular identity, often playing with ambiguity, with multiple meanings, with the confusion produced, for example, by a hopscotch schema drawn on the threshold of a church. So, how can the game and the *as if* stratagem be a conceptual support for ordinary landscapes design?

3.1. Game as a social practice of aggregation and disincentives to conflict

Contemporary public space finds in this playing vocation its high civic content.

The urban antidote against the potential detonation of what is different has often been used to distort the concept of control, building reassuring places with forced paths and walls to separate one outside from another, creating ghettos to hide invisible spaces inhabited by invisible men, that you can talk about, but you do not want to see at all. The symbolic impact of these solutions is huge and has produced very real consequences on people and city life. Public space needs to recover its depth, as produced by the human swarm that condenses and stratifies, to recover its role of point of contact, dialogue and impetus to meeting (not only between people, but also with objects and places, stimulating our ability to play). The practice of *as if* is agile, light, and persuasive. Its lightness contrasts with the usual communicative opacity of more conventional projects. Sampieri defines its contagious effect as "to change the scenario of design culture at the close of the twentieth century" (Sampieri 2012). It requires knowledge with cumulative effects: aggregating knowledge and techniques, showing unusual relationships between different matters and different people, with a good chance of being understood. Game becomes a device to re-weave and re-centre the values of the territory in the processes of community life: to return to looking at the city as an intimate relationship between space and society, so well represented by the metaphor of "landscape as theatre" (Turri 1998) in which community continuously carries out the role of actor and spectator at the same time.

3.2. The game as a how to look exercise

Experiences like those mentioned above testify to the importance of renewing the perceptive, interpretative and representative paradigm for urban landscapes. Simple actions – like changing the paving colour, introducing new signs and writings, changing the set of places, leaning ladders against the wall to climb on top of it, demolishing the infrastructure barriers working on visibility – are all interventions that derive primarily from a new hypothesis of gaze. Training our eyes to find landscape in everyday life places also means to seize the opportunities of potential micro-scale small size and low cost interventions, disseminated as in a coordinate system; it means to discover the richness of micro tactile and visual landscapes that are essential for any operation dealing with an overview of concrete space, of which we have effective and ordinary experience, in a continuous game between apparent and hidden, real and imagined. The result in these cases is not visible in its physical consistence but only for the time of their short duration; nor is it computable by parametric quantities. However, it is "perceptible" and "recognizable" in the product, following new forms of interaction between people and public spaces. While it is certainly true that the degradation which sometimes characterizes the ordinary landscapes is the result of serious project mistakes, a pejorative contribution is also led by people who, for various reasons (lack of civic education and/or frustration for their condition), do not recognize the public space as their own. So, working on residents' public space perception is a very important step in any regenerative process.

3.3 Game as a shared system of rules with open outcome

Game, while having coded rules, is always a varied experience. Therein we find the reason for its interest and success, the reason why we still and always want to play! While there are rules, the conduct and outcome of the game are always open. Again, this is the landscape project playing attitude. The actions of Public Art show that open space can be usefully imagined not as a static and complete configuration, but as a support or a platform for interaction and experimentation, involving the city as an active agent, surpassing the conventional paradigm of inhabitant as a customer, recipient of the final product. In this sense, game can be taken as an anti-modern paradigm, because of its attention to performance rather than form, thus expressing the root of the humanistic thought on the city. Game outlines a more flexible, adaptive, contextual and dialogical epistemological status, related to weak forms of rationality (anti-modern as such), a practical and not ideological reason. Game is a communicative act that changes the paradigm of the project into an ever more inclusive and reassuring on-going.

4. Applications: imagining landscapes for parking lots

Among the open spaces of the city, car parking lots exemplify more than others the potential of imaginative new practices to activate ordinary landscapes of our cities. Car parks are urban spaces of modernity. Born at the dawn of the Twentieth Century, they have played a determinant role in the modern city and greatly contributed to re-shaping the historic one. In a few decades parking lots became an indispensable part of the urban landscape and, in the collective imaginary – since inextricably linked to the car – the emblem of progress and democracy, whether still or moving. Exhausted by time's passing as the heroic phase of the myth, in contemporary culture parking spaces have become mere technical service, part of the urban infrastructure that enables the urban machine to function. Banal, ordinary, repetitive and common space, parking at ground level is a kind of bastard son of architecture and landscaping, measuring how far open space design can be distanced from reality, taking refuge in elitist and sometimes fearful dimension of exceptional "beautiful" landscapes. Parking lots, in fact, born as a *simple space* (considered no more than a well-organized container for cars), very soon assumed the character of a *simplified landscape* that "does not show any problems or surprises [...] it has no one of the ambiguity, contradictions and complexities that give meaning and value to the man-made landscape. In simplified landscape there are no hidden meanings, just obvious and separations between different functions in different units" (Relph 1976). Imagine how a car park can affect the quality of the urban habitat required to reverse this scenario; to overcome the idea that parking space is a category other than all the open spaces of the city; to consider them as places of possible layering of meaning, language and behaviour; to be re-thought, therefore, as public spaces and landscapes. They are public spaces, because, clearly, for common use. While traditionally such use is limited to the parking of motor vehicles, more and more parking lots are offered as hybrid, flexible and multifunctional spaces, for grabbing spontaneous and informal arrangements in alternative times to those of motorists.

They are landscapes, with their own figurative value. Again, we owe to photographers, filmmakers and writers a strong advance in the ability to diagnose aesthetics and meanings of parking as sensitive steps in the sequences of urban landscapes, as the impressive pictures of Carsten Meier show us. Car parks are landscapes also because they are places for latent but relentless relations between natural elements and artefacts, even at the scale of micro landscape where vegetation and animals establish conditions of equilibrium, sometimes unexpected, with the presence of man and his accessories. Extensive experience of spontaneous practices and/or impromptu re-appropriation and re-signification of car parks testify that there is an on-going change in the condition of the parking lot, from an-aesthetic service infrastructure and complement to the transport system, to qualified renewed resource for the urban landscape. These experiences verify the fragility of the monofunctional model and document the need to recognize and name new hybrid spaces: parks-parking, squares-parking, street-parking, playground-parking, which continually recombine through contamination of space and time. They attest that parking can be much more than places where to cram cars. Parking lots, usually neglected or subordinates urban areas, may be a privileged field to verify some of the most common and urgent paradigms in the design of contemporary public spaces: multiplicity of identities, aesthetic, vocations, uses contained in a two-dimensional plane. Experiences of organized or spontaneous urban art offer parking lots as new figurative landscapes, with architecture evolving over time. Since 2001, Roadsworth transforms the ordinary parking markers in Montreal into an opportunity to evoke new, dreamy and fantasy landscapes, where the lines between the stalls become the long stems for exuberant flower *running* on the asphalt, *moving* under the breath of a wind that comes from far away or, like sunflowers, chasing the sun in a dance made of bows. Florian Riviere reinvents the car parks in Strasbourg overlapping parking codes with new signs inviting to play, working on the issue of out of scale and hinting that the space of a single parking space can contain other places, other behaviours, other relationships, such as in a chain of matryoshka spaces (Democratic Creative, Strasbourg, 2011). Collectif ETC in January 2011 involved students from the Institut National des Sciences Appliquées de Strasbourg in transforming the school parking lot in a public space with multiple identities, which can accommodate uses and activities that are alternatives to motor vehicles, linking university and the surrounding city, open to mixed unfolding, unveiling and first unexpected relationships between people and places. Through a tank lasting a week, parking is enriched with new identities through painting the asphalt paving, including new vegetation and introducing self-built furniture, as support for meeting, playing, and socialization. The seven-year experience of the annual worldwide event Parking Day ranks on similar grounds. It started on the initiative of design studio Rebar and is now a global event, hosted in many of the most important cities in the world. For a whole day, individual citizens or groups turn parking areas into ephemeral gardens. Regularly paying the cost of the toll for parking, stalls become personal or shared micro gardens, emblematic examples of the *as if* stratagem. It is a practice that increasingly involves the schools of landscape architecture. In Italy, students of the University of Florence, Milan and Turin every year measure themselves with this project, organized each time according to different themes.

4. Conclusion

Parking can be assimilated to systems far more critical and complex spaces, but also spaces of opportunities to be diagnosed and imagined with new inventive hypotheses. Therefore, the investigation on parking lots can be a breeding ground for a wider recognition and critical operating on many returnable our cities, on "urban layers in search of employment" (Marini 2011), which well exemplify. They call us to a challenging deep and urgent renewal of the paradigm of perception, interpretation and representation of ordinary landscapes. With their uses, designated or unexpected, they may be a privileged laboratory for applying new practices of densification in terms of spatial, social, environmental, and economic relationships, working on the collection of signs and meanings that cannot have anything unrealistic due of the need for evidence-based project postponed to the ordinary landscape. Actions like those mentioned, in their reality of space, prove we can have a real albeit temporary experience; they demonstrate the potential breadth of opportunity to give value to ordinary landscapes. Their continuous, partial, impromptu, unexpected transformation - produced by different interventions, visitors, users, artists, vegetation or water - is one of the most salient arguments for their characterization as active/activated designed spaces in the contemporary urban scene. They reveal some important ongoing crossings in the culture of open space design: from *public space* to *common space* (public is a word that has lost much of its meaning, and not only in design); from *opera* to *action*, expressing desire for concreteness, of sharing, of involvement; from *copy-right* to *copy-left*, reworking the way we see - classify - assess - prefigure. They show that game – working on ambiguity, possibility, chance, surprise, complexity of meaning or sometimes even on the richness of non-sense, with very unusual combinations and (sometimes only apparently) incoherence between elements, space and time coordinates, elements, characters, and roles – can be a useful tool to regenerate ordinary landscape. They call upon us to activate new interpretations, representations and actions that can hardly be linked to the traditional parameters of urban design. They suggest finding in the game experience a creative and adaptive design model, making easier, every day, negotiations between vocations and identities, permanent and temporary, individual and community. Especially, they support an open idea of landscape, we could say joyful and curious, just as joyful and curious as the experience of game.

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Design: Philosophy and Theory into Practice

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Abstract: Arguing that through a redefinition of perception, the landscape and the design process provide the basis for a vastly extended field of design practice within landscape architecture, this paper outlines the main conceptual innovations of this radical new approach and investigates the continuing developments of demystifying the art of design for policy, practice, theory, research and pedagogy. Crossing the boundaries between science and art, nature and culture, the profound implications of this paradigm shift are becoming ever more evident, and in a number of ways. In terms of policy, for example, this pragmatic approach underpins: the growing debate surrounding the proposal to develop an international landscape convention, the recently agreed EFLA European educational guidelines, the proposed new definition of the profession for the International Labour Organisation and discussions about the future development and sustainability of the discipline. The potential of the *idea* of landscape to act as a mediator between administrative, technical and social forces is gaining considerable potency in a project expanding the conceptual and spatial territory of what is currently a singular engineering proposal in the UK into a sustainable spatial development, conservation and urban regeneration project. And finally, the consequences of dispensing with the metaphysical dimension of perception are examined for research by and through design, as a tool to connect aesthetics and master planning within the design studio.

Keywords: perception, philosophy, pragmatism, design, the idea of landscape, policy, practice

1. Introduction

The outcome of 15 years of sustained research, the philosophical basis of this paper is set out in "Overlooking the Visual, Demystifying the Art of Design (Moore, 2010). Introducing a radical new definition of perception that has far-reaching consequences for our understanding of language, intelligence, meaning, the senses and subjectivity, it forges tangible connections between theory and practice, ideas and form, nature and culture, science and art. Set within landscape architecture, engaging with aesthetics, ethics, philosophy and psychology, as well as art, design, architecture and urban design, it is as relevant to professionals, researchers and students in these disciplines as it is for those wishing to become better designers, to properly understand the nature of artistic practice, or to discover how to connect ideas to real places.

Interdisciplinary in nature, it is written from the perspective of an experienced teacher and practitioner of landscape architecture, but the problems are not specific to this discipline alone, being equally relevant to architecture, urban design and other art and design disciplines, as well as philosophy, anthropology, aesthetics and education more generally. Since publication, the book has generated considerable interest and is being used by academics and in studios across the world to teach more effectively. The Chinese translation is to be published later this year.

The book sets out to clarify and resolve an ongoing riddle: why is design still largely considered to be unteachable and how can we dismantle this old assumption? Articulating a philosophical argument that reframes the relationship between the senses and intelligence, it challenges many of the suppositions underlying art and design education, and constructs as an alternative, a means of dealing with spatial, visual information that is artistically and conceptually rigorous. Translating philosophical ideas into simple language, demonstrating their practical implications as well as the philosophical lessons that can be learned from practice, it creates a new discourse, not by discovering a new language, but by fusing, overlaying and cutting across concepts that have been compartmentalized and segregated so successfully over time that they have become part of our way of life. The philosophical basis of this is surprisingly simple. For the first time one of the main preoccupations of contemporary cultural debate, the argument for and against the existence of universal truth, is carried into the perceptual realm, extending and applying a pragmatic line of inquiry that questions the very nature of foundational belief. This constructs a new philosophical argument to systematically question the existence of the sensory interface/mode of thinking – "a disastrous idea that has haunted western civilization since the seventeenth century" according to Putnam (Putnam, 1999), but one that remains absolutely integral to current theories of perception and epistemology. Offering an entirely new way of conceptualizing perception, it suggests that rather than recognizing the intelligence of perception, we should see that perception *is* intelligence. This radical move enables a discourse to develop that cuts across the divides habitually made between facts and values, nature and culture, art and science, language and emotions. It fundamentally redefines the nature of design expertise, together with artistic and aesthetic sensibility.

2. Consequences

The fallout from this paradigm shift is far-reaching and profound. For example, turning received wisdom on its head, challenging ideas long since taken as read, it provides the basis for a strong conceptual and artistic rationale for arts education. Stripping away the metaphysical dimension from perception shows the design process to be a critical endeavour, not a mystical experience; it enables us to talk about design more sensibly and rocks a good many of the foundations underlying art and design education. Setting a different agenda for philosophy, it makes the point that theory and philosophy need not necessarily be metaphysical by nature, that there are alternative sets of beliefs to work with. Theory does not have to depend on French or German philosophy, "the philosophy of language, notions of identity, difference, self, subject, truth or reason or (most crucially) the 'impossibility' of anything" (see "A Cultural Left in (Rorty, 1998 (third printing 1999))

Significantly, it provides a much needed new approach or view of "landscape". Variously championed and underestimated, the real worth of our landscape continues to be a contentious and emotive issue. It seems to belong to all of us, but actually to no one. Fragmented into different elements, the responsibility of numerous agencies, NGO's and departments, the landscape's potency, complexity and value is all too often overlooked within the development process. It is generally considered to be a matter of bio-diversity, ecology or technology, "things that grow" that might help simply to "ameliorate" the impact of infrastructure projects. From this new perspective, landscape is not just about ecology, nature conservation or matters of heritage. It is not only the physical context, the constructed public realm, the national parks, coastlines, squares, promenades and streets; it also reflects our memories and values, the sense of pride we share in the places where we work and live, the experiences we have of a place, as citizens, employers, visitors, students and tourists. It is the material, cultural, social context of our lives. The landscape is about ideas, and the expression of these ideas shapes the quality of our experience.

2.1 Timeliness

As a new approach, it could not be more timely. With financial chaos, climate change and food security at long last focusing political minds, an extraordinary but fragile renaissance is taking place as society, governments and investors begin to appreciate the landscape's true value. Emerging from the safety blanket of its twentieth century technological and scientific parameters, landscape architecture is increasingly being recognised as a broad cultural, ecological and artistic practice. Leading practitioners, understanding that economic sustainability and cultural identity are just as much a part of their remit as raising aspirations and expressing ideas through technologies, rely on a geographic sensibility, a strong sense of social and ethical responsibility as well as a knowledge of the spatial implications of governance, finance and transport, health and education. This is a vastly expanded field of practice, demonstrating a full understanding of the context within which the development processes take place – whatever the scale – in order to shape the future of the environment.

3. Continuing developments

Within this context, maintaining an emphasis on philosophy, theory, practice, pedagogy and policy, ongoing research explores just how deeply this radical new approach can impact on other disciplines in order to effect real, material change in the creation of the kind of quality environments now expected by society. Key to this work is the breaking down of traditional conceptual and institutional silos. Working without being hamstrung by an outmoded belief in different ways of thinking, pre-linguistic starting points of thought and different types of truth. Looking at how we can operate and conceptualise ideas without relying on the notion of a sensory interface, investigating the implications for theory and practice when we abandon these resistant, arcane, philosophical constructs. Currently this is being investigated in four interrelated areas.

3.1 Policy and leadership

One of the most dramatic outcomes of this research is the way it has helped lead and shape the policy work being undertaken for IFLA to establish an International Landscape Convention. Talking about the landscape in a way that helps make it more tangible and resilient in the face of development pressures is crucial in meeting the major global challenges created by industrialization, demographic shifts, climate change, deforestation, the depletion of natural resources and a host of issues relating to quality of life and other aspects of land use development. These challenges, like financial infrastructures, do not respect territorial boundaries. The proposal also responds to an urgent need to provide strategic design leadership at a regional, national and international level. As one member of the multidisciplinary UNESCO expert seminar observed, every week people are dying because of bad decision making in relation to development and change. We have to create a new approach. Extending design right into the political/social arena puts it at the heart of development and change as well as at the top of the quality of life agenda. It also expands traditional legislative concerns with landscapes that survive modern development to inform more sustainable, cultural, social and economic futures. Understanding the landscape not only as a physical entity but also a way of life, as a powerful, evocative concept reflecting our values and ambitions, opens up debate, encouraging new and surprising ways to articulate the social, cultural and physical context of our lives. There are no rules, methodologies or procedures set in stone. We can be as constricted or unconfined as our imaginations allow.

The level of support has been so significant that IFLA has been encouraged to pursue the proposal by a different route. The significance of the work is that it is directing United Nations agencies, UNESCO, and other NGO's to the wider value of ordinary rather than outstanding landscape and providing rigorously researched reasons for valuing it, and as a consequence agencies are contemplating creating policy or law to protect it (IPOGEA, 2012).

The similar interdisciplinary and more expansive definition of design and landscape also informs a suite of professional and educational documents, setting out what is needed to meet the challenges of a rapidly changing practice – scope for specialism and diversity, a vision of what landscape architecture might yet become, rather than a snapshot of what it is now, connecting educational and professional aspirations. Putting theory into practice.

3.2 Strategic landscape vision

Running parallel to these legislative and policy initiatives, there is evidence of a sea change in planning and development hierarchies with the landscape determined as the lead driver, an important economic and social concern that is now firmly on the mainstream political agenda. Evidence of this can be seen in projects such as HS Landscape Vision, the new, highly contentious high-speed train line between London and Birmingham. What we are proposing here is to transform the High Speed 2 rail link into an iconic city to city, national landscape infrastructure project that will play a significant role in shaping the UK's response to major environmental challenges. Expanding the conceptual agenda and territorial scope of the engineering project, the proposal places the landscape at the core of HS2 and uses it as a catalyst for the economic, physical and ecological transformation of communities impacted by the route from Coventry to the City of Birmingham. A pilot for the future, the study aims to put the region at the forefront of sustainable spatial development, conservation and urban regeneration. It is an example of what an ILC might mean in practice. This is not just about trains going faster, nor about creating a singular engineering project. We've had enough of those – they quite literally litter our towns and cities. This is a real opportunity to create an enduring legacy for the region and the UK as a whole. By using the landscape as a key component in HS2's development, it can be seen as a base layer against which decisions about all future development need to be made. This is about rediscovering an immense valley system, largely unloved and unnoticed, as a productive and resilient heart of the region. By adopting a holistic, inclusive approach to the overall planning of HS2, it is possible to engage communities in the project, promoting social cohesion and economic development, incorporating bio-diversity, culture, ecology, spatial quality and identity. Since large parts of the area are blighted by 20th century infrastructure, it is hugely important to drive home the message that HS2 will not necessarily be another blot on the landscape – if we learn some hard lessons from history, from past mistakes, we are much less liable to repeat them, after all, we have over 200 years of industrial despoliation to put right. Essentially, HS2LV is about re-establishing a symbiotic relationship between the city and its landscape. Bringing radical change to the identity of the region is already encouraging people to see the city in a different way. Significantly, HS2LV has found tremendous support and interest locally, nationally and internationally. Politicians and key stakeholders are beginning to recognise the potential of the landscape to mediate between administrative, technical, social and cultural forces, realising there is a more productive and effective way to investigate, programme and deliver major infrastructural projects. The proposal is currently making its way to the Secretary of State for Transport to hopefully gain support for the next stage, which is to build the economic, social and cultural argument, secure specialist expertise from partners in the UK and Europe, and establish how to integrate matters of governance, health, finance and education. Already influencing policy locally, this work has the potential to impact significantly on the planning process. A measure of its success is that it is being used to create an overarching landscape vision to guide the process of development and change in Thurrock, Essex. The aim here is to ensure that the area will no longer be regarded as a repository for landfill and the debris of London, but as a resilient borough taking pride in its relationship to the river, its growing European and international reputation for arts, music, wildlife and biodiversity. Investing in its educational and cultural capital, encouraging high value productive agriculture, green industries, innovative transport infrastructure and passive housing. This will be a significant 21st century transformation. Guided by a number of interwoven large scale geographic, environmental and social systems, these interventions help create a significant, contemporary national physical and cultural landscape framework, responsive to scale and context, respectful of tradition yet full of ideas for the future. It is the visual, spatial nature of these ideas that makes this approach so compelling.

3.3 Masterplanning and aesthetics

Overlooking the visual constructs an entirely different basis from which to understand aesthetic experience. Unlocking a major part of the debate, the trick is to disengage aesthetics from the primitive bodily ways of knowing, disentangle it from psychology and use a fresh common sense approach to bring materiality back into the picture. A proposal for an international, trans-disciplinary conference and exhibition reflects the growing academic interest in design and design philosophy. The Pragmatics of Landscape: Perception, Aesthetics, Design will examine the challenges and opportunities involved in building connections between cultural geography, visual culture, aesthetics, landscape architecture, masterplanning and drawing, as well as the more traditional academic world of philosophy, linguistics and anthropology with art, design and practice

3.4 Research methodologies and pedagogy

Finally, this work also has significant implications for research methodologies. Redefining the relationship between the senses and intelligence not only makes any and every part of the design process accessible to investigation, it is also clear that the limits of our inquiries are governed only by our knowledge and experience. Responsibility for understanding what sense we make of the world is handed back to us. The driest, most reductive statistical equation or number crunching analysis is as full of values, presumptions and preconceptions as any ephemeral, instinctive response. Look at the debates relating to climate change and it is easy to see how open to interpretation the facts can be, let alone finding any consensus as to what is an actual fact and what is not. Offering a middle way between 'reactionary metaphysics and irresponsible relativism' (Putnam, 1999), essentially means there is no need to choose one or the other. This releases us from the endless debate between positions that are natural or cultural, classical versus romantic, theoretical from practical, value laden from quantitative, or approaches that are personal or community based. I am convinced that there really is great potential to develop PhD studies from this perspective.

The impact this work makes in the studio is in many respects quite simple - it is a matter of consistently asking why things look the way they do. Asking what ideas are being worked with, what they look like and why they are appropriate, given the site, brief and context. What spatial principles are being worked with and how ideas are being expressed – whether at a strategic or detailed level. Asking for an explanation as to why a particular kind of materiality is involved (light, shape, form, texture) and what quality of experience is being shaped for what kind of user. It is about encouraging students to plunge wholeheartedly into the visual, spatial world, working with ideas, form and materiality. It is important to develop moves and tactics to discourage the habitual decisions that students all too easily fall back on (often presumed to be instinctive or intuitive), and instead push them to go further, developing their confidence to know which line of inquiry is a good one to follow, supporting risk taking and challenging their preconceptions as well as our own. Above all else, there can be no presumption that anything visual or spatial or conceptual is self-evident. We live in an ambiguous world. Dispensing with the metaphysical dimension of perception introduces a much-needed, critical element to all of design education; it democratises the process. From a student's point of view they can at last stand up and lead the critic and to a certain extent, take control. It shifts the balance of power a little. Instead of being left with the sinking feeling that they must be missing that indefinable something, students are able to start working confidently with ideas, expressing and adapting them within the medium or brief. They can be assured that progressing their design skill is a question of learning—not voodoo. No-one is suggesting that every student will become a brilliant designer, but at least everyone stands an even chance of learning how to design, which has to be better than being led to believe that it is an inherent ability, a gift you might never manage to open.

4. Conclusion

The sensory interface is so endemic it has practically become a fact of life. There is therefore a degree of anxiety to contend with, questioning old certainties in order to realise the interpretative, transient nature of everything we believe to be true. Shifting any inquiry away from the unequivocal towards the ambiguous is perhaps one of the most difficult aspects of this paradigm (shift) and it is not just another way of saying that anything goes, but rather that work must be judged against different criteria. Truth is contingent, beliefs change, there is nothing set in stone. And it is this flexibility that gives us such a great opportunity. If we have the confidence to move away from the central hard core of scientific assumption and methodology, there is a real chance to develop new approaches, make connections across and between disciplines, erase rigidly drawn boundaries delineating and distinguishing practice from theory. The old Cartesian duality is a house of cards…. time to blow it down.

Notes:

[1] http://www.rhythm-presence.co.uk/about.html

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A Graphic Proposal of/for the Analysis of Public Space

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Abstract: This paper proposes a reflection about research in fields such as Architecture and Urbanism, discussing the importance of the development of particular methodologies for the analysis of territory.

For this discussion, a specific research project (named "City and Waterfront. Articulator Role of Public Space"), which assumes territory itself as its main source, is given as an example. Based on the latter, this research adopts as main methodology the direct observation of territory and its subsequent systematization, configuring, in the end, a graphical and visual approach to the study of public space. This methodology can be applied to other realities, for the analysis of public space, but also for its design.

Keywords: Lisbon, Photography, Public Art, Public Space, Urban Landscape, Waterfront.

1. Introduction. The research subject

The proposed methodology is based on the case of Lisbon and seeks to understand the relationship between the inner city and the waterfront by means of the urban structures that link these two realities[1]. Assuming that the waterfront has to be connected with the rest of the city areas, it is intended to analyse how it is *exported* to the interior of the territory; to characterize the public spaces that perform that articulation; and to find how the water is perceived, as a constant reference, in those public spaces.

The starting point is the identification of a territorial system underlying the urban structure, consisting of two logics, morphologically different but interconnected: the *horizontal logic* (urban axes parallel to the waterfront) and the *vertical logic* (urban axes transverse to the waterfront). Because of its physical configuration, we will designate this territorial system as the *comb structure* (Fig. 1).

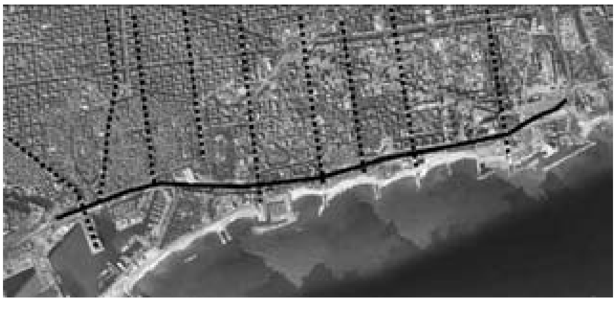

Fig. 1 - Comb structure in Barcelona
(Overlaying to Google Earth, 2010)

Urban development along the waterfront would justify the *horizontal logic*. The need of a physical connection with the remaining areas of the city (for different reasons, at different historical moments, in different ways) would justify the *vertical logic*.

Being these premises common to waterfront cities (the development along the waterfront and the need to connect it with the inner city), the *comb structure* is here admitted as a system of articulation of the territory that characterize these cities.

As an abstract system depending on different factors, it occupies differently the territory; hence, each city has its own *comb structure*. In other words, although being common to waterfront cities, the *comb structure* acquires specificities in each one of them.

Based on Lisbon's *comb structure*, this research will focus on the urban structures that link the inner city with its waterfront, called structures of articulation with the waterfront (belonging to the *vertical logic*). In this system, public space plays an important role, because of its articulating properties and of the way it physically and visually allows the connection with the waterfront.

But this is also a symbolic system. This research assumes that the different ways of physical and visual connection are related with one key factor: the existence of Public Art in those structures of articulation (Fig. 2).

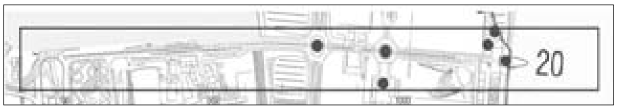

Fig. 2 - Structure of articulation integrating Public Art
(Ochoa, 2012)

Thus, this research has two main points of focus: beyond the study of the public spaces that integrate those urban structures, the role of Public Art in that articulation is explored, as well as in the monumentalization of the waterfront (Fig. 3).

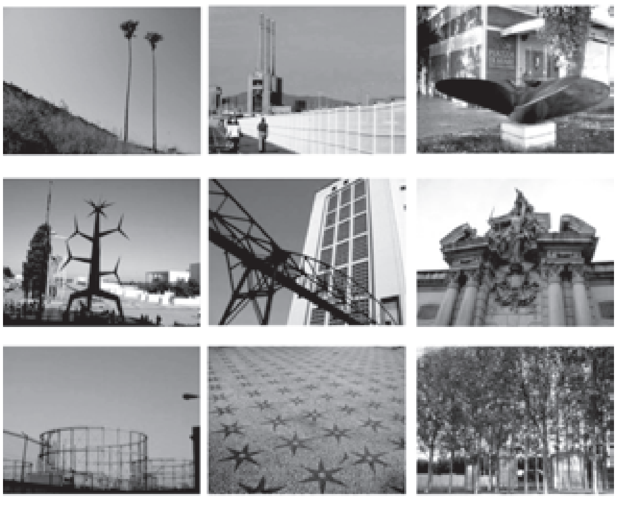

Fig. 3 - Public Art in waterfront cities
(Ochoa, 2012)

1.2 The adopted concept of Public Art

Public Art is here considered in a more inclusive position – this is also the understanding of the *Polis Research Centre* of the University of Barcelona (in which fits this research).

First, we refuse the view of Public Art as an isolated object; besides its aesthetic values, it is considered as a participant element in public space, establishing physical and social relations with the urban environment. Besides, the concept refers to all the elements that *charge* the urban space; it considers some presences that, despite not having been intentionally produced *to be* Public Art, consist as such, and therefore have earned proper values because of their symbolic charge. This inclusivity in the understanding of Public Art corresponds to a double origin in the processes of symbolization of space (Pol 2005). When an organism of the social structure promotes and proposes the creation or changes in urban environment, with a specific intention and exercising an act of power, we are in the presence of symbolism *a priori*. When an object or a place obtains, spontaneously, certain meanings for every individual or for the social group as a whole through time and use, we are in the presence of symbolism *a posteriori*.

Therefore, Public Art includes striking elements that stand out in the urban profile, such as objects related to the port and industrial landscape, domes of churches, towers, large-scale buildings, bridges; or even natural elements, like the *2 Palm trees of Chelas*[2].

Public Art also includes some banal elements that suffer monumentalization by new placements (the proper space being monumentalized). A *Propeller* placed on a lawn in the waterfront or a *Factory Chimney* maintained in *Alcântara* are examples of this understanding.

In summary, intentional or unintentional, we understand as Public Art the elements that give symbolic charge to urban space, monumentalizing it. Therefore, we have the two key assumptions for the understanding of Public Art:

a) Observation of Public Art in relation to its environment, not as an isolated object;

b) Public Art as the elements that constitute a physical and symbolic reference in urban space.

2. Construction of a methodology for the analysis of territory

"Ainsi il va, il court, il cherche. Que cherche-t-il? À coup sûr, cet homme, tel que je l'ai dépeint, ce solitaire doué d'une imagination active, toujours voyageant à travers «le grand désert d'hommes», a un but plus élevé que celui d'un pur flâneur, un but plus général, autre que le plaisir fugitif de la circonstance. Il cherche ce quelque chose qu'on nous permettra d'appeler la «modernité»; car il ne se présente pas de meilleur mot pour exprimer l'idée en question. Il s'agit, pour lui, de dégager de la mode ce qu'elle peut contenir de poétique dans l'historique, de tirer l'éternel du transitoire" (Baudelaire 1976 [1869]). "La promenade (…) constitue la première manière d'explorer et d'aimer une ville" (Sansot 2004).

To understand the articulation with the waterfront, we first had to decide which transverse structures would be analyzed. We soon realized that a simply "two-dimensional perspective" would not be sufficient to take that decision. It was necessary to go to the place. The contact with the territory was increasingly important, to the point when we admitted that this would be the main methodological option. On the one hand, because the References: on the subject are almost non-existent, so we would have to construct a working basis, from the beginning. On the other hand, because we found that only in the territory was it possible to perceive all the qualities of public space within the assumptions that we initially proposed to study3. So, the first part of the research covered a process of observation of the territory, which included a period of nearly two years, between 2008 and 2010. The research process consisted on three interrelated phases: 1) fieldwork; 2) fieldwork systematization; 3) fieldwork interpretation.

2.1 Fieldwork

"L'exploration d'une ville et la détermination des trajets propres à la dévoiler tiennent dans l'intervalle qui sépare cette manifestation et cette occultation inévitable de la ville" (Sansot 2004).

More than a territorial system, the *comb structure* consisted of a diagram that allowed the beginning of the methodological route.

By adopting the Lisbon administrative boundaries, the selection of the transverse structures followed three fundamental criteria:

1 Urbanistic relevance;
2 Visual and physical relation with the waterfront;
3 Presence of Public Art.

According to these criteria, we selected 20 structures of articulation with the waterfront. Each structure was the subject of a single route. In parallel to the 20 routes and in accordance with the concept initially defined, we identified 250 Public Art elements in the structures of articulation and in the waterfront (which means, at the *comb structure*). All these 250 elements were observed, photographed, and we researched their date of placing in public space. A methodological aspect assumed from the beginning was the decision not to focus the study in a single city, but rather to evaluate if the observed aspects in Lisbon found parallels with other situations. So, we took the city of Barcelona as a counterpoint to the main case. For Barcelona (the comparative city), the procedures were similar. 10 structures of articulation were selected. As in Lisbon, each structure was the subject of a single route. For the identification of Public Art, we used as a supplementary source the *Sistema d'informació i gestió de l'Art Públic de Barcelona*[4]. As the fieldwork was evolving, the contact with the territory acquired its own procedures. Common factors started to appear. Because of time availability, almost all of the routes were done in the afternoon and on the weekend[5]. The routes were done independently of the atmospheric conditions and of the hours. For each route, the following procedures were adopted:

- Starting where the perception of the water begins;
- Walking in waterfront direction (in Lisbon, because of the topography, routes were always going down);
- Ending as near as possible to the waterfront;
- To transmit a better idea of the route, all the photographs were taken in the same direction (turned to the waterfront), in a sequential perspective, including the buildings and Public Art (always in relation with the urban context). Intentionally, the photographs were taken in a neutral way, avoiding particularly framings, special ambiances or moments. People and cars were always included, and the *flash* was not used. Also, photos were taken horizontally, at the height of the observer and without approaches (*zooms*). No later image treatment was made (Fig. 4).

2.2 Fieldwork systematization

At this stage, we decided to register all the information obtained in the territory through a set of graphic elements, which would allow a later evaluation and interpretation of the respective data. The following elements were produced (with the following objectives):

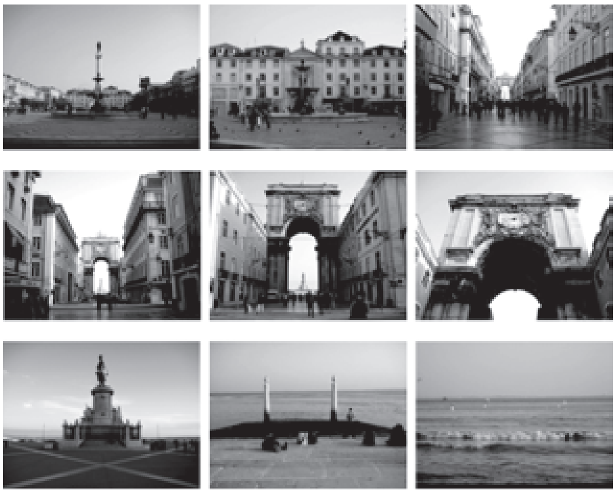

Fig. 4 - Photographing a route (from Rossio to Praça do Comércio) (Ochoa, 2012)

2.1.1 Synthesis Plans:

2.1.1.1 Synthesis Plan (Lisbon) (Fig. 5):

The Synthesis Plan shows the placement of the 20 structures of articulation with the waterfront, as well as the respective 20 routes (starting at the point where the perception of the water begins);
It also shows the placement of the 250 elements of Public Art, in the *comb structure*.

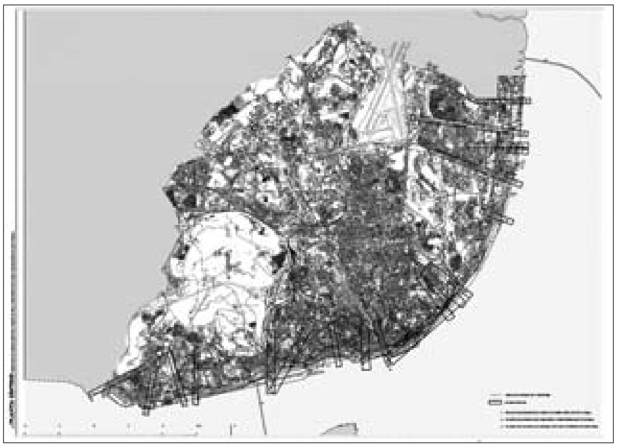

Fig. 5 - Synthesis Plan (Lisbon) (Ochoa, 2012)

2.1.1.2 Chronological Plan (Lisbon):

This plan shows the different historical moments of placement of the 250 elements.

2.1.1.3 Synthesis Plan (Barcelona):

This plan shows the placement of the 10 chosen structures of articulation with the waterfront, as well as the respective 10 routes (starting at the point where the perception of the water begins).

Fig. 6 - Part of the Public Art Inventory (Ochoa, 2012).

2.1.2 Public Art Inventory (Fig. 6):

This inventory individually shows each of the 250 Public Art elements (photo, title, author and date of placement).
It References: the Public Art to the structures and shows their relation with the waterfront.

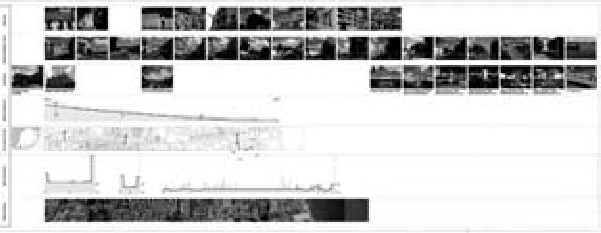

Fig. 7 - Example of a Worksheet (Ochoa, 2012)

2.1.3 Worksheets (Fig. 7):

The worksheet shows individually each of the 20 routes according to their different components (the sequence of the several public spaces, the buildings, and the elements of Public Art) and representation plans (longitudinal profiles; location and plan; transverse profiles; aerial photograph). These elements are common to all the 20 worksheets, to allow a comparison according to the same parameters.

2.3 Fieldwork interpretation

"Sin embargo, precisamente porque la calle es un recorrido, sus extremos suelen ser decisivos. Cómo empieza y como termina suele dar razón de muchas de sus características: ¿se transforma en otra(s) calle(s) sin apenas solución de continuidad? ¿Empieza con un ligero esviaje o arranca de un cruce homogéneo? ¿Termina entregada en "T" contra una avenida mayor? ¿Una gran plaza potente articula el encuentro con otras calles? ¿Enfila el eje de ese monumento visible a lo lejos? ¿Es el mar o las montañas lo que se percibe en el horizonte?" (Parcerisa Bundó, Rubert de Ventós 2000).

The proposed interpretation understands the articulation with the waterfront as a complex reality that can be analyzed by the crossing of different perspectives and from its different dimensions which, in juxtaposition, characterize it. Thus, the research proposes an interdisciplinary interpretation of public space. From the observed reality and the graphic elements produced, we proposed several questions, based primarily on morphological perspective, but admitting later other perspective. (*while subsequently accepting another perspective).* This interpretation was embodied in a final document, which consists of the following parts (corresponding to the identified different dimensions of articulation with the waterfront in Lisbon):

1. Public spaces systems in the structures of articulation;
2. Articulation situations at different historical moments;
3. Morphological aspects of articulation;
4. Speed of articulation;
5. Articulation with the waterfront from Public Art perspective.

3. Conclusions. The possibilities of and from the graphic analysis

The described methodology set up a unique approach, whose results were based almost exclusively on the direct observation of urban spaces, as well as in the graphic elements produced.
Through the proposed fieldwork interpretation, we categorized the different situations observed. We also introduced concepts and identified

abstract models which, despite being derived from Lisbon and Barcelona, can be confronted and tested in other cities. In the study of other realities (and in particular of other waterfront cities) it may be appropriate to apply the methodological procedures here adopted and to cross them with another type of approaches – morphological, perceptive, among others. The processes on Public Art are constantly evolving. We believe that for the study of public space is necessary to observe it directly, allowing a better understanding of its dynamics and experiences. In fact, besides the conclusions inherent to its own subject of study (the articulation with the waterfront), this research proved that contact with the territory is crucial for the study of the city, in order to better understand its multiple dimensions. In light of the later use of the knowledge acquired in the territory, and to make it perceptible to other people, it's very important to systematize it. We recommend this systematization through the production of graphic elements attending to the specificities of each context. The graphical analysis has a lot of potential; it allows – within the working tools that are proper of the architect's specialization – an a posteriori interpretation of the city. For example, with regards to the subject of this research, assuming that the chronology of the placement of Public Art is also a chronology of urban interventions, the graphic elements here produced show quite clearly which areas of Lisbon have been privileged over others. But the graphic analysis also has the advantage of translating the territory in a more communicative way and the potential to approach the city to more people, motivating a greater identification with this kind of research. Each placement of Public Art has a particular history. In the future, other perspectives may be followed from the Public Art Inventory, focusing for example on the processes that precede the placement, which will only be possible to address through a more individualized analysis of each work. To do this, it will be necessary to explore other methodological resources that, faced with the contact with the territory approach, we assumed from the beginning not to use: the search in files to complement the information obtained, or the conduction of interviews to the artists/authors of the works. The opening of the concept of Public Art to the physical and symbolic References: in the territory can also open future paths – besides new interventions – to consider and to re-contextualize already existing striking elements, in order to value the specificities of the places and of the cities. Imbued with this spirit, it would be arguably pertinent to create or to expand the existing Public Art inventories to include non intentional Public Art. Structures like the Lisnave Portico in Almada (near Lisbon) or the Gasometro in the Parc de la Barceloneta (in Barcelona) are already included in the Public Art inventories of their respective cities. But there is still a lot of work to be done. Therefore, cities have a basis for benefit of its symbolic elements in the construction of their identity. And cities with waterfronts certainly count with this additional value.

Notes:

[1] As waterfront we understand the areas with a morphological unity within the overall organization of the respective cities, which correspond to the corridor of contact with the dividing line between land and water (Costa 2007).

[2] These two palm trees are like a symbol of the inhabitant's resistance to an urbanization plan for Chelas valley that has not been achieved.

[3] In this sense, we link this research to the *Polis Research Center* of the University of Barcelona. The approach to Public Art within the city; the interdisciplinarity in the study and in the design of public space; and the study of the city through the contact with its territory as methodology are the main lines followed. The information obtained at the place is confronted with other data and organized into graphic elements (urban atlas, chronologies, time lines).

We also point out the activity of the *Centre de Recherche Urbaine* of University of Bruxelles, which adopts the practice of walking as a technique for exploring urban space. Or the work developed by A. Jacobs and L. Gould at the *Institute of Urban and Regional Development* of the University of California, which proposes a reading of urban space through *walking field trips*.
The work of A. Chemetoff and B. Lemoine (1998) on the Quays of Paris presents an interesting methodological similarity with this research. It is based on 15 routes (corresponding to 15 Quays) and its graphic systematization (drawn and photographic elements).
Also the oeuvre *Poétique de la ville* (Sansot 2004) proposes a method of observation and interpretation of urban spaces, through a sensitive experience of the place.
Besides the References: more closely related to the methodology, it is important to refer here some aproaches to urban analysis, namely the perspective of Bacon (1995), Jackson (1980), Kostof (1999) (2005), or Panerai et al (1999).
As well as the work *Public Places. Urban Spaces. The dimensions of urban design* (Carmona *et al* 2001), for the recognition of different perspectives in urban design, which allowed the analysis of the articulation with the waterfront also from different dimensions.

[4] www.bcn.cat/artpublic; About the *Sistema d'informació i gestió de l'Art Públic de Barcelona* see the presentation text of the proper information system (Lecea *et al* 2004).

[5] By choosing specific hours and specific days, it was assumed that there would be some homogeneity in certain space characteristics, eliminating some "urban states" (greater movement of people, different experiences and routines, some specific illumination and light). However, this was considered an advantage, in the sense of providing a greater term of comparison between the different spaces.

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Maps of Emotion: the Production of Spatial and Emotional Knowledge. An Epistemological Approach

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Abstract: This article aims to comprehend one of the developments of contemporary cartography. A certain number of artistic cartographers are turning toward representing the sensory dimensions of areas. In order to do this, these maps have certain autonomy and have taken certain liberties with respect to the rules and conventions of traditional cartography. Through exposure to a corpus of maps from different fields such as art, landscape, architecture or human and social sciences, the construction and characteristics of the maps are shown. This article presents in a non-exhaustive manner certain constructive elements of these "emotional maps." The milestones reached over the first years of my thesis constitute the first stage in the implementation of a general analytical framework of the corpus.

Keywords : Emotional map, spatial knowledge, epistemology of cartography, hodological knowldege, spatialities.

1. Introduction

Today, maps are materials for artists. The number of emotional maps has significantly increased over these last years. Through this expansion, artists are dealing with different subjects and developing different approaches to space. Certain artists such as David Renaud are treating space as an abstract, neutral, isotropic element. His installation entitled "Kerguelen Islands" shown in 2002 at the Ivry-sur-Seine Art Center, presented a structure of blue-colored wood – the same that we often observe for oceans in topographical maps – on which, we perceive Kerguelen Island represented thanks to the making of cut, topographical maps. This installation reminds us of the reduction operation carried out on the map, which we call scaling. The installation takes up a large space in the exhibit, through which the visitors can walk. The map goes beyond the usual dimensions of scale and we are invited into the space. End to end, these maps measure 1/25,000e, making us aware of the reduction process which allows the transfer of the reference space to the map area. Here, spatiality is an abstract form of an entity. The map proportionally reduces the space in all areas. The room shows no relief, everything is "made flat" on the walls and the floor. Instead, the maps of Noriko Ambe reinvent a topographic thickness in books. In his bookish sculptures, the artist reinvents fictional topographies. These objects, which resemble textured maps, work the imagination. They are not made to work on them, but rather to become lost in them.

Certain designers, visual artists and dancers adopt the map in yet another manner. These emotional maps, also generally referred to as "emotional maps," detail crossings; they recount them as spatial experiences. They also do a fine job in showing the experience of the intellectual journey. These are the maps of spaces in which one lives. They attempt to show a dimension of space that is not usually mapped: the emotional dimension. It is about producing images that show the emotions of space. They depart from the principle that, through our daily commutes, we travel along the well-known and hackneyed routes. When the course is run, thought itself is always in movement. It does not stop continuing its mobility in the memory, through constantly recollecting past memories, for example. These maps, often made *a posteriori*, evoke the idea of a thought constantly in movement. They show perceptions.

Where are these images born? What do they intend to show about perceptibility? How do they show it? Can we qualify them with individual, collective images? Are they subjective, objective images? This communication will allow us to answer these questions. For this study, we have assembled a certain number of pieces that seemed to us to bring out the same cartographic intention: the desire to map the emotional dimensions of space. These pieces were not put together at random in a particular publication. The collection of these documents was done in various publications and on the basis of data from landscape and architectural schools; one stage of the work is not yet completely finished. If, on the one hand, the field of art produces a large part of the corpus, the landscapers, architects and some professors in human sciences produce another important part of the corpus. We have indeed initiated research on the basis of data in the landscape and architecture schools. The End of Studies Personal Work (TPFE) is the main sources. These cartographic projects, far from being as free as the work of artists, are meant to make the emotional space more intelligible. The corpus thus reunites images of different natures. In effect, the map is both a reflection and communication tool, and in the present case, it permits one to interpret and to make sensible emotions, which come from a given space. All of these images carry a spatial memory of emotions, the nature of which this proposition will allow us to define. The form of communicating will oblige us to only present a selection of images, which come from the corpus and are envisaged for this thesis. This reflection remains a major aspect of my doctoral work; what follows thus presents a method of analysis. With these first methodological points of reference, we can compare the maps from different perceptibility areas as mentioned above. This mapping epistemology will lead to the idea of the map as an object in perpetual social and cultural evolution, which can make assumptions regarding the object of enriching our knowledge of emotions.

2. Mapping emotional data

In *The Empire of Maps*, Christian Jacob called his second chapter "Graphic design, geometry and representation." In this part, he presents "the infrastructure" of maps, their "intellectual journey." (p. 159): imaginary lines, grids, wind lines, the miniscule units of graphic design (coastlines, island sands…), the visual iconography and architecture of the map, (p. 141-243). If we look into *Finis Terrae*, Gilles A. Tiberghien details what he calls "the constructive elements:" the constructive framework, the positioning lines, the lines of intensity and rhythm, projection, scale, In the wake of historians and cartographic epistemologists, we are going to return to the map as a material object and ask ourselves what are the constructive elements involved in mapping emotions.

Mapping emotions has its own infrastructure. It translates what one cannot see onto an aerial photograph. Their lines are invisible. One of my research aims is to put into place a common analysis method of maps that make up the corpus – that is to say establish an analytical framework applicable to all maps of the group to be studied. This communication exposes a section of References: in this framework. Presented here are the main points of the analysis framework, which, far from being exhaustive, remain open. This calls into question the passage of the reference space to the space of the map; it will highlight the relationship between the construction of the map and the reference space, the lived space.

2.1 Manner of construction: route and hodology

Map historians have shown that the route was one of the major methods of mapmaking. Some of them have used the term "itinerary map" in order to qualify those that use this method of rationalizing the space. The notion of the itinerary map makes sense when opposed to the "gridded-map." The first foundation of the itinerary map rests on the question of whether or not the exterior space exists. An itinerary map predicates that the space does not exist in itself; it does not preexist relative to movement. According to this approach, "empty" space is representable, since it only exists in its inhabited dimension, practiced. They can only be experimental. They do not exist outside of the moment and the experience that we carry out. Thus, the itinerary map does not deal with a general space, but rather a space necessarily referenced to individuality or to a group of individuals. It represents things at ground level and not a bird's eye view. Here, the point of view is horizontal.

Ricardo Padrón places the peak of "itinerary maps" in the Middle Ages. He cites the example of the Peutinger Table. In The Spacious Word (2004), he observes that the Middle Ages offer a differentiated itemization of itinerary maps, while from the beginning of the 16th century, the rediscovery of Ptolemy led to the emergence of abstract, Euclidian and isotropic spatiality of the gridded-map. (Padrón, 2004: 4591). Not giving any real definition of the itinerary map, Ricardo Padrón defines the contours of it through the use of the negative. "The itinerary map is the clear locus of that alternative spatiality to which I have alluded, a spatiality that is very different from the planar extension of the gridded map and on that the Middle Ages bequeaths to the early modern period." (Padrón, 2004: 53)

The authors that follow the distinction between gridded maps and itinerary maps generally cite Ptolemy's Geography as the main example of the gridded map. Written in the 2nd century in Alexandria, it was lost during the Middle Ages. In the Renaissance, Ptolemy was considered as the reviver of mapping. He provided the method that mappers most work with: the mathematical method. In the maps that came to us from Ancient Greece, space is represented in a panoptic and vertical way. Each point on the map is referenced thanks to a system of mathematical coordinates, from where we get the term "grid." The map must adhere to reality and preserve proportionality. Ricardo Padrón describes the gridded map as "isotropic" in the sense that the white spaces on the map are not empty.

Let us now examine another definition of the itinerary map. In the last issue of *Les Carnets du Paysage* (N. 20) entitled Cartography, Jean-Marc Besse proposes the following: "(…) a number of historians and anthropologists have shown how the itinerary initiated a completely different type of perception, practice, even spatial design, than the gridded map to which we generally assign prominence in the modern world. If the gridded map claims to represent the objectivity that it proposes, the subjective, concrete and especially temporal experience of the territory is erased. Conversely, the itinerary map provides a representation of the territory in which it is not considered independently from the practices which are deployed in the map, in a sort of implementation, but on the contrary defines its structure even by the practical engagements of those who draw down their wanderings." (p. 7-8)

The emotional maps seem to bring back to life these ways of doing what we had forgotten, awakening dormant practices and giving this ancient model of itinerary maps a new pertinence. In effect, it appears that the artistic maps are fabricated according to a method of itinerary construction. These maps are never constructed on gridded coordinates, as is the case for the majority of contemporary maps. They are produced with the help of software but are generally done by hand, as if the fact of rediscovering the gesture permitted one to "re-sensitize the image." These maps bring to life another spatiality, which approximates spatial hodology. In *Les Carnets du Paysage* N. 13 and 14, Jean-Marc Besse writes: "hodological spatiality (Lewin) corresponds to the perspective of a space that did not exist before the path, and more generally to the movement, but, conversely, is produced equally well in terms of perception, by the pathways."

"There are many echoes of our subject of study in this edition of the magazine. What is happening in these maps can be likened to the spatiality of dance. The partitions of landscape of Lawrence Halprin embody it entirely. In the following document (Fig. 1), Lawrence Halprin outlined partitions (Motation and notation partitions) in order to survey the Roosevelt Memorial that he was in the process of conceiving at the time. Considering the course is a part of the creative process. It is first about thinking about the spatiality that will be born out of the Memorial. Here, the courses are designed following the experience that one has of them: we can follow the light, the sound, the movements, pacing in a certain state of mind as if in contemplation. The monument is thought of for having lived. This approximates the principles of the emotional architecture enunciated by Mathias Goerritz in the *Manifesto of Emotional Architecture* (1954). Nicolas Gilsoul wrote in *Emotional Architecture* that, yes, there is "at first glance a tautological formula." The phenomenological works demonstrate that all space provokes emotions on the man that travels through it and lives in it. (…) The redundancy intensifies, however, the idea of an architecture where the stakes and the effects will work primarily on emotions and hence the emotions of the subject." (Ardenne; 2011: 43).

L. Halprin based his thinking on the space created by the construction of the Memorial on hodological spatiality, which takes the route of the experience by journey. The sketches for the partitions show possible journeys of future construction. They put into perspective a concept of building a space centered on emotions. The design of Halprin contains what could be called hodological knowledge. The image shows the construction of a space that comes directly from the experience of walking. It enters a process of consciously capturing the experience that took place. This sketch contains spatial knowledge with respect to emotions that emerge from the area that is traveled." (Olmedo; 2012a)

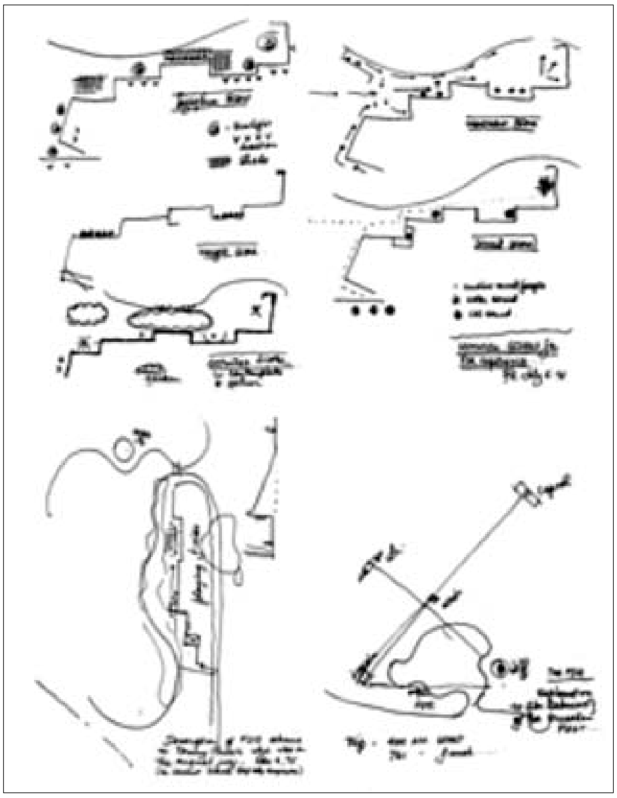

Fig. 1, L. Halprin, Drawings for the Roosevelt Memorial project. Source: Extract of thesis in work, M. Christmann, "Creative process on the writings of spatiality: partition and the landscape project.

The maps of Mathias Poisson (Fig. 2) are in general a result of walking through the city. His relationship with space is not at all classical. His movement and gestures leave tracks and imprints that make up the first representation of emotions. The movement is not addressed as an ephemeral spirit; it makes itself the itinerary and creates a hodological spatiality that lasts even after the journey. Similar to other supports, such as film or writing, maps welcome these traces that come from experience: the past points to the gesture. The map is a means of expression used to save what the experience produces in terms of perceptions. It holds the particularity of directly recording something in relation to data (the emotions and the points of view generated by the movement) and spatial facts (the area crossed). The map is thus the private testimony of the relationship between the experience of movement and the memories left behind by this experience. The map produced during or after the movement thus becomes the interpreter of the position that the traveler has taken in emotional worlds that he crosses through his daily or extraordinary journeys. It is not only about the walk, but also about the approach. "By general rule, the approach qualitatively designs the way in which to walk: what provides insight into the way in which to move, the speed, haste. We often employ this to characterize the idea of intellectual processes as well. The walk, when it is not thought about merely as a way in which to move from point A to point B, contains not only the idea of the physical qualities of a journey (speed, type of journey, constraints of the journey…) but also the idea of the intellectual project (approach). In hodology, the physical path of footsteps that is imprinted in on the ground is aligned with the intellectual journey that takes the form of a map created by a look, a perception, and embodying hodological knowledge." (Olmedo; 2012d)

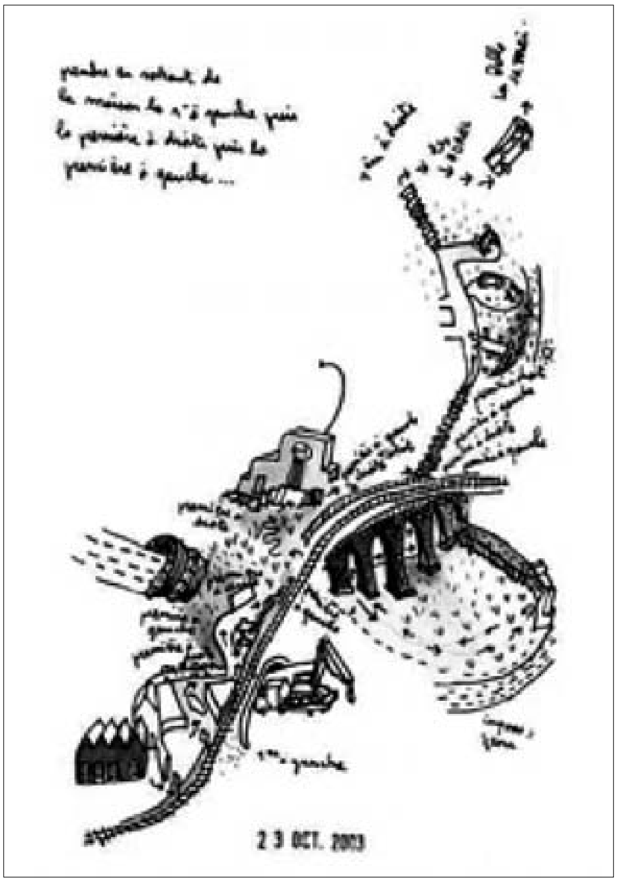

Fig. 2, Mathias Poisson, Subjective mapping, October 23, 2003. Source: poissom@free.fr

2.2 Qualitative scales for spatial perceptions

The map alludes to a passage from the mapping space to the space of the map. In other words, the space in meters must come within a few centimeters on a sheet. Explicit or implicit, the scale is above all an operation of mental reduction. "We have gone through a departure from the "unique" or Euclidian metric, that which translates the most classic topographic map where a centimeter on the object corresponds to an equal number of kilometers regardless of the place where the center meter is taken. Recall that this vision of distance has always been false with respect to the planisphere, since it varies according to the latitude conforming to the projections; the distortions of the angle also betray equivalent projections in the same manner. As a result, we have long drawn the maps "as if" the distances in the images of the world corresponded to reality, which was not ultimately denied since the world was immense." Christian Grataloup insists here on the idea that maps distort the areas that they represent even when they use Euclidian distance. The projection, the passage of the sphere to the plane of the globe, to the map implies inherent deformations. In this, emotional maps do not differ from others, though one could be inclined to think otherwise. They do not make invisible this distortion but simply accept it as a form of construction. The distortion is not hidden; these

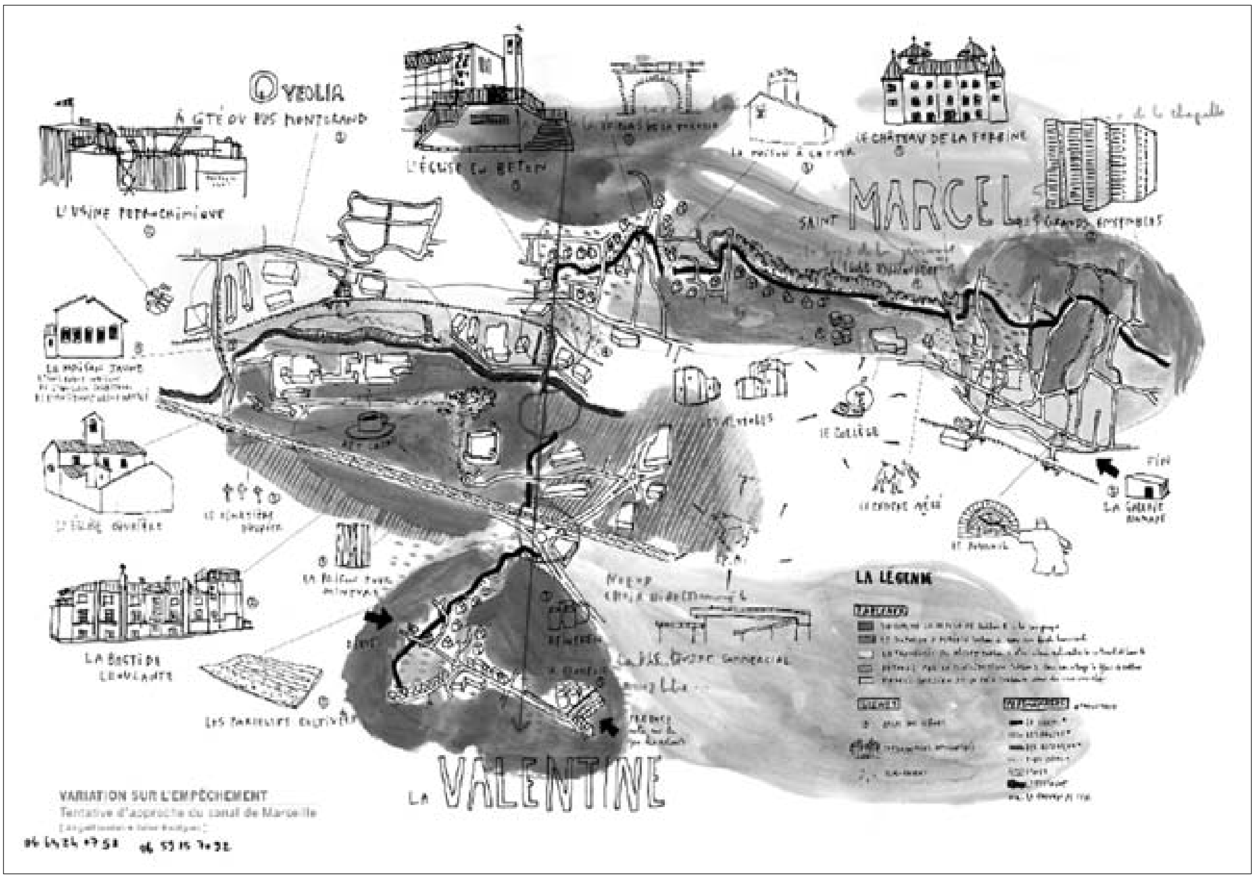

Fig. 3, Abigaël Lordon and Julien M. Rodriguez, Variation sur l'empêchement, 2010

maps take the opposite side of the aspiration that has been motivating mappers for a long time: accurately representing the world. Emotional maps are searching to represent spatial pluralities. It is not correct to say "in our world," but rather "in our worlds." This evolution leads one toward the idea that space would be less about surface than about spatiality. Space is less a continent than content. Thus, the maps of the 19th and 20th centuries have developed a new anamorphous metric, which distorts the basis of the Euclidian map with respect to the data necessary to represent. The facts and the depth contained within are one. "To the question, what is a large country;" the first response generally relates to its surface (…) But what if this question is in reference to its demographic or economic size (…), most of the planisphere can mislead us. Since the 1970's, we have often modified the extent of a country no longer proportional to their size but proportional to parameters such as GDP or the population: we thus constitute maps as, shall we say, anamorphous." (ibid)

In emotional maps, there is both a quantitative and qualitative operation. As with any map, there is a represented space that has been quantitatively reduced relative to the reference space. But this reduction is far from being as proportional as in classic maps. Usually, we chose a reduction scale that is applied in a homogenous manner to the entirety of the map. Here, this operation doesn't take the same proportions on all points of the map. We think of space as isotropic, that is, space itself as an abstract entity that is found everywhere in the same properties. The emotional map offers the contrary. It shows the perceived space in an anamorphous way. It is by nature distorted. The mode of construction of the emotional map thus constructs a non-homogenous, anti-isotropic spatiality in itself. The scale of the map is thus qualitative. It does not suggest merely one, but many different spatialities for the same geographical location. The anamorphous aspect suggests that there is a space separate from that of the reference, which one could apprehend following the geometric coordinates that make up the core of the map. In emotional maps, we do not distinguish the core from the form; space is represented as a function of perception.

In the map (Fig. 3), certain places do not exist – either because they are of no importance or because they simply do not exist in the eyes of the surveyor who did not visit them; or, that they were not accorded any particular attention. Conversely, we could imagine that other spaces could exist on the map even if the surveyor had not had any experience with them. These correspond to fantasylands, those of fear or of desire, or those that fascinate us for example. These places have been the object of mental or virtual journeys that have come to the consciousness of the surveyor. They also have "citizenship" in the mental space in which the mind lives.

2.3 Lines of intensity

"New route – broken wall – country air – vineyards - cafe with milk – A7 motorway north – heart – left ventricle – left atrium – right ventricle – right atrium – pulmonary vein – aortic arch – old Holborn yellow tobacco – Lagoratte Route N113 – principle St. Antoine artery – baker – closed tobacco shop – code 111A – cap 15…" In this map from Mathias Poisson (Fig. 4), the intensities are palpable through the metaphoric representation of the city through the use of the circulatory system of veins and arteries. The legend fits inside the interior of the map and not in the form of an appendix, the form we are more accustomed to seeing. Everything resembles a chart taken from a medicine manual that aims to show us the city as a cutaway. We would see the city from within. This

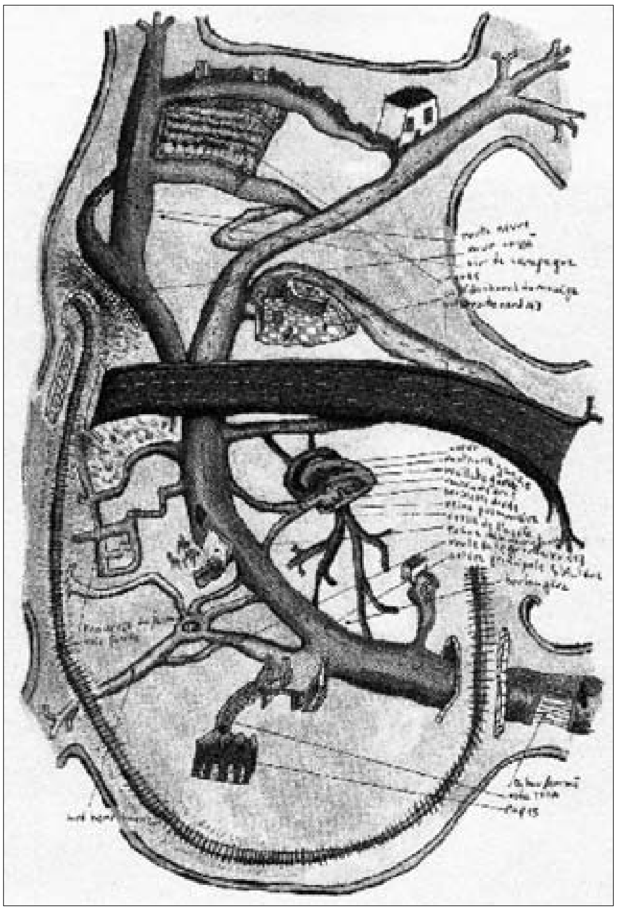

Fig. 4, Mathias Poisson, Quartier de peine, Marseille. Source : poissom@free.fr

is about dissecting the city in order to better understand it. This map presents its internal morphology, its lines of intensity that are the transportation routes (« N113, Saint Antoine artery, motorway A7…) In *Finis Terrae*, Gilles A. Tiberghien writes:

"Lines of contraction in mapping are first concerned with the form and the quantity (…) but also with qualities and intensities. (…) This is in any case the point of view of the artists that are interested in the maps." (p. 96)

Another example of these lines that the artists develop in their maps is that of Cecile le Prado's triangle of uncertainty. In the sea, navigators have the possibility of finding their way thanks to "daymarks" – these are landscape elements located on the coasts: clocks, hills, water towers, lighthouses…it suffices to identify three of these visual aids to determine the positioning of the boat and is done by way of triangulation. Taking up this principle of triangulation, the sound installation substitutes visual aids with "sonic daymarks."

For this project, three coasts have been chosen: the Fastnet in the south of Ireland, the island of Ouessant in Brittany and the northwest of Spain, Cabo Finisterre in Galicia**.** These three spaces have a common thread as they are both of Celtic origin and are dangerous to navigate. From the sounds of the sonic daymarks that take place in these three places, the artist recreates, through the montage, "a triangle of uncertainty." The signal-like sounds of the lighthouses, the sounds of neighboring cities, whistling buoys, radio links… all of these elements recreate an instable triangulation that redraws a sonic landscape. Even if this does not truly exist, it seems to multiply its essence. By bringing together diverse places into just one through a single sonic landscape, Cecile le Prado shows a reconstruction of the landscape that is transmitted to us, through the particular bias of a landscape interpretation in which one puts his finger on the sonic intensities of the map.

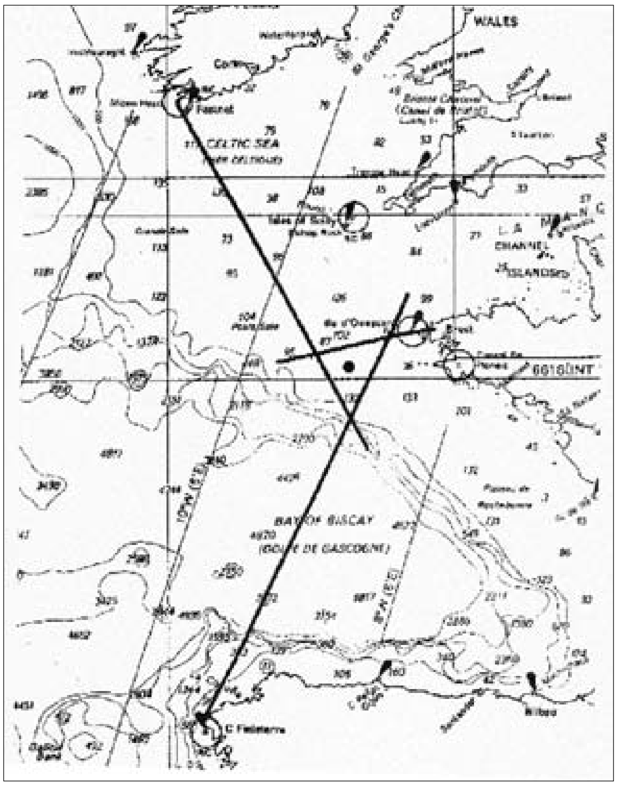

Fig. 5, Cécile le Prado, The triangle of uncertainty, Les Carnets du Paysage, N. 16, 2008

3. Cognitive Content: hodological knowledge

The methods of the journey such as the "method of itineraries" (*méthode des parcours commentés*) developed by Jean-Yves Petiteau is founded on this idea that the practice of space is connected to cognitive functions. From another perspective, the anthropological methods surrounding the map as a tool for exchange during certain undertaking show that the map is a lever to access an anthropology of space. They are brought together as two cognitive tools, which are not located in the same moment of the analytical device: the walk is upstream of the device, the map is downstream.

The hodological knowledge that results from the walk and is found *a posteriori* in the map, is an intellectual, voluntary or involuntary, conscious or unconscious construction resulting from the hodological practice that we defined above.

"Whether confined to sketchbooks or distributed through expositions or works, the important production of maps made through the experience of walking shows that of all evidence, the map offers possibilities to put into action hodological knowledge on a space that is traveled across the map allows one to make space legible and communicable as it is perceived. The mental image of hodological knowledge has a cartographic form. We perceive up to what point emotions have not just their place on the empirical side, but they also carry rationalizations of which the map is a main vector. Thus, hodological knowledge is born from empirical experience and is shaped as an intellectual construction through the map." (Olmedo; 2012a)

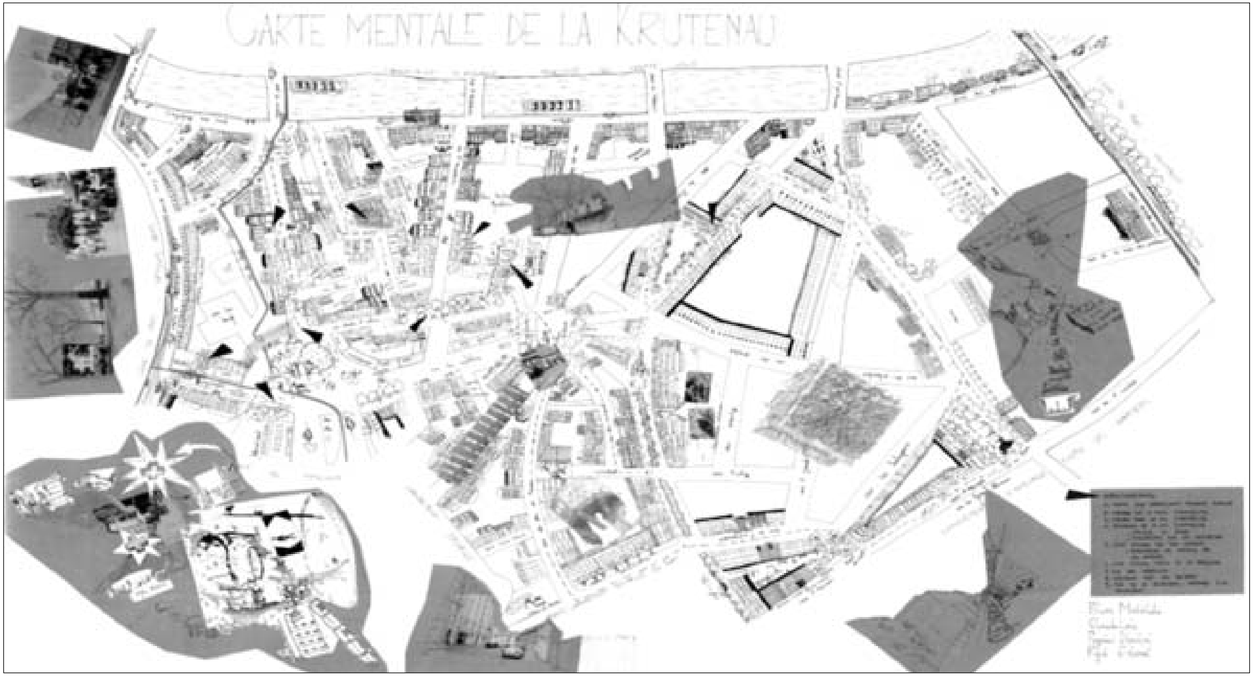

Fig. 6 Second year student work – ENSAS, Spring 2012, World map of Krutenau, Strasbourg.

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Sight/Site Constructions

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Abstract: This paper discusses material developing towards an installation that uses as its model and conceptual framework an abandoned rifle range. The spatiotemporal framework generated by the rifle range acts as a model for examining the design process, particularly in relation to visual perception. The rifle range has a specific relationship to a formative mode of vision - sighting - and significant but less obvious connections to other visual modes which the paper will discuss. The vast differences of scale embedded within the space offer a starting point to examine and relate architectural representation at a similarly expansive range - from human to landscape - opening it onto multiple codes and phenomena normally taken to lie beyond its remit. More broadly, the paper will discuss how an attention to the studio space as a second site for the design project can engender new modes of engaging with and considering the process of design and our relationship to it.

Keywords: Studio, design process, sight, site, agency, framework, installation

1. Introduction

A design studio brief titled 'Architectural Forensics' authored by Mark Dorrian in 2007 posited that the design studio: "…appears as a kind of space of transmission, a space through which something has to be sent, which would suggest that to admit it into the architectural project, and to welcome its effects, would be something akin to welcoming interference on a telephone line."[1]

This paper will examine this interference, focussing on it in an attempt to unravel the interaction between the studio space and the ostensibly distant sites of architecture and landscape projects situated within it.

The studio is normally understood as a neutral participant in the design process, a framework devoid of agency, as functional as a telephone line. By ascribing it with a role, or certain characteristics, the neutrality of the space can be challenged. This practice goes beyond the adoption of a forensic attitude to the studio as posited by Dorrian's brief - in which "design potential [is] embodied in absolutely everything and so nothing should be discounted" (Stasus 2012) - instead adopting a set of characteristics, codes and hierarchies from a separate, distinct space as a generative tool in the design process. In this practice-based research[2], the military environment of a rifle range is considered as being mapped or translocated onto the studio space, in constant dialogue with the elements engaged with, the sites referenced and the modes and media utilised.

This paper will discuss how and why this space is utilised; demonstrating the effects such an approach has on the design project generated by and through it. This project is informed in every way by the rifle range, from the military sites that situate the proposals, to theoretical and historical connections drawn from the space. Specifically, in relation to visual practice, the paper will examine modes of viewing (sighting) the studio that open up new and unexpected potentialities within the design process. It will ask and attempt to answer how this interrogation of the neutrality of the studio space through the 'interference' of a military environment can be utilised to reveal previously disguised or discarded elements in a design process, opening architectural representation onto codes and phenomena normally taken to lie beyond its remit. In doing so it will demonstrate that an attention to the materiality and conditions of the studio space that forms an immediate, second site for all design projects allows for a more productive, operable and intuitive relationship between designer and process; a dialogic approach that sustains and enriches both.

2. Sighting the Rifle Range

Why a rifle range? The space was stumbled upon accidentally, early on in the study (*Fig. 1*). Long abandoned, it has now disappeared entirely, infilled to allow for redevelopment work - a common fate for disused military spaces as their role in the world becomes uncertain.[3]

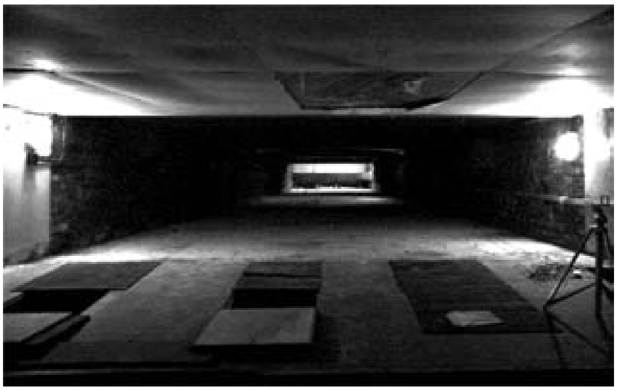

Fig. 1 The underground rifle range as found in 2010.

The rifle range, like the studio, is a space of transmittance. The space embodies a materialisation of thought, a thought actualised by the fleeting presence of a bullet fired along its 25 metre length, travelling for around 71 milliseconds from barrel to target[4] (a duration that appears instantaneous to the human observer; this imperceptibility between thought and action being key to the gun's quasi-mythical role in colonial history). The space, and everything within it, is precisely calibrated around this distance and duration and the violent thought at its centre. It is a space embedded with agency, and one that calibrates a precise relationship between those utilising the space (the soldiers) and the objects within it (the targets). In this respect, it can be regarded as oppositional to the perceived neutrality of the studio. When mapped together, however, similarities become evident. The studio is the space through which distant sites materialise, actualised by the engaged application of thought.

In place of bullets, we have models, drawings and other modes of representation, and theoretical trajectories replace trajectories of motion. These trajectories - the ballistic action and the developing idea - are closely related. Manuela Antoniu discusses Alberti's fabled feat of prowess, in which he is said to have thrown an apple over Brunelleschi's dome in Florence, writing: "…Alberti's physical act seems to suggest the following snub: the visual is perishable, but its theory is everlasting. Expressed differently, Brunelleschi's dome *qua* physical presence may come and go, but Alberti's writing intends to outlast it." (Antoniu, 2009)

This illustrates the carefully balanced relationship between the theoretical and the visual that exists in the studio space, in which thoughts and objects develop synchronously. Often, this reciprocal development goes unstudied and is concealed in the outputs of a process; we are left, as with the soldier examining the perforated target, to decipher the cumulative actions leading to this output in retrospect. The development of an idea in a project is manifested in final models and other modes and drawings - rather than as a continuous developmental theoretical and material process. These outputs suggest a dominance of theory by the visual, interiorising - and so in effect negating - their development; the images we are left with act as a spatiotemporal compression of long periods of study and process work. However, considering the bullet's flight, we are able to consider these outputs not as instantaneous events but as results of a continuous motion, a developmental trajectory. The rifle range offers this trajectory, coding the developmental process spatially and temporally. It also further complicates it; it is a space in which sight frames the thought (both figuratively and literally with the gun's sights) that allows for the seemingly instantaneous perishment of the distant object, alluding to the possibility that, as with Alberti, the theoretical has ultimate power over the visual. This understanding, and the trajectory that delineates it, can contribute to outputs that are not a compression or representation of a process but rather part of a wider, transient, iterative collection of narratives, ideas, potentialities and meanings.

3. Coding Ambivalence

It is not only looking through the framework of the rifle range that is informative, but it's being looked upon and reflected on as a space. In this derelict 'gap' we find the truth of all military spaces: that they express themselves irreversibly as foreign to reality long after their inscribed use is done. Their specifically calibrated spaces are never able to reconcile with their surroundings, even long after they fall into ruin; they embody a reference to a threat that demands to be read alongside them. John Beck describes witnessing the "veiled realm of military occupation" (Beck, 2010) as an undoing of its security, creating a disquiet for the observer, aware that being exposed to vision is somehow a breach of the bunker's defences and of the greater military pyscho-spatial entity. This disquiet when the bunker is "exposed to the field of vision is a measure of the insecurity that is at the heart of the bunker's ambivalent status" (Beck, 2010). This ambivalence is also the interest of Trevor Paglen's long-range photography, in which restricted military sites are photographed from extreme distances through a process he describes as 'limit telephotography' (Paglen 2010, *Fig. 2*) with the resulting blurred and ambiguous images drawing on this disquiet - a part of which is a questioning of how much of the perceived activity of the photograph is in the imagination of the viewer. Due to this quality, exploration for 'outsiders' within military spaces is always dictated as much by the material environment as the psychological make-up of the interloper.

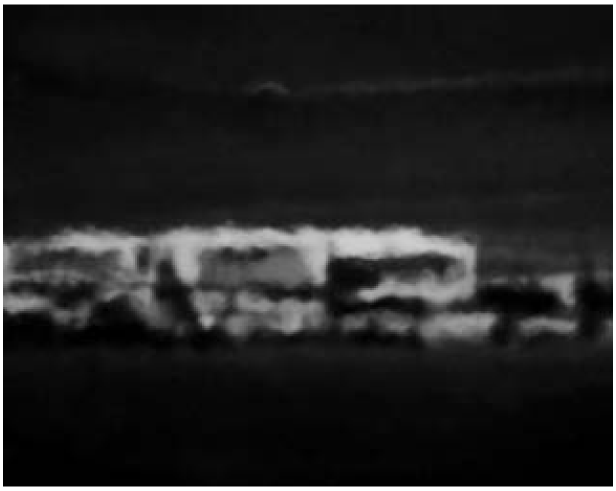
Fig. 2 Open Hangar, Cactus Flats, NV, Distance ~ 18 miles, 10:04 a.m. Image from Paglen (2010).

The rifle range, when discovered, was in a state of deterioration, but to enter the space was still to seemingly intrude on an occupied, military space. To engage with it, one must act by its rules and coding; rather than simply being an observer in this realm, one must adapt to a militarised experience, imposing it onto their imagination, one in which: "…the landscape is broken down into symbolic components: objects with discernable values, as threats, potential threats or for their defensive potential… superfluous content is ignored or denied."[5]

By transcribing the rules, relationships and agencies of the military space of the rifle range onto the studio space, the aim (an unavoidable pun) is to charge the studio, and the design project engaged within, with an agency that lays bare the myriad effects and influences that as designers we regularly engage with in these spaces, that makes us reflect upon how we utilise the studio space by de-familiarising it to ourselves; that exposes the non-neutrality of the studio space, the representational tools it situates, and of this ambivalent status of ourselves as designers within it; that *sites* the design process through its *sighting*.

4. Gun sights to God's Sight

This sighting, along the barrel of the rifle, has a further significance as a formative mode of vision. For Paul Virilio: "the soldier's obscene gaze, in his surroundings and on the world, his art of hiding from sight in order to see, is not just an ominous voyeurism but from the first imposes a long-term patterning on the chaos of vision, one which prefigures the synaptic machinations of architecture and the cinema screen." (Virilio, 1989)

The battlefield soldier of the early 20th century, in framing a view, delineating it and separating it from its surroundings, is for Virilio a precursor to a form of sight that we now take for granted; the machine vision of the camera that supplants our own. The gun's sights illustrate a technological origin of a mode of vision, now ubiquitous, that detaches sight and transfers it to the object that sees for us. The rifle itself is a direct precedent of the early camera, with the chronophotographic rifle of Ettiene-Jules Marey revolving film, exposing it to light for as long as the trigger is held (*Fig. 3*). This mode of seeing enabled Marey to describe the movement of things that were previously unable to be transcribed, revealing and coding their continuous motion as distinct, individual images and moments in time. By allowing our vision to be augmented, or translocated into the machine, we see the world in a different way: one not of embodied experience but patterns, fragments and abstractions.

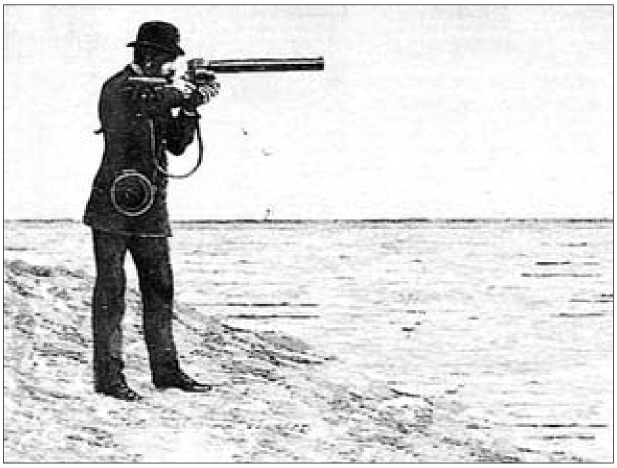

Fig. 3 – Ettiene-Jules Marey demonstrating his chronophotographic rifle. Image from Grafton (2010).

The bullet's 71 millisecond flight along the rifle range thus delineates not only its own path, but describes a history of this visual mode. If continued beyond the parameters of the range in Edinburgh, unaffected by gravity, air resistance and so on, the projectile would travel south across the UK ultimately reaching Orford Ness, a secretive Cold War nuclear test site. If we can describe the act of taking aim as Virlio phrases it: "a geometrification of looking, a way of technically aligning ocular perception along an imaginary axis that used to be known in French as the 'faith line' (ligne de foi)" (Virilio 1989).

Then before long this imaginary line adapted to become the arcing trajectory of artillery in relation to the aerial view, and then the guided motion of a cruise missile in relation to the camera's mobile 'first person' sight. Ultimately, nuclear weaponry marks the development at which sight is no longer a necessary component of militarised vision; the faith line becomes, simply, faith: faith in absolute destruction, a kind of omniscient power for which, conversely, no sight is required. The projectile, transmitted from one militarised space to another, traces the visual parameters of this "obscene gaze" - from the gun sights, in which vision is a straight line, to the nuclear site, or God sight, in which the visual trajectory has been supplanted by an all-encompassing threat from which there is nowhere to hide, effectively nowhere to escape view. As Virilio phrases it, "there has been no end to the enlargement of the military field of perception." (Virilio 1989). Adopting, in a literal sense, a military 'point of view', serves to enable architecture and landscape discourse to move freely between vast scales of operability.

5. Time in the Camera Obscura

Virilio describes the bunker as a camera obscura, a space where representational modes and media gather in windowless, burrowed structures to depict far-off battlefield movements, tactical analyses that crucially always unfold in what Virilio describes as "theoretical time" (Virilio, 1989). Indeed, the rifle range - though far from the sophisticated command bunker Virilio is picturing - attempts through a theatrical effect, something of this apparent in the bizarre collection of images adorning the rifle range [*Fig. 4*], with the soldier figures on the targets presumably attacking the serene landscape depicted on the walls; a stage-set in which to act out invasions.

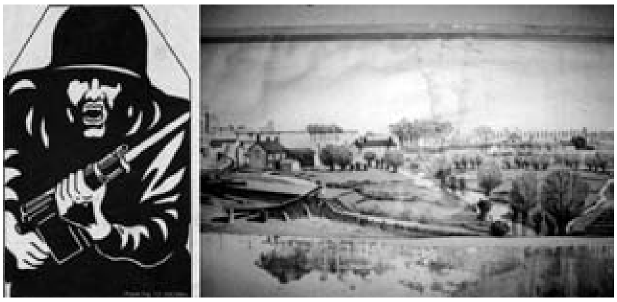

Fig. 4 – Images found in the rifle range. On the left, a graphic placed on the targets. On the right, a landscape painting attached to the wall above the waiting area.

We might describe this space perceived within the bunker - and so potentially the studio - as: "…governed not by a single space-time principle but by its relative and contingent distortion, the capacity for repressive response depending upon the power of anticipation" (Virilio, 1989).

The camera obscura has an extensive history as a site of optical studies. However, it was only with Goethe closing the aperture of the camera obscura and going on to consider the afterimages he describes as now "belonging to the eye" (Crary, 1988) that an understanding that the viewer is mixed inextricably into the viewed system of objects emerges, and this approach, that we may describe as 'proto-phenomenological' is the dialogical relationship that the rifle range study draws from, one in which as Jonathan Crary phrases it: "...vision is always an irreducible complex of elements belonging to the observer's body and of external data. Thus the kind of separation between interior representation and exterior reality implicit in the camera obscura becomes in Goethe's work a single surface of effect on which interior and exterior have few of their former meanings and positions" (Crary, 1988).

In taking the rifle range as the spatiotemporal framework, a dialogue is generated between formally distinct elements - designer, viewer, photograph, model, video - that allows these various previously disparate media and components of the design process to relate to each other in a specific and productive way, imprinted onto this "single surface of effect". The installation modelled on the rifle range, through which the practice-based research is expressed, serves to reconstitute the rifle range space, excavating its qualities - material, aural, psychological - and imbuing them with new meaning. This reconstitution operates as Virilio describes the bunker; a militarised imaginary depicting a design project, and all the representational media, developmental thought and work within operate in theoretical time, imprinted and brought together on the single surface of its interior.

6. Mapping Zeno's Projectile

There is space for one example of work generated by the rifle range. Let's return to the projectile for a moment. For one moment,

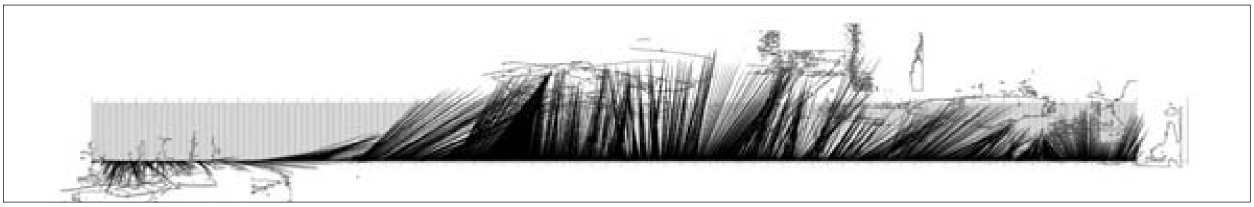

Fig. 5 Spatiotemporal time mapping of the bullet's flight.

in fact, of its flight: this was, in essence, Zeno's 'arrow paradox' on the impossibility of motion, to which Aristotle responded in his *Physics*[6]. Zeno states that in any given instant of time, presumed to be without duration, the arrow is neither moving to where it is, nor to where it is not. In other words, at every instant of time there is no motion occurring. If time is composed entirely of instants, then motion must be impossible.

The spatial arrangement of elements within the rifle range serves to place them in time, in a specific relationship with the time-scale of the bullet's linear flight. This layer of additional information applied to the material in the space serves to create a connection between them, a layer of ordering in which every physical space and artefact is coupled with a time signature. The image below [Fig. 5] describes a complex mapping of the time duration of a video recording of the rifle range with the bullet flight. A camera was attached to a dolly made from the target-winching system in the range. Traversing the space horizontally, the camera witnesses the rifle range in a new way.

A retracing of the bullet's flight is generated, but one that unlike the bullet is constantly affected by the material surface of the rifle range itself as the camera dolly snags, struggles and becomes stuck on its interior landscape. This complication was mapped back onto the original bullet trajectory. The time-scale difference between the two speeds mapped here was at 1:2500, coincidentally a common architectural scale, where 1 millisecond of the bullet's flight equals 2.5 seconds of the video's duration. This spatiotemporal complication, which generates a kind of visceral physical snagging to the bullet's flight, asks us to view the seemingly instantaneous moment of the bullet's flight as Zeno imagines it, and as Marey captured it - motion delineated and separated into individual, transcribable, manipulable moments. Viewing the studio space in this way, we can ask what the 'image' of an idea is at a particular moment in its trajectory, what it's 'speed' is, and directly compare fragments of early studies to more finalised design outputs, held within the same framework.

7. Conclusion

The project at the centre of this research interprets the material traces of a military space, the coding of militarised sight and its historical and technological linkages, the ambivalence at the heart of confronting the military entity and the camera obscura though which it imagines itself. A framework is generated by the rifle range, so that these idiosyncratic elements can be discussed around and through the design work and the process that connects it. The artist Katy Bentall wrote that "a place is a sudden gap…"[7]. For this project, a gap - a seemingly functionless remnant space, now disappeared - has proven itself abundant with resources applicable to the creation of design work, and the simultaneous reflection on the process that drives this work. Through rigorous reflection and interrogation of similarly imminent and imbued internalised landscapes related to the studio space, design projects can be realised that derive principally from their second sites: the sites in which they are designed.

Notes:

[1] Dorrian's brief is referenced in *Pamphlet Architecture 32: Resilience* (Stasus 2012) and work responding to the brief can be seen in both *Pamphlet* and *Warszawa: Projects for the post-socialist city* (Dorrian 2009)

[2] Practice-based in this instance referring to the 'Ph.D. by Creative Practice' mode at Newcastle University, as opposed to a professional architectural studio.

[3] A fascinating example of this practice is demonstrated in the exploration of a purposefully flooded abandoned nuclear missile silo in the US, viewable at: http://www.scoutingny.com/?p=4765

[4] Based on the rifle and bullet-type I am examining.

[5] Flintham, M *The Military-Pastoral Complex: Contemporary Representations of Militarism in the Landscape* in Tate Papers 17, viewed 5 July 2012, http://www.tate.org.uk/research/publications/tate-papers/military-pastoral-complex-contemporary-representations-militarism

[6] See Simplicius' commentary *On Aristotle's Physics* for an expanded account (trans. Huby & Taylor 2010)

[7] This is an expanded and reflected upon by Ella Chmielewska in The Journal of Architecture, in which Bentall's studio plays a central role. (Chmielewska, 2010)

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Two Landscape Performances on a Brownfield Site

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Abstract: The event "Imaginez Maintenant" 2010 was born from the initiative of the Council of Artistic Creation and the Ministry of Youth and Active Solidarity to promote young designers from different disciplines to carry out some new educational experiments. Based on two student presentations of the Higher National School of Architecture and Landscape of Bordeaux, which were especially prepared for the occasion, we examine the encounter between an urban wasteland and future landscape proposals made in the framework of the teaching program. Beyond the strict description of these two performances, we also consider a way to reflect broadly on the need to integrate new means of expression within the landscape project to challenge one of its main objectives: land-use planning. We also report on the disciplinary fusion between landscape and art.

Keywords: performance, urban wasteland, landscape research, landscape tools, disciplinary mix, projecting time.

1. Two landscape performances on a brownfield site

The event "Imaginez Maintenant" 2010 was born from the initiative of the Council of artistic creation and the Ministry of Youth and Active Solidarity to promote young designers from different disciplines (visual arts, performing arts, music, circus, dance, architecture, poetry ...) and some new educational experiments. Several French cities participated in the project, including Bordeaux, supported by the Centre for Contemporary Visual Arts (CAPC). The site where the event took place is an old abandoned military barracks on the right bank of Bordeaux. Based on two student presentations of the Higher National School of Architecture and Landscape of Bordeaux (ENSAPBX), which were especially prepared for the occasion, we wish to examine the encounter between an urban wasteland and future landscape proposals made in the framework of the teaching program for first year students.[1]

The exposure formats used for the event "Imaginez Maintenant" which lasts four days, require speed of execution and accessibility of the proposals. Indeed, while incorporating new approaches from the art world, the presentations are organized around concepts and tools specific to the landscape project. In fact, we could not create a landscape project in the strict sense of the term. It is precisely this disciplinary blend that we want to report. But beyond the strict description of these two presentations, we also consider this as a way to reflect broadly on the need to integrate new means of expression within the landscape project to challenge one of its main objectives: land-use planning.

2. The landscape investigation of a brownfield site

The first tool to discover the area,[2] namely the "reading of the site" (Lassus 1995), is commonly used in the landscape project. It helps to differentiate the information that the site provides us. This action requires not to be overwhelmed by "the reality" of the site as the indicators of landscape reading can be many. The re-presentation occurs here in its most essential aspect of the analysis, that is to say, as a convenient medium to make choices and not as a tool to imitate reality. Survey sketches, blackened notebooks, recordings, photographs, collections of lose objects permit the selection of what will become the future material of the project. We only chose what will be essential for the project at the expense of the rest which we consider superfluous, as it does not inform us more or raise the potential of the project. In a sense, this period of preliminary work – which can also be repeated during the project process – allows us to construct the essence of the site being explored. This is a crucial step, as it ensures the coherence of the future project and identifies the relevant elements; uses, forms, geometry and composition of the site, contexts, origin and history of the vegetation, remains of plots, etc. The aim is to look closely at "what already exists" and to try to select what is necessary.

3. The urban wasteland, a unique area in the territory

The site on which we work is unique. Urban wasteland, whether industrial, rail or military, has the ability to embody the diverse influences of abandonment and neglect. One grasps the abandonment of an activity that organized a fragment of the territory in its materiality, shaped it to its appropriate uses. In order to recycle these places, society deliberately abandons and neglects them: in this sense, the process of degradation is part of a desired change but latency has an impact on the planning system (Smithson 1996). Finally, time makes the abandonment more acute, since it acts as soon as the site is not maintained. But time and neglect not only leave traces of material degradation or "green recapture" of the site; we only see the most remarkable transformations and they also open up possibilities. These areas thus become available for use or "inhabitants" who are marginal to the controlled planning policy of the city and/or landscape project. Steel skeletal remains of buildings open to the air, blown roofs, started and unfinished demolition works, broken windows, rests of tiled floors, deserted walkways, the barracks is a gaping hole. Its gap is even more striking as other traces are left by the passage of several, momentary or temporarily settled, "inhabitants". Other gaps were added: the manholes have disappeared and uncover the rainwater evacuation network; here and there only cables still exist, wires and tubes are gone. During our different investigations and the manifestation "Imaginez Maintenant" the holes, the absences are multiplying. At night, the site moves, and whoever is still there leaves. The human footprint is present throughout the site. We feel the presence of various populations. Taggers, graffiti artists, but also the Roma, iron, lead

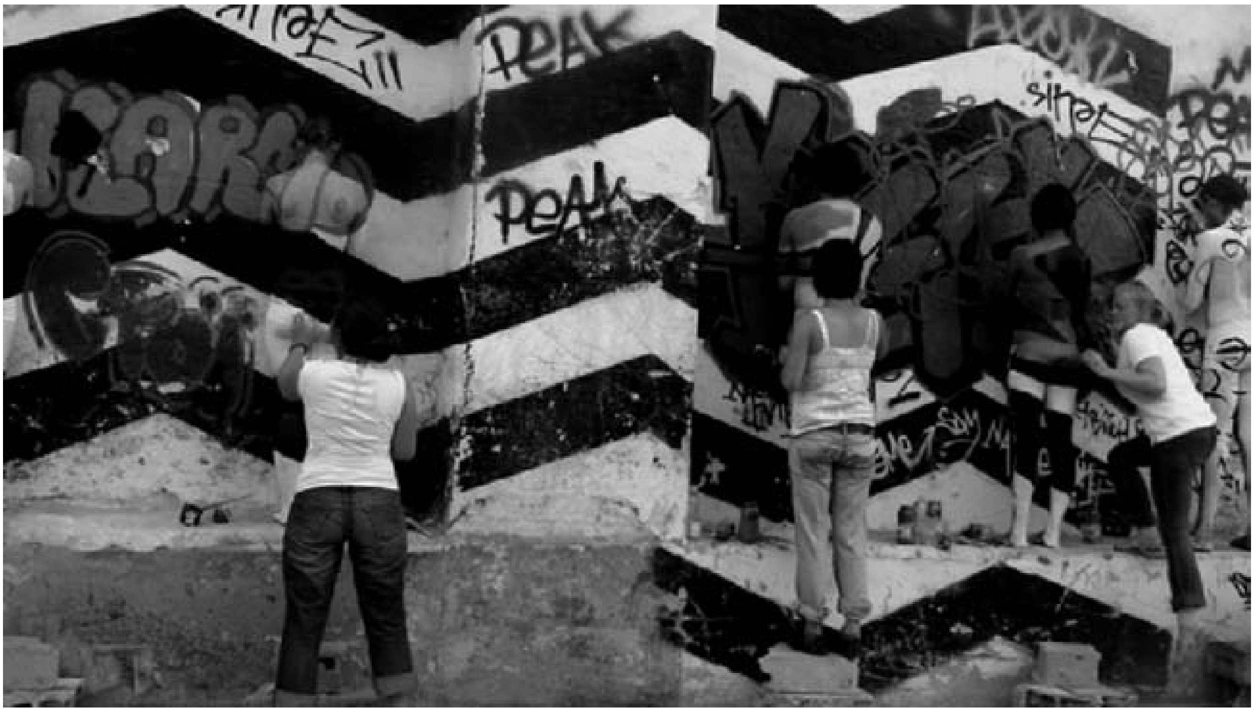

Fig. 1. Photograph Hélène Soulier

and zinc collectors, adventurers of contemporary spaces, strollers? Who knows? At the same time the place empties, paradoxically, it fills up with traces of these passages, each other's marks, writings, signatures, usage and waste, signs that betray those who passed.

4. The project's time

Landscape architects of today question through the landscape project space and time differently than other designers of the city. They constantly shift the horizons of the project even further. Sometimes it is necessary to create places that will be legible only in the long term; sometimes, the project only consists of simply tending the place. The long-term dimension is now part of public landscape policy or planning and the landscape project is one of the best examples. But what about the short term dimension? The question arises in these terms: how can the landscape architect's point of view be transmitted to such sites in a case of urgency, in this case in only four days? More generally, when we do not have the opportunity to propose a physical transformation of a site – it was not possible to propose a rehabilitation project of the barracks – what solutions are left? If the investigative tools are from the start logical – make a site analysis[3] – the communication forms of the project, however, remained to be determined. Nevertheless, facing the "power" of the site, the goal was clear: we had to convey our perceptions and our interpretations with more immediate tools. The challenges of the landscape project remain the same: to reveal, through an unusual instant presentation, the most powerful and rich aspects of the site that is before our eyes, that what each designer chooses to emphasize.

Soon, two questions emerge. The first places man at the center of our interests, within the meaning of the inhabitant of the wasteland, in all the variations of his identity: the passerby, the walker, the Roma, the tagger, the homeless person, etc. The second invokes the time that changes the form and guides the transformation of fallow land and confronts us with that what planning policies strive to bias: the margin, the fuzzy uncertainty, latency, no assignment, the available, and the possible use of entropy. These two topics have generated two performances.

5. Two performances

5.1 "A corps perdus", performance (fig. 1 and fig. 2) conducted once a day during the event.

On one wall of the barracks covered with graffiti in the form of large black and white zebra stripes, two teams settled. The first, consisting of 6 or 7 students only wearing underwear, are "human bodies". The other team, wearing jeans and white T-shirts, are painters. For 45 minutes, the team of painters painted the bodies facing the wall by copying the graffiti the bodies mask until they disappear because the difference between the wall and the body is no longer visible. After 45 minutes, a gong triggers a complete, very slow, turn of the "human bodies". Then the bodies leave one by one. In silence.

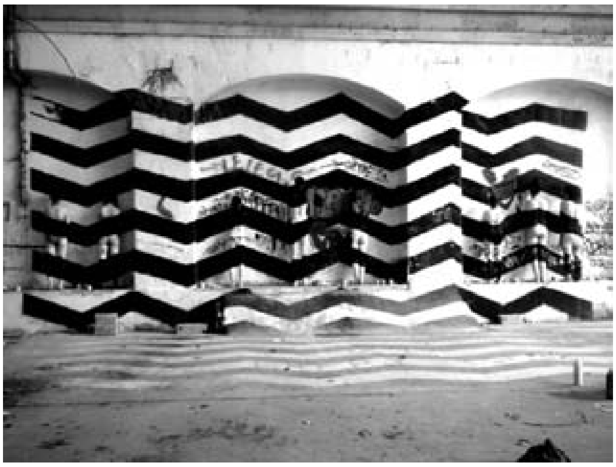

Fig. 2. Photograph Hélène Soulier

The first question embodied in the performance "A corps perdus" is a celebration of the legal or illegal residents who, either willingly or by force (military, Roma, artists...,) deserted the place whose walls are still impregnated by their presence. The group of students rehearsed for several weeks in the barracks the mimicry of naked bodies on the walls, which became progressively covered with additional graffiti. The performance questions more broadly the relationship of man to his environment and especially in marginal areas. It highlights the fragility of our planning system which sometimes organizes the displacing of marginal populations despite itself. It also discusses the similarity between certain populations and places in which they shelter. They do not fit elsewhere. Today we have become aware that the human bodies in question are not necessarily those of others.

5.2 "Instanteinté", performance recorded and broadcasted on screen. (fig. 3)

An accelerated video (12 hours of recording) shows young women drawing with chalk on the ground the graphic shadow of the metal structure of a building whose roofing no longer exists. The day passes and the task is difficult because the shadow they are trying to represent is moving progressively. Together they manage. The static shot unfolds the gaps formed between chalk marks and shadows… until night falls and there is nothing to see anymore.

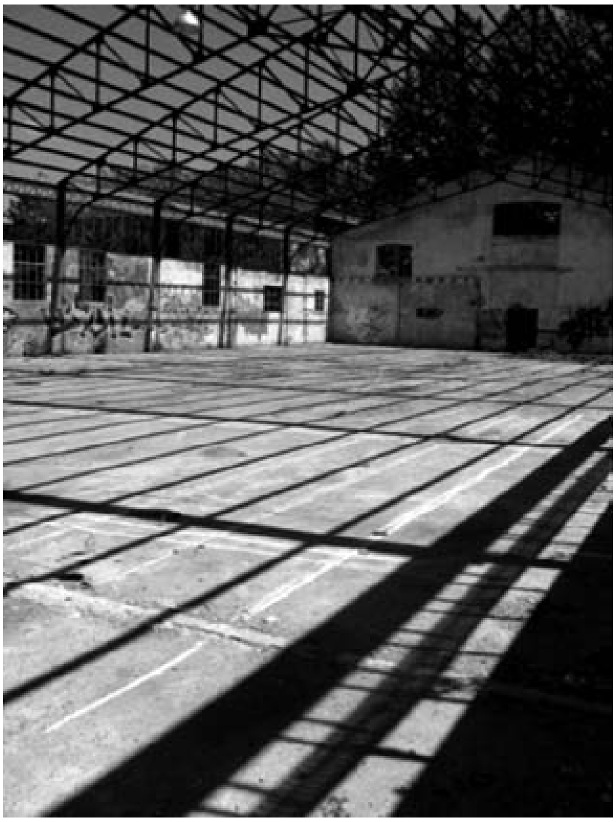

Fig. 3. Photograph Hélène Soulier

From sunrise to nightfall, the recorded performance traces the energy expended at the start by one young woman, then two, three and finally a group fixing with white chalk the shadow of the metal structure of a shed roof. When they succeed after several attempts, because one hand is not enough, the shadow traced on the ground represents a frozen moment while the rest of the performance shows the projected shadow escaping from its momentary capture. This presentation symbolizes how time escapes us, human beings. To capture time, or even stop it, is in vain. Finally, at dusk, the static shot shows how the footprint reacts to light. At its full zenith, we do not see much but after dark, as the shadows disappear, we see only them. Again, the traces of man remain, embodying their absurd attempts to dominate.

6. The "weight" of the site

The "waste" of urban development is often referred to as outside the city. Urban wastelands show that the contemporary city should no longer be read in terms of smooth and normed spaces generated by urban planning.

These "other" places are often being overlooked while if we look well, they teach us what we have lost: the possible (Clément 2004)). All spaces that could be accepted as available for landscape projects are not alike. Gilles Clément isolated certain areas from the conventional framework of planning and grouped them under the term "le Tiers Paysage". We would be tempted to extend this idea that landscape architects, in their planning or project commissions, sometimes lose the capacity to critically "read" urban development.

7. The field of artistic landscape expression

The performativity presentations of the work done for "Imaginez Maintenant", show perfectly well how landscape architects understand, detect and in particular explore space, something that others don't do. This would not have been as relevant if they had to create it. In the little time available to communicate the work, by borrowing types of expression from the art world, we found an interval available for criticism, even denunciation. Somehow, we affirmed what urban planning would probably have masked: a strong social ambition.

By observing "space-waste", by celebrating it in what it offers rather than inhibiting it, we actually made it more bearable because we told those to whom it benefits.

Both performances focus in a particular way on the question: is the "social" ambition of the landscape project, which is the case here, really exploitable in ordinary commissions?

Shouldn't we invent project expressions different from those commonly accepted so that our specificity to decipher the complexity of spaces could really express itself and be fitted to the multiple sites that are available to us? In this way, we question the "urban development" as the only possible way of expressing the landscape project and defend the need to change the practices through the blending of disciplinary tools and expressions, so that our skills as landscape architects can be more used for purposes according to our choices.

One last point needs to be raised. The practice of the French landscape architect remains fragile. So far, the Degree, Masters, and Doctorate reform is still not recognized. The educational institutes for landscape architecture are under the control of multiple ministerial authorities which is problematic.

The profession is still not protected and a significant part of our business escapes us.[4] Our profession remains marginal and in fact, the ability to criticize developments as practiced today remains difficult. By borrowing from other disciplines that intersect with ours, can we renew and highlight our skills with ethics, social ambition and the expression of these?

Thanks to the students of ENSAPBX*.*

Notes:

[1] The first year students are recruited by national competition after a course of two years post-baccalaureate. They come from diverse backgrounds (horticultural sectors, mainly spatial design) and follow a course of four years at the ENSAPBX.

[2] We mean by the term "site" the scope of investigation and the scope of intervention. They do not necessarily overlap.

[3] Here we distinguish between two project actions: the analysis or the reading, and the material transformation of the site. In reality, the two actions are not necessarily isolated from each other in time. Their synchrony is even practiced; they are simply different orientations in the process of the landscape project.

[4] Disciplines related to ours (architecture, urban planning, environmental engineering) absorb a large part of landscape commissions.

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Art on the Lagoon: Eliasson at the Biennale Of Venice

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Abstract: The Biennales of Venice are not limited to exhibitions in national pavilions. Every year artists and architects choose to confront the site and more specifically, the lagoon. In the edition of 2005, the artist O. Eliasson proposed an installation (*Your black horizon*, 2005) where the visitors left the wide expanse and intense light of the lagoon to enter a darkened enclosed space with subtle light effects. These aesthetic experiences enhanced the visitors' perception of light by changing the usual spatiality and temporality of colour. We will analyze the role of memory in the rite of the visit, and look at how the museal strategies of the artist create a play with spatial memory and sense of orientation in relation to the outdoor space of the lagoon.

Keywords: Eliasson, landscape, art, representation, light, atmosphere.

1. Introduction

A 'landscape' is a figure and a cultural category (specific to a given culture, that a subject shares with other subjects having similar lifestyles), that, in any case, can be recognized as a specific cultural figure if it is first understood and felt as a 'perceptive totality' linked to a 'cognitive unity'. In semiotic terms, we can say that "a minimal definition of landscape, outside of any figurative aspect, should retain only three properties: i) a spatio-temporal extension, doted with categorical intentionality (size, quantity, totality, parts, …); ii) a subjective aiming onto this composite extension, which transforms it into a "site" for a given observer (actor, space, time); iii) a moment of unity of this ensemble that allows the perceptual intentionality to become an enunciation of the landscape" (Fontanille, 1995).

For example, a photograph or a painting are generally designated as 'landscape' photography or painting when they are understood as a 'view' of an intelligible 'vision' referring to a site.

Today artists 'make landscapes' in quite different ways: they produce artefacts which allow the subjects to exercise their competency in passing from the sensory experience to the intelligible experience of the physical space in which they are immersed; that is, to pass from a phenomenal experience of the space to a personal phenomenology.

In this sense, the contemporary (landscape) artwork is often confronted to the wider genre of objects produced during centuries by local material cultures in order to physically construct the territory; from urban and architectural settlement to road infrastructure and other instruments to be used in the built space. When an artefact acquires a territorial and landscape meaning, the cultural distinction relative to its type (design, engineering, sculpture, architecture), becomes secondary. The typical Venetian "fórcola" – the rowlock of the gondola –, as well as the gondola itself, and the system of wooden "bricole" [dolphins] indicating the waterways in the lagoon of Venice, are artefacts whose teleonomic form took shape with time, as a result of a close negotiation between the natural forces of the site and those of its material culture. These objects keep the 'imprint' of these forces as the memory of many generations, and function as a kind of 'user's manual' of the territory and guide for reading the landscape. They have gained in time a mythical value as symbols – both by metonymy and synecdoche – of the culture of the territory.

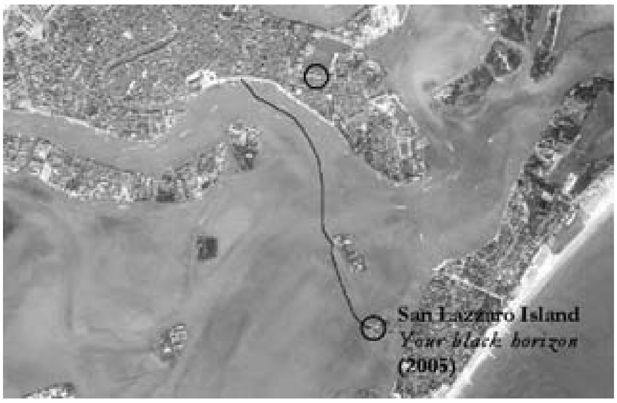

Fig. 1: Localisation of Eliasson's installation.

The contemporary art of landscape does not always have at its disposal the long term continuity of a material culture rooted in a given place. But it tries to replace it during ephemeral timeframes and at the global scale of the art and design market, working with the minimal conditions through which, according to Fontanille, an observer recognizes a perceived totality as a spatial unity.

2. Your black horizon: the space of landscape vs. the space of art

Your black horizon, exposed at the 51st Art Biennale was not originally destined for the lagoon of Venice. Commissioned by the foundation TBA21, it was first an ephemeral pavilion designed by the architect David Adjaye. During the Biennale, it was installed on the San Lazzaro Island (Fig. 1). It was later moved to the Croatian island of Lopud near Dubrovnik.

To reach the San Lazzaro Island, visitors need to take a public transportation boat. The building is located on the edge of the island, from where there is a panoramic view towards the Southern part of the lagoon. From there the space opens up, and the lagoon seems to extend all the way until it reaches the sky. Blue and blue, light and light, meet along a line that can be clearly visible or almost invisible under different specific light (meteorological) conditions.

The installation itself is composed of three elements: (1) a long 'stoa' forming an antechamber (2) a ramp rising to a slightly more elevated level, passing gradually from area of atmospheric light to

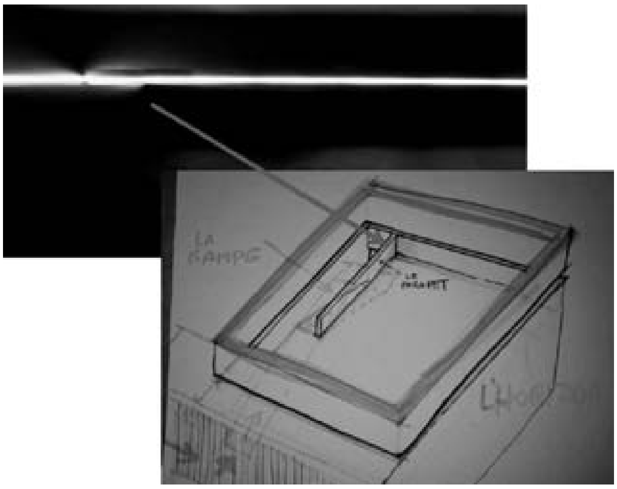

Fig. 2: Sketch of Eliasson's installation.

a dark space; (3) a dark room, only illuminated by a glow of light coming from a straight horizontal slot at the height of the horizon on all four sides.

Entering the inner room through the ramp, one is surrounded by darkness – at first, only the line of light stands out on all side, as with a landscape. It takes some time for the eye to adapt to this darkness – playing with such physiological conditions is one of the characteristics of Eliasson's work – and for the general sense of the shape of the room to become perceptible. At first, one thinks that the line of light comes from the outside, from an open slit on the wall; many visitors go close to the wall to try to look out. But there is no outside: the light (whose source remains hidden) is part of the structure. Not all visitors stay inside the room long enough to notice that the color of the light is changing. Those who find that there is 'nothing to see' tend to leave rapidly. Yet those who remain (even sometimes for an hour or more) and 'take their time' (as the title of a later installation by Eliasson (*Take your time*, 2008) would invite them to do), seeing becomes a different experience. A double movement occurs: on the one hand, the distance between 'seer' and 'seen' disappears; seeing becomes an experience engaging the whole body; yet on the other hand, the 'seer' becomes aware simultaneously of what is seen and of the act of seeing. Thus one never melts into 'seeing' and never becomes one with the act of seeing: perceptual fusion is kept abreast by one's consciousness of one's perception. The gradual change of color and intensity, slow enough to let itself be fully perceived and savored, yet fast enough to remain in one's consciousness, keeps the visitor on the thin and dangerous edge between complete absorption and distanciating consciousness. The experience is not that of a one-dimensional line, a luminous cross-section of E.A. Abott's Flatland, but that of a palpable four-dimensional time-space. The 'protentional' and 'retentional' time-consciousness of Husserl is here made perceptible as a kind of physical-material-perceptual demonstration of a philosophical hypothesis.

The light cycle, continuously repeating, takes approximately 15 minutes. The first cycle the visitor witnesses is the time for 'taming' the space and oneself within the space. The following cycles are time of more intimate (abandoned…) perception and increased quest for understanding. The pleasure of the unknown and unexpected (and potentially dangerous – such pleasure is always tinged with a sense of remaining on guard in front of a potential imminent danger) is replaced by the comfortable pleasure of the known and expected, combined with the intense and acute pleasure of the recognition of form. Indeed, what was perceived, seen at first as a luminous line of a certain color in a dark room – a static perception, as the installation appears to those visitors who leave the room quickly – becomes, with the passing of time, a spatio-temporal form, a form of landscape, according to Fontanille's minimal definition. If the time-light cycle is perceived as having a form, that is, does not appear as a haphazard arbitrary juxtaposition of colors, then this comes from the quality of the light itself – the way the color and the intensity evolve, and the speed of the change. It might not then come as a surprise to someone doing further research on the installation (for this information is not available on site) that the light shown through artificial means is a representation (condensed in time, dimension and light frequencies) of another temporal light form: that of the light of a whole day in Venice, from sunrise to sunset. Obviously such 'object of perception' – the day-long changing light pattern of a given day at a given location – has an unconsciously recognized form, essential for the survival of all living species. Indeed, what is called 'light pollution' and is considered a growing problem in the world today, is a disturbance of this natural coherent spatial-temporal form.

Your black horizon appears at one level an atopic installation – an (almost) simple empty box that can be placed anywhere on a small piece of sufficiently flat ground. However, it does interact with its site on several levels:

1) The installation is located on an island, thus integrating the experience of the travel to and from the installation to the experience of the installation itself; indeed, for Eliasson, the way of approaching his work is "part of the show". He makes it particularly clear in the text accompanying his installation *The Mediated Motion* in Bregenz in 2001, where he collaborated with Günther Vogt, a landscape architect "experienced in cultivating motion", "who use[s] the nature of the city to engineer areas in which motion is essential".

2) The installation is facing the open panorama of water and sky; the visual and spatial experience just before entering and just after exiting the installation seems to be its absolute reverse: infinite openness vs. distinct enclosedness, blazing light vs. almost absolute darkness. What is common, however, is the horizontality of both environments: outside the mere expansion of the view of a surface of water and the lack of vertical elements, inside as the only visible aspect or character of the space, in whatever direction one turns.

3) By creating darkness first and then letting in precisely measured light, the installation formulates a negative landscape where one becomes aware of that essential 'material' of any landscape: the light of the day, with its site-specific – that is, place-making – spatial-

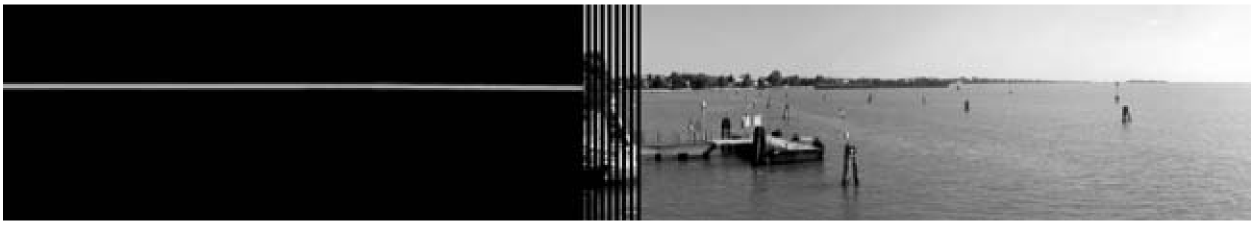

Fig. 3: Your black horizon: the space of landscape vs. the space of art

temporal closed form. Coming out of the building, one can (but does not necessarily) notice the lagoon again – this time differently: the lagoon as landscape, water-sky-distant islands-horizon all united into landscape as theater (in Turri's term) by the specific light of the lagoon at that specific moment, light pervading space and time, light not only seen by our eyes but incorporated by all our senses, light giving its signature to a site, turning it into a 'place' recognizable among and distinguishable from all others – this is the lagoon of Venice because this light is not that of the sea and not that of the "terraferma", but precisely and unmistakably that of the lagoon..

3. Light and space

One of the aims of the pavilion was also to stimulate spatial and luministic cognition of a space for a wide audience (the light is the signifier, the space is the meaning).

The title "*Your black horizon"* is a reference to the negative afterimage, superposed to the horizon of the lagoon, which visitors may sense when exiting the pavilion: essentially the installation produces a reversal of the image of the horizon. At the entrance, the purpose of the pronaos wall with its vertical slits, like the pinhole glasses of Bates, is to accentuate the figure of the perceived natural horizon, while the horizontal slit in the black room chamber is first perceived as relating to the outside, as if cut into the wall (and which, in the visitors' experience, can be superposed to the image of the perceived horizon) in the axis of the sheaf of light planes penetrating from the outside.

In reality, the light coming from the horizontal slit is produced artificially by a system of LED, but in terms very similar to the natural source that the light simulates. In fact, it reproduces the variation of illumination and medium average tonality of the atmospheric light during a summer day in the lagoon, from 4.00am till 22.00pm. The variation of light is accelerated into a cycle of approximately 15 minutes; every minute of daylight corresponds to less than a second in its representation inside the pavilion, in such a way that this acceleration makes the chromatic transition of daylight perceptible, and the repetition allows one to better memorize its chromatic stages.

Naturally the visitors are aware that they are witnessing a measured representation. As Andreas Spiegl says, "… the measurement of the daylight spectra of the outer space defines the spectral displacement of the inner space. What appears on a technological level as a communication between nature and artificiality is actually a translation of the metamorphosed phenomenon from pure information about nature itself. In this sense the 'measurability' referenced here would be the horizon of nature" (Spiegl, 2008).

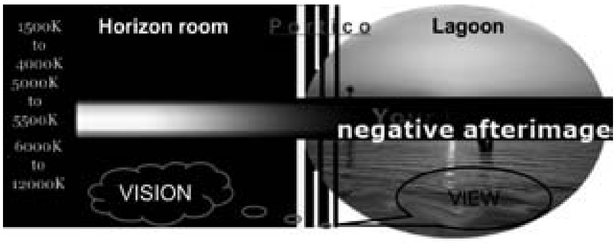

Fig. 4: Chromatical competency.

Therefore Eliasson's device functions as an experimental machine (in a quasi-scientific sense), which tests the perception and the cognition of the observers, presupposing their capacity to *see themselves seeing*. For Eliasson, it is a fundamental aspect of his work: "if the public gets involved in a stimulating situation, the situation 'commits itself' in return. There's a reversal of subject and object here: the viewer becomes the object and the context becomes the subject. I always try to turn the viewer into what is on show, make him mobile and dynamic" (Eliasson, 2002).

By some aspects this experimental machine resembles the device used by Brunelleschi in the first part of the 15th century to demonstrate that perspective can be congruent to the real spectacle offered by direct monocular view (Manetti). Both devices force the spectator to follow a protocol of use, a theatrical rite. They are visual experiments 1) which are variants of the camera obscura, and 2) in which the eye of the spectator is itself part of the experiment. While Brunelleschi's experiment consist of a projection from one point which will give birth to the renaissance perspective and to photography, Eliasson's consists in the projection of a straight line – an axis of a sheaf of projecting planes, which gives shape life to a chromatic and temporal representation of the atmospheric space.

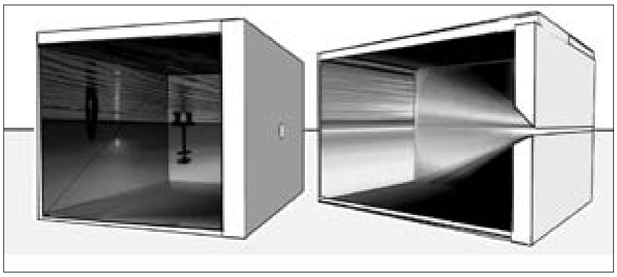

Fig. 5: Camera obscura vs. Your Black Horizon

4. Perceptual economies

There is a further interpretation on Eliasson's landscape depiction works: they act as a sort of critical device for landscape representation. In its essence of a stenopeic machinery, *Your black horizon*'s apparent goal is to select and interpret some of the pervasive objects constituting the Venice lagoon landscape: horizontal planes, vertical lines, anthropic and non-anthropic interventions need continuous processes of analysis to be represented by an essential form.

Here everything has been represented through a process of redrawing by the medium of light. This appears to be a double-sided operation: while some constituting materials of landscape are selected and extrapolated as the main object of representation, some other materials are discarded as not functional to the representation practice.

The landscape is conceived as a piece whose visual nature is intrinsic, as it is the part of the territory subtended by the eye of the observer. Although a virtual *simulacrum*, the horizontal device used by Eliasson, is placed to eye level in a dark room. Visitors are immediately immersed in an environment showing a gap between what is visible and what is not. Representative material in the lagoon are thus reduced to the contact line between sky and water surface by a series of bright and colorful LED lights with a strong visual connection with the natural venetian light during the vivid summer Biennale days. The blades of light within the pavilion's walls exclude any sign that is excessive according to their representational goal.

When one looks inside the pavilion, the endless boats, bell towers, wooden poles populating the landscape of the Venetian lagoon disappear; the observer is thus allowed to develop a full interpretation of landscape without the distraction of an over-interpretation of issues. The caption of the peculiar rarefaction of the lagoon horizon reveal the relationship between the representation device (the blades of artificial light in the exhibition space) and the represented object (the real horizon); the visual representation of the landscape emerges as the only mechanism able to provide the viewer with visual and chromatic competencies.

According to the recent development of landscape tools, an over-description of objects and materials –physical, economic and social – has paradoxically impoverished landscape figuration in recent decades. Eliasson's attempt is to provide an essential experience in which the horizon is reduced in terms of space and color. The pavilion in San Lazzaro also evolves – through a sort of updated renaissance machinery – the Black Box space, one of the *topoi* of contemporary museology. This is a dark environment in which a series of art objects (here, Eliasson's light segments) is exposed in a theatrical way, the darkness acting as a neutral background meant to isolate the subject.

Moreover, the contrast between a dark environment and a source of light perpetuate the logics of sacral space, as it was in Tate Modern's *The Weather project*, 2003, in which the central space of the gallery took the form of a aisle of a church. The radiant lights in both installations outline a relationship between external and internal space otherwise absent.

5. Conclusion

This paper presents three interpretations of an installation: 1) its relation to the space in which it is located, 2) its construction and function as a representational device, and 3) its role as a critical device. These three interpretations exemplify the possibilities for dialogue opened by Eliasson's installations.

In our paper, we have tried to delineate two minimal conditions presupposed by this symbolic correlation. First – indexically - these artifacts appear as witnesses of the salience of the interplay of natural forces (light, materials); secondly – morphologically – they summarize perceptive heterogeneity in a unitary consistence, in a form. Thus the role of apparently marginal – decorative – aspects is brought to light, in relation to the institutional functions of these objects. This shows the importance of their formal surplus, which became necessary when it is incorporated into the concrete and ritual experience of a territory.

Experiencing this installation is not mystical and does not require adhesion to any esthetical or metaphysical faith. As such it is different from other art pieces working on the ritual meaning of light and of architectonic space (such as those by Tadao Ando and James Turrell). If, however, Eliasson's oeuvres point in some ways towards a mystical experience of the landscape, it is because they appeal in a new way to our esthetic (physiological and physical) competencies about the atmosphere of a territory, thus enriching our cultural experience of the landscape.

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Sensory Perception of the Natural Habitat

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Abstract: The understanding of a manmade environment determines a felt psychological-emotional involvement and also a particular way of perceiving that place, including even the sensing of the emanated scent. Its perception is generally developed through the dominion of the senses of sight and sound. Only an architecture that envisages a multi-sensory experience can be meaningful. To manage to shape a world through the entirety of perception will be a step towards a sustainable human space that is transformed and is modelled in tune with our feelings. A contribution is given by the sunlight that, with its changing affect on natural places, determines, by varying the observation points, perceptive peculiarities of places until grasping their most intimate essence.

Keywords: Environment, Poly-sensorial Architecture, Perception, Vision, Shape, Color.

1. Introduction (G. Taibi)

It is common today to have to take account of the proliferation of urban densities, increasingly lacking any ties with the external world in which human artifice has already exercised a strong abuse of office, thereby reducing the focus on the natural context which is then deprived of its intrinsic value. Thus Bruno Munari: "I have tried to communicate what others do not see, for example a rainbow viewed in profile". (Finessi, Meneguzzo 2008.)

In a framework that may plan a reasonable future, it is necessary to think of the realisation of complex spaces conceived on the basis of an exact and meticulous "ecology", which describes the world as a network of structurally interdependent and interconnected phenomena. In the current state of things, much importance is given to the action of seeing; vision is our most developed sense and is also the one that is increasingly implemented by the community to create social conditioning; perceived reality is above all the result of a vision in Cartesian three dimensions that, strictly speaking, represent a very narrow field of reality. In a wider view, one should give room to the other senses that, to all intents and purposes, prove to be poorly engaged in interaction with the universe. Our experience of the world is based on a complex integration of the senses, while architecture, founded essentially on exploiting the outer skin and surface, is generally only designed and created for the sense of sight, hence making it purely an image that does not create an interesting sensory environment.

In a certain sense, architecture is a kind of visual art, namely it is a proactive module for the construction of retinal images that may be readily understood.

It would be the case, instead, to make reference to an architecture that could envisage an innate multi-sensory experience; anarchitecture that can transmit emotions with chromatic effects and that manages to design spaces that can be measured with the eyes, with movement, by touch and by the sense of smell, one that succeeds in implementing a combined presence of sensations that are useful in creating an intense perceptive relationship between our deeper inner selves and the built environment. "Architectonic constructions also aim… at producing, in those observing them, emotions, and the use of the colour is the most suitable means to transfer these onto paper. Indeed, colour is a powerful element of communication and is one of the most immediate ways to bring the observer into direct contact with the surrounding environment". (Chiavoni 2010)

If sight can shape the space through measurement, then the senses of smell, hearing and touch can do the same with other means of measuring. Measurement of space is a fundamental symbolic action in order to understand the space itself. In real routine situations, the human being no longer has time to 'be' and to 'feel' thecity and he often finds himself in a condition of sensory deprivation. Thinking, formulating, conceiving and shaping a world through the globality of perception, beyond simple and solely visual abstraction, would be a first step towards a sustainable spatial dimension that becomes transformed and modelled in syntony with our *modus* of feeling (Fig. 1).

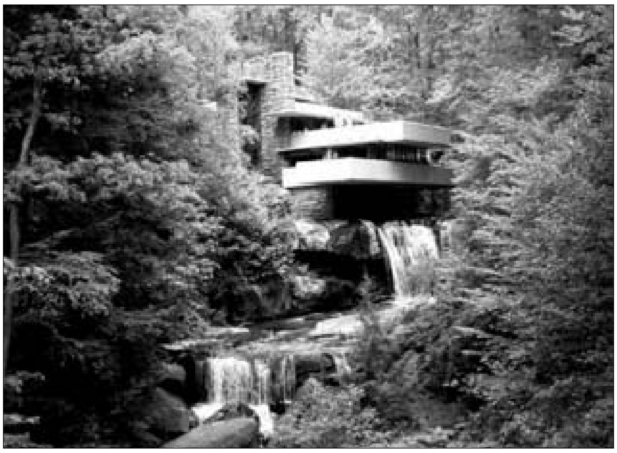

Fig. 1. F. Wright, Fallingwater House, Pennsylvania 1935. Poly-sensorial perception. Example of perfect osmotic process between building and place

Computers, constantly updated following their unbridled evolutionary progress, concerning the issue of the phenomenal reality of perception, begin, by virtue of their powers, to become indispensable tools for the design project, and for the use and enjoyment of the *topos*.

The integration between man and environment is at the roots of a sensory functionalism, characterized by a close procedural relationship between artifice and nature, seen from the viewpoint of an '*ecology*' that has its essence in *autopoiesis,* whereby man will in the end become wholly aware of the evolutionary processes of the environment. We must begin to reflect at length on our status and also reformulate our genetic code, so that this potential of poly-sensorial reception of the environment may be stimulated. The path ahead is similar to that of those looking out at the world for the first time. They are those who must learn everything, from the use and precisely the limitations of the body, the movements, actions and perceptions; moreover, they must learn how to use all of these, and this is crucial for their well-being.

The intensity and importance of a visual stimulus and all the consequential factors, on the surface or at depth, are a function of the emotional reaction that is provoked in the inner ego of the human being. An emotional reaction that, in a relationship of mutual causality, is also heavily influenced by the general status of the subject.

Undoubtedly, the image is effectively the vehicle of an immediate and global language that is deciphered and interpreted by the subject on which it impacts, according to one's own natural *modus* of feeling. The sense of sight ranges widely and carries decidedly complex messages. Also sound covers remarkable amplitudes and vast extents, but from afar it transmits only simple data, which may still cause and stimulate prolific inner evocation. A muffled and deep underground roar is the prelude to an ominous telluric phenomenon, just as a distant rumble of thunder implies the nearness of atmospheric precipitation; but while the first brings to mind, in most, feelings of desperation and hurt, the other represents for some a life process, for others a sense of fear, for others again hope and the welcome scent of damp earth. *(Figs. 2, 3)*

The image communicates complex data, similar and dissimilar for everyone, in the huge play of external stimuli, inner elaboration and evocation. It stimulates and recalls in each of us personal reactions and memories; it may contain and remind us of symbols, rouse emotions, induce ideas. It is made up of forms, colours, lights and shadows, immobility and movement, and also of chiaroscuro.

Gradually in each of us peculiar norms of perception and use of the sensory channels are formed and refined, from which derives the individual and specific mode of mental reconstruction of the external world that is the object of our interest. This mental representation that comes about in our cerebral hemisphere is not the objective reality that we believe, but our personal reworking of the elements that we are able to perceive sensorially. Therefore, the negative observation, deriving from the fact that the human being in certain cases is not able to perceive that product of architecture with all five senses, depends on the insufficient capacity of the receiver and is surely to be sought in the subjective inability to take in that precise message that the work manages to transmit.

2. Challenge Tackled (G. Taibi)

For a long time now work has been underway in the '*Crabnebula*' Laboratory of Representation, with the aim of devising a matrix of behavioural activities that may bring about an awakening of our inner perceptive and receptive potential. In effect, this concerns highlighting some typical and evocative aspects of nature, pinpointing those peculiarities that may open new horizons of sensory knowledge on what surrounds us. The mark of the pencil, chromatic shades, the shadows of structures, the consequence of chiaroscuro and the tracery of outlines are sign values of great impact, which can establish a particularly intense relationship with those about to listen to the place and, in particular, with those who are prepared, with an active disposition, to receive the message. The research intends to find a logical interpretation in studying the epidermis-like chromatic manifestations, relative to some significant portions of the investigated site, with special focus on the variability of viewing

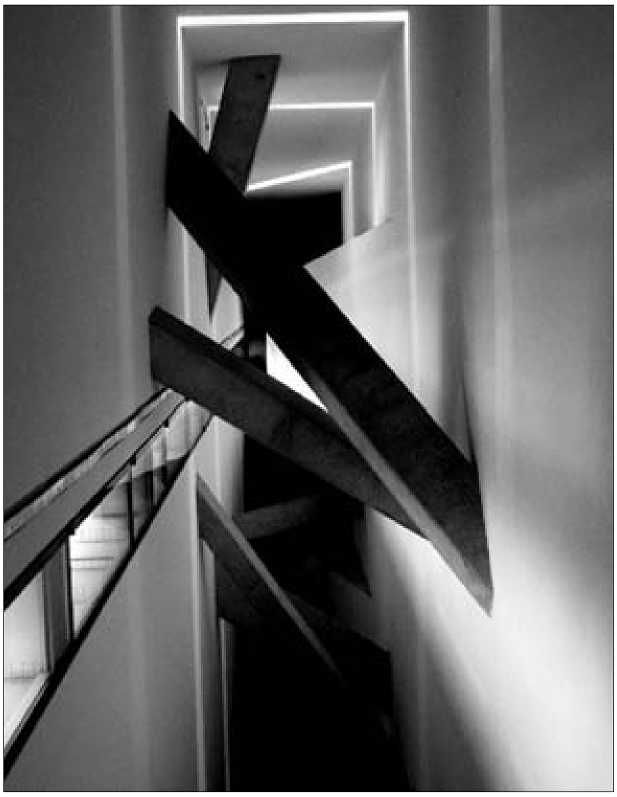

Fig. 2. D. Libeskind, Jewish Museum, Berlin 1999. Poly-sensorial perception of an environment that inspires anxiety, despair and pain.

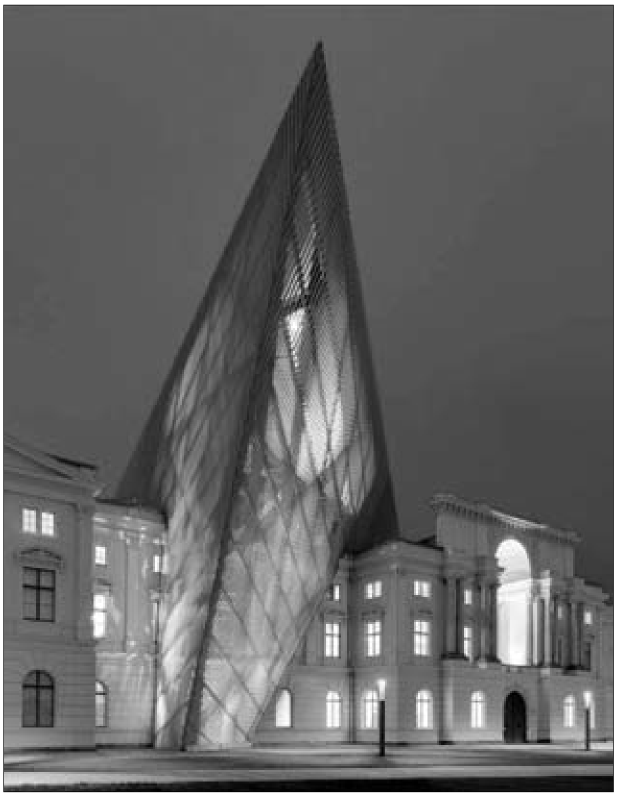

Fig. 3. D. Libeskind, Military History Museum, Dresden 2011. Gash that arouses coercion in the context.

points and the changeability in the position of the sunlight, and, in a daily temporal arc and initially in autumn. The search has already produced some results from an investigation on samples, opportunely chosen to be able to reach an early appraisal of the product of the studied theme.

Drawing has always had a supreme role in managing to carry out increasingly difficult and responsible tasks. Precisely in such spirit of uniqueness, an active and ongoing experimentation has been conducted in our Laboratory of Representation, which, in addition to continuous updating and improvements, cannot fail to take account of the chiaroscuro and the chromatic effects created on the walls of the building, of the variability in the incidence of light throughout the day and the changing of the seasons: "for about three centuries black and the white [...] have been thought of as 'non-colours'"(Pastoureau, 2008).

In this sense it was thought opportune to begin an initial reflection in terms of a rationale on the sensory and emotional manifestations that chromatic effects have on us. They are highly impressive, given their versatility and in relation to the peculiarities of the site and the design of the details of the place, the outcome of chromatic sensations associated with underlying sounds.

3. Approach Applied (T. Patanè)

The case study, applied to some segments of the historical centre of Catania, implements procedures of inner enrichment, marking and attenuating the tonalities of the building masses, highlighting the elements through addition or subtraction and designing the features of the place or the form. The contribution given by natural light on the architecture, focusing on its daily and seasonal variations with a powerful dynamic and plastic ability, proved determining; an architectonic *photomorphism* generated by aspects that are barely tangible, and therefore for this reason, entirely overlooked in architectonic phenomena. Just like light, the shadows also design and highlight forms, and the edges of structures and spaces, helping to 'animate' the transfixed immobility of the built environment. It is necessary to render the sensations stimulated by senses that are not only of sight with a highly focused technique. It is possible to interpret everything with one's own sensibility, seeking a connection between image, colour and sensation. The vibration of colour, the fluctuating of buildings, the more or less accentuated intensity of the chromatism and lastly, the fine veiling of the represented structures aimed at the creation of volumes and particularly evocative effects of colour are all key factors. In detail, the epidermic configuration of the material building component, precisely owing to the fractal dimension of the coarseness of its surface, together with the presence of significant hollows and added parts to the base volume, has evidenced a series of contrasts in tonality, both in terms of quality of effects of chiaroscuro as well as underlying and sensed sounds. (Figs. 4, 5, 6)

4. Conclusion (T. Patanè)

"Truth – demonstrable through the laws of science – constitutes the fundamental basis upon which human decisions are made over and above "reality," which is always ambiguous and accessible only through the realm of "poetics."" (Perez-Gomez 1983). The densely anthropized environment, with its interweaving system of relations and interconnections, has always meant an involvement by man at an emotional level, with a profound influence on his psycho-physical equilibrium. The malaise of present-day societies and the individuals of which they are made up derives most often from the use of an urban and habitation model that does not take account of the fundamental sensorial needs of man. The attempts to find an exclusively scientific basis for architectonic theory and practice have led to deep contradictions, generating an urban model in which the most intimate sensory needs have never been considered. Present day cities have not always proved capable of offering that 'identity' and that 'natural legibility' that instead characterise historical centres. Techno-science, therefore, has proved incapable of ensuring that quality of life in which the deepest multisensory necessities are met. Having passively witnessed the inability to carry out careful and targeted planning choices – in which, in a more ontological manner, tactile environmental qualities of the space and material contents are considered – or better still, an understanding of the way in which the five senses, more than sight alone, are influenced by architecture, constrains us toward a tighter working rigour. The pluralism of concepts that touches architecture in general brings the contemporary architect to face a multiplicity of choices of opposing directions at the same time; he is, therefore, in search of a truth, or rather a new 'architectonic ethic' that sets ecological limits to the media used and, at the same time, places man at the heart of a new living model; a

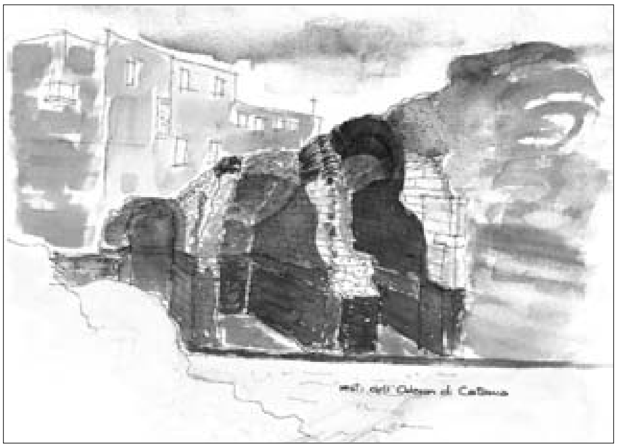

Fig. 4. Odeon, Catania. Poly-sensorial emotional states heightened from water color. (Drawing by Tiziana Patanè)

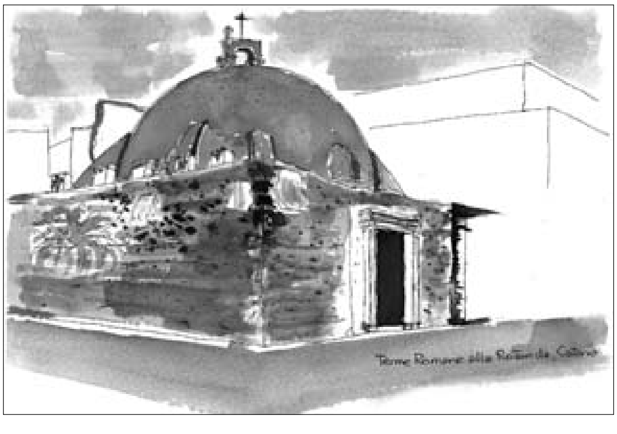
Terme Romane alla Rotonda, Catania

Fig. 5. Roman Baths "alla Rotonda", Catania. Poly-sensorial perception: formal integration between prism and convexity. (Drawing by Tiziana Patanè)

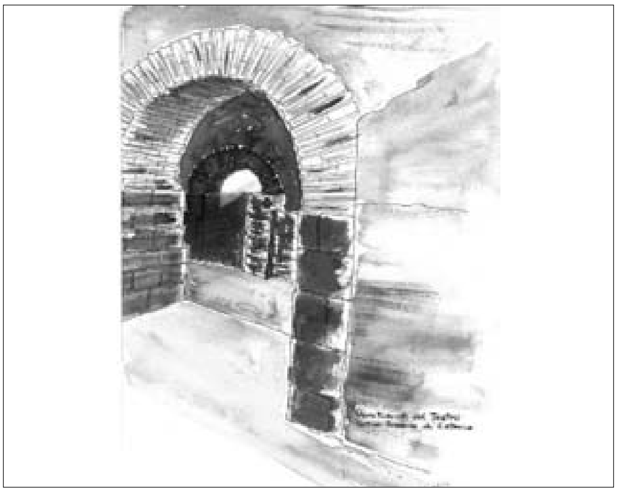

Fig. 6. Vomitory of the greek roman Theater, Catania. The tones of matericity. (Drawing by Tiziana Patanè)

'renaissance' of building that teaches to reflect on how to construct in a proper way and that establishes fundamental principles of form and constructed order, irrespective of style and epoch. We should make it a task that, beyond the pleasure in looking, there should also be that of listening, touching and sensing the odour of architecture in the creative process; an architecture whose poetics is what Alberto Perez-Gomez is referring to, which cannot be defined and comprehended through the laws of science alone (stability, duration, thermal and acoustic comfort, and so forth), but that must necessarily contemplate all the sensory aspects of man. An architecture that is at last 'anthropocentric' should combine design choices of energy control and sustainability and choices that exalt the too often overlooked multi-sensorial qualities.

Our intent consists in wishing to establish new criteria so that architecture may carry within itself those requirements of versatility that enable independently transmitting to the human being all those feelings and perceptions related to the five senses and not just sight. Along such lines, modern computer science tools are useful in the way that, given their special qualities and sophisticated software, must succeed in establishing relationships of interrelation with man, imparting particular incentives towards the poly-sensorial use of the architectonic product and not referring solely to vision.

The systemic assembly of all the information must therefore be elaborated in order not to be perceived just by the eye; it may be the case that the build up of visual stimulation can anesthetize perceptions based on the totality of the senses and, indeed, in virtual reality cause the absence of all those signals that, elaborated by our brain, can contribute to having a complex spatial conception.

In a not so distant future, it is not difficult to think that the latest generation technologies can be assimilated to *prosthetic sense* systems, whereby it would be possible to perceive different aspects of the world, whose configuration tends to change according to the systemic whole established between measurement and observation. In this case, technique would become the bridge connecting the mind and the world, while the morphologic configuration of the collective space can only come about through planning that must, in any case, take account of the poly-sensorial processes of the usage of the place. One hopes that the aesthetic experiences of the environment are complete, so much so that there are situations in which hearing, smell and tactile perceptions manage to be more incisive and meaningful than vision and are, therefore, experienced with extraordinary intensity. It is on the basis of this sensory totality that the design-plan elaboration should be carried out, imagining the echo of the conceived spaces, the sound of the materials used on the ground, the sound of water inside a space, the scent emanated from a small garden admirably inserted within a home and the smell of living materials like wood or cork but also artificial ones like concrete! The tactile sensation may be heightened through a sagacious and intentional use of materials whose texture invites touching vertical elements, dividing partitions, columns or even simple panelling. As highlighted by Pierre von Meiss, for architecture to be true architecture it must be placed "between the world of physical realities and that of desires and the imaginary". (Von Meiss 1992)

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An Inquiry in the Landscape Images Through Persian Miniature Analysis

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Abstract: It is believed that Miniature is one of the most important and most inspiring forms of Persian art. Miniature is known as the "representative art" among Persian traditional arts and is the reflection of the Persian artist's conception of life, nature, landscape and the built environment. In this paper we are trying to understand, categorize and amplify the Persian individuals' images of the built environment with descriptive and then analytic method through the miniature frame. The research methods are based on the analysis of four assumed layers of Persian miniature, the natural layer, landscape layer, humanistic layer and architectural layer, and then the analysis of the interactions of these layers through library-based analysis of more than 200 Persian miniatures painted between the 13th and 16th century.

Keywords: Miniature, Representation, Conception, Landscape images, Imagination.

1. Introduction

Persian miniature is the combination of beauties of the natural and built environment, and the imagination of the miniaturists. The goal of miniature art is to tell a literary story or to record an historical event. The miniaturist is trying to convey his surroundings while at the same time avoiding realism for several reasons.

First of all it is forbidden in Islam to portray something exactly the way it is because it is considered a kind of idolism. Second and more important, miniature is the reflection of painter's conception from a literary masterpiece. The subject of this masterpiece is usually epic or ethical. The process of translating the artwork from inscription to painting which occurs in the mind of the artist is depended on his imagination and mental image.

The painter releases his work from being real, both in subject and technique, and brings the viewer into a new world, full of colors and shapes, which presents the mood of the artist's era. The result is a timeless and placeless piece of work which tries to hold the viewer somewhere between the physical world and the imaginary world.

The central question in this research is how miniature benefits from representing the built environment, and the painter's images of using the built environment in his work.

2. The main properties of miniature: the combination of inscription and painting

The miniature narrates a literary story, and the text box has a significant role in the composition of the painting (*Fig-1*) (Gehri 1975). There are five main properties of miniature paintings, as follows: (1) *absence of perspective*–the artist tries to avoid using perspective in order to show the elements in their most perfect regard and give the viewer as much information as he can (Tajvidi 2007); (2) *illustration of exterior and interior together*– miniature is a *no- place* painting. The artist tries to show various spaces at once (Tajvidi 2007); (3) *absence of shadows*– miniature is a *no-time* painting. Shadow represents time in a painting so there are no shadows painted in miniature (Eftekhari 2004); (4) *use of symbolic colours*– miniature is not meant to be real. All colours used in paintings are pure and symbolic in order to show the concept of the story which it narrates (Pope 1945); (5) *small size of the paintings*– the size of the miniatures is diminutive because paintings are pages of books (Gehri 1975).

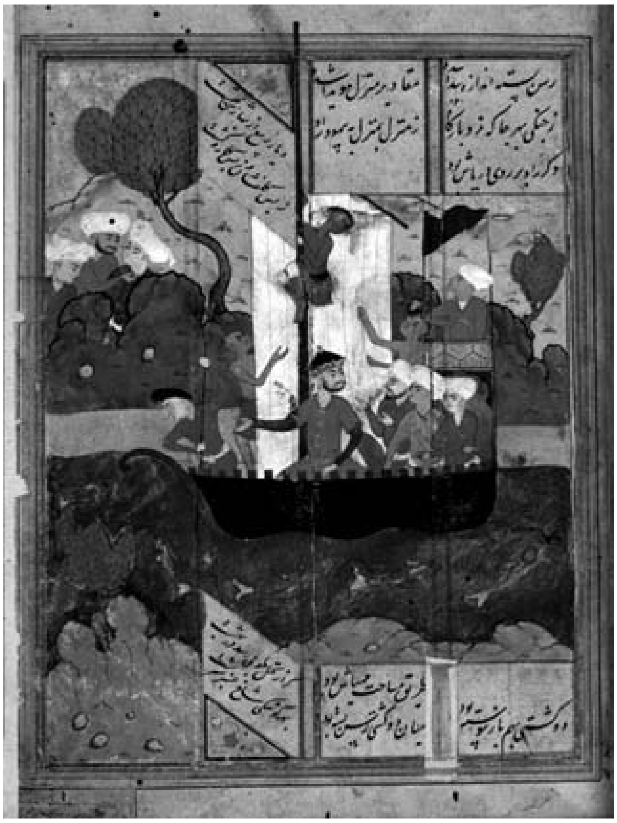

Fig. 1

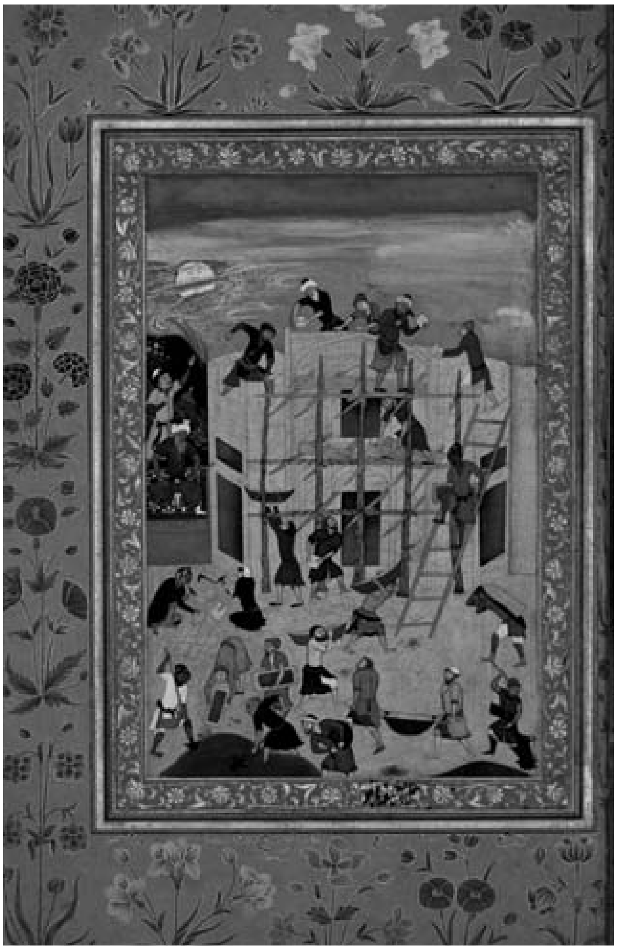

Fig. 2

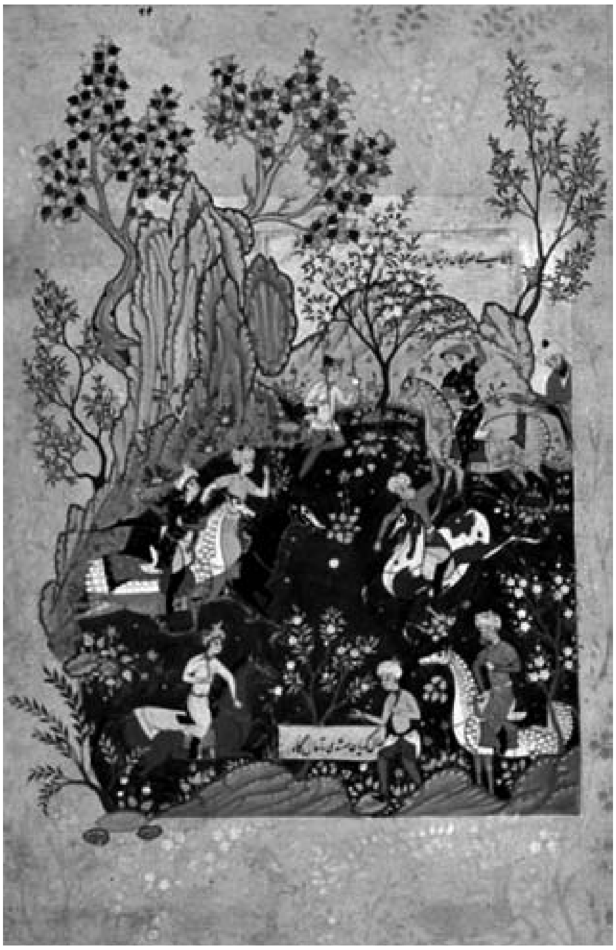

Fig. 3

3. Miniatures as a representative art

Representation in arts means usingconcepts which are familiar to all people in the artwork. In representative art, rather than creating a work of art with all aesthetic values, the artist tries to recreate the subjects presented in the artwork based on the conditions of his own era (Eftekhari 2004).

So the artist's conception of the subject will be really important In Persian miniature as a representative art not only is a specific story narrated but also the physical, historical, cultural and social conditions and characteristics of the artist's era are represented (Gehri 1975). It must be considered that although the paintings are not realistic, they are so close to reality in details. For example, the only evidence of the presence of Iranian carpet before 17th century is that they were painted in the miniatures (Navayi 1998).

4. Four significant layers of miniature

4.1 The humanistic layer

In the Persian miniature humans are only actors in the story, which means there is no attempt to simulate the visages of the characters. Humans are all similar and equal. Their only difference is in their cloths.

In Persian miniature, unlike the western paintings of its time, human beings are not in the center of the painting (*Fig-2)*. Neither are they artistic forms to show the talent of their painters; they are just parts of a work to create a fantastic composition (Tajvidi 2007).

4.2 The natural layer

In Persian miniature flowers, leaves, trees and rocks are painted in their perfect position. The painter draws all these elements in a way to involve the viewer in an imaginary world.

One can see trees in four seasons at one time. The background of the paintings is usually a mountain, which is the symbol of stamina (*Fig-3)*. The cedar tree is usually presented as the symbol of purity (Korkiyan 1999).

4.3 The landscape layer

The landscape, or more precisely the garden, has a significant role in the warm dried climate of Iran. The garden, or paradise, is a place in great contrast with its surrounding area. The goal of the construction of the garden is to help create the appointed Eden on earth. The garden is built inside the high walls. (Shahcheraghi 2010).

Water is the most important root in the formation of a garden, and the segmentation of the land is by geometric rules (Korkiyan 1999).

The subject of a many miniatures is the garden and the activities that occur therein. (*Fig-4)*

4.4 The architectural layer

The presence of architecture in miniature is so important that we can divide the miniatures into two groups, those with or without buildings. Architecture is important in Islamic countries for two main reasons: firstly, great architectural buildings illustrated the authority and wealth of a government; and secondly, art forms such as sculpture and wall painting were banned because of Islamic beliefs and architecture was one of the only contexts for the Islamic

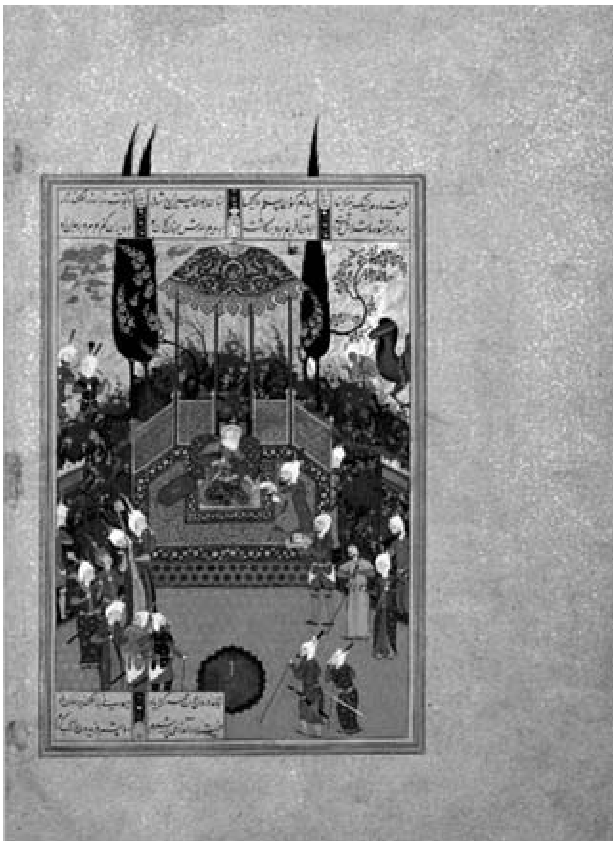

Fig. 4

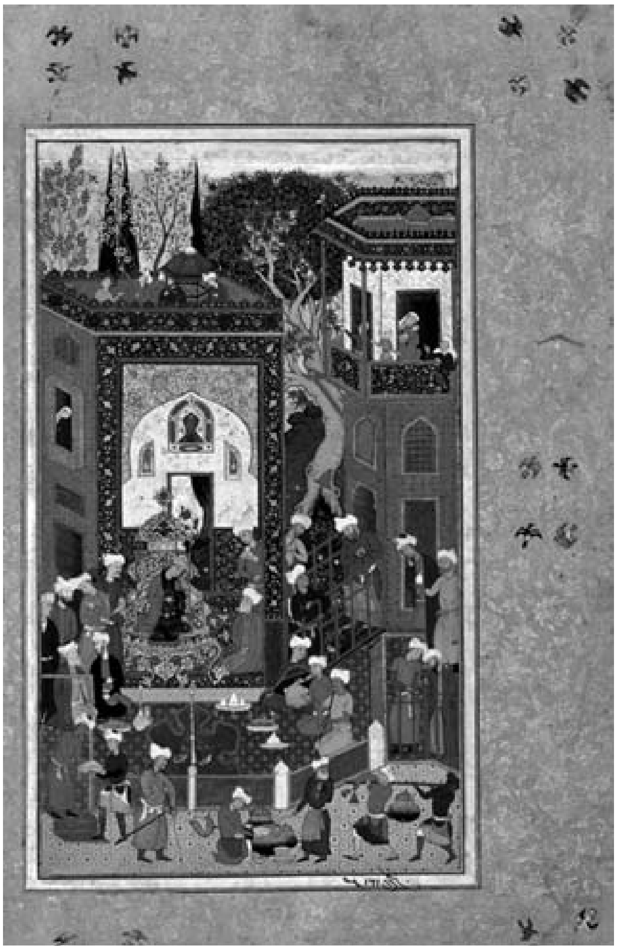

Fig. 5

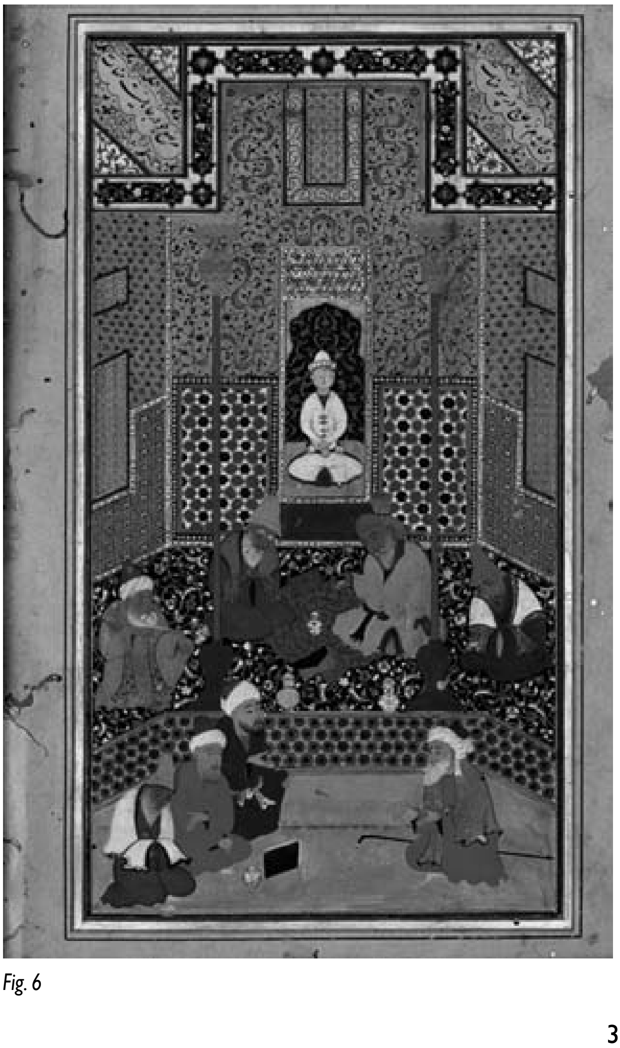

Fig. 6

artist to show their artistic talent (Navayi 1998). All kinds of buildings were shown in miniatures. Mosques, palaces and baths are the architectural spaces presented in miniatures (*Fig-5 and-6)*.

5. Conclusion

The Persian painter tries to create a work of art which represents his environment in an abstract language by combining the four main layers of miniature and using his imagination. The built environment has a significant role in this endeavour. Architecture and painting are in a correlation. The painter represents the built environment and architecture provides the subject.

Buildings help the painter create the *no-place* of space. Different rooms and various spaces of Iranian architecture, like terraces, entrance halls, corridors and salons, are shown in one frame at the same time. An event is taking place in each one of these spaces, each space shows a moment in the story and the artist puts all of these pictures together like a collage so that one can see the whole story in one image. The building is the chain which links these events.

Another important fact is that details are very important in Iranian architecture. Despite all attempts to avoid realism, the Persian miniaturist tries to draw the details as careful as he can. All kinds of Iranian architectural details can be found in miniatures although they do not have the exact scale.

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Framing Landscape. An Architectural Graduation Project that Feasts on Military Heritage

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Abstract: As a form of space, landscape is torn between attributes of nature and artifice, loss and creation, identity and otherness. This paper addresses these oppositions by discussing landscape in terms of framing. It presents architecture student projects redesigning vacant military heritage in the urban landscape. Architecture is an art of framing. In architecture, as in painting or film, a frame separates an imaginary space from its real environment. The imagination of space may be framed by design or by discourse. These are acts of either repressive power or of creative empowerment. Ordering and stimulating the interaction of subjects with objects, frames inaugurate the deployment of everyday life and the invention of spatial practices. As a contribution to these issues, this paper presents the methods and results of the graduation studio 'Champ de Mars'.

Keywords: architecture, art, frame, military heritage, reuse, urban landscape.

1. Introduction

Suppose that landscape is about the human experience of space, and of manmade or man-affected space in particular; suppose that architecture is able to frame this experience; then let us use landscape and framing as concepts, or rather as *passwords*, coined to enter a world accessible to anyone interested. The passwords 'framing landscape' possess an evasive nucleus and an irregular boundary. This vagueness is not a failure but a facility: it stimulates interaction with other passwords like 'reuse' while it liberates us from prejudices as if landscape is to be found only outside the city, or that architecture is exclusively embodied inside buildings. Escaping definition, 'framing landscape' becomes more compelling, more seductive, and more involved in urgent issues, in things that matter. Landscape matters, and especially its experience and its education. What concerns us here is the necessity to reset landscape as something *not* (or not exclusively) belonging to the disciplines of urbanism, planning and ecology, where it is valued, to put it bluntly, as green, rural, natural, and untouched, or, if touched, then valued as threatened, and, if cultural, then valued as in need of conservation. What is a landscape framed by architecture inside the city like? Why does it matter? And to whom does it concern?

2. The art of framing

'Common Ground' was the theme of the 13th Architecture Biennale of Venice in 2012. It addressed issues of common spaces ('commons'), of shared history (identity), and of transmitted knowledge (discipline). One example is 'Architecture. Possible here? Home-for-all' by Toyo Ito and team, which documents a dialogue with multiple points of view on a disaster site, joining survivors and designers in a serious and resourceful imagination of the resurrection of Rikuzentakata, reusing for example trees swept off by the tsunami. On the basis of an awareness of the common, the Biennale also touched upon the uncommon, the groundless, the erased, and thus the problem of foundation.

Returning to the matter that concerns us here, our thesis is that architecture frames landscape (Cache 1995). It has the knowledge to do it and is the art to shape it, according to a wide range of uses and functions, liable to re-foundation and re-use – perhaps the most challenging design task today. Architects do not only have the possibility but also the task to frame landscape. Why architects, and why not urban planners or ecologists? Architects involved in the reuse of industrial, military, and religious heritage must make choices about demolition or restoration, the values of history and memory. All these choices concern 'common ground', and often it is urban ground. It is perfectly reasonable to ask urban planners to reorganize the infrastructure and to readjust zoning regulations, but then the experience of landscape, in the full sense that it implies (Berque 1995), is either overlooked, or only addressed in the last resort, as an additional quality to be defined, preserved or invigorated. Admittedly, ecologists could deal with this thing called landscape (and they do, of course), but they never take it as a gathering, a place that gathers humanity and means a world (Heidegger 1954). In a truly meaningful sense a thing is a place to meet, it is not just an object consumed by a subject but a matter that concerns us as involved subjects (Latour and Weibel 2005). Landscape is both the object and the subject of sadness and joy, of fear and desire. Architects know that and have, or must acquire, the facility to experience it. Ecology and biology *do* address landscape as a perceptual and emotional thing when they discuss it in terms of milieu and habitat, but they still seem unwilling to grasp the human, historical, and poetic values of landscape that it embodies for humans.

Landscape architecture is a kind of architecture, but landscape architects hardly consider themselves as architects – as designers, yes, as sensitive to perception, yes, as able to visualize plans, yes, as culturally informed, of course! And yet, they often deny the fact that it is architecture that reveals landscape to us, and that walls, windows, gates, roads, canals, bridges and other artifacts, like trimmed hedges and lined trees, frame landscape perception. On the other hand, architects often shy away from their own capability in this matter. Why? Is it because they leave the groundwork to urban planners and turn inwards for the built environment? As we will see below, 'in situ' art interventions can teach architects to deal with the loss of function of objects with imagination and involvement.

Initiated by my colleague André Walraven, and tutored by him and by myself, the graduate studio 'Champ de Mars' of the faculty of the built environment of the university of Eindhoven proposed the empty *Tapijn* Barracks of Maastricht as a case to explore military architecture and its potential to reframe landscape inside the city (Fig. 1). Fascinating facts emerged, such as the siege of Maastricht

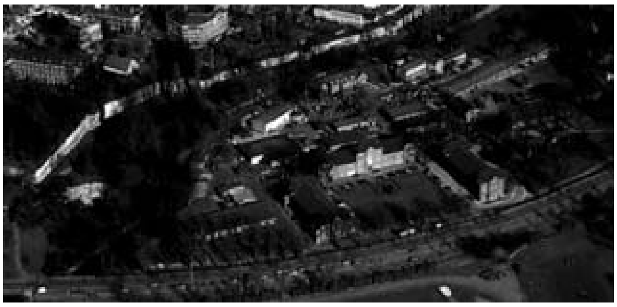

Fig. 1. Aerial view of the Tapijn Barracks, Maastricht. Most of the buildings date from 1916 -1919. The officer's mess was built in 1953 (upper right). Note the old city wall at the top of the picture. Source: Gemeentelijke Archiefdienst Maastricht.

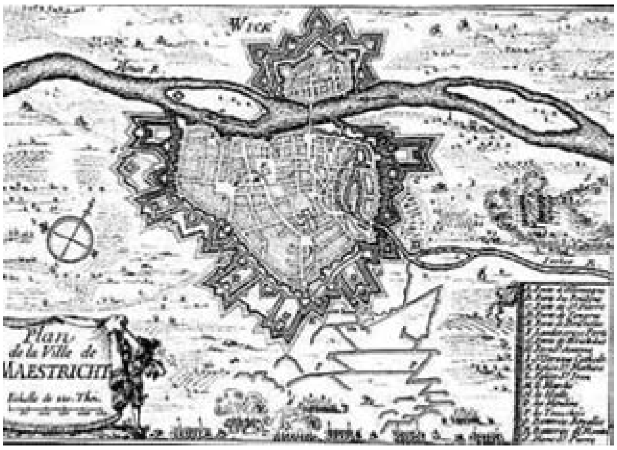

Fig. 2. Siege of Maastricht in 1673 by King Louis XIV. Vauban, in charge of the operation, introduced the parallel trench strategy, with zigzag approaches and three aparallels.

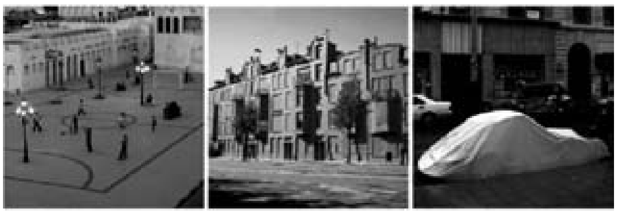

Fig. 3. In situ art works: Left. M Lopez, Football Field (2007), Sharjah, United Arab Emirates. This work creates a playful conflict of two layers[1]. Centre. F Hofman, Beukelsblauw (2006), Rotterdam, The Netherlands. The artist dematerialized these buildings before they were demolished, imprinting themselves in the collective memory[2]. Right. M Rakowitz, (P)LOT (2004). The artist used the rules of public space for a camouflaged shelter.

by Sébastien Vauban in 1673 (Fig. 2). From this martial field students liberated ideas for a peaceful civic reuse - perhaps naive but equally fascinating. A studio is a didactic laboratory. At the moment of writing this paper the research is finished but the students are still in the middle of the design process. The aims are: understanding urban landscape, learning from artists to play with loss of function, and expressing the memory of the place. The methodology includes the study of: barracks typologies, the fortifications of Maastricht, narratives related to the military, and visual art dealing with loss and change of function. The 'Vauban connection' invited us to make a fieldtrip to Paris where students studied the reuse of *Le Champ de Mars* and *Les Invalides*, one legacy committed to the image of the future, the other to the glory of the past; the first occupied by joggers and tourists in an almost military way, the second more fluid, open to a public of visitors and passers-by; and both inseparable of the Parisian skyline. Based on the didactic aims outlined above, a number of themes evolved that I will discuss below. Although the results failed to deal with all the theoretical questions, far from it, they make a modest contribution to the scope of this congress, 'Landscape and Imagination', and in particular to the topic 'Arts', which we took in the sense of the art of framing. I will discuss ten projects under the student's first name. Their full names are mentioned in the credits.

3. Maastricht and Vauban

In 1673 the French conquered Maastricht under the command of the famous military engineer and marshal Vauban. The siege lasted less than three weeks, a record. Vauban first took St. Pieter's Hill south of the city, not fortified at the time, and started digging trenches parallel to the city walls, zigzagging ever closer. Having conquered Maastricht, he fortified the city and the hill according to geometrical figures that avoid dead angles. He also transformed the course of the Jeker, a tributary to the Meuse, into an inundation system. As anyone who has seen the incredibly beautiful models on display in *Les Invalides*, Vauban had a great eye for landscape. When the students of the studio Champ de Mars were challenged to interest younger generations in the vicissitudes of warfare (why the fortifications had become obsolete and demolished, and in what sense the Tapijn Barracks represented a new military regime, in its turn today obsolete), they rejected the option of presenting the remains in a museum-like manner. Some students wanted to exhibit them in the landscape as a whole, and unearth erased defense and sight lines (Fig. 4).

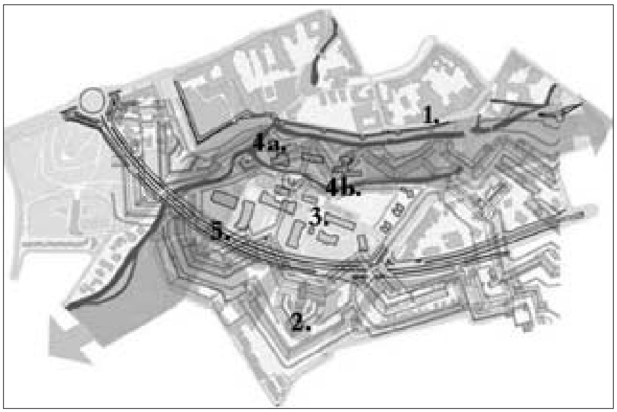

Fig. 4. Urban, historical, landscape layers. Design Vision Edwin, Peter, Frank 1. Medieval wall of Maastricht; 2. Fortifications by Vauban (demolished); 3. The Tapijn Barracks; 4. River Jeker, a. existing, b. proposed course; 5. New road erasing defense and view lines.

On the basis of this vision, Peter designed a 'base of operations' to explore the city, adapting the officer's barracks into a hotel providing a minimal accommodation, equipped to support tourist attacks on nearby café's, restaurants, monuments, shops and other objects of interest. He stripped the building to clarify its essence, retaining a public arcade and flexible floors. Frank used the metaphor of the hermit lobster that occupies an existing shell to lodge its weak body. He designed serviced homes for the elderly, attempting to avoid the patronizing air of most elderly homes by clearing the geometry of the military compound with a view to assure both privacy and collectivity. 'Fossilizing' the facades of the 'corps de logis' by masonry, piercing new windows and reclaiming the middle axis for artistic venues that interest many elderly people while attracting a larger public, he transformed the rest into independent homes, with services to be housed in other buildings of the barracks. Pursuing a different course, Corina discovered that Vauban's sense of place not only cunningly exploited the primary topography but also created a 'second landscape'. Given the fact that today the Tapijn Barracks are severed from the urban landscape, she kept only the identifying buildings, demolished the rest, and adopted camouflage strategies to create a second landscape that restores the green belt around the city (Fig. 6). As the main piece she designed a 'fortress of light' – a metaphor of a research and care park for light therapy, most welcome under northern climes. In the current condition of having to reshape a given landscape, architecture can no longer be a solid frame. Thus the sloping 'roofscape' expresses a search for a more *fragile* frame of technology and artifice, inserted in the landscape that it both contains and opens.

4. Losses and gains of function

Since only fragments of the historical military scenery remain, the preservation of isolated buildings makes no sense when you want to display the former martial grip on landscape. In this respect artists can teach designers to give an unexpected turn to objects or places that have lost their function, and invent a poignant experience of reality (Fig. 3). Three students developed a vision in which, rather than adapting existing buildings to new functions, they interpreted them as frames for bodies to move about (Fig. 5). Applying the theory of architect Bernard Tschumi of space as event, they deframed the military grounds for the public, and re-framed it by making frames-in- frames with existing buildings and added volumes.

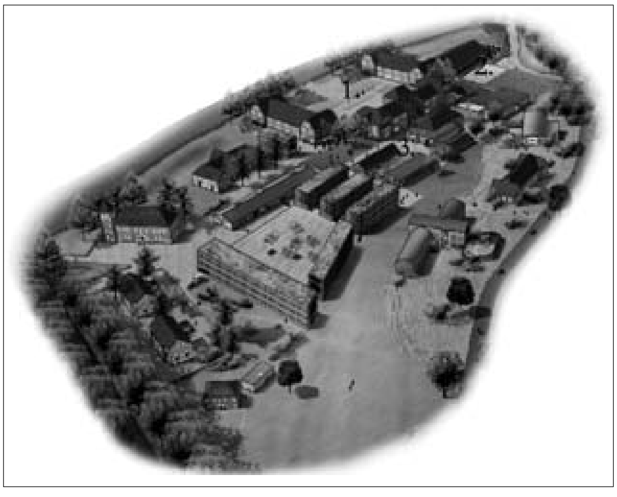

Fig. 5. Secure: Atmospheric composition of spaces at the Tapijn barracks. Design Vision Bas, Kenny, Simon. 1. Cour d'Honneur; 2. Former exercise building; 3. Deserted 'belly' of the barracks.

Atmosphere was a key value in this maneuver. Kenny found the centre of the barracks (kitchen, canteen, gym, showers) suitable for a ballet school and theater, and envisaged the bodies that would invade the deserted 'belly' of the military corps, stepping up the marching tempo to a dance rhythm. He wraps a translucent skin around the inconspicuous buildings and inserts an auditorium between them, allowing them to intrude in the corners. Bas, another student of this team, designed a phased adaptation of the monumental main barracks for the future PhD school of the University of Maastricht, starting with installing offices for knowledge workers. Thus he selected what mattered most, the 'cour d'honneur', as excellent décor for academic parades, allowing a practical and contemporary manipulation of the adjacent spaces. Simon took the exercise hall, a simple volume with a pitched roof that had lately been used as a garage. More than anything else, he appreciated the steel trusses, and boldly threw in an inverted volume, so that he obtained light for a student club, library, restaurant, and kitchen garden. His concern was the ecological footprint: re-source the existing building, benefit from the ground it stands on, and make it the cradle of a new, sustainable building.

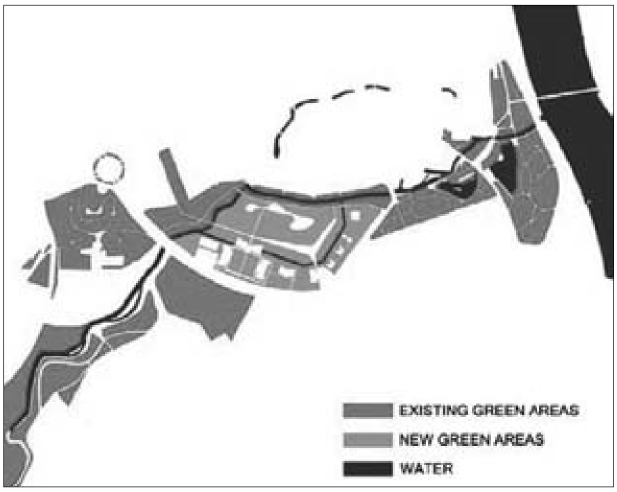

Fig. 6. Fortress of Light in a Green Belt. Design Vision Corina.

5. From Military into Civil values

The former military enclave was contained in a solid frame. Facades and fences turned a blind eye to the interior of the site, of which citizens could not even catch a glimpse. A couple of students wanted to make this frame more transparent, not just literally but also as a figure of speech and thought. Marcel and Wessel proposed a residential version of the cozy architecture of the barracks pavilion typology. A new trend of communal living inspired them to use the military hierarchy for a residential park organized in 'divisions' that share common ground. Because the existing order only embodied collectivity, adopting it for housing required a modification in the sense of introducing privacy frames; and because that would cause unwanted oppositions, they designed a third frame, a transitional space, where neighbors chat and children play. Wessel designs new houses after the 'parallel trenches' of Vauban, a nearly imperceptible artifice that keeps the recreating public (massive in summer) at a distance, while sparing frames for the residents to 'shoot' a view of the medieval city wall. Marcel opts for a closely-knit texture of a hybrid of row- and courthouses with gradual transitions from private to public.

The paradox of military heritage is that once its violent character is lost it is spun in peaceful slumber. Giel intended to retain the friendly village character and reframe the now inaccessible enclave as a public domain by clearing up the visual grid and implanting high and low tech crafts – continuing the tradition of Maastricht in ceramics. He chose the officers building to accommodate research, education, and exhibition facilities. Its 1950's architecture, which the Dutch call 'shake hands' for its attempt to bridge the gap of modern and traditional values, inspired him to increase the tension of refined cladding and detail on the one hand, and rational, standardized construction on the other, and fuse these layers with a contemporary addition.

The Barracks include a bunker, a crisis centre built during the cold war to offer protection against enemy attacks while a counter assault is prepared. Edwin (who teamed up with Frank and Peter, see above) adopted the recommendations issued by 'Defense for Children' to make this dark and heavy building into a haven for children that struggle with society. It should provide a world these children can escape to, in order to get better armed for the urban battleground. The interior is refurbished into spaces for consultation, homework, fitness, and recreation. A large cut slashed into the concrete roof, as if an explosion destroyed the weaker parts, makes the strong beams stand out robustly against the sky – an intervention designed to bring in light but also to reveal a shocking and yet invigorating analogy of military and social struggle.

6. Conclusions

Did the graduate studio 'Champ de Mars' succeed in the intended metamorphosis? Did the architecture students transform the field designed under the sign of the God of War into a 'Champ de Venus' (who was, as we all know the goddess of Love, but also a lover of Mars)? In the process of finding viable ways to reinterpret military perception (optical, ballistic) and give it a civic turn (the perception of residents, workers, clients, and tourists), the art of the frame proved to be essential. It was required both to understand the existing urban landscape, and to envisage a new programmatic and expressive handling that visualizes and values the given, often hidden traces of the past. As they abducted military means for civic ends, the architecture students were learning to sensitize their architectural means to the entire environment they were re-framing. Considering the urgent reduction of the planetary footprint of cities, our case study of the demolition, preservation, and/or transformation of military heritage contributes to a wider prospect: not that of the *tabula rasa* but of the *tabula plena* – an invitation to feast on its sweet and bitter menu.

Credits:

Students participating in the graduate studio 'Champ de Mars' tutored by Gijs Wallis de Vries and André Walraven: Edwin Caspers, Wessel Cramwinckel, Frank van Gemert, Giel Geurts, Bas van Gils, Corina Popa, Marcel Pruijsten, Simon Reumers, Kenny Vonk, Peter Vriens.

Notes:

[1] Source http://www.maiderlopez.com visited 3 March 2012.

[2] Source http://florentijnhofman.nl visited 16 April 2012.

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Process

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On Drafting a Landscape Syntax: Algiers Town Centre

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Abstract: The perception of landscape results from constant characteristics linked with latent and manifest functions in the creation of places; hence a descriptive approach (of interpretation) dealing with aspects of *"matter"*, *"articulation"* and *"expressiveness"* can prove to be adequate. These aspects, which help to identify the composition criteria for the landscape project, represent stimuli for creative actions within the same process. Our proposal is based on an urban and historical case study, identified by composite landscape, picturesque urban typology, and fits into a current policy of ecological urban planning. It relates to the settlement in the centre of Algiers. The unique features offered by this three-part site in the Bay of Algiers, consist of the remaining of two green corridors, created by the ancient, historic ramparts, in a view dense area. Today, these two green corridors contribute to the construction of the image of the city and add a high sense of place.

Keywords: dynamic process, syntax, landscape, perception, meaning, arabness [arabisance], limit, figure.

1. Perception and ways of thought

The development of ideas relating to urban development, which sometimes manifests in historic, and sometimes in modernist approaches, expresses an explicit ambition, "the construction of a science of urban acts" (Pinson 2012), which for about thirty years has dealt with "theories linked with the landscape" as well as nature conventions affecting the development strategies of various cities around the world, and researching a "topographical and topological redefinition of landscape paradigms" (Herbert 2007). However, between the approaches represented by pure landscape architecture, and urban planning that accommodates the landscape, a new school of thought has been established, based on contemporary scientific culture, which endows the project approach with the capacity to enter into justifiable conjecture, favouring recognisable forms, as well as urban implementation that is defined by forms associated with the landscape (Herbert 2007), drawn in their entirety into a *'socialisation process'* of increasing intensity (Schulz 1979).

This approach implies a new figurative way of thinking which basically depends on perceptions of space, and which corresponds to other paradigmatic notions that increase the complexity of this issue. The difficulties in integrating a project linked with the landscape involve an exercise which is essentially based on the concept of *'dialectic synthesis'* (Farel 2008) as well as the *'principle of synergy,'* evoked by experiments conducted where the tension between *'natural-space'* and *'built space'* is presented in summary reports without being incorporated into a broader work; this claims that the coherence or coexistence arising between these two rudimentary composite elements follows from a sufficiently powerful creative tension, assimilated via a qualitative approach based mainly on the perception of space, and the decodification of the level of creativity expressed, looking at the project as the result of subtle compromises.

The principle of synergy presented by Farel (2008) questions the interdependence between factors for consideration in a design process and which inevitably possess a contradictory nature, as a result of their very existence, which cannot be overcome, but which at the same time create the 'qualitative dialectic' hypothesis, by the Danish philosopher Kierkegaard for whom "thesis and antithesis are to be considered, without this determining a progression towards a subsequent stage, where the tension is resolved in synthesis" ; it is stated "there are such big differences and such great conflicts that we cannot find a concept which would bring everything under one umbrella" (Farel A, 2008). This is an initial landscape project semantic which embodies a syntactic study based on perceptions of form and its capacity for expressiveness (the composite space-nature/ space-building).

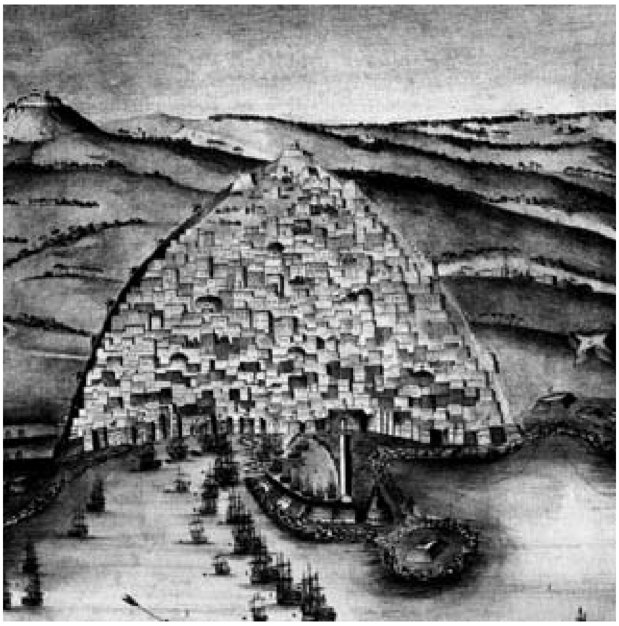


Fig. 1. View of Algiers before squadron English bombardment in 1816. In : Cohen JL, Oulebsir N, Kanoun Y, 2003. Alger paysage urbain et architecture 1800-2000. Les éditions de l'imprimeur. p. 47.

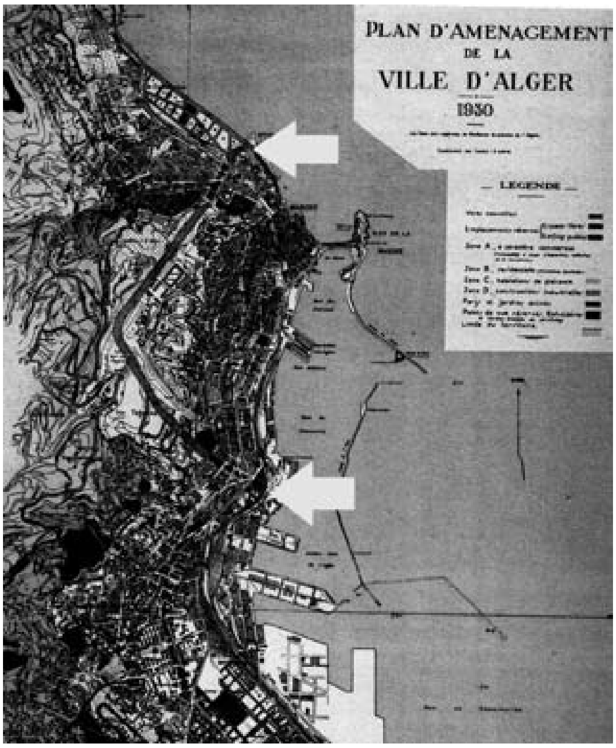
The second semantic pole lies in the tripartite nature of the place's meaning, which is based principally on the symbolism and *'structural similarity of an environment'* (Schulz 1979). We therefore arrive at a semantic study relative to the landscape project, which consists of two categories: the first dealing with the nature of the environment as identifiable content, and the second, with the structure and methods of combining content at different levels. The unique qualities which emanate in the case of landscape projects lie in their character being completely captured as an entire sense-making system and as a synthesis of contrasts to yield a comparable, and then identifiable whole.

2. Algiers town centre, a landscape-history interface

Studies on the 'aspect' of the city of Algiers as well as on its 'built environment' started on the colonisation of El Djezair (this being the old Arab-Muslim medina[1]) through numerous writings and accounts, diverse strategies for objectivised interventions during the entire period of colonisation, and by projects for scientific exploration on a national scale. Scientific exploration projects carried out by the *Amable Ravoisié* and *Edmond Duthoit* teams between 1840 and 1880 first of all entailed the discovery of monuments in Algeria, then the identification of the built environment through surveys, descriptions and analysis (Oulebsir, 2004). The aspect of the old Algerian medina was identified as landscaping which corresponded to Ottoman Muslim city models; it was subsequently redesigned and reconstructed through strategies of 'destruction- reconstruction' as well as *'denial of ownership'*[2]; hence, the strongly expressive syntax which displays a rich and eventful history, bears the symbolism of two extremely different contexts: eastern Muslim and western. This tells us that the built environment of the old Ottoman medina already had the advantage of a striking character born out of a series of factors to be identified: "[t]his model arose from the site (…) the cityscape was punctuated by a particular kind of architectural decoration, with rhythm created by cupolas and minarets assigned to places of worship. The latter gained significance on an urban scale from this fact (…) its exceptional topography consisted of several urban levels representing strong elements of the city's profile. The Ottomans constructed on distinctly urban platforms, which became the basis for the urban landscape development project" (Driouèche 2011). Following the colonial interventions, two heterogeneous urban systems were established, generated by a rationale of *'progressive differentiation'* (Béguin 1983): one in sustained expansion, the other, enclosed and frozen in its growth. Hence, several formulae for *'articulation'* were born, integrating a series of 'intermediate gradients' present in the two development systems, in order to identify: urban layout, its appearance, and its components. These formulae, known as articulation, were executed following different procedures on a historical rather than a geographic level (diachronic), and remained completely faithful to a rationale identified as 'contradictory syntax,' which does not only constitute a response to the circumstances of colonisation, but also contributes to real sense-making in the creation of a unique identity for the city of Algiers. The 'contradictory syntax' is thought to be lifted from a diachronic study of the evolution of urban spaces in Algiers, and represents a rationale drawn from a critical perception of space. This rationale divides into four procedures to determine: the denial of ownership; on-going disparity; spreading population clusters and finally, urban sophistication in the wake of an absence of urban sophistication.

3. A picturesque place, an unexpected landscape

Arising from the morphology of the natural site – a glittering hill at the far end of a bay 12 km long as the crow flies – the settlement at the centre of Algiers constitutes the structural synthesis between a natural site, which presents difficulties for the development of the whole unit[3] and the construction that emerges from a variety of styles. This diversity is identified mainly by how the urban features look in relation to specific typologies: the labyrinthine topological layout for the first medina and its ramparts, built during the 10th Century then, the symmetrical layout adapted to rising levels for the second fortified town, completed between 1841 and 1850. In the 10th Century, Prince Bologhine Ben Ziri Ben Menad was attracted by the site and on the ruins of the ancient city of Icosium (Latin name) established the city of El Djezair Beni Mezghenna. (Missoum, 2003).



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After the demolition of its fortifications (1894-1900), the city underwent a fragmented development described as the mutation of a 'defensive military town in a tertiary centre' (Deluz 1988). On the juxtaposition of the two contradictory urban typologies, this *destruction-reconstruction* perfectly manifested the ambiguity involved in passing from being a pre-colonial to a colonial city in all its aspects of *'fracture and continuity'*.

The aspects of fracture and continuity unfold through the continued development of one fortified town from another fortified town; then through both continuity and fracture in the relationship between the city and the sea, and finally fracture, in the methods and forms of construction (Cresti 2003).

During the first phase of the extension of the city, spectacular dimensions were granted to certain features (100m for the development of a southern boulevard, according to Béguin, 1983), integrating the new preoccupations with public health, ventilation and aesthetics.

It is also where a large provision of empty space was accounted for in the new cities, in order to remedy numerous crises arising from the lack of sanitation in the city, (the crisis of 1845 led to the loss of a third of the city of Algiers' population).

Towards the end of the 19th century, certain ideas integrating the idea of 'colonial urbanism' began to take hold, seeking to manifest *'the triumphant style'* through urban development work, and where

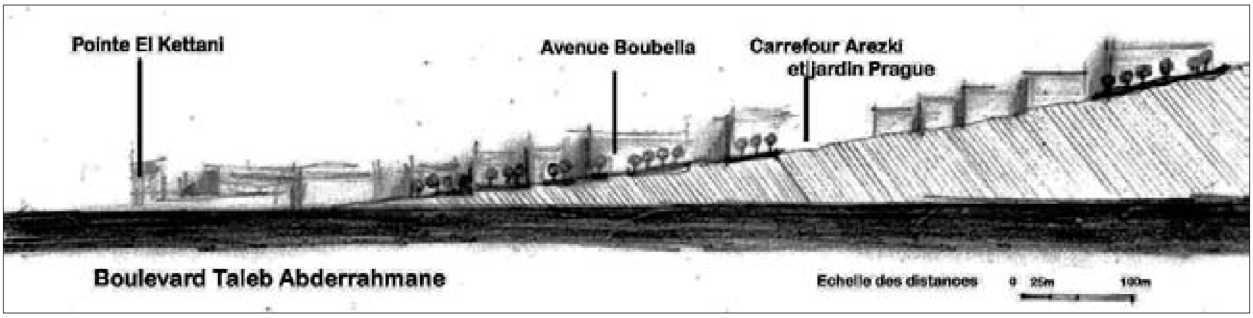
Pointe El Kettani
Avenue Boubella
Carrefour Arezki et jardin Prague
Boulevard Taleb Abderrahmane
Echelle des distances
0
25m
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Fig. 3. Profile of 'Taleb Abderrahmane Gardens'. Personal document.

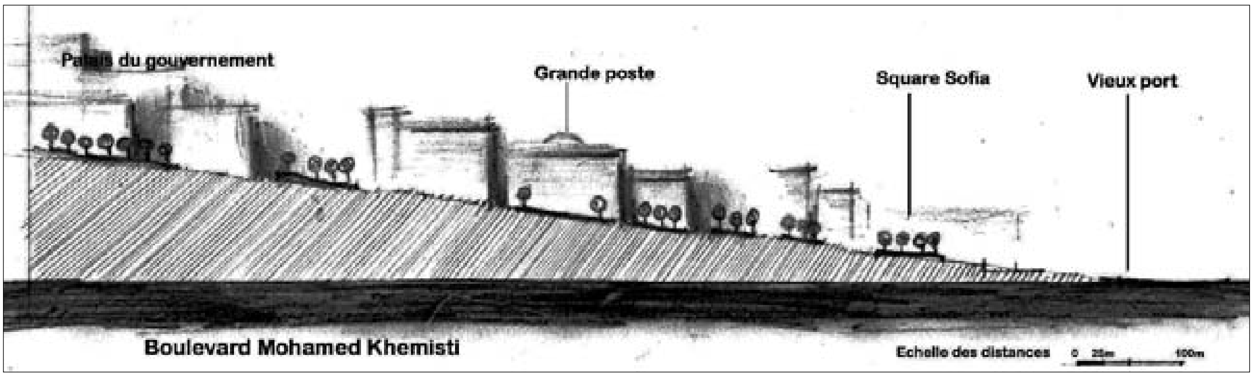

Fig. 4. Profile of 'Khemisti Gardens'. Personal document.

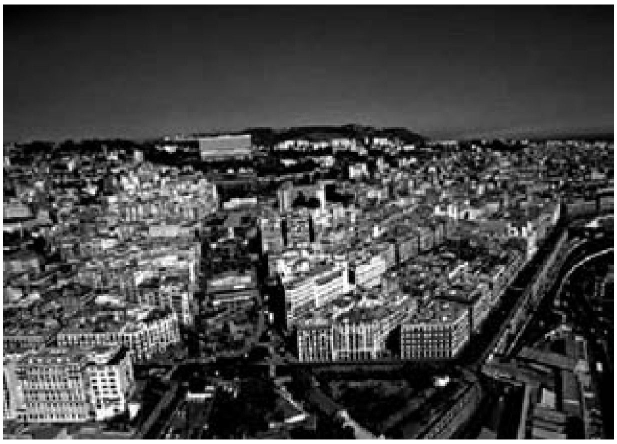

Fig. 5. View of 'Khemisti Gardens'.

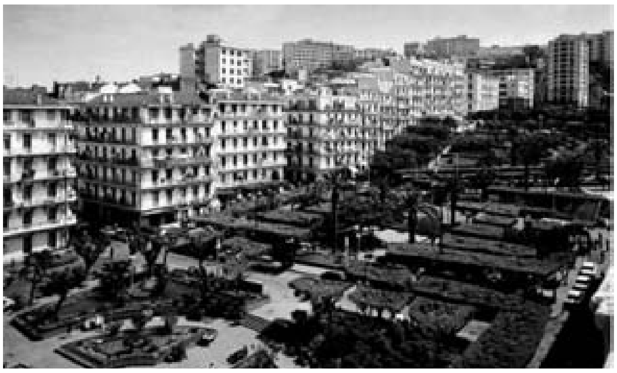

Fig. 6. View of 'Taleb Abderrahmane Gardens'.

the image assigned to the city and its built environment became a criteria for statehood and prestige – "[i]t is through their glittering monuments and their town planning work that the great states always won the prestige that comprised their main instrument of domination over the native population" (Béguin, 1983). During this time, another theme was addressed – that of the development of 'urban comfort' – based as much on aesthetics as on the sanitation of the large boulevards, where '[r]efreshing vegetation is going to form one of the permanent features of colonial 'own planning by the end of the 19th Century' (Béguin, 1983).

At the beginning of the 20th Century, another idea was emerging in the colonised nations of North Africa, originating with the landscape architect Jean Claude Nicolas Forestier, who launched the concept of 'a system of parks' which he had just set out on paper in 1906 with his work '*Cities and Systems of Parks.*'

This theory, which was never put into practice in France, consisted of planning new conurbations and guiding their development through a hierarchical and continuous network of open spaces, going from the municipal gardens to the suburban green belt areas (Bennani, 2012). These two points were an elementary reference at the International Congress of Colonial Town Planning, 1930. Influenced by Forestier's theory, H. Prost drafted the programme for the regional plan of 1930. This plan aimed at prescribing traffic flow for reducing the lateral extension of the city of Algiers, in order to facilitate access to the hills above, then the creation of new residential areas for the Algerian workforce, and finally, the preservation of open and green spaces, hence the finalization of the two green corridors (Boulevard Mohamed Khemisti, ex Boulevard Laferière; and Boulevard Taleb Abderrahmane, ex Boulevard Guillemin) at the end of the second rampart of colonial city (the real formation of the two green corridors was started between 1895 and 1921, then at the mayor's behest Jonnart).

The two green corridors constitute the ultimate element of articulation between the inherited content, 'the city within the city' and the large, expanding metropolis (since 1855), adopting strategies for new cities (in 1858), then beautification work and overall development (from 1925 onwards).

One of the specific criteria was the quest for an 'urban character' stemming from a monumental profile, consisting of a centre, districts and residential areas, and where an 'organisation of the landscape' would be imposed. The research on urban character and landscape management was launched by the development work undertaken by the planning agency created in 1953, within the municipality of the mayor, Jacques Chevallier (Deluz, 1988). Today, the settlement at the centre of Algiers constitutes the first aspect to be studied and to undergo renovation within the framework of an ecologically sound metropolitan policy;[4] its main objective being the more effective use of natural green spaces present in the city, given the important role they play in the cohesion of the context and the real experience of the place - apart from other objectives which identify research interests in other specialities. Therefore, the settlement at the centre of Algiers, through its configuration in the city, benefits from a considerable level of expressiveness, allied to historic depth: it is a question of material individuality and unique content resulting from this heterogeneity.

The two green corridors 'Taleb Abderrahmane Gardens' and 'Khemisti Gardens', being elements of articulation in the heterogeneous urban environment, are displayed as '*substantive contrast* and *difference*' ; their contrast finds expression in the space created in the middle of the mass, the main component of which refers directly to nature and vegetation. Their interpretation reflects a 'system *of contrast"* (Farel, 2008) and enhancement and rivalry are essentially equal through the space-edifice and space-nature duality. This rivalry is reinforced even more by the relationship between breadth-boulevard/height-edifice which makes perfect visual sense; the visual impact of this order being defined as a continuation of the surrounding urban layout. Therefore, an important expressive ambiguity is created between the 'fracture or continuity of the city – garden' stimulant, where the garden would cross the city, or conversely, where the city would cross the garden: evidence of a highly cohesive context.

4. Towards a syntactic [syntaxique] interpretation of the Algerian landscape

Today, we note that the urban development of the city of Algiers has been undertaking intermittent strategies, giving a haphazard character to the city's landscape through many development activities over time, on a site which is uneven, humpbacked, scarred with ravines and subject to levelling, clearing and filling in. The cityscape presented by Algiers constitutes the image and expression of quite profound historic stratification, followed by development strategies for relatively recent complexes that contrast with its historic depth. The site and its wider environs offer the prospect of a picturesque city through all its additional surface features and a pronounced organic irregularity (Panerai, 2005), which brings the dimension of a *system of perception* to the City of Algiers and to its urban landscape various and seemingly contradictory styles.

The substantive uniqueness which the settlement at the centre of Algiers manifests lies in the *innate distinctiveness* of the *'surfaces'* it displays and their '*outlines'*. In dealing with 'the outlines' of architectural substance, Frank (1999) considers the notion of 'outline' solely as external decoration.

The initial component of its make-up is defined by its character, which first of all claims 'a domestic picturesque quality,' including the juxtaposition of two completely different urban typologies: the first being where the absence of straight pathways and the spatial density dominate the traditional schema of the Arab area; and the second, where the search for straight lines and visual openings is clearly expressed in various pacification strategies. In addition to urban typology, the architectural element has participated to an enormous extent in defining the Algerian built environment, through the search for a significant architectural typology which has benefitted from a 'dynamic approach' to determining style, while integrating showcases for nature in those places. The dynamic approach to determining style consists of identifying regional character, details and decoration in an architectural language and in each region. (Béguin, 1983).

This element is defined by the competition between local and imported expertise, inferring problematic reflections on the question of *'Arabness'* and its evolution from being a 'decorative' to an 'expressive pole,' something which has aimed at manifesting the identity and culture of the place. The expressive pole consists of researching character on the basis of very great significance and value, which at the same time are based on abstract properties. (Béguin, 1983).

The idea of showcasing nature first became a reality in places at city level, in the parks and avenues for pedestrians, then in the buildings, with the segmented layout of 'architecture-nature,' via the introduction of vegetation into domestic introversion, as well as opening up buildings to the sky. The basic characteristic of this architecture represented 'a means of making architecture function like a trap to catch and channel the flow of nature, in order to amplify and echo, or to propagate a reflection' (Béguin, 1983). In this case, it is a question of emphasising a vital articulation, which will shape an appropriate and identifiable landscape, then a nature-culture conjunction obtained from an architectural entity, staging in its composition the priority awarded by a culture to a range of sensations likely to be reflected in the landscapes, recognisable and identifiable through how they are perceived. The problem of perceptions of the landscape in the land management process is, from now on, an issue where certain ambiguities linked with the dynamics of the process subsist, functioning as an open system, integrating landscaping paradigms in perpetual evolution, and embracing the notions of culture, image and figurative schema which change from one place to another.

On the contrary, the perceptible spatial categories (Lévy, 1986) reflecting the character of the place, and then 'landscape content,' constitute a 'code' which very much must be noted. This code is divided into three parts:

4.1 Articulation skills - nature

Which specify the landscape content through direct or indirect reference to nature, and where abstract intangible referents (spaces, light, area, etc.) become a source of inspiration, not only on a higher level of creativity, but also in their function and on different scales.

4.2 Articulation skills - culture

Through architectural and urban referents linked with the context, bringing to the landscape project a meaningful dimension: historic, symbolic and even social. Hence, the notion of 'context' has become a source of creativity.

4.3 Perception of surface; distinction of outline

“like every spatial device stemming from a hybrid arrangement of tangible narratives and shapes’ (Davodeau, 2008), the notions of surface and outline constitute the essence of landscape projects. The latter are profoundly affected by time and the future; they appear, take shape, and then disappear, which brings to the landscape process a profound sensitivity to the passage of time. In addition, the notions of *surface* and *outline* constitute the ‘force field’ of the subject under study.

The latter (the landscape project) is compared with and evaluated by their quantitative expansion. In other words, the more there are perceptible surface features, there more there will be distinctive outlines; hence, the unique identity of the entire landscape will be expressed: ‘the configurations, the distribution, the ornamentation, the qualities of the content, are the unique indicators of quantity, which will express its identity (…..) which is the nature of all substance in the unity of its interior differentiation” (Frank, 1999).

5. Conclusion

Contributing to a typological redefinition of landscape’s paradigm, spatial perception is the main link of the landscape process. It combines underlying composite recognizable parameters, recognizable that are able to differentiate landscape’s figures. These parameters can be decomposed to spatial and visual for a better understanding of the situation.

They are related to substance notions, material character, modes of articulation and finally, the limit and scale of figures. In the Algiers context, the morphological characteristics of the natural site is the first identifier of the Algiers’ background landscapes; which are superimposed by urban and architectural typologies; and which are identified as contradictory in their syntactic structure; and as participants to the significance of the place. Spatial perceptible categories are not only tools for reading the landscape, but they constitute a writing code; essential in any work of design and space planning. These categories include the articulation skills – nature, the articulation skills – culture and finally, the perception of surface and distinction of outline, as essential parts of the landscape project.

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Notes:

[1] The old medina of Algiers perfectly represents the typology of ‘Islamic cities of the Maghreb during the Middle Ages’ through the following basic components: a fundamental nucleus, including the main centres and structures of the city, the convergence of the main thoroughfares, a complex of residential districts, defences, the presence of a fortress, and finally, service areas around the periphery or outside the city (Cueno, 1993).

[2] The pacification strategy applied in Algiers was based on the principle of ‘*an inlaid city*’ and an overall restructuring of the intra-urban system. (Icheboudène , 2008).

[3] Socard in brief outline of old Algiers (1934); also, Bienvenu (1935) and Lespes (1934).

[4] The new environmentally sound metropolitan policies in Algiers (2009-2029) turn on four basic points, broken down into four time sequences. During the first stage (2009-2014), the project relates to the beautification of the Capital; it has been targeted for priority action with the aim of structuring the urban fabric and bringing its centre up to standard, by perfecting the main road infrastructure; developing districts around major project facilities; ‘macro networking’ public transport, and finally, landscaping the main thoroughfare through the capital.

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Land Use Management Through Community Based Landscape Projects
Case Study of the Great East Japan Earthquake Stricken Area

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Abstract: In Japan, the future land use plan for the areas damaged by the tsunami caused by the Great East Japan Earthquake is not easily decided. Even if a land use plan is decided, it will take several years before its realization. In view of such a situation, students are attempting to carry out greening activities in the flood areas with residents for temporary land use. Students are also performing greening activities of temporary housing of persons who used to live in the flooded area. The students' existence itself has encouraged disaster victims and their greening activities have improved their living environments. Students are directly engaged with society through such greening activities. Students learned by themselves through these activities, and their activities have contributed to the regeneration of the stricken areas.

Keywords: Land Use Management, Great East Japan Earthquake, Stricken Area, Greening Activity, Community Based Landscape Projects, Community Garden

1. Introduction

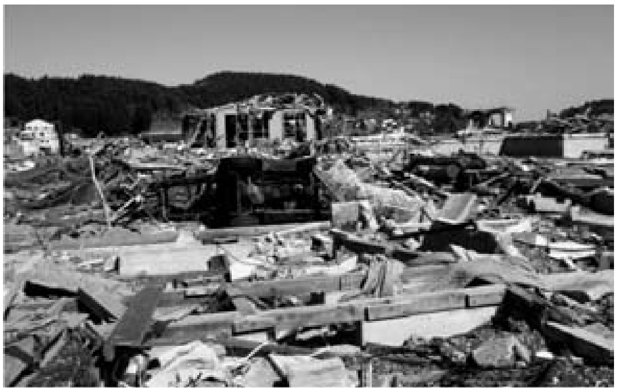
We will never forget 11 March 2011. On that day we suffered a great deal of damage in the Great East Japan Earthquake. We were attacked by the catastrophic Tsunami which we had never before experienced. The scale of the earthquake was a magnitude of 9, and it was the largest earthquake of observed thus far in Japan. The epicenter was 500 kilometers from north to south, and 200 km from east to west. A vast area of East Japan suffered destructive damage. Furthermore, more than 10m to 40m of the tsunami struck the coastal areas. The scale of the tsunami is also said to be once every 1,000 years. Over 15,000 people died, and about 2700 persons are still missing. About 400,000 buildings were totally or partially destroyed[1].

We are exerting ourselves in the reconstruction of the stricken areas, and many students are also joining in the reconstruction process – especially since our university is located at the entrance of East Japan, and suffered damage. In the classrooms, glass broke and the ceilings gave away. Students felt the northeastern disaster as a very familiar thing.

The residents who suffered a great deal of damage are now living in temporary housing both upland and inland, which is far from their original home. Rubble has now been removed from the areas damaged by the Tsunami and they are being transformed into open spaces. In the local government reconstruction plans, most flooded areas are marked as open spaces, such parks and farmland. But the priority of the construction of residential and industrial areas is higher than open spaces, which means that the land marked as open space has a high possibility of being abandoned in the long run. If no one manages such land, flooded areas will go to ruin, even though they were the center of the town before suffering damage by the tsunami.

2. The start of greening activities

The stricken area was very chaotic immediately after the earthquake. It was a top priority that the disaster victims who had taken refuge survive each day, and that missing persons were found. The stricken area was surrounded by a mountain of mud and rubble and was turning into gray space without color and sound. The roadside trees and the trees at the base of the mountain withered as they were submerged under sea water . Not a single plant was visible in the flooded areas. Figures 1 and 2 show the landscape of the stricken area about one month after the disaster.



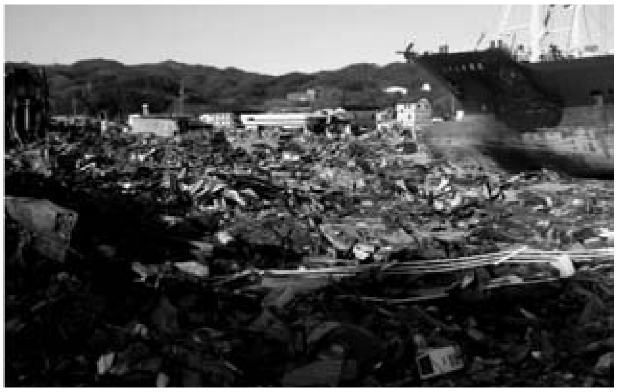
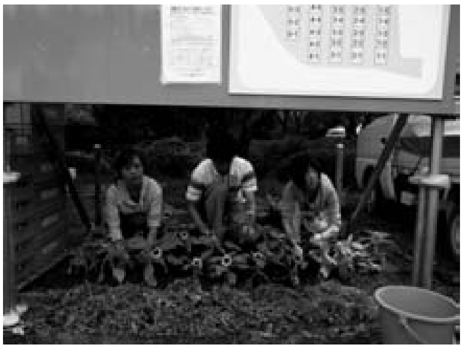
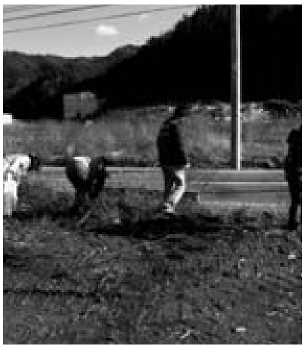


Fig. 1. (above) Near the port area
Fig. 2. (under) Residential area

At this time, most disaster victims were living in shelters, such as the gymnasium of the school. Stress levels were high and frustration was mounting.

At that time, one of our students joined a volunteer group managed by the Social Welfare Council in Japan. He brought one flowerpot as a souvenir for someone he met. This was a natural gesture as a student of the horticulture department. He understood that a flowerpot was unnecessary in such an emergency situation. How-





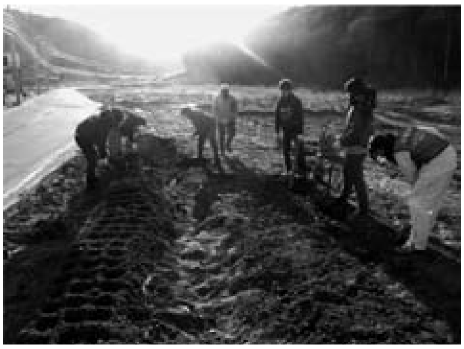


Fig. 3 (left). Cultivate the hard ground.
Fig. 4 (center). Extracted weeds and picked up debris.
Fig. 5 (right). Planted the bulb of 300 tulips.

ever, both the disaster victims living in the shelter and the operators of the shelter were pleased with his souvenir.The vitality of the flower's color and bright leaf – a "living" plant – had given people energy.The flowerpot warmed people's hearts.

This occurrence became the trigger for us to begin greening activities in the stricken areas. The students believed that greening activities in the stricken area would encourage disaster victims.The stricken areas were considerably overrun with various specialists and volunteers. For this reason, I requested the permission of the local government for the greening activities, but the activities were started by the students themselves.

3. The greening activities

3.1 Greening activities in the place of temporary housing

After I got the agreement of the local government, our students began greening activities at the stricken areas from July 2011, four months after the earthquake. Of course, we were able to do guerrilla greening activities at that time. However we thought that it was important to continue the activity in the long run. For that purpose, we thought that a close relationship with the local government was needed.

First, two temporary housing structures near the fishing village were introduced by the local government. They were located in a forest. All the stricken areas of the earthquake have a very rich natural environment. So we hesitated to carry out the greening activities at these places at first. However, when we visited the temporary housing for greening, residents welcomed us. The students and I worked together. Since everyone lacked experience concerning damaged areas, I discussed with the students rather than taught them, and we advanced our activities. We started planting the flower pot plants in the ground. We saw a lot of flower pots and flower seedlings which were sent to the stricken area as support goods from the north to the south of Japan. The disaster victims felt happy to see flowers and plants, but the flowers were not managed appropriately. Unfortunately, most of them were neglected and were left as they were. Disaster victims could not afford to plant a flower or could not find a way to care for the flowers.

We saved the plants that had been gifts and taught them how to care for them. However, the ground in the area of the temporary housing construction was very hard, and it was difficult to cultivate. Soil was poor although the land was very near a mountain. We could understand the difficulty of carrying out greening activities in the stricken areas through greening the temporary housing.

3.2 Expansion of the activity area

Through the greening activities at the temporary houses, we established a close relationship with the local residents. We held workshops in temporary housing and discussed with the residents what kind of plants or flowers they would like to cultivate. Through the discussion, it became clear that they wished to carry out greening not only in the temporary housing but also in the flooded areas.

The flooded areas used to be their hometown and they were worried about the place. Moreover, many people passed away in that area. They visited the flooded area frequently to see the place where they had lived. For those who passed away there, they had placed bouquets. They felt sad to see the former site filled with rubble and weeds. In response to the residents' wishes we expanded the greening activities to the flooded area. The site is located at the center and entrance of their former home town. We got cooperation of the landowner of the site and began to cultivate there.

Although the prominent rubble was removed, many personal belongings remained in the garbage, such as clothes, slippers and other articles. We picked up such garbage and extracted the weeds that were spreading higher than people's height. Although we cultivated the place, since it was a residential area, the work was very difficult, and sometimes the hoe broke.

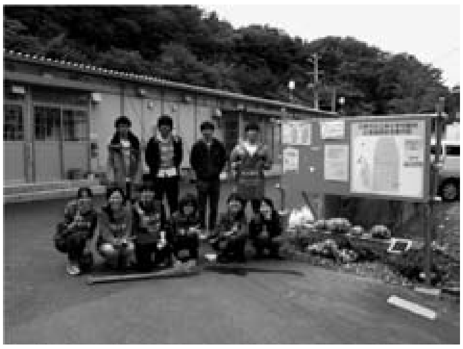
We began the greening activities on a part of the site. We planted the flower seeds, but it was hard to begin germination at first. Although some buds came out, a flower hardly bloomed. This was because the flood area had been under the salt water of the tsunami. However, the cultivation space was able to be expanded gradually and the bulbs of 300 tulips were planted towards spring in December 2011. Although these tulips were also support goods, there was nobody who could plant them, so we helped to do this. This place was gradually transformed into the base of reconstruction of the town through such efforts.

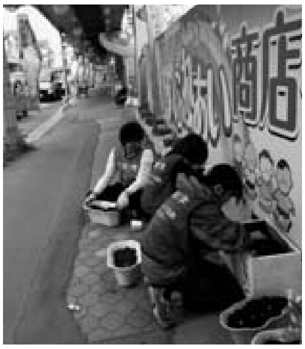
3.3 Continuation and deployment of activities

We continued the greening activity in the temporary housing and simultaneously with exploitation of flooded area, also began the greening activity at the temporary store in the downtown area.

When the next winter arrived at the temporary housing, support goods for greening would no longer be supplied.

We collaborated with the local gardening company and planted the flower seedlings which reached the gardening company as support goods in the temporary housing and temporary stores. Through such activities, the students and I formed networks with local residents, shop owners, gardening companies and support groups, among others.





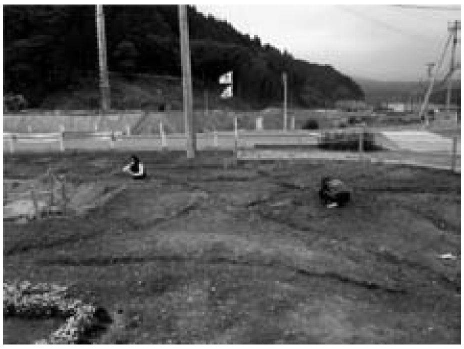


Fig. 6 (left). Greening in front of the temporary housing.
Fig. 7 (center). Planting seedlings at the temporary stores.
Fig. 8 (right). Cultivate a vast site.

3.4 A new turn

In March 2012, one year after the earthquake disaster, we collaborated with the garden company, local residents and many volunteers to create a large-scale flower garden at the flooded area. The site is the same place where we carried out greening activities.

It snowed the day before the event. However, about 100 volunteers were able to gather and were able to reclaim land on a large scale. The land owner appealed to adjacent land owners to offer the land for the flower bed. As a result, the adjacent landowner's cooperation was obtained and the vast site was offered as land for the flower garden. The residents of the temporary housing which we supported also participated in the event. Although it is an individual site, it became the center of the town and became everybody's public place.

The landowner had lost her mother at that place. She had a desire that the person who passed away there was comforted with the flowers. Flowers also warmly greet those who come here for support reconstruction. In a stricken area, it is only here that such a large-scale flower garden is made. This flower garden was made through the sheer effort of residents and supporters.

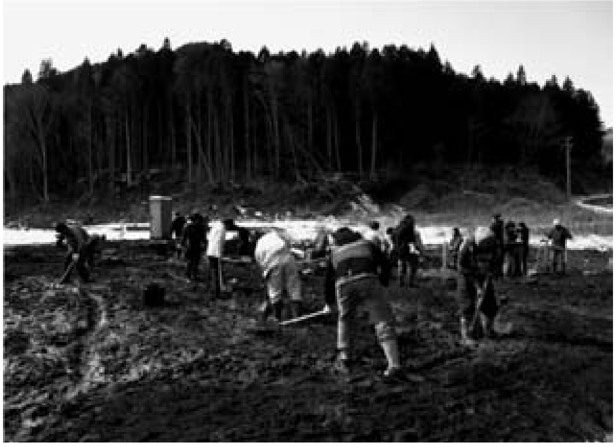


Fig. 9. Collaboration with various persons

Our students played many roles in the process of creating the flower garden. Although the design of the garden was decided by the local garden company, since correction at the spot was needed repeatedly, students had to correspond with it. Moreover, preparation of the seeds of various kinds of flowers from all over the country was entrusted to them. Since it was not understood whether they could withhold against cold or salt, sowing of various kinds of seeds were needed to guarantee blooming. The volunteers committed only for a fixed time, whereas the students continued their work until the target was completed.

Although it was the collaboration of various subjects, the role which the students played was not small.

3.5 Flooded areas to green spaces

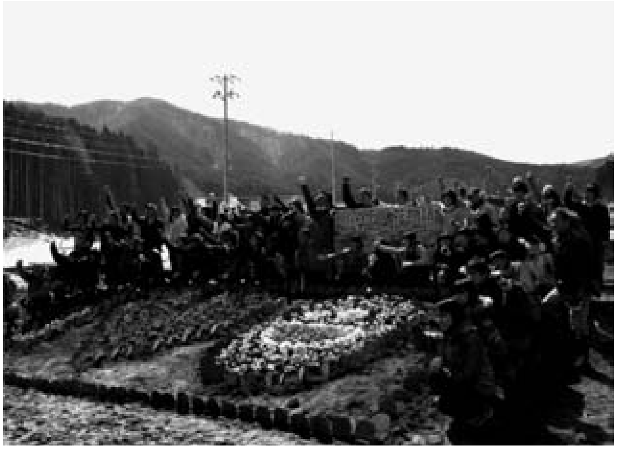


Fig. 10. Care of the flower garden

After making the large flower garden, when the buds came out, we began fertilization and weeding. Since the flooded area cannot expect plant growth under the influence of salt water and rubble, care was indispensable in order to realize greening there. Moreover, there were a lot of support goods from all over Japan, and some seeds do not match the climate of the cold northeast.

In the stricken area we had to plant by respecting the supporters' feelings and local residents' intentions as much as possible. Efforts of all the people in involved flourished and the flowers bloomed in the flower garden of the flooded area on one side in June, one year after the earthquake disaster. Both the residents and the supporters were pleased with the flowers. We also found a new meaning of greening from the result of the efforts through one year of activities.

4. Conclusion

Greening activities of the stricken area were not for educational purposes, but were began due to support for students' will. However, surely this activity improves the landscape of the stricken area, and is raising the student's capability. Moreover, greening activities

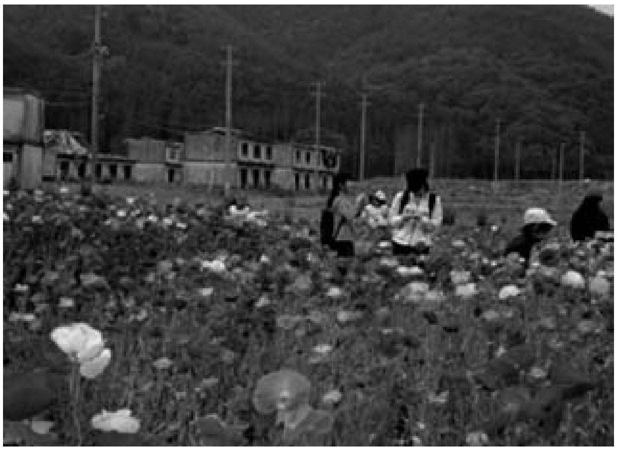


Fig. 11. Flowers are blooming.

are significant also from the viewpoint of land use management. In the temporary housing sites, we made a small community garden to encourage their daily life. In the temporary shops sites, we took care of the flower pots. In the flooded area, we collaborated with various actors, and made a large garden.

Through such kinds of greening activities, we also gained insight into the new functions of a community based small landscape project. First, greening a place symbolizes people caring for the land. After the greening activities in the flooded area, even if there are no people, those who visit can be greeted warmly and it can be shown that the space is not forsaken. Second, land use management by greening is effective for controlling the desolation of land. In the temporary housing, neighborhood councils are considering reconstruction plans. In the process of a recovery program, since residents' interests are often opposing, it is important that residents build close relationships. Flowers provide opportunities for communication amongst residents. Community based landscape project such as the community garden is effective in order to enhance the social capital of a community.

Greening activities do not produce interests, but lead to an improvement of local environment and the collective effort builds trust. A student is a neutral existence without a vested interest. Therefore, where there exists conflict of interest, a student's existence is important. Students provide residents with a pleasant time and give residents the opportunity to change their mind. From greening activities, they brought about an improvement of the landscape, the improvement of the living environment, the strengthening of the community, and a change in the residents' hearts.

Generally, there is an answer in education This was a kind of exercise, but students can learn the importance of the exercise by themselves. It is the challenge of education through this project that students learn themselves.

We would like to maintain the flower garden, and to continue greening activities until we see the new form of the stricken area emerge.

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Fragments of Space Along the Road. Recycling Deleted Areas

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Abstract: With reference to European and international debates on the relationship between landscape and mobility infrastructure, this paper focuses on the ability to control the transformations induced by roads to the places, environments, territories, and landscapes they cross. This is an extensive program, involving several different disciplines. This paper deals with the description and definition of infrastructural refuse as a real operative category, highlighting the possibility of their re-use/re-cycle in the growth and transformation processes of contemporary cities and countryside. The paper aims at identifying design strategies derived from analysis of projects and case studies which illustrate the ability to define new spatiality to avoid the use of corrective devices, such as camouflage and mitigation currently imposed by regulations. Particular attention is given to projects targeting spaces adjacent to roads and their attitude to establish connections, to generate frequent visits, to organize functions able to solve local problems or to generate long distance effects.

Keywords: Infrastructure, landscape, road, mobility, refuse, waste, fragments, refused landscape, architectural recycling

1. Introduction: architecture of infrastructure in the landscape

"…*Acknowledging that the landscape is an important part of the quality of life for people everywhere: in urban areas and in the countryside, in degraded areas as well as in areas of high quality, in areas recognised as being of outstanding beauty as well as everyday areas…"*
European Landscape Convention, Florence, Preamble, 2000.

Talking about landscapes means stressing their dynamism and complexity, considering them as a system of relations which can connect the geography of places and the shape of the built-up landscape.

Keeping in mind what the European Landscape Convention pointed out by clearly grasping the principles of sustainable development – "intended as a development model meeting existing needs without compromising the ability of future generations to meet theirs" – it is evident that there is a need for perceiving the space around us in a new way, as a "natural and cultural heritage, mirroring Europe's identity and diversity", but also as an "economic resource able to create new jobs". According to these principles, landscape is taken away from the traditional aesthetics of beauty and the picturesque, bringing together different but strictly linked disciplines: geography, which describes landscape topography from a morphological point of view; history, which puts landscape in the culture of places and interprets its changing signs; architecture and engineering, which define landscape according to compositional and formal elements and meet its technical and functional needs; and economy, which grasps the development needs of local populations.

It follows that landscape does not tend to be simply conservative, that it is no longer considered exceptional and unique. There is the renewed will to safeguard, manage and plan it according to design perspectives that aim at grasping its space-time dynamism, as well as meeting people's expectations, also by means of recovering areas usually considered worthless, "making them protagonists according to formal terms, without hiding them" (Kipar 2003).

Among these, mobility infrastructures are particularly important. They are traditionally considered plain instruments necessary to connect different spots on the territory and self-referring systems aimed at obtaining an accurate typological and formal identification. Mobility infrastructures, however, cannot be restricted to a "single, connecting function" (Governa 2005); instead, they should be considered as multifunctional projects inevitably involving the features of the territory hosting them.

From this point of view, infrastructural work cannot be defined as a purely technical-topographical action, but as a planning work, aimed at enhancing the "local territory potential"; according to this conceptual approach the design knowledge cannot only be thought as a "combination of specialisms, but as an integration of many necessary skills" (Magnani 2002) to transform and, in some cases, invent new spaces. As such, infrastructural work is not only interesting in itself because of the technical and functional solutions it offers, but also and mainly because of the relation networks it creates in its local and global contexts. It can even be considered a chance for territorial transformation. We can no longer speak simply of its *inclusion* or *settling* into the landscape. It is no longer possible to passively integrate it in the space. Rather, we need to actively *manage* it to be "an opportunity for dialogue and discussion with the territory" (Bürgi 2004).

Infrastructure work builds and in fact causes economic, socio-political, cultural networks and relationships that inevitably call into question a new *approach* of architecture: the infrastructure "seeds the growth or development potential of a fabric, of a spot of urbanity centered in a place where people come together and begin to live" (Nunes n/a).

2. Landscape refuse

If we start from the study of these themes connected to road design, it is interesting to focus on a subject not normally seen by those who benefit from the places or who drive an infrastructure at different speeds: the leftover areas.

Surfaces that are discarded from mobility: small or big fragments found around the road tracks, generated from infrastructures and from political-administrative choices linked to their project, residual areas that belong no longer to the infrastructural system nor to the agricultural, industrial and human context surrounding the road itself.

It is then interesting to go through different interpretations of the term *refuse* searching for a critical alphabet able to be a guide for its visual decoding and in a hypothetical planning re-invention.

First of all, Kevin Lynch deals with the theme of the waste through a vast reflection in sociological, environmental, urban and philosophical areas. In fact, he describes the waste, trying to define it as a "depleted material, without any left value, of a production act or of a consumption, but it can also be defined as any used thing" (Lynch 1992).

This expression is obviously general, but appears decisively fragmented in the single specifications of the concept, different depending on the cultural context where they are found. If we refer to the spatial waste, the word assumes different identities: it is the result of consumption, generated by neglect, it is a part of neglected and emarginated ground, compared to daily places. It is a sort of "sub-product, apparently useless, of production and consumption" (*ibid.*), that creates confusion and chaos in the rational order that defines the contemporary landscape. Nevertheless, it is this disorder that produces ambiguity and challenges these conceptual categories, opening the road to an act of transformation: "the waste is full of new forms and carries the soft signs of its origin and of its former use. Its ambiguities are poetical" (*ibid.*). It is a place favourable to change.

A. Berger describes in a very similar way his *drosscape*: he defines it as a landscape of forgetfulness, of waste, caused by a non-regulated growth and by a non-controlled expansion of the modern and contemporary city: it is often originated from a missed urban planning, it has been forgotten by the negligence of institutions, but it is potentially ready to welcome new meanings: "The term drosscape implies that dross, or waste, is scraped, or resurfaced, and reprogrammed by human intentions".

A parallel interpretation of waste could be the *Junkspace* identified by R. Koolhaas as a connective element of the contemporary city, which holds together the different pieces of a productive city and becomes the boundary towards the outside: "the junkspace exploits every invention able to produce growth, deploys the uniformity infrastructure: [...]. It is always an inside, even if so wide that it is impossible to perceive its limits". It is "the spatial DNA of the Generic City".

In a more specifically landscape sense it is possible to speak also of the *délaissée space* described by Gilles Clément as a place, waste of the consumer society, considered as not functional to the economical growth and to the exchange of goods and people, but at the same time worthy of a reinstatement, as a ground reserve. In the *Manifesto of the third landscape* he defines it in these words: "the waste derives from the abandonment of a previously used ground. Its origins are diverse: agricultural, industrial, urban, touristic. Residual (délaissé) and uncultivated (friche) are synonyms. The reserve is a non exploited place. [...] It is the result of a removal from an atrophied ground. [...] The unsettled nature of the Third Landscape corresponds to an evolution left to the totality of biological beings that make up the country, in the absence of any human decision".

If we see all these concepts in a way that is more precisely connected to landscape, they all indicate places neglected by men who elude the organisation of the country: borders of fields, hedges, fringes, side of streets. They are all united by the absence of any human activity; they are all shelter places for diversity, because everywhere, in the other places, diversity is chased away.

It is possible to conclude with the *terrain vague*: indeed Solà-Morales underlines the absence of any use, of any activity in these extensions of place, but associates to them the meaning of liberty, of expectation. The etymological factorisation of the two terms provides important thoughts in this sense: the word terrain identifies the idea of country, both in its limited meaning and in its development potentiality, while the word vague presents itself as very polysemantic. The German origin *woge*, referring to the waves of the sea, suggests the concept of unstable, undetermined and imprecise. Also the Latin etymology *vacuus* is important, once these two concepts are connected: it gives the sense of availability and of expectation innate in the condition of void - void, being a still unoccupied place, is the place of possibility. They are places where the city is no more, but where the city is not yet.

Foucault would describe it as something out of the circuit, something of no fixed abode, still in its corner, un-precise, un-determined, un-certain, but, due to these reasons, it is able to produce liberty and movement. It is a *heterotopy* that is able to make the contradictions innate in the pretended rational organisation of contemporary space to emerge, with its power to "juxtapose in a single real place, different spaces and different places that are incompatible within them" (Foucault 2001).

This concept has been expressed also by Bauman, who, with equal effectiveness, emphasizes that the order perspective is closely connected with that of chaos, complementary to it: "Chaos is the alter ego of order, it is an order with a negative sign: a condition in which something is not the proper place and doesn't carry out its functions. That something without a place and a function crosses the barricade that separates order from chaos". Just for that, "the infinite possibilities and the limitlessness of inclusion are foreseen" (Bauman 2007). Paradoxically, that spatial heterogeneity has a potential meaning that may or must be recognized, analyzed, redesigned.

These "white surfaces, ignored, omitted, forgotten or suspended spaces" (Marini 2008), product of the conflict between order and disorder, with or without a project, can be governed through their classification, transformation and reinvention to resume their unexpressed characteristics and to redraw with different meanings forgotten traces of their original value.

3. Invisible fragments of landscape

This interpretation of refuse has been strengthened by means of the tool of photography, through which we have investigated some case studies of the Trentino-Alto Adige region, which, apparently, does not show any particular problems of this nature.

"Photography is a research tool. Like other art forms, it is able to make explicit aspects of reality that are not immediately apparent, but destined to change the general perception of the landscape by those who pass through it" (Lamanna, Azzali, Salgarello, Siviero 2010).

In fact, only the photographic tool focuses the eye to a closer dimensional scale that allows you to perceive the critical points that the road, fulfilling its primary task of landscape connection, made invisible.

Almost as in the case of the "blind spot [...], the angle that our eyes can't capture" (La Cecla 1992), the transformations carried out by roads in the low and medium mountain landscapes of Trentino Alto Adige tend to hide from our eyes, sometimes concealed by meticulous camouflage works. But they still exist.

In light of these theoretical considerations and referring to the photographic survey carried out in the region, some operational considerations have emerged:

- primarily, the need to rethink the very project of infrastructure for mobility through a design approach that allows one to overcome cuts and lacerations inflicted on the land, which cause sharp separations between existing systems of relations, to reconsider it in its entirety (Fig.1 Pineta di Laives);[1]

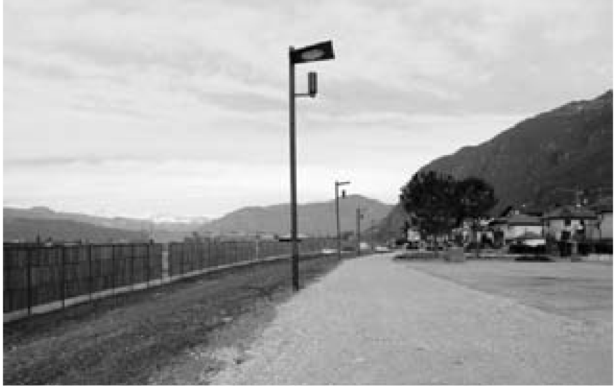

Fig. 1 - Pineta di Laives - Cut - by Azzali C.-Siviero L.

- secondarily, the need to redesign impoverished areas, giving them different meanings than their original value, reinventing them or recontextualizing them within a landscape, understood as an evolutionary process in continuous transformation, in which to rewrite and spark new uses and functions, sometimes generated spontaneously (Fig. 2 Trento Nord);

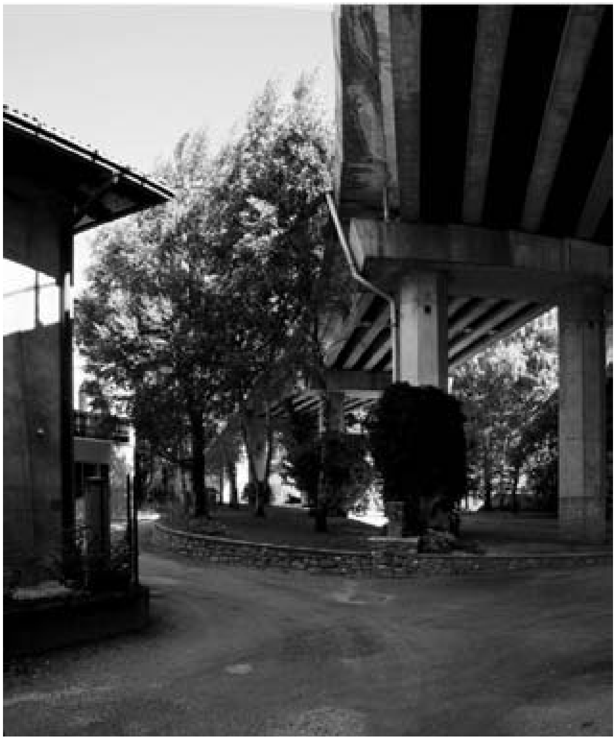

Fig. 2 - Trento Nord - Graft - by Azzali C.-Siviero L.

- thirdly, the desire to rediscover the "narrative dimension" and perceptional dimension of the infrastructural landscape that is "like a succession of environments at once similar and different" (Purini 2005) at times invisible, in which the rejected space appears as part of a whole, as an element whose complexity is determined by the excessive overlap of distribution systems, designed to connect local dynamics at different scales that hinder relationships and views (Fig. 3 Cornedo all'Isarco and Fig. 4 Civezzano);

This interpretation calls into question the idea of heterogeneity of the road belt compared to the surrounding landscape and tends to enhance the refused spaces produced as fragments of a communication network since it detects their presence and con-

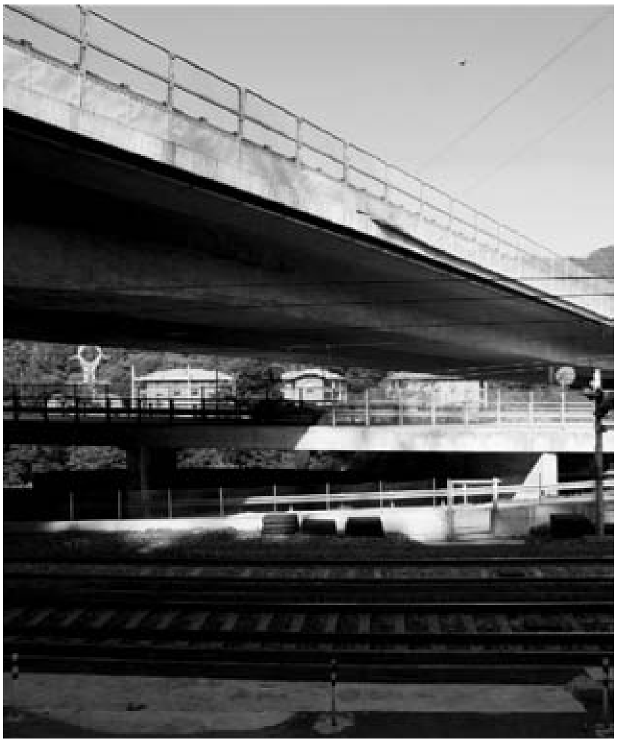

Fig. 3 – Cornedo All'Isarco - Overlay - by Azzali C.-Siviero L.

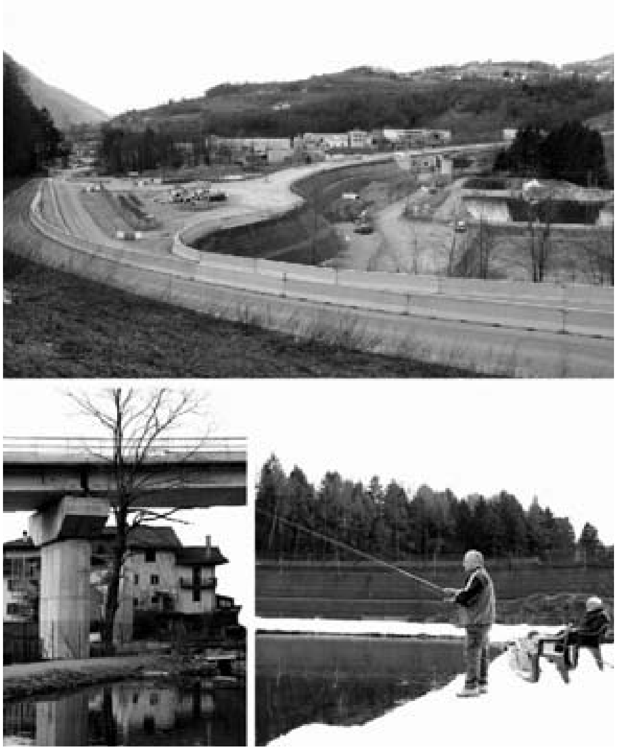

Fig. 4 - Civezzano - Obstacle - by Azzali C.-Siviero L.

nections. In this sense, abandoned settlements, roadsides, enclosed spaces "a number of undecided spaces, without a function, to which it is difficult to give a name" can be converted to an alternative use, even changing their functionality and outlining *other* potential infrastructural landscapes, they aspire to become "something" (Clément 2005), perhaps the "real project of modernity". The "refuse is no longer our hidden underground, but it has become our open air landscape" (Catucci 2002).

As in production processes there exists the need to address the problem of waste management, similarly, in infrastructural transformations an examination of the recycling potential is required to achieve an hoped-for refuse usefulness, because only in this perspective the infrastructural margins, a waste of technical functional surfaces, could become an opportunity to create new landscapes.

"In order to realize these difficult sites, designers need a conceptual framework that can help to organize and create new patterns of coherence in areas that are complicated and confusing, […] that can support not only growth but also reclamation and regeneration of natural and social systems" (Pollak 2006): in other words, to reinvent a meaning starting from new and more flexible ordering principles that can find their foundation in the uses often made of these sites.

Once again the reflections by K. Lynch on re-use, a category considered essential for a correct interpretation of the contemporaneity and of the future, appear to be particularly interesting. He tends to emphasize the complexity and, referring in particular to mobility infrastructures, proposes some significant considerations. To the questions on the reuse of parking lots, highways, large paved airport runways, underground railways, he answers in a pragmatic but also problematic way. With great clarity, he lists the new uses that can be made of them, stresses their *attitudes* to become something else, but with equal determination, states the need "to design things that are reusable".

Perception, use, attitudes, recycle: words that may lead the research of "a new syntax and a new design grammar that put back into tension environments otherwise lost" (Zagari 2006), to outline *other* potential infrastructural landscapes.

4. Recycle and infrastructure

The critical and interpretative analysis of some significant case studies offers a reflection on the possibilities of recycling and reallocation by means of different objective strategies which are able to highlight the unexpressed characteristics of places.

The first recycling action is linked to artistic strategies, often temporary, where art is the witness of contemporary changes, made possible by the ability of observing, in a different way, the surrounding environment.

During the exhibition of contemporary art *Fuori Uso* of Pescara in 2000, characterized by the use of non-conventional spaces of the urban and non-urban landscape, the proposed theme *The Bridges* (De Cecco, Hanru, Rosenberg, Schlaegel, Kontova 2001) finds its peculiar location under the highway bridges in Pescara.

These half-abandoned spaces are, at the same time, in close contact with the daily and contemporary life of people: they are distinguishing marks of modern art landscapes and allow invited artists to criticize art's relationships with infrastructural context and visitors. Artistic performances become the opportunity to make disused or never-used city locations (such as highway bridges) more active, open and available and to offer the spectator a different point of observation, pointing out how spaces are subject to a fast and unknown transformation process.

The installation named *Swing*, by A12 Associates group, by simply assembling swings rediscovers and reuses areas beneath viaducts, converts them in parking areas, recreation and leisure centres through exclusive technical elements.

Even if only for the period of the exhibition, people were offered the opportunity to become aware of these city spaces, that were generally switch off.

The second recycling action of infrastructural refuse arises from the acts of exclusion caused by the infrastructure in the contexts crossed.

The recycling method used here is the non-volumetric saturation of the surfaces enclosed within the roads junctions crossed at high speed.

The Spanish project of Battle & Roig for the "Parque del Nus de la Trinidad a Barcelona" (Iarrera 2004) apply the technique of filling the available degraded space through green material without exceeding the limits technically imposed by the infrastructure.

The new park is designed inside the huge highway node. The project changes the topography of the place, manipulates the lower ground, inserts new paths and trees arranged in linear masses that highlight the restored traces of water, defines a new protected area, a green island surrounded by the rigid geometry of the infrastructure, establishing new functional and landscape relationships with the forgotten context, becoming a nodal point of reference for the access of Barcelona from the north.

The conceptual foundation that lies at the base of the third recycling action is the attempt to mend relations with the context, the places crossed, often fragmented by the road system.

The L'Espace Auguste Piccard by Paolo Bürgi simplifies instead of enriching, reorders the places and the spaces where it is located, interacts with the grounded tunnels of Autoroute du Rhône A9, softens their dimensions without hiding them, indeed it enhances them.

The infrastructural work has provided the occasion to rearrange the space, giving it unity, reinventing a new public place built with a few defined signs.

The project is structured leaving the covers of a square concrete tunnel, characterized by their curved sloping, to emerge from the lowered ground, reminiscent of an amphitheatre.

The perimeter of the circular sunken amphitheatre is underlined by some poplars planted in groups of eight elements; a drainage channel, a purely technical feature for water management, is covered by a 50-meter long concrete bench, decorated with a blue stone, in memory of what flows beneath, i.e. water.

This place, so deliberate, instead of rejecting, appeals: people use it as a space of *loisir*, forgetting, being *staged* but not hidden, the motorway connecting Italy to France, the centre of the project and clearly emerged from the ground.

The last observation refers to the space *between things* (Barbieri 2006), between the objects that remain after the definition of road paths, surface scraps and volumes *in* and *between* the roads.

There is a vast and extensive literature on this theme that is generally called *in-between*: "[...] place of spacing, generated by flows and movements, place of mutations and of wearing down of boundaries" (Gregory 2003) previously defined.

Within the *Euralille* master plan, directed and defined by OMA - Koolhaas in 1994 for the city of Lille following the construction of the new TGV station, there is a small fragment of soil with a height limited by an urban viaduct.

The space enclosed between the horizontal plane of the city and the mobility infrastructure that is usually perceived as an obstacle for the visual and functional connections of the place, is here used by the French group X-TU Architects to build a small architectural box, that adapts itself to the apparently disadvantageous morphological features of the place and turn them into something positive.

The result of a design competition, the aim of the project for the *Maison de l'Architecture de la Ville* is to have wide open spaces arranged on one single level.

Exploiting the structural condition of the infrastructure which forms the roof, the viaduct pillars allow the modular subdivision of the space in exhibitions area and offices.

The perimeter, which extends slightly from the orthogonal projection of the viaduct roof, is completely transparent, so as to allow maximum visual permeability from the inside, but especially from the outside, encouraging relationships on an urban scale in the whole area.

A note in the website of the Association of French architects – DRAC, recalls that the land was granted, through a reasonable lease to the community of Lille to give the opportunity to create a venue for architectural culture and urban reflection: "D'un non-lieu sous la culée d'un viaduc, une vitrine communicant a été crée sur plus de 450m²".

Once identified, measured and described, the infrastructural refuse may be considered as reserve of soil, through the application of site-specific recycling strategies that, although not automatically determining their re-definition, offer new possibilities to rethink the meaning of the layers that make up the contemporary city.

5. Land reserves along the roads: infrastructural archipelago

This methodological approach is reflected in the interpretative models of the *enclave* and the *archipelago*, seen not so much in their metaphorical sense, but as key concepts to understand and decode the relationship between landscape and infrastructure.

The first, the enclave, tends to emphasize the idea of separation, isolation, uniqueness; the second, the archipelago, of the flow, the continuity, the link.

Transferred on the level of landscape reality, both concepts inspire interesting analogies. You can, in fact, find features of the enclave in the refused spaces, showing the "characteristics of disconnection" that the infrastructural network can generate, causing "fragmented land, consisting of a set of islands separated, segregated, suspended" (Petti 2007).

Archipelago can be viewed as the possible resolution of this fragmentation in a systemic view of infrastructural design, in which the road network can serve as a connecting element or, if a separation of the surrounding spaces occurred, as a strategy to let them regain meaning.

The interpretative model of the *archipelago*, theorized by M. Cacciari, is applied to landscape architecture by Atelier Le Balto (Pasquali 2008). The archipelago consists of fragments of submerged land, in the process of surfacing, afloat. These fragments are diversified between them, but interconnected through the fluid movement of water.

It is possible to find a similar morphological situation for the contemporary landscape's infrastructural refuses.

The refused spaces are associated with fragments of submerged land. The operative strategies can place them in the process of emerging and the recycling project can make them emerge, restoring them in relationship through the same tracks of the mobility infrastructures.

The city can gain space and the landscape can change again.

Notes:

[1] All figures are by Azzali C and Siviero L from: Maniglio Calcagno A (ed), 2010. Progetti di paesaggio per i luoghi rifiutati. Ricerca MIUR-PRIN 2007-2010 Gangemi Editore, Roma.

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Landscape Practices vs Gis Ideology: the Didactics of Landscape Representation

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Abstract: An engineering approach to landscape is the outcome of an 'engineerization' of landscape representational tools: infrastructural tendencies adopt a mechanistic approach to landscape, while GIS technologies have replaced representation disciplines in landscape education with a dependence on data governance, thus flattening the inherent complexity of planning practices and evading the economy of analog/digital draftsmanship in didactic processes. This contribution will examine three first year experiences in landscape didactics which avoided the inertia of GIS tools: critical redrawing of significant *exempla*; landscape analysis through survey; visualization of alternative figurations in landscape design. These approaches strive for landscape representation as an index of the quality of learning paths.

Keywords: GIS; landscape didactics; landscape representation.

1. Introduction

Given its intrinsic visual nature, landscape constitutes a cultural image historically expressed in pictures pertaining to the full range of image uses: from the strictly informational and technical to the art or entertainment fields. The present –somehow misused – notion of 'landscape' within the theory of urban and territorial planning has led to a precise definition of the representational device as a specific object of theoretical study.

Moreover, the increased complexity in the study of landscape led to the adoption of ever more sophisticated tools, such as, for example, Geographic Information Systems (GIS), complex numerical devices meant to cope with a large amount of physical and non-physical geographic data.

From the 1960's onwards, GIS have positioned themselves as one of the main representational tools in the field of urban and landscape planning, both for analysis and figuration. According to Francis Harvey (Harvey 2008, 34-51) even in the pre-numerical era, the abstractive nature of the information system prompted processes of simplification and extrapolation of materials that are essential to the processes of analysis and design. That of course happens at the expense of many other data and materials not appearing as suitable for representation.

The clever use of GIS had become one of the most important conditions for proper landscape governance and planning education; nonetheless, the increasing engineering approach to the didactics of information systems has caused more than one misconception in the range of graphical representations in recent years.

Didactics of GIS in European faculties of planning have been imbued with a sort of ideological approach. According to Encyclopaedia Britannica, ideology is '...a system of ideas that aspires both to explain the world and to change it.'[1] In its common meaning, ideology is a set of ideas proposed by a class of individuals to all its members, meant to direct social, economic and political behaviour. According to this last understanding, GIS behaves figuratively as an unquestionable pre-set of ideas meant to solve a complexity of notions in a scale-less space, even though scale enlargements and reductions are one of the main issues in visual representations. Closed proprietary formats in the most commonly used software are the metaphor of inaccessibility of a range of pre-sets.

In addition, information technology relates itself to an inherent 'affective power' in which persons engaged in geographical data management are often perceived as using '...technical jargon' whose outputs '...can be used effectively to obfuscate the underlying issues in disputes and to weaken opposition' (Pinto, Azad 1994, 38). GIS technologies thus appear as a sort of political tool meant to create a class of high-profile employees producing symbolic values out of a set of informative data.

This approach to GIS has created a double-sided phenomenon within landscape didactics. On one side there was the rise of a new category of 'representation technicians', whose aim was to manipulate geographical data in the most inclusive way, thus avoiding the logics of a critical selection of data. On the other, one witnessed the aberrance of GIS from the status of a functional tool for planning to a self-legitimizing entity in which its user epitomizes a political position *de facto*.

The continuous displacing of GIS didactics from bachelors and masters to postgraduate education in Italian planning faculties is the main outcome of this ideological approach; furthermore, it constitutes evidence as to how the issues of landscape representation are unwisely separated from introductory courses, obliterating the critical use of sometimes overwhelming sets of data.

2. Building a critical habit

As André Corboz points out, territory is a conceptual reference horizon rather than a category of thought (Corboz, 2000); it assumes as many senses as the number of disciplines taking it as their case study. Territory is the sum of natural phenomena and anthropogenic processes that create a form, intended as the visual outcome of a deliberate design process.

Even before the urban growth of the modern era, territory was often identified with its own representation, vague and fanciful in the beginning, precise and engineered nowadays. Landscape-related disciplines are mainly a form of relationship between the territory and its actors before being instruments of formal management; the map of the landscape cannot act as a simple mould of reality-as-found; it is the figural device that allows both the reading of and the intervention on the landscape itself.

Furthermore, landscape representation involves a series of inclusive processes: while various entities –vectors rather than graphics, percentages rather than statistics – represent the analytical outcome of the inherent richness of landscape, a critical selection of materials is the basis of the representation itself. The lack of critical choice of materials often leads to misleading attempts of complexity governance, producing over-determined and over-interpreting figurative outcomes (with a certain degree of unreadability).

As the counterpart of an ever-increasing complexity of phenomena and actors operating on landscape, a series of increasingly sophisticated tools has -in recent decades- characterized our relationship with it. Universities are aware that their didactic paths cannot be limited to the mere teaching of a single type of software; rather they strive to provide critical thinking skills to their students.

A discipline of landscape representation cannot rely entirely on those theoretical tools once defined by the terms 'geographic representation' and 'thematic cartography'. The approach requires a new set of mental devices and the lack of it can explain the almost complete absence of disciplines of large scale representation in an academic and didactic context.

This lack of knowledge related to landscape representation often leads students to misjudge their representational goal according to the communication of their analysis and projectual actions. Landscape drawing is often identified with the uncritical panoply of digital images explaining territorial interventions in our media.

It has to be written that the same disciplinary field of representation felt itself increasingly uneasy with the immateriality of issues arising from the landscape debate, paying increasing attention to economic, political and ecological processes. A practice of a conscious landscape representation thus appears as one of the main instruments of knowledge for the planner. The latter can benefit from a critical consciousness of drawing peculiarities rather than from the use of a self-indulgent software *boite a outiles*.

This contribution will examine three bachelor degree experiences in landscape didactics through representation. The exercises aimed at avoiding the discomfort that first year students experience while learning GIS tools. Moreover, the practices suggested lead students to use more than one type of software in a deliberately non-exhaustive way. In avoiding a pre-set tool ideology, students are able to make choices and identify the right tool for the right communication goal in the infinite sea of digital tools.

In light of these considerations, practices of conscious and rational landscape drawing are, once more, the first knowledge-producing instrument of students and professionals. Both can benefit from methodical critical awareness capable of distinguishing the level of detail and information according to each representational goal.

3. A smooth approach

3.1 Survey of the Plan

A first exercise faced the challenge of providing students with both the technical knowledge and basic historical insights related to urban planning in a relatively short amount of time.

The empirical experience proposed a critical redrawing of some well-known *exempla* in the history of planning, from Ildefons Cerdà's Plan for Barcelona, 1859 to 1970's Plans for New English Towns. During this phase it is essential for the student to improve his or her ability to recognize and extrapolate the relevant issues of the given plan – residential expansion rather than improvement of landscape qualities – and to select methods of representations suitable for the graphic expression of the issues found.

This is an exercise that allows students to evolve their digital drawing display alongside the assimilation of images and figures contained in the theoretical assumptions of the given *exemplum*.

According to landscape topics, students were asked to isolate single layers of information contained in a single raster image (a scan of the original plan maps) and to couple them in a digital environment in order to reveal themes otherwise hidden in a sometimes overwhelming graphic output.

CAD software (AutoCAD, DraftSight) were chosen as the main tools; in importing raster images in vectorial environments, bachelor degree students had to cope with the modalities of interactions between different formats and with the scaling and geo-referencing of objects in virtual space.

This approach is seen as preparatory to an upper level in GIS education. The requested in-scale printing of the final outcome urged students to cope with searching for a level of detail related to the representational scales without indulging in the one-to-one screen visualization GIS tools usually provide. Moreover, students had to locate the suitable reduction scale for a given environmental theme.

Students using CAD tools for their critical re-drawing obtained better results in thematic analysis and graphic qualities than students who chose GIS software to finalize the exercise. (figs. 1,2)

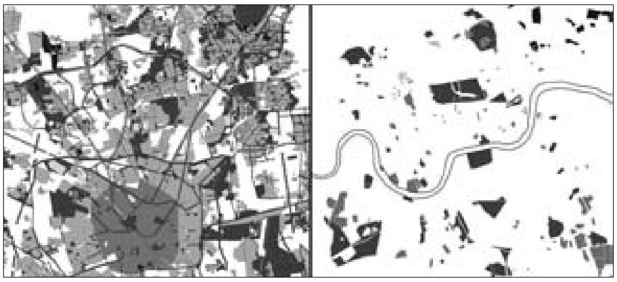

Fig. 1, Level of detail obtained in the same amount of time using CAD (left) and GIS (right) tools. Graphics at the same scale. Piano Intercomunale Milanese, 1961-65; London City Plan, 1943.

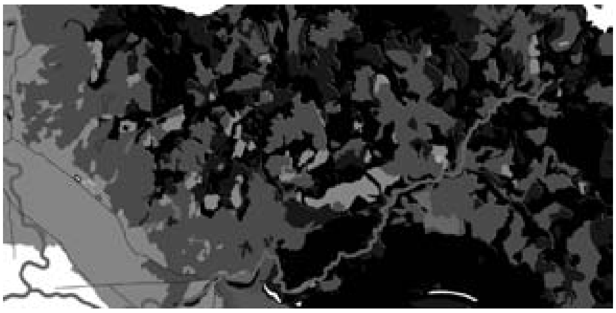

Fig. 2, Representation of agricultural landscape features: hues show different tillage. Piano Regolatore Generale Comunale, Assisi, 1958.

3.2 Topography

One of the first tasks undertaken by students in landscape representation has to do with the description of terrain showing substantial differences in altitude. As forms not strictly related to geometric primitives, landscapes with significant topographies imply a wider range of representational difficulties, in a seemingly daunting task for both students and professionals. Even small variations in altitude in a medium-large scale are enough to prevent

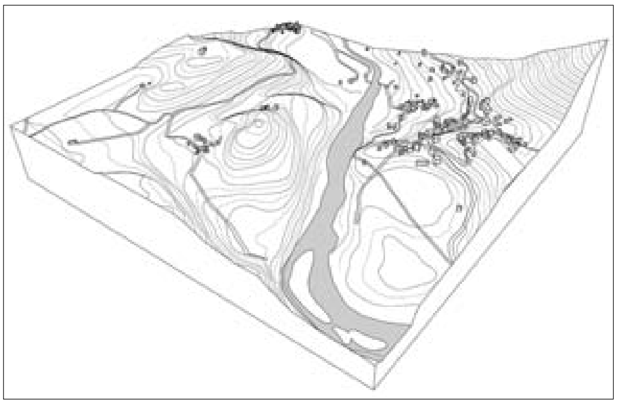

Fig. 3, Analysis of elevations in an urban scale through expeditious 3d modelling.

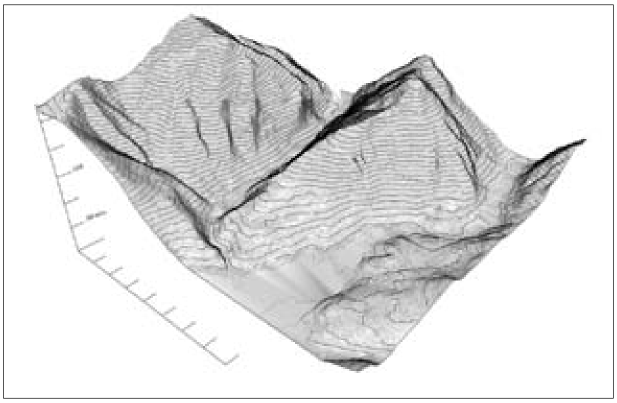

Fig. 4, Triangulated surface model for orographic representation according to elevation curves in Carta Tecnica Regionale.

the use of a single flat surface approximating the given terrain. A different kind of surfaces within digital tools will accomplish the task of approximating the organic forms of the territory.

From a numerical point of view, surfaces are divided into two categories: *meshes*, which connect a cloud of points scattered in a virtual space through subdivisions made out of triangular faces, and *nurbs* (non-uniform rational β-splines), more complex algorithms interpolating a series of curved edges and boundaries (Ervin, Hasbrouck 2001).

Each of the two methods shows several advantages and disadvantages: a mesh approach contributes to creating digital terrain models that are too onerous for average computer users. Despite their geometric accuracy, *nurbs* should be handled with more sophisticated software, such as Rhino 3d or Maya 3D.

Typologies of files for terrain modeling are usually amenable to a single informational entity: the Digital Elevation Model (DEM). This is a grid of points scattered in a space, each of them provided with spatial coordinates data showing different elevations. DEM or DTM files are usually available in vector, raster and text formats.

However we should notice that most of the graphical tasks undertaken by first year students are based on *Carta Tecnica Regionale*, (CTR) regional Italian base maps constituting the mandatory base cartographic device for every planning tool from a legal point of view. It can be easily downloaded via the web in vector formats (.dxf, .shp) and includes topographical information. These formats appear the most suitable for an average user.

Unlike what is contained in DEM and TIN models, site topographies in *Carta Tecnica regionale* are expressed through a series of contour lines rather than an amount of points in a space and thus can be hardly handled using *nurbs* software or complex three-dimensional solid modelers. For the exercise a different range of tools was chosen: they are not strictly related to territorial management and analysis or organic shape modeling. According to the fact that CTRs seldom show correct elevation geometries, given their 1:10000 amount of detail, sketching digital tools creating *mesh* surfaces have proven more effective than others.

During this last exercise, students who used tools for complex contour line editing – such as 3DSMax, Rhinoceros 3D or Maya 3d – often referred as more suitable for the task (Cantrell, Michaels 2010) have obtained less satisfactory results than those who used less sophisticated but more output-oriented ones. Trimble SketchUp or AutoDesSys Bonzai3d helped make visualization such as the ones shown here (figs. 3-4) in less than five minutes on an average *prosumer* laptop, thus generating a surface model suitable for sun and shading analyses.

3.3 Mixed media

By the term 'mixed media' one simply refers to a single graphic output in which more than one medium or tool has been used. According to the complexity of the given *exempla* – parts of territories that provide more than one thematic investigation – the use of multiple digital representation tools has been recommended for the production of a single output.

This joint didactic strategy for landscape representation, the acquisition of GIS data and digital drawing, acts as a sort of return trip from different tools and concepts. Starting with .shp base maps and photo-modeling processes from a manual survey, a 3d model was created.

The representational goal is the achievement of single raster images in which GIS entities showing different grounds and plantations have been implemented in a single solid model; the final result is then exported to a raster format via photo editing software. Existing trees and plantations have then been added from a library of images; the didactic process ends in a tabular representation of renderings thus obtained.

The sort of metaphysical output obtained via the above-mentioned software processing may seem a self-referential semantic choice; nevertheless, the use of intermediate degrees of abstraction and literalness in representation allow students to get ahead of the photo-realistic issues of rendered images as well as to avoid the engineering symbols inherent in GIS systems (Ballarin 2012).

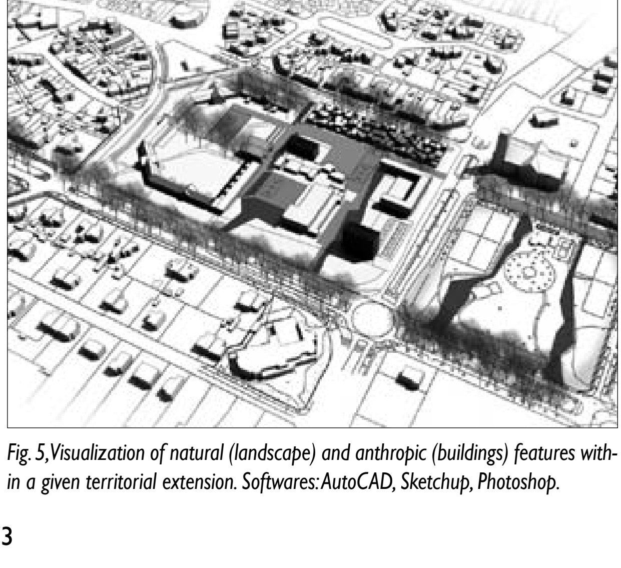

Fig. 5, Visualization of natural (landscape) and anthropic (buildings) features within a given territorial extension. Softwares: AutoCAD, Sketchup, Photoshop.

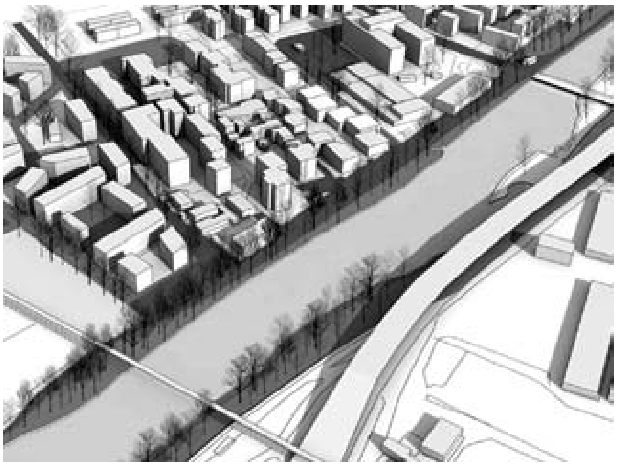

Fig. 6, analysis of public spaces in a 3d model showing permeable surfaces and tree systems. Softwares: Kosmo Saig, Sketchup, Photoshop.

4. Conclusion

These three didactic paths demonstrates that the use of less sophisticated digital tools for landscape representation led students to produce more appreciable outcomes, from the point of view of graphic quality.

This kind of achievement has to be interpreted not only as an embellishment of visual features within the graphic counterpart of planning disciplines, but also as an index of clarity in the communication of expectations, goals and actions regarding landscape design. A qualitative approach to landscape representation can be viewed as an indication of the quality of analyses and projects.

Furthermore, these educational experiences led students to adopt a critical attitude towards landscape, expressing specific (often completely new) issues from which the practice of the project would build a greater awareness. In avoiding GIS ideology, students and professionals can assess the effectiveness of their education without turning themselves into mere representational technicians.

Notes:

[1] http://www.britannica.com/EBchecked/topic/281943/ideology

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Critical Readings: Changing Approaches and Interests in Landscape Education

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Abstract: Although the analysis of completed works and projects is an is an essential basis in the education of architects, strangely, this educational approach is not developed in the teaching of landscape architecture, especially in France. Yet including this in the curriculum at various stages creates a valuable link between conceptualization and practice. By mobilising three specific steps: description and spatial reading, knowledge and surveys concerning the project's creation, critical distance and a theoretical basis, this pedagogical approach provides tools for the students to situate their position in the current debates addressed in the conference. It allows the students to address the major issues raised by the objectives of sustainability: especially that of design and heritage, conceptual as well formal. The presentation will draw on recent teaching experiences at the ENSP and on publications in the section *Under the Sky* in JoLA, *Journal of Landscape Architecture*. It also sets out to examine whether and how project analysis and critical reading is integrated into the curricula of various partner-institutions (Europe-USA).

Keywords: Project Analysis, Case Study, Monograph, Description, Criticism, Design, History, Process

1. Introduction

My objective is to touch upon an undervalued aspect of landscape training, but one which seems to me to be essential. It is the place given to analysing projects and criticizing existing creations within the present educational system. Although this pedagogical tool plays an important role in the training of architects, it seems to be poorly developed in the teaching of landscape projects. We will, however, see that its inclusion in various phases of the curriculum makes it possible to establish precious links between design and practice.

I would like to illustrate how critical reading provides tools for the students to situate their position within current debates and issues, such as those raised by sustainability. Finally, I would like to show that the work on analysing projects is not only a complementary project activity, but that it constitutes in and of itself an unavoidable part of the process. This presentation is the fruit of reflections and works emanating from several different types of earlier experiences: first in the field of education, then in that of publishing operating critiques, and finally within my own research. It also refers to previous presentations at international conferences.[1]

In preparation, I also set out to understand how the analysis of projects and the critical reading of operations are integrated – or not – in the curricula of various European or North-American institutions working in partnership with the ENSP. These different works led me to consider three major phases in studying a creation: description, investigation and interpretation. These notions will structure the presentation of the following elements. First I will evoke the preceding founding considerations; then develop the three phases and the questions they bring into play before returning to former subjects to show how this pedagogical approach supplies students with the tools required to situate present-day issues. Through a few examples we will seek to bring the questions posed by sustainable development into perspective, notably those of structuring design and heritage. But let us clarify from the beginning that critique or criticism is meant not so much in the sense of evaluation or dictating what is good or bad, but in the wider sense of enlarging knowledge. If we accept that landscape is perceived as the translation of a quantity of invisible data, it becomes a question of seeking to decipher the invisible part lying at the source of the visible.

2. Experience: a few antecedents

The presentation relies on experiments carried out to question the reading of creations and reproductions in the publication of landscape projects, notably within the framework of the section of *Under the sky* in JoLA, the *Journal of Landscape Architecture*, and in the training led by the ENSP until recently. Research projects are also briefly evoked.

2.1 Landscape projects in publications

Let us begin by reading International and French publications such as: *Le Visiteur*, Criticat, Paisa, Topos, Landscape Journal, Landscape Architecture Magazine and journals in general. We will then look at my contribution to the *Under the Sky* section of the JoLA review.

2.1.1 Landscape projects in reviews: what kind of critique?

Consulting several landscape reviews of project critiques, whether professional or scientific, calls for a few initial remarks:

It is generally difficult to find unified databases, that is to say, objective "data" concerning an operation brought together in a single publication. Historical and geographical contexts, even if evoked in the text, are practically never shown. This makes it hard to grasp the situation of the site in question within a territorial logic. The design processes are poorly evoked as far as the results or productions themselves are concerned. Instructions are generally poorly defined. In brief, the projects appear as answers to questions remaining implicit, to be deciphered. A more detailed analysis of these, however, remains beyond the scope of this paper. We aim to show students the potential of in-depth work going beyond the presentation provided in the periodicals.

2.1.2 The Under the Sky section in JoLA

JoLA is a peer-reviewed academic journal established by the European Council of Landscape Architecture Schools (ECLAS) in 2006. The editorial team consists of European academics.[2] It has two issues per year and is printed in full-colour. In addition to conventional scholarly articles, it covers two specific sections: the Thinking Eye for design research (visual essays) and *Under the Sky* for critical readings of works.

Under the Sky, of which I am in charge, treats full papers about completed works. These papers can review any place *under the sky*: famous or current sites, ordinary landscapes or emblematic case studies, all over the world. Selection is governed by the expertise of peers. An important rule is that at least one of the reviewers knows the place treated in the article. These papers relate to various subjects, from authors worldwide, most of whom are academics or both academics and practitioners. The author depicts the spatial composition and observes the usual qualities of resistance, maintenance and life following a specific question – a thread.

With my colleague Sonia Keravel, a landscape architect, we have been trying to classify the description modalities, data collection and interpretative methods of these papers. We propose to file them according to the following typology: a descriptive method, a conceptual method, a monographic method and a comparative method. (*Table 1, p.8*). First, in the descriptive method, the objective is to evaluate a project with a wide-ranging depiction, often in the context of a stroll. It is based on the observation and analysis of the aesthetic qualities of the place (formal language, spatial experiments). In most cases the inquiry is nearly impossible to complete: an inherent difficulty in case studies. The research consists mainly in confronting the discourse of the designer and the reality of critical observation in order to evaluate the projects. In that sense, they imply an art history critic's eye. Second, a conceptual method, the goal of which is to propose a theory linked to practice. The project is depicted according to a specific issue and resituated in a political and intellectual context. The authors carry out a detailed analysis of the intentions of the different actors as well as the reception of the project by users and critics. The aim is to conceptualize the practice process. The limit can be focussing excessively on the designer's discourse. Third, the monographic method offers, in the form of a "lesson," the description of a case from which we can draw general principles. The approach is strongly orientated by history and the evolution of the site. The assumption of these papers is one of "learning from," the idea that from an exemplary case one can learn truths that can be universally implemented. It provides very useful studies, but it is not so critical, rather it is a basis for further projects. The last is a comparative method, which explores either several projects at different scales in the same geographical area, or diverse cases about a similar theme. The authors often base their thinking on the political or cultural matters of the projects including the planning dimension, thus widening the question addressed. We will come back to this later. This typological classification clarifies things even though the categories are often more hybrid and intertwined between several types. This section also represents the reflection of the state of the question in the scientific community or the state of its ability to grasp the question of criticism. In spite of our goal for *Under the Sky* to be a common platform for researchers and practitioners, it must be said that we receive few submissions, given the rewards. We do believe that exploring topical questions through case studies gives food for thought in teaching, research and practice.

2.2 Critique and analysis of projects in education

We first evoke our own experience, and then some results from a small survey carried out with our partners.

2.2.1 From the analysis of projects to critical reading at the ENSP, Versailles

Let us now turn to the teaching experiment in Versailles, the "project analysis" program carried out from 1996-1997 to 2006-2007 with the ENSA, Versailles for the larger part of ten years and continued for two years (2008-2010) in the "Critical Readings" module.

This is an optional module for our 3rd year students (i.e. the equivalent of 5th year of higher education) which I conducted together with several colleagues.[3] It accounted for 70 teaching hours, with the students' own work estimated at 160 study hours. It included debating, conferences on the issues of contemporary landscaping, and training in methodological elements. Students could work on their own or in tandem with an architect. The course produced an average of 15 essays per annum. Then architects turned to a three semester course and ENSP to one semester. Our association was kept only for juries. Having set the context, let us now give a few details about aims, methods and results.

The main aim of such work is to encourage students to stand back and distance themselves from the design phase. The idea is to develop a "critical" standpoint, leading students to move beyond *a priori* judgments and to make explicit the elaboration.

Now for the method: students select a strong project-based landscape architecture development; first they visit the site and describe it. They then carry out the survey to collect material[4] and meet the various actors (clients, designers, site managers, residents, etc.) to establish the different opinions on the project. *A priori* positions are challenged by placing the development under review in the wider context of contemporary ideas and projects, as well as by taking the matter of time into account. At the same time, by formulating a question from the very start, the student moves on from the collecting phase to elaborating a subject that will be the guiding light of his work.

The student learns to discriminate between the different lines of argument, be it the commissioner, the designer, the critic or his own. He learns to quote his sources and construct a line of argument using his own analytical drawings as back-up.

Result: this program has produced around 150 short memoires deposited in the CDI at the school, of varying quality, of course. Two principal weaknesses stand out: first the difficulty of accessing information and of welcoming by landscape architects. Certain architects do not accept students carrying out a critical appraisal of their projects and most simply do not have time. Some even feel they are "freely" participating in the development of training.

The other weakness is the excessive use of historical sources if one is not careful. At the outset, the historical dimension was overriding. Some students became a walking encyclopaedia and confined themselves to a knowledge-building exercise, or repeated in awe the designer's theories. One must remain vigilant if one hopes that the studies remain prospective and linked to the dynamics of the project. It is interesting to mention that for the year 2007-2008 this module was placed in the 2nd year (Reading Projects) and was addressed to the whole class in a somewhat different form based on the students' understanding of the different aspects of the production of a project (commissioning, design, reception, management). In a short module (30h), students in groups decorticated one of 12 sites from a common territory: the Bievre Valley and its plateau linked by the green zone of the Val de Marne County to the Lilas park.

The master course in ENSP, TDPP *Théories et Démarches du Projet de Paysage* {*Theories and Procedures of the Landscape Project*}, should also be noted. It proposes the same type of module concentrated on the work of the North Latitude office and is based on an agreement with Professor Vexlard. The main aim is to ask questions concerning the sense of the work. For me, this approach should be considered a "reading" exercise, completing the "writing" exercise of project design (see Corboz, 2001). The analysis must be guided by what is useful to the project. Of course, it is not a question of projecting onto the site studied, but rather of carrying out the analysis thinking about the design. In this sense one can refer to the enlightening work carried out by Georges Farhat on the Terrace of St Germain en Laye (Farhat, 2003).

2.2.2 Project analysis and critique of our partners

Now a few words concerning the survey carried out with a series of ENSP partner establishments. This small survey asked about approaches, methods and contents of case studies and critical readings in their curriculum, including level and assignment. To date we have received around 10 answers from the 30 schools contacted.[5] These showed more involvement with these approaches than we expected–probably the reason why they answered - and their diversity offers possible comments as a basis for further developments. Establishments propose either integrated work, for example in a project module, or a specific and autonomous work.

In the first case, it is a question of determining the project's References: that can be linked to the territorial situation or a specific theme. In both cases it can involve studying reference projects, including historical projects. However this mode will not allow these studies to be deepened as much as might be wished, due to the time needed to address design issues. Some academics (LU, UPC) then advocate developing case studies in separate courses, but aimed at a combined approach between studio and courses generally proving difficult to complete.

Within the framework of autonomous modules, one finds two types of works: some monographic, others seeking critical distance. Most of them are found in history courses for the first approach, and in theory seminars for the second.

History courses rely widely on case studies for teaching as well as for assignment work in many schools (UBC, LU). The case study approach may also concern other units such as site analysis courses or cityscapes and feed unconventional approaches of history teaching, such as those based on retrospective (from the current time to the past) and/or thematic structures (UW, UT).

We may note that, if the expectations of many of these studies integrate archival research, they rarely include interviews or contacts with designers or stakeholders. This also remains the case in the few criticism courses or theory seminars (due to limited time and difficulty to complete).

The case of the ENSAP, Lille, is interesting in that it proposes a module making it possible to sensitize students to a hidden part of projects that are the most advertised: the commissioning, elaboration and mounting of the project. That is to say, briefly understanding what happens upstream of the operation by placing the emphasis on the relationships within the project's organization and its random running. The training invokes a certain level of modesty in the future designer, or at least makes him/her conscious of being part of a complex group of actors and constraints. Another type of exception is proposed at Aalto U where students follow a design-construction process analysis through the making of a diary based on the use of drawings and interviews of stakeholders and designers. In the IMLA joint programme, both German international programs have included a pilot module at the Master's level from 2012, called "Planning and Design Methods." It uses the case study framework based on Mark Francis' method (Francis, 2001), as do others (UBC), and it was adapted there for LE:NOTRE6 in 2008. The module concentrates on analysing present projects through interviews and literary research and visual presentations to further teach the theory and practise of criticism. The studied examples include local, national and international oeuvres to be analysed according to these principles. Others, such as the UPC program, focus on site reading and its reproduction, including corporal and intuitive readings, expressed by conceptual drawings.

Some graduate programs aim at exploring the distance between on-site reading and deeper understanding produced by advanced research (UT, UW), including the use of analytical design as an inventive way to produce knowledge and to link together a retrospective and prospective understanding of places, which is quite similar to what we defend here.

Many assignments will consist in producing short articles, though some do seek different types of production adapted to the specific deciphering completed, such as transposal devices, plays, etc. (UBC) or on-line exhibits (UW). If many advocate a wide use of the visual and graphic dimension, it is difficult to appreciate precisely what it consists of: conceptual drawings after on-site visits, close representation of the current state as a start of reflection, multiple sections of the different stages of the project, production of analytical drawings as part of the discourse. A range of design use thinking is evoked and expected. A specific emphasis is being placed on this aspect at UT and TU and it appears to be an on-going question related to the specific dimension of time in landscape and where the use of new technologies offers a growing field of exploration.

While our small survey cannot fully cover the subject, it does aim at offering a platform for debate.

2.3 Case studies in research

I also base most of my research work on case studies. I was recently involved in a landscape study (Blanchon *et al* 2010) of 280 post-war housing sites, which reflects the way I deal with criticism. Most of these places had never been described. Following a global approach for the 60 places we visited, we identified three levels of reading the landscape, and followed with investigation and in depth survey for a few cases. These three levels: territory, neighbourhood, and practices are all combined in the key description process of criticism, combining historical knowledge and close observation with a prospective understanding of the places studied. At every stage it involves both graphic and literary discourse.

So, as a prospective description, we can say that the studied place is described as a project to illustrate the essence of the place. We can also reconstruct the project's state (from the current one down to the original site). An in-depth survey and its archival study reveal the unexpected steps, surprises, and changes in implementation, where essential parts of a project often lie. Integrating the effect of time and use provides the basic material for a landscape architecture approach inspired by the history of landscapes. Contrary to common belief, landscape architects participated in post-war public housing programs. Such a study opens a wide field for further investigation about heritage and filiation in landscape architecture. We have also proposed a typology of main open spaces at the district level.

3. Knowledge: constructing the critique

We delve deeper into the main concepts associated with the different phases already mentioned. These steps are run in diverse back and forth approaches.

3.1 Description: experience of the site and feedback

Describing is an intentional, problematic act. It engages a relationship between the subject and the object of a description. In "*Description between reading and writing*" Corboz (2001) describes a "reading" operation, which completes the "writing" exercise of design, a "passageway" between the world as reading and the world as writing. The two extremes he points out, (radical ecology and CIAM, International Congress of Modern Architecture) both deal with landscape matters and the post-war period.

The art critic Daniel Arasse, in his book "*On n'y voit rien, descriptions*" (2000) {Nothing can be seen} also bases his work on detailed on-site observation along with a creative use of knowledge.

The works in the field of anthropology by Geertz (1973) about "thick" description questions the limit between description and interpretation. They integrate the historical dimension and usages over a multitude of strata and cultures used in public space. Description is thus considered to be an essential and major operation in developing a creative and prospective understanding of space.

3.2 Reconsider monographs

Monographs, though often discredited in the scientific field, are an indispensable basis for all research work. They are considerably insufficient in the field of landscape today.

Criticism is a cumulative process, which is made up of previous layers of criticism. We need it to compile the history of a landscape competency. To build theories we need several studies on the same place carried out at different times. It also deals with the relationship between action and research, as we also need to understand designed situations and provide the basis for their transformation. Only through multiple monographs can we constitute the necessary level of knowledge that is important locally but also more widely. For instance, it matters in avoiding the loss of emblematic sites as well as in inhibiting the impoverishment of space (*Figs. 1, 2, 3, p.7.).* Criticism contributes to the recognition of the making of the place itself, it may reveal existing but unseen situations and stimulates new ways of transforming them.

In a wider debate it can have an impact on other similar cases. It also contributes to clarifying and passing on what a "landscape approach" consists of. Thus we want to show the potential of the art of landscape.

3.3 Assemblages and networks

Databases: Another aim of the project analysis course was to build a database at our school's library. The work of our students, despite its limitations, will ultimately form a database on landscape architecture at the ENSP library. The ID-files and Summary-files provide a rapid overview of work carried out and give access to quantitative data, which is usually split in several publications. Additional documents, originals or copies used in the research, may be archived at the ENSP and used for future work.

This database implies the diffusion and sharing of the studies at several levels. In the United States, landscape architect and professor Mark Francis has developed reflection and work on these subjects in connection with teaching establishments and professional organizations.

Multiplying monographs will make it possible to compile a "history of the history" basis for constructing theories. Linking case studies to wider debates involves a network of knowledge within a community of researchers and practitioners, to which JoLA and *Under the Sky* contribute –through the use of comparisons in criticism. Through a process of "assemblage," the critic re-assembles several cases and critical readings with a view to a specific purpose.

Typologies: This also applies to our typology for post-war housing for instance. The landscape typology we tested on open space forms is based on case studies that can be re-used as elements for other purposes, according to the needs and questions. Hence, landscape can be a means of addressing specific aspects, such as common spaces for living.

We are also actively engaged in setting up the Archives of Landscape Architects collection together with the Archives Centre of the Yvelines-Versailles County. I would like to draw your attention to this new opportunity. Most landscapes architects simply throw them away. We have already collected the fund of Jean Camand (1924-1989) who worked in Sarcelles (95), and we are about to receive another one. With new technologies, these new opportunities are expected to find new possibilities.

4. Critique, questions, interpretations

Analysis and criticism of projects enables the formulation of several types of questions:

4.1 Upstream of the project, strategies

The most common questions raised by critique, for example in the articles of JoLA, concern the role of commissioning and public policies in the projects. Students are guided to pay attention to this point in the course proposed by ENSAP in Lille. It generally intends to point out a lack or an original exception to this lack of landscape matters. This means that we question landscape projects in terms of strategy and process more than in their design dimension. This upstream part of the project is sparsely addressed in teaching.

Without opposing them, but rather aiming at clarifying their relationship, design remains as much an upstream demand, an essential aspect to deepen because assessment –and use, develops primarily from the perceptible dimension.

4.2 Critical apparatus

Critical reading is led via opposing, yet inseparable categories: Construction/ Deconstruction, Rapprochement/ Distance, Scientific Objectivity/Intuition. In relation to criticism itself and its modalities, authors rarely express their critical method. In my view, it is an open question for the academic and professional community in the field of landscape architecture. What would characterize a specific critical device for landscape architecture? In situ experience plays an important part and would need better conceptualization. Something near to « practical thinking » (Latour, 2012), and dealing with this fragile and unforeseeable matter, at the heart of landscape projects: a living and changing material, only accessible through experimentation. We must add the idea of graphical discourse, that of the "thinking hand". Another essential aspect is integrating the time dimension, cumulating in a retrospective and a prospective approach. Any given situation stands in a timeframe between past and future. This leads us to the way environmental matters impact on landscape architecture today.

4.2 Sustainable appearance of the unforeseeable

Sustainability challenges the design of the project, first by rubbing it out for a « naturalistic » aspect. Is it possible, from these environmental matters to question this naturalistic expression? Reference examples of urban landscape (from Olmsted to Alphand) do cultivate this romantic relationship with nature. Could we go beyond

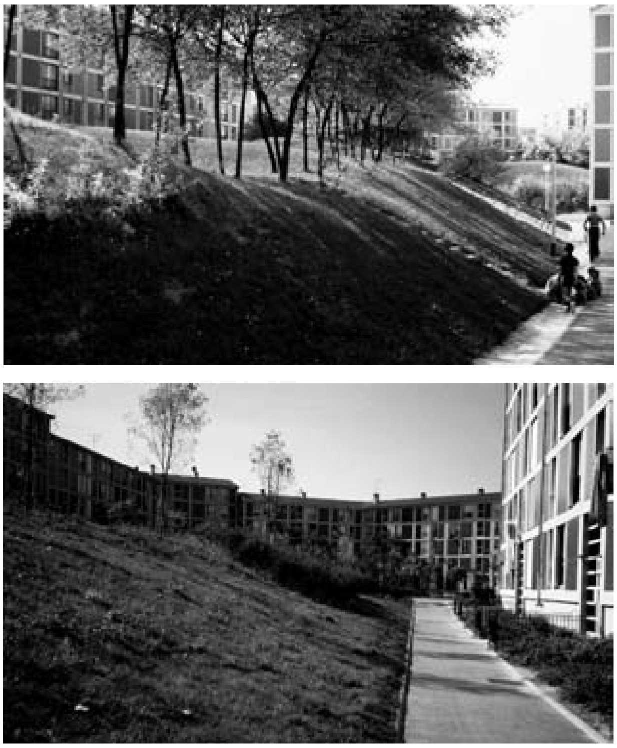

Fig.1, 2. Les Chatillons, Reims, Jacques Simon, Landscape Architect, 1968, Views in 1990/2000. Photo 1 A. Chemetoff, 2 B. Blanchon.

this old debate between naturalistic and artificial geometry, for a reflection about what is needed to keep the essence of the project when precisely, you cannot control evolution? Another famous designer, JCN Forestier (1861 -1930) would « wave the vegetal material within an architectural frame ».

By studying examples we also gain empirical knowledge. Projects are meant to include changes. E. Meyer in her Manifesto for sustainable beauty (2008) evokes many alternatives to naturalistic design, which are linked to a new relationship with nature based on "resiliency, adaptation and disturbance."

Along La Defense axis, we find several parks: Parc André Malraux (designed by Sgard in 1970) with its naturalistic mood characterizing the 1970's to compensate the urban density; in *Jardins de l'Arche* (designed by Clément and Geoffroy Dechaume in 1981-1992), the aim is to re-create an equivalent to natural interactions found in nature and lastly the *parc du Chemin de l'île* (designed by Acanthe, then Mutabilis 1999-2006). In this park -as in the recently completed Plateau de Hayes in Nancy (designed by Chemetoff and Associates, 2010) we find two different ways of presenting environmental devices: on the one hand it looks like a "wasteland" in natural conditions, on the other, the recycling of water follows a very geometrical design. In the setting of the new Croix Bonnet district in Bois d'Arcy, (Coulon-Leblanc, 2012) one can see a regular frame which is progressively invaded by nature in a kind of hybrid way, where environmental strains renew the design of public space.

These acknowledge Meyer's statement for the landscape project as the concrete translation of sustainability and the best means to disseminate it much more efficiently than any other discourses.

4.3 From stories and histories to history

We certainly do need to recognize the importance of history when assessing a project. But the main purpose is to build a history of urban landscape architecture through landscape projects via questioning landscape projects – both locally and globally. Every project is both rooted in the place itself and in a wider network be it thematic or diachronic, as part of the production of a given time and of a chronology. Thus we can also consider heritage/legacy and filiations better both locally and globally, in France and abroad. We can aim at building a genealogy of landscape competency. This genealogy can consider this legacy in terms of commissioning, site qualities, process, design… but also as a way to address sustainability matters notably in project design. Thus this could become a history of urban planning through open spaces and landscape in their social, environmental, economic and designed/ spatial dimensions, based on a shared network of knowledge between the academic world and professionals!

Notes:

[1] « Under the French Sky », with S. Keravel, ECLAS Conference, October 2011, *Ethics and Aesthetics*, Sheffield University ; symposium *Writing Urban Landscape : Criticism now !*, UPSTATE, Syracuse University, April 12th, 2012.

[2] From 2006 to 2012, the Editorial team included: Bernadette Blanchon, Catherine Dee, Malene Hauxner, Karsten Jorgensen, Martin Prominski, Bianca Maria Rinaldi, and Kelly Shannon.

[3] Teachers involved from 1996 to 2010: Bernadette Blanchon, Georges Farhat, Sonia Keravel and Janine Christiany, Catherine Chomarat-Ruiz, Stéphanie de Courtois, Pierre David, Denis Delbaere, Pierre Donadieu, Dominique Hernandez, Corinne Jaquand, Guillemette Mouterde, Bruno Tanant, Annette Vigny.

[4] Archives, cartography, project files, articles, publications, etc.

[5] Ecole Nationale Supérieure d'Architecture et de Paysage de Lille (ENSAPL), FR; IMLA by Nürtingen-Geislingen University and Weihenstephan-Triesdorf University of Applied Sciences, DE; Technische Universität, Berlin (TUB), DE; Aalto University (AU), School of Arts Design and Architecture, FI; Universitat Politechnica de Catalunya (UPC), Master Universitari de Paisatge, Barcelona, ES; University of British Columbia (UBC), School of Architecture and Landscape Architecture, CA; University of Washington (UW), College of Built Environments, US ; University of Toronto (UT), Daniels Faculty of Architecture, Landscape and Design, CA; Lincoln University (LU), NZ.

[6] LE:NOTRE : Landscape Education, New Opportunities for Teaching and Research in Europe, a thematic Network funded by Europe since 2003.

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Topos, 2012, The World of Landscape Architecture. 20 Years of Topos, collectif, Munchen, 80:111.

Table 1 : JoLA, Under the Sky papers, Spring 2006-Spring 2012

JoLA	**Title**	**Author**	**Site**	**Designer**
JoLA Spring 2006 **Conceptual**	*When landscape designs public space, the Plaine du Grand Tournat, Lille*	Denis Delbaere France	Plaine du Grand Tournant 2004-2005 Lille, France	Gilles Vexlard, Latitude Nord France
JoLA Autumn 2006 **Conceptual**	*Thoughts on the relevance of landscape architecture: the Berlin TDP and SP criticized in the context of the unifying capital*	Noel Van Dooren Netherlands	Spreebogen park, 2003-2005 and Tillia Durieux Park, 2000-2003 Berlin, Germany	W+S Landschaftsarchitekten, Soloturn, Switzerland with Gruppe F, Germany And DS Landschaftsarchitekten, Amsterdam, Netherlands with T. Dietrich, Germany
JoLA Spring 2007 **Descriptive**	*Complex concepts and controlling designs, Charles Jencks' Landform at the Scottish National Gallery of Modern Art, Edinburgh*	Catharine Ward Thompson Scotland, UK	Landform at the Scottish National Gallery of Modern Art, 2000-2002 Edinburgh, UK	Charles Jencks, Portrack, Scotland, UK with Terry Farrell and Partners, Edinburgh, UK and White Associates, Stirling, UK
JoLA Autumn 2007 **Descriptive**	*Landscapes of metropolitan hedonism. The Cheonggyecheon linear Park in Seoul.*	Bianca Maria Rinaldi Italy/ Austria	The Cheonggyecheon linear Park, 2003-2005 Seoul, Korea	Seoul Urban Development Authority
JoLA Spring 2008 **Comparative**	*The Urban as Infrastructural landscape. Open space and infrastructure networks in the Val de Bièvre metropolitan area (Paris)*	Georges Farhat France	Several projects along the Bièvre 1990-2008 Bièvre river Valley, France	A Chemetoff, Bureau des Paysages. AFEA- DSEA –DEVP du CG 94 Val de Marne County
JoLA Autumn 2008 **Comparative**	*Sandstone and rust:* *Designing the qualities of Sydney Harbour*	Julian Raxworthy Australia	Yulrubin Park, 1974-1977, Former BP Park, 2003-2005, Glebe Foreshore Walk, 2007, Shipwreck Lookout, 2005 Sydney NSW, Australia	YP: Bruce Mackenzie & Associates, Sydney City Council, F BP P: McGregor + Partners, GFW: JMD Design, SL: Neeson Murcutt Architects
JoLA Spring 2009 **Monographic**	*Two squares in Helsinki: a biography*	Marc Treib USA	Senate Square and Kauppatori Market Square, 19th century Helsinki, Finland	Senate Square: Carl Ludwig Engel, Market Square: Johan Albrecht Ehrenström
JoLA Automn 2009 **Monographic**	*The Sadabad Park project in Istanbul-balancing garden heritage conservation and contemporary park design*	Hayriye Öztürk Turkey	Sadabad restoration Project 1997-2007 Istanbul Turkey	Istanbul Metropolitan Municipality
JoLA Spring 2010 **Descriptive**	*From public garden to corporate plaza: Piccadilly Gardens and the new civic landscape*	Rowland Byass United Kingdom	Piccadilly Gardens 2001-2002 Manchester, UK	EDAW, UK with Tadao Ando, JP and Chapman Robinson, UK
JoLA Autumn 2010 **Conceptual**	*Place Emilie-Gamelin in Montréal-landscape narrative, meaning and the uses of public space*	Nicole Valois, Josiane Paradis Canada	Place Emilie-Gamelin 1991-1992 Montréal, Canada	Peter Jacobs with Philippe Poullaouec-Gonidec, Canada Artist: Melvin Charney., Montréal, CA
JoLA Spring 2011 **Comparative**	*Hidden meanings, obvious messages: landscape architecture as a reflection of a city's self-conception and image strategy*	Constance A. Petrow Germany	Magellan-Terrasses, Marco-Polo-Terrasses, Vasco-da-Gama-Plaza and Dalmannkai in HalfenCity, 2004-2007, Hamburg; Main promenade, Westhafen promenade, Frankfurt; Spree promenade, Berlin; Germany	EMBT, Miralles and Tagliabue, Spain With WES & Partner, Germany; Frankfurt Open Space department and many private LA Offices (Main P) Gast & Leyser, Berlin (Westhafen P); I. Alkewitz, Berlin, Gruppe F, Lutzow7, Berlin, Keinast, Vogt and Partner, Zurich, W+S, Switzerland
JoLA Autumn 2011 **Monographic**	*Gardening forms: landscape architecture and gardening in Sven-Ingvar Andersson's garden at Marnas*	Julian Raxworthy Australia	Sven-Ingvar Andersson's garden 1957- Marnas, Sweden	Sven-Ingvar Andersson
JoLA Spring 2012 **Conceptual**	*Processing Downsview Park: transforming a theoretical diagram to master plan and construction reality*	Alissa North Canada	Downsview Park 2005-on going Toronto, Ontario, Canada	Bruce Mau/ Rem Koolhas/ OMA/ Oleson Worland Arch./ Horst Dickers/ SNC-Lavalin Engineers and PMA L Arch./ David Anselmi/ MMM Group/ Ian Gray/ Janet Rosenberg and Asso./ Ian Dance & Li Wang/

Study on the Conservation of the Historic Stone Wall as a Cultural Landscape in Sotome, Nagasaki, Japan

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Abstract: A large number of historic stone walls in the Sotome district of Nagasaki are made of rough-cut black schist stones, forming an important part of the cultural landscape of this area. Although most of the stone walls are the private property of local residents, they are also common goods as they belong to the cultural landscape. However, some of them lack maintenance, while others have been strengthened by concrete instead of the original adhesion. In order to preserve the local cultural landscape, including the historic stone walls, the World Heritage Register Promotion Office was set up by Nagasaki Municipal Government. A Committee consisted of residents and experts was set up in 2008 to carry out relevant scientific research. The Office regularly introduces the protection policies and research results from the Committee to improve the protection awareness of the residents.

Keywords: conservation, historic stone wall, cultural landscape, resident participation, Sotome district, Japan

1. Introduction

The Sotome district of Nagasaki, Japan was an important area for the propagation of Christianity in history. Many historic structures and cultural forms survived and formed a remarkable landscape. Churches and villages in this area are an important part of "Churches and Christian Sites in Nagasaki", which is in the tentative lists of World Heritage. The "Cultural Landscape of Stone walls and Villages in Sotome" has been selected as "the Cultural Properties of Japan" in September 2012.

Most of the stone walls are local residents' private property, although they should be regarded as a common good for their outstanding value as an essential part of the regional cultural landscape. However, some of the stone walls are short of maintenance, while some were repaired and strengthened by concrete or other modern materials instead of the original adhesion. This situation is set to perpetuate itself with the reduction of stonemasons and the passing on of the aged residents.

Therefore, how to improve conservation and recover the original landscape becomes a challenge to the local government. In 2007, the World Heritage Register Promotion Office of Nagasaki was set up by Nagasaki municipal government to take charge of the governance of all cultural heritages in the region. In the following year, the Office set up a committee consisting of experts and residential representatives to carry out scientific research on the cultural landscape of Sotome district. The research results, together with the cultural landscape policies are introduced to the local residents in regular seminars held by the Office and local community. These events improved the residents' protection awareness of the cultural landscape, ensuring a smoother implementation of the protection measures and policies. Some stone walls have been repaired under the agreement between the Office and their owner, while some others are still in process.

This paper introduces the history and technique of the stone walls of Sotome district and illustrates their outstanding value in forming the cultural landscape. It focuses on the management methods used in the conservation of these historic stone walls which belong to local residents, especially the participant system for local residents.

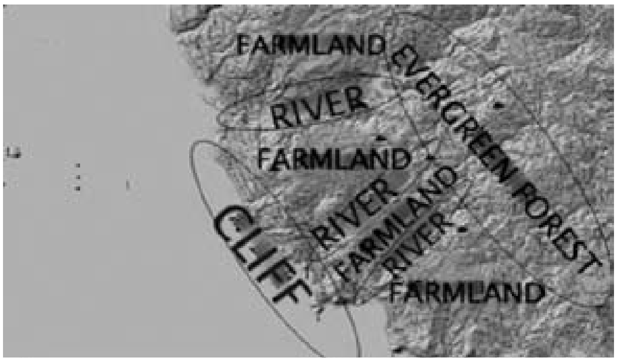

Fig. 1 The landscape structure of Sotome district

2. The cultural landscape of stone walls and villages in Sotome district

Sotome district is located in the southwest of Nishisonogi Peninsula as shown in *Fig. 1*. It is a hilly area along the southwest coast of Japan, surrounded by evergreen forest. More than 20 villages are dotted in valleys, most in the eroding banks in the south side of the rivers (Hirano 1974).

The villages can be classified into farming villages and fishing villages:

1. Farming village. This is the main village type in this area. Every village has a well-developed irrigation system, located in the mountains or near the estuaries, characterized by terraces and paddy fields. Most of the buildings and farmlands in this type of village are made of the local stone: the black schist stone (*Fig. 2*).
2. Fishing village. These villages are near the seaside, with most villagers being fishermen. These villages developed rapidly in the 1960s because of the prosperity of fisheries and the coal mining in the nearby Ike Island. Thus, besides the original stone structures, many timber buildings were built in this period (*Fig. 3*).

Villagers in these two kinds of villages inherit their life-style, production mode and techniques from the Edo period (1603-1868), including the traditional construction techniques. The unified historic structures made of the special black schist stone in each village together with the natural surrounding form an unbroken landscape of this area.

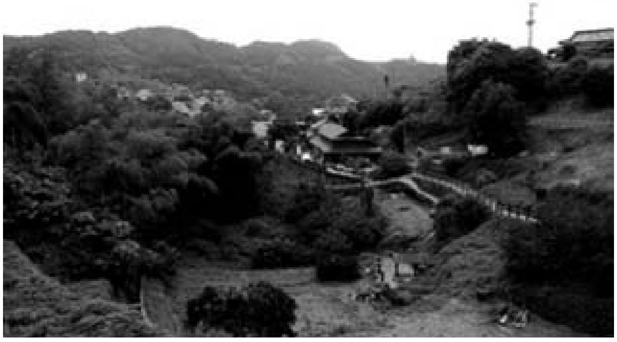

Fig. 2 The landscape of a farming village

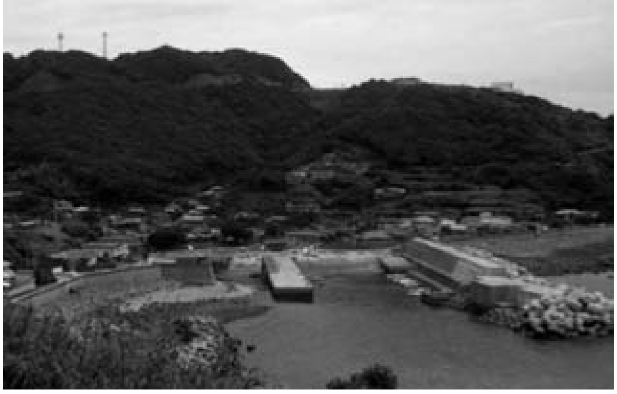

Fig. 3 The landscape of a fishing village

3. The historic stone wall in Sotome district

3.1 General description

Stone wall is a main architectural form in Sotome district, including the retaining walls, windbreak walls and building walls. Most of them are made of black schist. According to a previous investigation, there are 358 black schist stone retaining walls (the Committee 2008).

The majority of the walls are in good condition (*ibid.*). However, due to the lack maintenance, some walls are completely covered by luxuriant plants growing in the gaps (*Fig. 4a*). Some walls were repaired with concrete as an adhesive, on behalf of the owners. The sharp contrast between the black schist and the gray concrete destroys the original texture of the walls (*Fig.4b*). In addition, many new dwellings were built by granite instead of black schist. These disturb the harmonious appearance in correspondence with the surrounding environment.

Table 1. Research results

	Number	Rate
Walls that lack maintenance	30	20.3%
Walls repaired with concrete	8	5.4%
Total	38	25.7%

Research carried out in 2009 surveyed 148 stone retaining walls of 7 villages in Sotome district, classifying them in "walls that lack maintenance" and "walls repaired with concrete". According to this investigation, 20.3% walls need maintenance, while 5.4% walls were repaired with concrete. Most of the stone walls are in good condition, while some of them are need to be repaired and maintained with the original material.

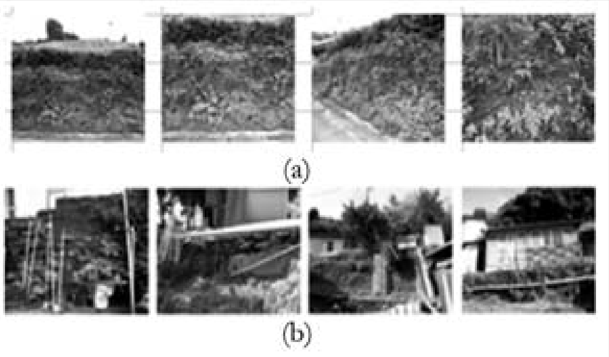

Fig.4 Photographs of two stonewalls

3.2 The historic stone wall in Sotome district as a common good

The historic stone wall is tangible evidence of a living, yet intangible, construction technique, which formed in Edo period and is still in use today. It is also tangible proof of the unique history of Christian transmission and development in Sotome district. The walls are widely present throughout the whole district. Their uniform gray color, special texture and irregular shape establish the unadorned fundamental key issues and atmosphere of the landscape of Sotome district. As time passed, the edges of black schist were smoothed by weathering and growing grass in the gaps of the rough-cut stones. These make the historic stone walls more in harmony with the surrounding nature, bridging the cultural landscape and natural landscape in Sotome district. On the other hand, the walls play an essential role in the residents' daily life. It is also an important sightseeing destination that could benefit from local tourism development.

Most of these historic stone walls of Sotome district are local residents' private property. However, as discussed before, they should be considered as a common good of the whole district. It is a collective memory and a shared resource of all the residents in Sotome district.

4. Governance of the historic stone wall

4.1 Conservation policies for the conservation of the historic stone walls

The Japanese central government encourages the conservation of cultural landscape. The municipal government of Nagasaki has issued policies for the cultural landscape of Sotome district, including the following three principles:

1. The conservation of cultural landscape should be based on the sustainability of the current lifestyle and production activities of the local residents.
2. The owner must discuss and reach an agreement with the Nagasaki municipal government before carrying out any activity on the stone wall which would impact "Stone Culture".
3. If the impact is considerable, it must be reported to the official of the National Agency for Cultural Affairs, Japan.

Since most of the stone walls are private property, the question of how to protect them and how to recover the original landscape is a challenge to the local government.

4.2 Establishment of the governance administration

In 2007, the Nagasaki Municipal Government established the "Promotion Office for the World Heritage Registration of Nagasaki City" (the Office, in short). One of its major tasks is the governance of heritage sites in Nagasaki city, especially the cultural landscape in Sotome district.

In 2008, the "Committee of the Conservation Planning of the Cultural Landscape in Sotome District" (the Committee in short) was formed by the Office. The committee is made up of representatives of the residents and relevant professional experts. The Committee will carry out scientific research on the cultural landscape in Sotome district and demonstrate their value, selecting the important cultural landscapes and developing management plans.

4.3 Research and meetings

The Committee has held nine meetings since 2008. In the first meeting, the values of all of the resources and the characteristics of the cultural landscape of Sotome district were discussed. All members agreed that the "Stone Culture" represents the core value of the landscape in Sotome district, which is embodied by its historic stone walls in the villages.

The Committee and the Office have carried out an investigation of the existing stone walls in the whole area to get basic data and status quos. Another investigation surveyed 148 stone retaining walls in two major villages. Photos of these walls both in whole view and in details are listed in a document which reflects their current conditions (Chen 2011).

4.4 Residents' participation

Considering the historic stone walls as a common good of Sotome district, the Office pays particular attention to the opinions of local residents when making decisions. The Office also encourages the participation of local residents in the conservation and promotion work in various forms.

The first explanatory meeting of the Office was held in October 24, 2007. In this meeting – in which the Nagasaki Governor and other relevant officials participated – the Office proposed that the management plan and regulations of the conservation of the cultural landscape of Sotome district should be developed on the base of the understanding of local residents. The Nagasaki Governor proposed in his concluding remarks that the support and enthusiasm of local communities and residents are very important for the work of the World Heritage application.

One month later, the Office organized the First Headquarter Meeting, the attendees including the Nagasaki Governor, the Deputy Governor, the Educational Director, the Culture and Sports Promotion Director, the Tourism Promotion Director of Nagasaki Province as well as other relevant officials. In the meeting the main discussion issue was "how to improve the awareness and understanding of local residents about the World Heritage and the promotion work of the cultural landscape in Sotome district for its register of World Heritage". As a direct result of these two meetings, the Committee was established in May 2008, in which the resident representatives can present their opinions to experts and officials, and investigation and research work can be carried out on the consideration of these opinions.

A questionnaire survey was carried out to understand the opinions of local residents for the "charm" (which means the core value here) of Sotome district and how to take advantage of it. A total of 976 residents were interviewed, among them 94% respondents thought that "landscape" was the charm of the area, and 51.9% respondents believed that it was necessary to protect the landscape of Sotome district. Subsequently, the Office together with local communities held series of relevant seminars for residents, which are called "the explanatory seminars about the cultural landscape in Sotome district". To this day five seminars have been organized. The definition of cultural landscape, the research and discussion results of the Committee, including the result of the abovementioned questionnaire survey, have been presented to residents by chart, photographs, maps and other concise and explicit forms. The Office also published the standards of important elements that form the cultural landscape of Sotome district, including the "Neribei buildings" and the "stone retention walls of important residential land and farmland".

Fig. 5 Local residents in a symposium of the cultural landscape held by the local community (photo by the Office)

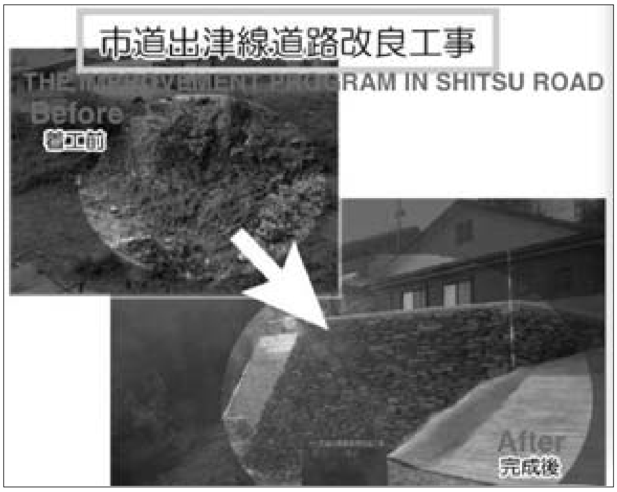

Fig. 6 A stone wall before and after maintenance and recover (photo by the Office)

In the fourth seminar, the Office stated that "in the future, we will discuss how to maintain and use the landscape resource with everybody (who live in Sotome district)", and published its scheme of relevant organizations that might be established in the future. According to the scheme, two kinds of organizations, which are experts' organizations and regional organizations, might be established to provide suggestions and comments for the protection policies and solutions for the cultural landscape.

Moreover, the local community has organized various symposiums and learning tour activities almost every week to arouse hometown love and protection awareness of the local residents. For instance, in the symposium held in June 2011, participants had a field survey of farmland and stone retaining walls, and then shared their opinion and impression. Similar events have been held for local children as part of their extracurricular activities. Figure 5 shows the scene of a symposium of the cultural landscape held by the local community.

The abovementioned series of events has shown its early effects. Some stone walls have been repaired and recovered to their original appearance by the Office with the agreement of their owners. Figure 6 shows a stone wall before and after the plants removed and the appearance recovered.

The future plan of the Office aims at the maintenance of the important cultural landscape, including restoration and disaster prevention of the historic stone walls and buildings, and the use of cultural landscape as a tourism resource.

5. Conclusion

The historic stonewalls made by black schist are present in all 20 villages of Sotome district. They are tangible evidence of the living intangible construction technique and the unique Christian transmission and development history in Sotome district. Though most of them are the private property of local residents, they should be regarded as a common good due to their outstanding value as an essential element of the cultural landscape.

The majority of the stone walls are in good condition, while some of them are short of maintenance or have been repaired or strengthened by concrete or other modern materials instead of the original adhesive. Therefore, their conservation is a challenge to local government.

In 2007, Promotion Office for the World Heritage Registration of Nagasaki City was established to take charge of the governance of heritages and sites in Nagasaki city, especially the cultural landscape in Sotome district. The Office has carried out various measures to encourage the participation of the local residents. The "Committee of the Conservation Planning of the Cultural Landscape in Sotome District", composed of resident representatives and relevant professional experts, was founded for scientist research on the cultural landscape. The research results of the committee, as well as the cultural landscape policies, are presented in seminars held by the Office and the local community regularly. Moreover, the local community has organized various symposiums and learning tour activities almost every week to arouse the protection awareness of the local residents.

These events make the implementation of the protection measures and policies smoother than before. Some stone walls have been repaired by the Office upon agreement with their owner, while some others are still in process. Because of the endeavor of the Office, the "Cultural Landscape of Stone walls and Villages in Sotome" has been selected as "the Cultural Properties of Japan" in September 2012.

The future plan of the Office aims at the maintenance of the cultural landscape in Sotome district, including the restoration and maintenance of all the historic stone walls, starting with the important ones, in order to use as a tourism resource.

With the reduction of stonemasons and the old generation of residents passing on, the trend of using concrete or other modern material to repair the stone walls would continue in the future. Actually, there are more and more concrete or granite buildings and retaining walls appear in this area. How to encourage the participation of the younger generation in the conservation of the cultural landscape, and how to protect the traditional lifestyle and production mode of this area, are questions which require further research in the future.

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A Plane of Consistency for the Landscape: the Body as a Documentary Tool

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Abstract: Does the landscape need to be linked to be present as a form of awareness? Does the body cooperate with the exterior in constructing liveable spatial and temporal coherence? It is the very possibility of our own body which makes interaction possible. Hence the question as to how my body can dispose of the landscape. The methodological elements in the present landscape didactic are: commitment, personal recognition of perception, announcement and production. The journey and experience of contours make it possible to unravel the concrete constitution of a space. Its edges will contribute as fully to its exploration as will its practices and uses. When the landscape and urban zones are conjectured as material and immaterial interrelationships of things and beings, students do not speak of objects but rather of relationships experienced within the mobility of time and the continuity of space. A means of conceiving the landscape is thus established.

Keywords: Body – access – landscape – pedagogy – in situ experience – movement

The landscape is conceived of here as being a plastic, cosmological and spatial expression of the milieu affected by the bodily reality of living beings. My research questions the nature of the attachments seemingly linking the landscape to the body or bodies, expecting to build a level of consistency (Deleuze, 1996) for the landscape.
Can the body and the landscape be viewed in a reflective form of the subject/object type? The conference title cleverly includes "and," that is to say a connector between landscape and imagination. But can this separation be reduced? What are the routes leading from a materialisation of the landscape to its mentation and/or the reverse? What tools and methods do we have to validate our interpretations?

1. Establishment of the context

1.1 Joining

The study of landscape cannot proceed without both the terrain and its occupants (amphitryons or guests). It echoes the brutality of the effect of bodies moving through a living milieu. It is this association of presences that gives form and material substance to landscapes and it is the basis from which we can work. In an initial procedure of contact we will reconsider the landscape from its concrete base, returning to a preponderance of elementary matter in movement which takes form beneath our footsteps and is humidified by the dampness of our eyes.

1.2 Mobility

A second, more collective initiative will combine mobile productions. A landscape hodology (Besse, 2010) recomposes mental and physical journeys as geography. Borrowing these routes, JM Besse attributes a "potential for differential spatial experience" to the place. This capacity emanates from the terrain.
At the same time, the body tests its own capacity to experience the site and in so doing becomes unsettled. In this mobile duality the possibility of landscape rather than *a* landscape is created. Such a possibility exists only insofar as there is agreement and a real presence which re-disposes itself at every instant and in every act of the proposition: progression towards the landscape. This procedure cannot rely upon an individual or isolated appreciation. It engages both the body and bodies at once and the same time. It is their perturbation which describes the conjoint awareness (Canetti, 1960).

Fig. 1 Producing in motion. (FC)

1.3 Collecting the landscape

Finally, in a third movement, the source of landscape self-consciousness is sought, a form of consciousness not to be confused with the body, which makes it landscape. Turning towards a restitution of the conjoint awareness of the landscape, Michel Collot (2011) and Catherine Grout (2004) construct postures based on thought or emotion. Here, I hope to bring to light a bodily form of the active presence which allows the landscape to give itself full existence. Pedagogical experiences will commit me step by step with and along with my interlocutors to identify and recognize a landscape.
With a view to exploring how the conjoint awareness is generated, one observes how we oscillate between action and state, fluctuating between conquests and revelling in delight. The trial is played out on the organic capture (bodily, vegetative) of space and time leading elsewhere. We move towards the construction of a plane of consistency (Deleuze, 1996) upon which a desire for landscape can be based. Given the landscape's appearance (Dagognet, 1982), the demands of access to it have been modified. Initially dependent upon the image and based solely upon vision, it has since become immersed in a milieu requiring multi-sensorial capture. The advent of New Information and Communication Technologies

(NICT) has added to our physiological captors of sensorial palpitations which are directly and immediately linked to our organs. Our digital extremities open doors, site visits are downloaded, our ears are cabled throughout the day. The body separates from daily life while art beckons us towards an increasingly collective participative pathway (Ardenne, 2010). This interesting contradiction of the body having become an object absorbed into the landscape invites us to reconsider the alliance between humanity and the landscape. The landscape will have its property conferred upon it through a peripheral approach.

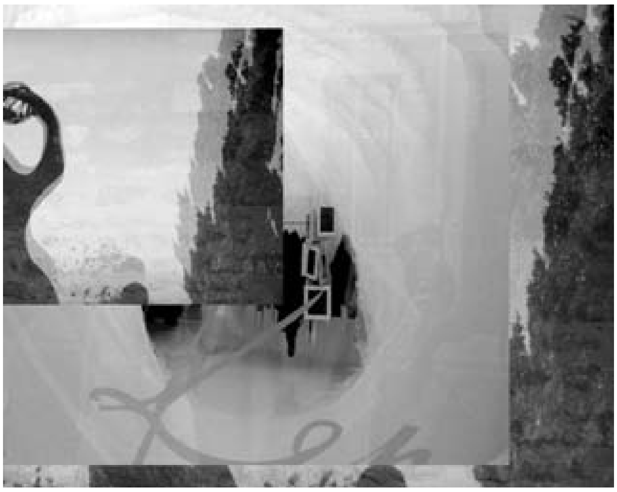

Fig. 2 Approach from physical to mental

Immersion of the subject into the same movement will also revoke stable positioning and unequivocal critical orientation. The landscape takes on value only upon enactment of its presence or absence.

2. The game

The play is enacted with "committed" actors (students, users or technicians ask questions about the transforming landscape) during a time frame (from a few hours to a few days) in a space (covered on foot) and in a manner (which I accompany) proposed to reach the landscape. The exercise is still being adjusted, but it has given promising results several times in this form (Ensap-Lille 59, FN-CAUE Achères 78, Velle sur Moselle 54, ENSP-Versailles 78).

2.1 Act 1: The contact, listening to our senses

2.1.1 Contact

It consists first of a brief presentation and a preliminary question addressed to each participant in advance in written form. Regular attendance at the program is of crucial importance.

2.1.2 Placing into perspective

Here we consider that the simple fact of taking bodily control of a site or terrain gives us a perspective of it as well as of ourselves in it. This will be explained several times during the elaboration of the work.

2.1.3 Equipping oneself – preparation

Heading for, towards or into a landscape must necessarily be rooted in a voluntary choice, the consequence of which consists in "apprehending:" Will we gather, capture, affront, fear or conceive? In order to support this question, we can propose a list of material and concrete things to take with us, for example a walking stick made of a specific material, of a certain thickness and with a certain history. Through it, we question our body and the thing we seek to capture, in this case the landscape. It is common practice to take an umbrella on rainy days, that is to say, "foresee to place our body at an 'announceable' physical distance." A physical prosthesis, an apparatus to stimulate our perceptions and memory (glasses, binoculars, photos) also offer extremely precious indications of the way our own body examines that which will become landscape. This preparation is a sort of preliminary exercise to check resistances. It serves as a pretext for an exchange of viewpoints among the participants, each with an evocation of the question which makes it possible for them to first clarify for themselves their personal approbation. Approaching a terrain means asking oneself how we render ourselves available. We start with three exercises for formatting and posturing.

2.1.4 Exercises for formatting and posturing

2.1.4.1 The exercise of looking at

Here it is a question the back and forth movement between the element to observe and the most open and direct manner to do so. Representations are produced to concentrate "moments" and collectively exchange perceptions with one another. Work on the loss and recapture of images and representations is carried out together.

2.1.4.2 Eating a small fruit in a fully conscious state

In order to build the relationship between the body's internal space and the outside, we propose a slow and rhythmic ingestion. The different steps are guided: *1) Hold it in your hand. 2) Look. 3) Touch. 4) Smell. 5) Put it in your mouth. 6) Taste. 7) Swallow. 8) Follow.*
Attention is focused on the succession of feelings throughout this experience.

Fig.3 Touch & Smell (BV)

Once the practice has been carried out, we gather observations on the practice itself, the discoveries, the surprises and the possibilities the activity opens up on questions of perception. When it is the case of moving towards a landscape of the region in which we find ourselves, it can be interesting to link the product from its journey to arriving in our stomach: a chain of landscapes is evoked.

2.1.4.3 Circulation of air within and without

The starting posture (anchoring and settling) is presented as a ground-air relationship borrowed from yoga, as a preliminary to movement. In this position, one works on becoming conscious of the air circulating everywhere, penetrating the nostrils, then into the lungs, and entering into a relationship with the different organs. The perceptions are focused on breathing. It is during these instructions concerning air that we approach the consciousness of air in matter. We evoke elementary circulations and correspondences, transport of matter and exchanges. Air is used to carry the voice as one of the students exclaims a litany of "I am here." The scansion of the sentence is heard by the group and the speaking participant continues until he, too, is conscious of his own voice.

2.1.4.4 The landscape in question

For each adventure we carry out a new quest for terrain. One must remember that a terrain is not a landscape, and our first procedure will be to give it an assessment area. Its limits are situated between those proposed by the order, my own, those of my various interlocutors on the day in question and those pertaining to the circumstances of the visits.

Fig. 4 Questioning the site. (FC)

The terrain is not designated by the foreman, nor by the teacher, the cadastre, property limits, or even a dangerously muddy surface… The idea starts out with a destination, that is to say, it aims for a point or stopping area corresponding to what is in question (*e.g.* urban sprawl). What is important is to let the circumference of this area fix its own size. Everything that bothers or delights me during my own passage will be included in the descriptive frame. Sharing this appreciation of the landscape concerns me just as much as defining the landscape itself as the appreciation is precisely the ultimate goal.

2.2 Act 2: Producing in motion

During the preparation, representations are supplied and evoked, images move and are modified in accordance with the exchanges. Group cohesion is based on this sharing of mental, imaginary, experienced or fictive images. The work proceeds by several participants starting to move in unison, implying an organisation of form and temporality. The circling is the first form of production. This continuous processional experience recreates the conditions of instability corresponding to production towards and outside oneself: the procession draws as the imaginary floats. With no discontinuity, one oscillates between the awareness of what is happening with the images and with the facts.

2.2.1 The surrounding

This work concerns that which is of the peripheral order, beyond the essential and beyond the centre. It is both the way in which the subject is approached and the drawing of the fuzzy ring representing the itinerary encircling the worksite. It is proposed that the surrounding be considered and treated as a coalescent envelope.

2.2.2 The thing

We will abstain from labelling: bushes, plots, factories, vegetable gardens, apartment buildings … They will not be named or distinguished. Designation terminology will not be used (the plot to the right of the square), nor will names (Roger Salengro Street). That which is taken into account will be designated as the "thing." The thing will never be described in the classical sense, but merely convoked. It will be mentioned as a living presence arousing emotion or even reactions but about which there is no precise knowledge or even assurance of existence. We are moving towards the landscape as if towards fairies or the Loch Ness monster, with the inherent representations, and confused desires or fears.

2.2.3 Movements

Motion is the sounding board of the world, of the present situation, without which no work can be done. Temporarily, to give the impression that all is not in vain or to make a common assessment, we will try to fix what will happen by appointments or exchanges about the production of representations.

2.2.4 Surrounding together

The participants loosely encircle the thing. They move within the ring of the perimeter already followed together during the initial reconnaissance. They can see one another (bright clothing is preferable in busy zones) and modulate their speed to avoid becoming grouped. I move in the opposite direction to encourage them in their concentration and to maintain proper distancing. The instruction: nothing in hand, nothing in the pockets and nothing on the mind, that is to say, no weight, no congestion. The participants are exposed to and offer themselves to a new situation, remaining attentive to what their body gives them. This noria functions three times so that a certain level of fatigue overcomes the decision to apprehend or understand using mental mechanisms. Leaving the circle corresponds to withdrawal.

2.2.5 Productions

The rule is to continue walking at the same distance as each other. Little by little during the movement a bodily consciousness is developed of the thing encircled. On a cumbersome support held at arm's length, the participant draws while marching, leaving a trace or imprint of whatever is perceived or felt. Several drawings will be made and posting with comments will close the sequence.

The participants will then be invited to return next to the edge of the thing to make a model or plastic production which best depicts the thing from the chosen angle of view. This production made using materials found at the site manifests the quintessence of the thing.

The correspondences and transmissions between the model and the situation are validated on site. This final on-site production is viewed by the entire group which thus concludes the final assessment of the landscape.

The conception of a clear landscape is thus discerned within the same motion as the crossing of physical and bodily movements.

Fig 5. Last assessment (FC)

Our flesh, in a firm and resistant struggle with the exterior, gains indications as it penetrates the landscape. It is an ultimate shock calling out to the body for help when the horizon is clouded by superimposed technical decisions, impaired links or absences.

2.3 Act 3: Interpreting perception/ incarnating production: being or doing landscape?

The neuroscience work of Alain Berthoz (1997) on movement indicates that sensorial captors do not give a series of measurements but rather a series of constraints concerning internal estimates. In experiencing the landscape, having opened his captors and contributed his gestures, the participant harvests a conscience and an associated journey. "There are often several ways to arrange sensual data in constructing a coherence" (Berthoz, 1997). It is the data in disarray but reformulated in every construction of a fiction, a chimera or a utopia which gives substance to landscape. As the materiality of the landscape becomes consistent only upon being experienced, this materiality remains distinguishable so as to allow different beings to penetrate the landscape. Placing the landscape in the centre of our preoccupations and posing its very existence as the mode of entry, research goals will be able to:

- retain the terrestrial crust in its infra fragility between cloud and water tables.
- deploy biodiversity by favouring its enrichment through the expression of its conflicts.
- entwine the beautiful, the sublime, within the fibre of the thing's weave.
- stimulate and activate the conscience of inhabitants concerning their environment so as to address policy.
- involve social groups in the development and use of common exterior goods (situated outside the sphere of constructions).
- designate corporeity as a conceptual value of space, including unsheltered space.
- provoke fertile, humid and joyful urbanism.
- invest in the well-being of all living beings.

Even if a landscape situation is not the equivalent of a health situation, a historical situation or a bio-environmental situation, it expresses its substance every time it is virtuously approached. In the meantime, let us welcome the concupiscent interdisciplinarity that engenders such marvellous mixings.

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Approaching Landscape through Goethean Phenomenology in the Context of Biodynamic Farming Training

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Abstract: In order to approach biodynamic farming, a rich and diversified landscape is essential. We have developed a landscape course that aims to allow future farmers to form conscious pictures of a given landscape and its transformations in space and time. This leads to a living picture of the landscape's specific characteristics. This approach helps farmers to carry out individual and progressive landscape management on the farm, which is seen as a « living organism ». This paper is structured in three parts: 1. the need for training in landscape management in farming education; 2. Goethean phenomenology applied to landscape; and 3. pedagogical application in a professional farming training programme in France.

Keywords: Goethean phenomenology, biodynamic agriculture, agricultural training, global approach, Petrarca

1. Introduction

1.1 Why training in landscape management in the context of farming education?

For a long time, farmers were intimately linked, through their daily activity, to nature and to the life cycle of the environment. Since the last century and especially since the end of World War II, farming practices have become less and less linked to the soil for different reasons: increasing mechanization, theoretical farming training, a change in consciousness and way of life. Today, it is mostly criteria that do not belong to the agricultural sphere (economy, politics [CAP], fashion, etc.) that shape and influence the farmer's decisions regarding production and agricultural management. This leads to an increasing damage of rural landscapes upon which it is not necessary to watch over: damage of many landscape elements such as hedges, line of trees, groves, biodiversity, traditional constructions as well as "small patrimony".

How does a farmer see his landscape? An example will help us to grasp the issue.
During the introduction of a course on landscape, I asked the students what landscape means for them. Two wives of Alsatian cereal farmers answered: "well, it is the Vosges Mountains in the background".
For them, landscape was the background, the mountain chains that we can see in the horizon, but certainly not the corn fields surrounding their farm. The fields are their working tool, and not a landscape.

This example introduces us to the issue. As long as the farmer considers his farm only as a working tool, he won't be able to understand it as a landscape.
How can we allow farmers to discover their daily landscape, the place where all their activity takes place, and create intimate and conscious links with it so that landscape can be in the background of all technical decision-making?
A global approach to landscape in a farming context can contribute to a better understanding of the specific qualities of a place. Then it would lead to a better consideration of these specific conditions in the choice of crops and farm management.

For organic and biodynamic farming (with the idea of farm organism, Steiner 1924) which aim to collaborate actively with nature, a diversified landscape, reflecting environmental conditions and history, is the basis of farming practices.

Natural and extensive areas are part and parcel of any biodynamic farm.

1.2 Why a global and living approach to landscape?

Management of a rural landscape cannot only be based on quantitative data or formal esthetic criteria (structure, texture, form, contrast, color, and so on).
Actually, these criteria suit fixed objects in space, i.e. "dead" objects. Yet, plants and animals play an essential role in landscape and are not dead objects. A plant grows out of a seed, unfolds, blooms, ripens and withers. It is in constant transformation, and has multiple interactions with the environment: soil, light, water, warmth, neighboring plants, animals, human beings. Suffice it to compare a fake plastic plant with a true one to acknowledge these differences.
Thus we can define two principles in the study and management of landscape:

1. The "living principle" of the living world (flora, fauna) which we can express in terms of transformation of forms (animals and plants) in time, as well as a unique interrelation with ecological conditions.
2. The "object principle" which we can express by a tridimensional situation in space (horizontal, vertical, depth). This principle is currently used in the creation of parks and gardens and comes from architecture.

In practical terms, as soon as the "object principle" dominates in a landscape, it loses its living properties. One can observe juxtaposed elements without a link, as for instance a monoculture of spruce trees beside a wheat field. It is difficult to sense the dynamic of plants which are all identical and have the same age. If we had an edge of a diversified forest where we could find plants at all stages of development and representing a diversity of botanical families (annual, perennial, bush, tree), it would already introduce a living element made from vegetation that reflects both the characteristic of the place (space) and the plant dynamic in time.

2. Goal of training in landscape

2.1 General goal

The main goal of a global approach to landscape is to form conscious representation of the landscape and its transformation in space and time. These representations should then form a "living picture" of the "specific characteristics" of the place (genius loci). One should be able to present and share this picture with other people.

In practice, this means that this approach does not aim to produce fixed rules of landscape care and management. On the contrary, it is more about defining the specific nature of the place and to help the farmer know the specific character of the landscape in the most conscious way.

Considering the farm as a living unit (biodynamic farming uses the term "farm organism") enables the farmer to evolve towards global management, going beyond isolated acts of development.

The ideal situation would be when the farmer makes every decision concerning landscape with the whole picture of his landscape in mind.

By doing so, his farm will gradually become a farm organism with a diversified inner unity.

We can hope to go beyond the old models of landscape management (practices that are mostly conservatory) or models that are brought from outside (copy of a foreign landscape) and envision a progressive management of landscape suited to every given place and thus move toward an "individualization" of the land.

This goal is realized through the following steps in the training:

- To realize the nature and the importance of landscape;
- Learn to use a step by step methodology based on active perception that allows the student to "meet" and create a personal relationship with a given landscape;
- To discover the global character, the genius of the place (genius loci);
- Imagine basic working tools together with methodological elements to carry out global landscape creation actions in the context of the farm organism;
- Understand the consequences of the farmer's decisions on landscape, and envision the answers that a farmer can bring in order to better manage the landscape.

3. Application

3.1 Goethean phenomenology

One of the founders of this "phenomenology of nature" is the famous German writer J.W. von Goethe (1746 –1832). He developed "an approach adapted to the object of study": instead of using the same methodology for studying a mineral, a plant or an animal, and instead of applying a pre-established methodology. Goethe tries, through a very fine observation of phenomenon (a "delicate empiricism") to drag the methodology out of the object of study. J. C. A. Heinroth (1831) describes Goethe's mind as "gegenständlich", which means objective, derived from the object and not imposed on it. Most of the time, we project "ready to use" models onto what we want to study. For instance, a plant leaf is considered as a basic solar panel, which it certainly is, but not only. Otherwise, why does it have such complex shapes, colors and fragrances? It is not by considering the plant as a machine that all its manifestations can be understood, but in developing a qualitative approach, by observing how shapes, colors and fragrances manifest and come to exist… We can do the same with landscape which is, as a phenomenon perceived by a human being, a living whole made of shapes, colors, smells, textures, sounds, etc.

At the end of the 19th century, Rudolf Steiner (1861-1925), together with many thinkers of his time, was responsible for the publication of Goethe's scientific work (11). He studied deeply Goethe's scientific approach and made it explicit. Later, Steiner used this methodology to develop practical applications along which the biodynamic agriculture impulse in 1924.

How can we describe Goethe's way of science, compared to the dominant scientific methodology of our days? One of the founders of modern scientific methodology,

Francis Bacon, advocated the torture of nature in order to force her to reveal her secrets: "The secrets of nature reveal themselves rather under the torture of experiences than when they follow their natural course" (12).

Goethe's way of sciences is more about dialoging with nature. Goethe considered nature as an "open secret", which means "not veiled". If nature appears as a secret, it is because we haven't awakened the sense organs that allow us to perceive her, but she doesn't hide anything (13).

Nature speaks to us but we need to listen to her. In order to do so, we shall observe the unfolding of phenomenon, as the great German writer Hermann Hess puts it: "everything that is visible is the manifestation of a signification; the whole nature is picture, language, and colored hieroglyph. However, we are not used and prepared to really observe her, despite the high level of development of modern science; we are more her adversary. At some time, may be even during all times before the invasion of the world by technique and industry, people knew how to perceive the magical language of signs present into nature, and were able to decipher them with a greater innocence and simplicity that ourselves". For Goethe, it is not about searching an explanation for the phenomenon we perceive.

We shall not try to penetrate the phenomenon in order to elaborate models of reality. He summarizes his thoughts by saying: "the facts are the doctrine".

Thus, the Goethean approach of landscape on a farm, considered as an organism, tries to complement the technical and "analytical" study of the farm, which mostly provides data and "quantitative" elements, by adding a study of the "qualities" of the landscape. It is a "global" approach based on observations that go beyond the mere descriptive analysis and tend to apprehend "the structures that organize and rule the different parts of a landscape" (in other words the specific character, the nature of landscape).

Indeed, every landscape is at first sight a space unity in which ecosystems and human activity interact. In fact, we always perceive the landscape first as a whole.

The analysis (observation of the parts in the whole) comes later. The methodological difficulty is to approach the different elements of a landscape at different scales:
- the overall landscape (for instance: small region or farm scale),
- different landscape units: meadow, field, pond, etc.,
- plant associations,
- plants.

2.2 Steps in global landscape observation

3.2.1. Introduction to the concept of landscape
Through observation of several pictures from impressionist painters (Pissarro, Monet, Cézanne, etc.): people discover that landscape is not an external "object" but an inner reality that emerges at the merging point between the observer and the environment observed.

Thus, every one of us has a unique (subjective) approach to the landscape but when we put them all together it becomes possible to enhance one's own perception with the perception of the other in order to get a richer picture of the landscape.
Thus, the sensitive approach of landscape is essentially a social activity.

3.2.2. Perception.
Every sensory perception should become an inner living picture that can be shared with others. The process of internalization through thinking should allow an integration of all perception into a picture of the whole (the concept or idea of landscape). We go beyond the mere description of facts to apprehend the character of the place.
Drawing is a good tool in order to intensify this perception step, to "re-present" and thus to make conscious what we have perceived.

Example of an exercise: observe the same landscape form far away (bird's eye view) and from inside.
The bird's eye view enables us to see the landscape as a whole, the main structures. But the risk is to lose the link with the actual reality of the place. In practice, we suggest drawing the same landscape with different drawing techniques in order to perceive different aspects (general shapes, vegetation, human influence, etc.)
The "inside point of view" enables a perception of all the sensible qualities (smells, sounds, warmth, etc.), but the risk is to lose sight of the whole. In practice we suggest the creation of "ambiance maps": after a quiet walk of an hour through the landscape, we try to recreate in small groups (4 to 5 people) the ambiances that were perceived during the walk and by using "elementary polarities": warm/cold, dry/moist, dark/clear, windy/calm, etc.
Some farmers use this method to create landscape developments on their farms.
Then, other exercises can be used to observe the landscape from a closer perspective

In order to discover the global character of a given place, we ask the students to give an "artistic" performance out of their observations and work. This is often a very special moment with original ideas and performances where the farmers and the neighbors are invited.

3.2.3. Possibility of further development
After making explicit the "specific nature" of the farm, we ask the students to create a living model or picture for the future. Then students present their work and ideas to the farmer, who can then respond, correct and complete the proposition.

4. Conclusion

Farmers play a very important role in the future development of landscape. But their "education" on this topic is very poor.
The goal of such a training method is first to intensify their relationship with nature and create a fundamental respect for the integrity of nature. It is not enough to know what is good for landscape; it is also important that the farmer build an individual relationship with the landscape as Rudolf Steiner recommended in his agricultural course (1924).
This requires a holistic approach that doesn't involve only the head, but also the heart (feelings) and the will. Such an approach will change the way farmers interact with landscape so that their activities will no longer be destructive (killing weeds, killing parasites) but creative in a healthy way.

In this way the Petrarca Academy for the culture of landscape hopes to promote a sustainable cultivation of a human and at the same time viable landscape.

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Landscape Design Education: Challenges and Proposals

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Abstract: Landscape design is central in landscape architectural education. Teaching landscape design cannot be just an execution of various landscape projects, where the teacher's role is more a practitioner and less an educator. We have to bring together, with the technical and disciplinary components, those of pedagogic, methodological and psychological nature. These conditions determine how to deal with different domains, teaching strategies and opportunities. My doctoral research in teaching landscape design stressed the importance of the need to think about current practices and to create creative and sensible ways to improve it, trying to work against the prevailing conservative attitudes and routines. In this paper I reproduce here proposals, related with pedagogical and methodological issues.

Keywords: Landscape design, education, pedagogical proposals, methodological proposals

1. Introduction

Landscape architecture education is an intricate process, explained by the complexity associated with the landscape and by the role of the landscape architect. It is characterized by a strong inter-dependence and articulation of knowledge, practices and strategies. Landscape architecture is science and art, so it presumes objective and subjective approaches and requires large and inclusive knowledge. Those conditions determine how to deal with different domains, teaching strategies, multiple activities, opportunities and case studies. All are fundamental to the acquisition of knowledge, experiences and reflections, which enrich the imagery, culture and sensibility of the student (Freire 2011).

The research on landscape design education has increased in the last decades. Schön (1987), Dutton (1991), Ochsner (2000), Owen (2006), Eaton (2006), Roncken (2008), among others, have called attention for the necessity of changes in design or in landscape design education, at disciplinary and educational levels. Early on Schön (1987) defended that those changes should be based around educators thinking critically and reflectively in what they do. This idea reflects our belief that, rather than recognized the curricular programs and the technical support; it is the perspective driving attitudes of educators and students which are most fundamental in the landscape design education. In this approach, it is necessary to adapt a stronger application of disciplinary values within the theoretical landscape architecture and educational fields, in order to structure the teaching landscape architecture and the landscape design.

Teaching landscape design cannot be just an execution of various landscape projects, attended by the trial-error learning, where the teacher role is more a professional and less an educator[1].

How might an effective landscape design education strategy be shaped and how might it be applied? In the current structure of educational practices in landscape design there are no process-wide case studies, frameworks or strategies. There are some traditional and accepted methodologies, approaches and case studies, with certain success, but the usual is a single practice with no pedagogic support and with a weak disciplinary base.

Teaching landscape design integrates several domains, processes and aims. It is clearly related to technical procedures and original solutions, but larger and more conceptual than, it as to be related with several domains, reflections and educational strategies. That is, the knowledge, the principles and the practices used by the landscape architecture discipline and professional practice - which combined cultural, ecologic, aesthetic and ethical domains - has to be attendant with theoretical propositions and practical actions in pedagogy and psychology.

2. Methodology

The aim of my doctoral research was to identify the support of landscape design education, so we delimited and characterized the object of study and analyzed theoretical framework that accompanies it: the landscape architecture, the architectural design and its teaching and the landscape design and its teaching.

In this paper we reflect upon some proposals, pointed out in the conclusions of my doctorate work (Freire 2011). We reproduced below some of those most related with landscape design teaching in the studio. These proposals cover mostly the pedagogical and methodological domains.

Such challenges and proposals are included in an open model, adaptable to various situations and dynamics, based on the diversity and complexity that characterize our culture, as well as the nature of conceptual process in landscape design.

3. Challenges and proposals

1. Consider the landscape design teaching continually under construction at disciplinary, professional and pedagogical levels: The studio, as an approach to professional practice, is naturally dynamic; it updates the requirements of disciplinary and professional innovations. Hence, we must emphasize the methodological approach and the didactics[2]. As so, we need studios more centralized in the field of perception, reflection and debate - translated into a greater attention to the process compared to the products - and more grounded in knowledge and motivations of each student - allowing it to investigate, experiment and reflect (so increasingly more appropriate, structured and reasoned, assisted by gradually less support). Such educational practices have to be sustained in everyday landscapes, garden art, and contemporary landscape design, always emphasizing the opportunities for reflection and critical think, and combining with the objectives of the professional approach.

2. More integrated studios: This involves confronting the students with different points of view shaped in others disciplines and also within the profession. Such selection should include standards of quality and diversity in diverse domains (technical, aesthetic and philosophical) (Figure 1). This practice should be complemented with students' reflection. More than this, together with them, teachers should refine the most significant aspects related with such events.

WORK METHODOLOGIES
CONTEXTS AND APPROACHES
LANDSCAPE ARCHITECTURE PROFISSIONALS
DISCIPLINARY FILEDS

Fig. 1. Fundamental domains to converge in the idea of more integrated studios.

3. Improve studio didactics: In order to facilitate the understanding of studio nature and scope, it is important to sustain each studio and all studio work at curricular level, providing on time adequate information (quantity and quality) with strong programmatic structure (well-defined and detailed).

Such clearness, fundaments and understandings are important at all studio levels and particularly significant at initial moments to emphasize the landscape design process and related tools.

In the inaugural landscape design, students should develop skills in landscape perception, landscape design knowledge and communication. A moment manifestly centred in the process, meeting landscape design tools, terminology and languages and also methodologies.

Such initial approaches should be applied in reference landscapes, contemporary landscape projects (specially significant in language, philosophy and values) and in landscapes related with garden art for an effective understanding of the complex knowledge, domains and factors involved in landscape (Figure 2 and Figure 3).

The methodology has to be based on field visits and complemented with study works (well defined and structured, requiring a deep analysis and assisted by meta-scripts) (Fig 2, Fig 3 and Fig 4).

Fig. 2. Study trip to Gulbenkian garden – a reference to Portuguese landscape architecture.

4. Use models as the main tool and test the video:

The real space has four dimensions. This factor shows the utility of the models and video.

The models (already used in studio work and in the professional practice) are mostly used to show the final proposal, and not as a tool for research and testing solutions (such as working models) (Figure 5).

Fig. 3. Presentation of group work concerning the study of Gulbenkian garden.

WHAT DO I SEE?
WHAT IT FEELS LIKE?
WHAT I READ?
WHAT IS THE SINGULARITY OF THE SITE?
HOW CAN I RECORD THE EVIDENCE AND
JUSTIFY SUCH SELECTION?
WHAT DID I LEARN?IT SERVES FOR WHAT?
HOW WAS MY PERFORMANCE? HOW AFFECT IT?

Fig. 4. A specific part of the meta-cognitive script used in Gulbenkian study trip (a guide provided in advance, very structured and detailed).

As so, the models and sketch are compulsory for all those who are initiated in the field of visual thinking. They are essential tools in the transmission of the abstract world ideas into physical spatial dimensions. The video can be an important possibility to represent the fourth dimension (Figure 6).

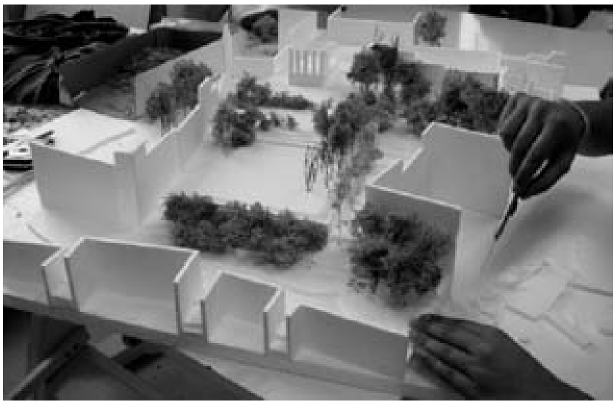

Fig. 5. Students working model.

5. Teaching approach showing and reflecting on the concept of *global landscape*: The traditional landscapes categories - urban, rural and industrial – are usual themes in landscape design courses (frequently the studio levels are organized or named based on these classifications). Concurrently the contemporary landscape is seen as a continuous and mixed multi-system – an idea present in the concept of *global landscape* (Telles 1994).

Thus, we defend the devaluation of the traditional teaching approach by space categories, with the emphasising of the new con-

Fig. 6. A video work.

cept. In this process the teaching has to tend to: the increasing complexity of case-studies; landscapes with controlled features, lower difficulty and smaller size, which converge fewer variables and less decisions and are reconciled; simpler contexts, with the aim of exploring components, context and activating the linkage between scales.

6. Use diverse pedagogical strategies: The idea of diversifying the use of pedagogical strategies can be justified by several aspects: the disciplinary field (both scientific and artistic); the existence of various design methodologies; the nature of landscape design education (learning by doing, tutorial and critical); the recent research on studio pedagogical issues; the heterogeneous students universe (origins and knowledge).

Such openness fosters the integration of knowledge, understanding and skills. It means applying more opportunities to meet the interests, individualities and motivations of each student or group. Among these strategies we underlay the landscape design dairy, new technologies, small traineeships, research on design process, and the use of metacognitive scripts (Figure 4 and Figure 7).

7. Exercise distinct design methodologies: The landscape design work emphasising various design methods is important to illustrate the complexity of the design process and the opportunities involved (Figure 7).

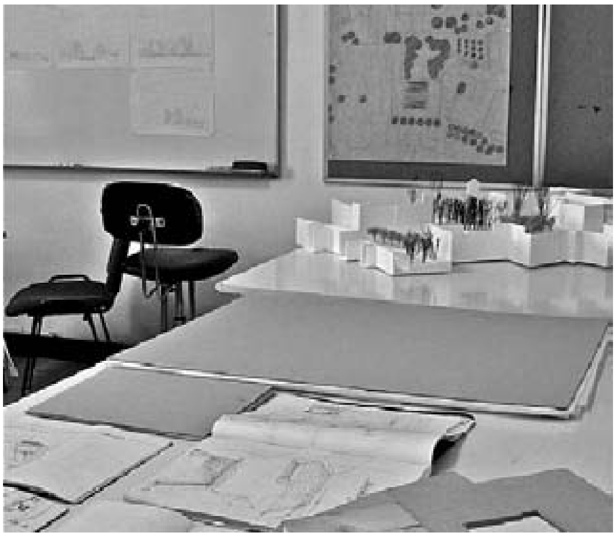

Fig. 7. A specific landscape design methodology, an example of the process and the products exhibition.

The traditional model 'analysis, synthesis and evaluation', the 'exploratory model', the 'concept-test model', the 'participatory model' are, among others, significant. In this sense it is crucial to have a methodology consistent with each studio work and, simultaneously, has respect for the opportunity of the students to develop their own methodologies.

8. Enrich the reflection actions: The common practice in the studio is to ask for landscape transformation (based on a program or in some goals).

The reflection actions advocates for the integration of theory, research and practice, emphasising the process and the products of some reference work. This practice will be the starting point for students to reflect and explore, in an applied mode, their own design process. It will also be essential research for students in finding the foundations of landscape perception and the main values to apply to future interventions.

9. Valorise the experience of place: The idea is to strengthen the students' presence in the place and their emotional involvement. An approach to be explored through the creation of distinct occasions: the physical involvement with the place, as proposed by Corajoud (2001), spending more time there than usual; promoting the importance and significance of a deep knowledge and involvement of the designer with the place; making some proposals during the work visits; and giving the opportunity of research and experimentation *in situ* (technical tests, simulating compositions, ambiences, paths, surfaces, textures or elements, with the participation of designers, decision-makers and potential users)(Figure 8).

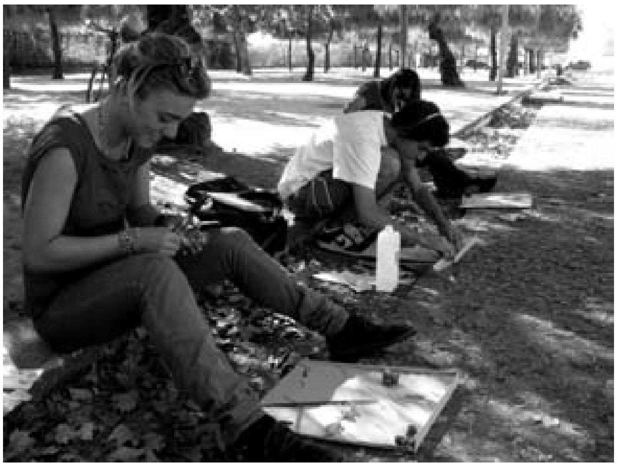

Fig. 8. Students working with models at the work place.

10. Emphasize, enhance and make precise the singular domains in landscape design (aesthetic, cultural, ecological, ethical and pedagogical): Landscape design involves diverse components, domains and tools, specifically: innovation; compositional standards, vocabulary and structural components (expressed in formal, spatial and systemic relations); typological meanings (space typologies and elements); historical precedents; practices of imitation and reinterpretation; and moral and ethical attributes.

The most important domains are linked with the aesthetic, ecological, cultural, ethic and pedagogical, thus they must be strengthened.

Consequently, the teaching should be strongly supported by emphasizing, enhancing and detailing such domains expressed and structured by landscape components, in the perspective of landscape dynamics, multifunctional character and adaptable solutions. In this process the conditioned innovation is also important; the state of confidence in their ability to solve the problem; the enrichment of landscape complexity; and the contribution of potential users.

11. Develop the students' understandings of physical and psychological requirements and desires of an increasingly intercultural society: From the perspective of the user, the quality of space is based on their physical characteristics (formal, functional and material) and the emotions it evokes. The first one is more evident and easily visible in drawings and models; the second one is more difficult, if not impossible, to appreciate through those representations. So it is fundamental to familiarise students in the study of components specifically related with the sensitive field and identifying and comparing the emotional responses to real situations. It is also important to explore tools and other circumstances that could make a closer simulation of idealized and sensitive responses that are generated.

12. Use of technological and virtual environments: The new technologies of information and virtual communication (*Internet* and drawing tools) allow increasing advances (information access, treatment and simulation objects and spaces). They should be continuously and gradually stimulated and developed through teaching strategies.
Such use should never assume a commanding role in teaching. The traditional practices in studio (practical knowledge, action mentoring and critical appraisal) and the techniques and tools of the project (analysis and interpretation of multiple factors, the experience of the place, by design communication, critical thinking the debate of ideas, synthesis and decision making, among others), have to be combined with such tools and communication opportunities.

13. Improve the tutorial and the critical: The tutorial is central to the engagement, motivation and skills of teachers and the didactic (Schön 1987, Ochsner 2000, Simão *et al* 2008). It is the central component of the pedagogical issues in landscape design teaching. The success of the tutorial depends on the tutor, the student and their relationship, obtainable through: the understanding of the tutorial by both as a teaching moment – collaborative and mutually constructive; the language used (form and content); the time spent with each student; the teacher's pedagogical approach; the psychological relations established; the exact ideas that are the motive of eventual critic; the global motivation of students and teachers; students assistance in the moment of reflection and discussing ideas; the respect and sense of mutual responsibility.
The traditional critical component should be built as a true teaching tool explicitly: using psychology knowledge; maximum objectivity in order to reduce the more personal, speculative or partial components (usual in criticism); structural and critical adjustment to the educational objectives; ensuring that the importance of the image does not compromise the evaluation related to other criteria and objectives under consideration; conceptualising the critical more like a teaching moment and less as a moment of evaluation; reorganizing in the perspective of group work and the physical disposition of jury and assisting in presentations.

4. Conclusions

Given the questions we dealt with, the necessity is evident of interrelated educational, methodological and disciplinary strategies to be continually assessed, in order to achieve greater success in teaching landscape design. Nevertheless, the issues addressed need to be continually tested in extended situations, through experiment, comparison of results and reflection.
With these proposals we hope to give one more step towards a different approach in teaching landscape architecture and, more specifically, in landscape design teachings. This step belongs to an initial stage of a long way in which landscape architecture education must continue into the future.

Notes:

[1] This usual approach and practice is mainly guided by teacher design process, conceptual ideas and sensibility.

[2] An intent to be seen as an attempt to respond to the difficulties of studio education.

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Look Closer, Back and Forth
Teaching How to Interpret Landscape Phenomena as a Way Towards Sustainable Landscape Planning

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Abstract: Careful reading and understanding of landscapes and spatial processes should be the starting point of every sustainable design process drawing upon the users' needs and environmental challenges. Landscape hermeneutics following theories of iconography combined with sociological and spatial methods can provide a viable approach in achieving a deep understanding of landscapes and their meanings. Combining methods and theories from art history, philosophy, sociology and spatial sciences seem to be a suitable way to explore the manifold (time)layers of a landscape and their interdependency. Teaching students in the landscape architecture programme at BOKU Vienna these methods and theories in all their complexities ask for new learning and teaching methods. This paper illustrates through a typical master students landscape planning project how these complex methods can be taught in a research-based teaching and learning environment, while reflecting on the strengths and weaknesses of the research and didactical concepts.

Keywords: landscape planning, iconography, iconology, structuralism, teaching, sustainability

1. Introduction

In reading and understanding landscape's manifold layers or the complexity of spatial process, planners need to employ methods from various disciplines to do justice to the topic and be able to come up with sustainable solutions. Since the phenomena that make up an area are not simply assorted but are associated, or interdependent (Sauer 1963), a suitable way to explore the manifold layers of a landscape and their interdependency proves to be the combination of methods and theories from art history, philosophy, sociology and landscape planning. Teaching these methods and theories to students in the landscape planning and architecture bachelor and master programmes at the University of Natural Resources and Life Sciences Vienna poses some challenges the authors are going to explore in this paper.

2. Theoretical approach – How to read landscape

The basic paradigm of landscape planning is that landscape is considered as an expression of the socio-economic circumstances. An appropriate method is needed to understand the social and economic significance of landscapes and places. The role of landscape architects often means they have to understand both the historical and current circumstances of a place, in order to formulate suitable planning proposals for the future. "When drawing conclusions about cause and effect, all three time levels are always important, as no forecast can be made without a prior diagnosis" (Staller 1996). Landscape planning in theory and practice is therefore characterised by an everyday, evidence-based approach to the development of landscape, place and spatial processes. Evidence-based approach (*Indizienwissenschaft*) has been used since the 19th century, above all in art history, criminology and medicine (Ginzburg 1988; Panofsky 1939, 1979). This approach has been translated into use in landscape planning since the 1980s by representatives of the Kassel School (e.g. Hülbusch 1988, 1991; Lührs 1994) and later also in the course of landscape planning discourse at the University of Life Sciences and Natural Resources, Vienna (e.g. Staller 1996; Kurowski 2003; Fuchs 2005; Fuchs and Gugerell 2011). The application of the evidence-based approach in geography, for example, is quoted in the works of Gerhard Hard (1995). Helen Armstrong (2003) describes the development and implementation of the hermeneutical method in the fields of architecture and landscape design, while Drenthen (2012) shows what landscape hermeneutics can contribute to the theory and practice of environmental planning.

The evidence-based approach looks at traces, or phenomena, resulting from actions. In landscape planning, structural-spatial features, vegetation coverage and traces of use are important indicators providing clues to the everyday activities that have occurred there, their underlying conditions and their significance (Fuchs 2005). They enable us on the one hand to assess the structural/spatial situation of a plot of land, the zoning of open spaces adjacent to roads, the organisation of grassland, and on the other to formulate planning proposals. It is therefore crucial to us as planners to be able to read such clues. The skill of reading clues is an interpretive act, as known to us from hermeneutics and iconology (Fuchs 2005; Armstrong 2003; Fuchs and Gugerell 2011). This hermeneutical approach, originally understood as the art of interpreting texts, can also be applied to human activity. This working method is used to derive the sense and significance of a phenomenon by systematically scanning its environment (Kurowski 2003). At the beginning of a planning process the phenomena must be described so that it may be interpreted.

2.1. Iconography and iconology in landscape planning

To this end we can refer to iconography and iconology, following the example of Panofsky (1939, 1978). He describes three levels of significance, which can also be applied to the description and understanding of landscapes and planning processes (Staller 1995; Fuchs 2005). In art, the pre-iconographic level means enumerating the motifs an image contains. Applied to landscape planning, this is understood as the description of urban and rural landscapes in terms of everyday life. Our own experi-

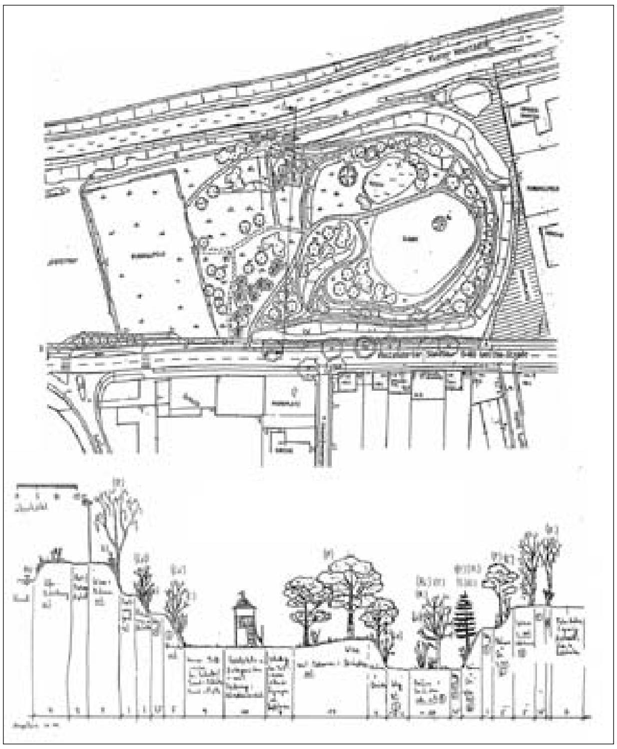

Fig. 1 Example for a detailed survey of landscape planning students drawn by hand on site, measurements taken without technical equipment (team of students, Institute of Landscape Planning, BOKU Vienna, 2001).

ences and familiarity with everyday life, for example from our own lives, the use of open spaces or of land in agricultural economies, enables us to name the phenomena. Based on this we can determine the area to be examined, the examples and features to be described, with regard to the planning issues in question. In landscape planning we start with a walk to familiarise ourselves with the place, to make some initial observations and to formulate theories. The description of the object – a parcel of land or open space – is undertaken on the basis of characteristics represented textually and graphically in landscape planning records and, in a further stage, on an actual land use map (Fig. 1). Mapping is carried out on the basis of assigning types, which in turn is based on a comparison of the characteristics contained in the records. This pre-iconographic stage involves perceiving, seeing and describing the landscape.

According to Panofsky (1939, 1979), the next stage – the iconographic stage – means associating artistic motifs (characteristics) or compositions thereof, with concepts and themes. In landscape planning this means a professional, systematic interpretation of the characteristics and combinations thereof (types), the examples and the actual use. This step requires a benchmark, in this case a landscape-planning theory about the object. The objects (farm land organisation, built development, open spaces) are assessed regarding their usability in the everyday lives of the men and women who live there, and the room for manoeuvre revealed.

The iconological interpretation level involves the significance, meaning and values that underlie the principles described at the iconographical level – here, the landscapes or places under investigation. Specifically, iconological interpretation can be used to determine the meaning that underlies the human activity (planning, economic activities, political decisions, etc.) which shapes the landscape and places (Fuchs 2005). In a planning context, this means that the description and interpretation of the phenomena is fundamental. But it goes further – in planning work it is essential to assign significance. This stage involves comparison and contextualisation in planning and leads to general statements. A diagnosis, or an understanding of the place and its genesis, is only possible once one has understood the meaning. For planning purposes, the values and philosophies of the planners involved, as well as the decision-makers, must be as-

LEVELS of ANALYSIS in Art History (according to E. PANOFSKY 1978)	**LEVEL S of ANALYSIS in Landscape Planning**	**Steps in Student Projects in Landscape Planning**	**LEVELS of the Structuralist Analysis** (modified after G. DELEUZE, 1973)	**RESULTS**
I. Pre-iconographic Description Identification of forms, motives, colours etc.	**I a)**Detailed **description** of **spatial patterns** (e.g. open spaces, buildings and landscape), **mapping** of open space types, building types and land use **IIa)** Detailed **description of the socio-economic, ecological situation and stakeholders**	(preliminary desktop research) **Explorative walk** **Detailed survey and mapping** (often using typologies) **Survey of socio-economic, ecological** situation (e.g. demographic statistics, interviews) Analysis of the **history/genesis** of a place	**The REAL**	**Identifying and understanding of spatial qualities and planning/ design processes**
II. Iconography Iconographic Analysis Themes, concepts, allegories, stories pictured	**IIa) Analysis** and **assessment** of **spatial patterns** and **socio-economic situation**, stakeholder processes **IIb) Analysis** of underlying **role model and planning concepts**	**Analysis** of **planning policy documents, stakeholder processes, image brochures** etc. (current and past)	**The IMAGINARY**	**Planning/design models and concepts**
III. Iconology Iconological Interpretation Interpretation of the meaning, the 'symbolic' values and fundamental philosophies	**III. Analysis** of underlying **values and norms** (e.g. **ethical and aesthetical**)	**Analysis** of planning policy documents, **distribution of power in decision making processes**, budgets etc.	**The SYMBOLIC**	**Planning/design philosophy**

Fig. 2 Iconographic, iconological and structuralist approaches in landscape planning and their levels of analysis (Schneider, Fuchs, Fuxjaeger, Jauschneg 2003; Fuchs 2005; Fuchs, Damyanovic 2012).

certained. The symbolic arrangement shapes not only the inherent requirements, but also the landscape and planning processes.

2.2. The structuralist approach

The methodical approach applied in Structuralist Planning Assessment (SPA), developed at the Institute of Landscape Planning, Vienna, draws from different disciplines and combines the iconological approach with levels of meanings as discussed in Structuralism. SPA refers to the philosophy of structuralisms and in particularly to Gilles Deleuze (1973) and Pierre Bourdieu (Bourdieu 1983, 1999, 2005) who in their works emphasized the importance of the so-called symbolic that defines societal norms and values as well as relationships. Especially Pierre Bourdieu's theory of class distinction and concept of habitus which subsumes a person's appearance including his life style, language, taste implicating his or her ethical and aesthetical values which are mirrored in space is a fruitful theoretical approach in analysing the meaning of cultural landscapes. The structuralist approach in landscape planning comprises three steps. The first step is a systematic empirical survey of "the real" which covers topics like the current design, land use patterns and the socio-economic situation as well as relevant planning instruments and policies, followed by the analyses of "the imaginary" which addresses the underlying images and role models of plans and designs. Typically this step includes literature research, the analysis of the architect's or planner's description of a design, planning and conservation programs and policies, interviews, minutes of committees or authorities involved in the planning process, etc. The third step is the examination of the symbolic layer which describes the ways of thinking and the values of the persons involved as well as their interrelations (Fig. 2). It is crucial - if planning is to be sustainable - to be aware that values and norms shape the real world and vice versa.

3. Teaching how to read landscape

Applying iconographic, iconological methods and structuralist analysis demands thoroughness. And thoroughness needs time, which seems to get scarcer in curricula with tight timetables and under the light of the social and economic pressure students face through university. Teaching students the importance of having a closer, deeper look at landscape and details, which may appear marginal and not relevant initially, seems – taken from our experience – to be getting more and more challenging over the last years. The demand for quick analysis and instant and almost always big solutions is constantly put forward. It is therefore important to outline and stress the benefits of taking time, and making the attempt to understand landscape during the time at the university, since after graduation and entering the work life, time for that gets even scarcer. Besides, once a thorough understanding of landscape phenomena has been acquired, this supports the efficiency in finding sustainable planning solutions in planning praxis. A tendency we also noticed over the last ten years is that fewer students have experience and familiarity with land use culture. For example, we made the observation that most of the students in the bachelor programme of landscape planning and landscape architecture cannot name and/or identify field crops and therefore are unable to describe a landscape and its characterizing land use adequately. A survey we did on the family background of first-semester students (enrolled in the landscape planning and landscape architecture programme 2012 at the BOKU Vienna) showed that only a few students (about 3%) grew up in rural areas or come from families with agricultural background. This mirrors the overall tendency of the shrinking numbers of people deriving their income from agriculture and the urbanisation processes in Europe. A basic knowledge of agricultural production is crucial to understand the genesis and dynamics of a landscape. Agricultural and silvicultural use of a landscape used to be – and still is in certain areas - the dominant human activities that formed and created cultural landscapes. Their influence on the appearance of a landscape is still very strong. Dynamics in these production areas manifest themselves in the landscape. Changes in the primary sectors like new production methods, introduction of new crops, abandoning traditional crafts, changes in subsidy policies, demographic shifts in rural areas and new functions of landscapes (e.g. 'energy landscapes') are eventually visible in the landscape. A basic understanding of agriculture and forestry is necessary to be able to identify changes, challenges and outline prognosis or scenarios. Since students often lack this basic knowledge because they cannot relate to personal experience in this areas, more attention and time must be put on teaching knowledge on agricultural land use, vegetation ecology and forestry during courses which initially were designed to teach only landscape planning relying on previously gained knowledge about the primary sector.

The interpretation of the imaginary and the symbolic is probably the most demanding part in analysing landscapes by applying iconological methods and a structuralist approach. Identifying the imaginary presupposes a familiarity with specific themes or concepts (Panofsky 1939) planners, architects and land owners and users had in mind when they created the landscape or shaped a planning process. Students need to familiarize themselves with what for example an urban planner responsible for the design of a particular urban area had read, had been taught at university and with the "zeitgeist", socio-economic and political circumstances of that epoch. The analysis of the symbolic is even more challenging than the analysis of the imaginary since the identification and interpretation of norms and values depend on the subjective equipment, which has to be thoroughly supplemented and corrected by an insight into historical (*Ibid.*) and current processes and be reflected upon critically, while testing and challenging one's own values, norms and desires. During this process of critical reflection the social construction of landscape plays an important role (Kühne 2012). A survey on one hundred first-semester students in the landscape planning and landscape architecture programme at BOKU Vienna at the beginning of the winter term 2012 showed that 87% of the students have an almost identical vision of what they would call 'a landscape'. Elements like mountains, hills, waters, trees, fences, rural buildings are the usual staples of these stereotype landscapes. These socially constructed stereotype landscapes and their underlying norms and values are often the 'bench mark' within a planning process. The critical reflection upon this 'ideal' landscape and testing against the actual situation is necessary to avoid stereotype planning solutions which potentially negate the actual issues, conflicts, processes and demands, therefore making sustainable planning impossible. A closer look at landscape by applying an iconographic approach offers a profound basis for this critical analysis.

4. Conclusion

Through our teaching we experienced that the evidence-based method of looking, describing and understanding (Panofsky 1978; Ginzburg 1988; Huelbusch 1986) is crucial to answer actual planning issues and outline a prognosis for a space. In addition, teaching an evidence-based approach in landscape planning demands a critical reflection of the structure and content of the lectures and students' projects as well as the curricula to find a didactical concept that suits the methods. Research-based didactical concepts – including inquiry-based learning in case studies

(Damyanovic and Fuchs 2010) – support teaching an evidence-based approach as described above. An inquiry-based and evidence-based approach enables the students to gain thorough site-specific knowledge, to understand the current and past situation, and to predict the future development to a certain extent. Case studies help focus and give instant opportunities to test and discuss first results and planning measures. Each case study conducted by students adds to the knowledge about landscape and planning processes. Although there seem to be difficulties for students to recall and transfer previously gained knowledge to a new context, there lies another challenge for teachers to activate this knowledge and to encourage its application. A series of case studies conducted by students throughout the bachelor and master programme could add up to a holistic and thorough understanding of landscape. This could give graduates skills to efficiently continue life-long learning throughout their professional life. A shift from a curriculum which is dominated by lectures, to a research-based didactical concept would therefore support teaching iconology and a structuralist approach.

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Landscape as a Framework for Coastal Areas

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Abstract: Landscape as a framework, both as a tool to know a place and also as a project in itself, is opening up a new culture as regards land-use. This considers not only environmental values and economic dynamics, but also other questions related to environmental sustainability, ecology, social cohesion, identity and the aesthetic and symbolic quality of the whole area. The integration of processes with ecological, social and cultural values in spatial planning necessitates a challenge to direct the intense contemporary changes in the use of land, especially in coastal areas. Landscape urbanism has arisen as a reaction to the models of zoning and development that have caused a loss in quality of coastal landscapes throughout Europe over the past few decades.

Keywords: landscape, planning, coast

1. Introduction

This research takes place in the coastal environment; a space appreciated and characterized by its great diversity, variability and dynamism. These factors have increased in recent decades as a result of a virulent economic development based on real estate construction, triggering growth that might be called 'indiscriminate'. There was also an intense urbanization with inefficient urban systems; a series of traumas that not only affected our perception of landscape, but also the coastal system as a whole. All this has led to a prolific number of strategies (policies, plans and projects) designed to manage and streamline these processes.

1.1 Backgrounds

The concern of European states for planning and integrated management and sustainable coastal zones is relatively recent. The above-noted phenomena have increased since the 1970s and not only the scientific community, but society in general has become aware of the need to resolve these conflicts. Many countries initiated policies to preserve coastal areas based on their cultural and natural heritage. However, the mechanisms aimed exclusively at protection, have proven inefficient with regards to the management of the dynamics and coastal processes, evolving in recent decades toward regional planning and management. At the same time, the concept of landscape has undergone a cultural and methodological evolution, reflected not only by texts and writers, but also in its effective incorporation into planning on all scales.

Since the mid-1990s the Council of Europe has begun to construct specific guidelines for an international landscape framework. This project was completed in 2000, opening a new era for landscape planning. The European Landscape Convention has meant legal recognition of landscape as an essential component of the common heritage of Europe and the rights of populations. It recognizes the specificity of the landscape beyond other environmental or cultural considerations, regarding it as a useful tool for planning and territorial governance. This paradigm shift is even more apparent when we consider the Recommendation CM/Rec (2008) 3 of the Committee of Ministers to member states on the guidelines for the implementation of the European Landscape Convention.

In Spain, at present, the strong tradition in the analysis of the physical environment coexists with the lack of consideration for landscape, in its contemporary meaning, as applied to planning. This lack of discipline is complicated by the fact that there are still very few Autonomous Communities which have recognized in law the landscape as a subject in its own right (Valencia, Catalonia and Galicia). It is precisely in these autonomous regions, all with a shoreline, where we can trace examples of planning in which the landscape is the common thread. Unfortunately however, landscape comes second to the traditional planning process. For this reason, it was necessary to incorporate in this research a broader framework for reflection. Furthermore, as these studies were performed in parallel to the development of the Galician Coastal Management Plan, it is contextualized in the geographical framework of the Atlantic Space.

1.2 Working Hypothesis

In recent years many authors, Corner (1999); Mata (2006); Nogué (2006); Waldheim (2006); Zoido (2002), have demanded not only the incorporation of ecological values in planning, but also the integration of the social and cultural identity and even the phenomenological. These factors are all understood to be components necessary to leading the contemporary processes of land use and occupation. In this context, the landscape has emerged as a paradigm of a new territorial culture. We should take into consideration, as well as the environmental and economic dynamics, other important issues related to sustainability, social cohesion, identity and aesthetic quality from all geographical areas, regardless of their state of preservation.

This research has investigated the extent to which this contemporary landscape design becomes a tool for planning and what the key management issues are, using the coast as a laboratory for analysis and proposals. The concept of framework has to do with its dual dimension, characterization and project conditions (physical, ecological, sociological, etc.).

2. Development

2.1 The Atlantic space

To summarize the Atlantic Space, the following coastal planning instruments are highlighted:

Portugal has nine Coastal Management Plans (POOC) approved in the period between 1998 and 2005. Along with these planning instruments, a coastal Action Plan for 2007-2013 has been developed. It identifies and provides the necessary actions to re-qualify the coast.

In France, the effective protection of coastal natural areas is carried out initially through the *Conservatoire de l'espace littoral et des rivages lacustres*, created in 1975 and dedicated to the protection of natural areas and landscapes of sea shores and lakes in France. Subsequently, the Coastal Act of 1986 constitutes the basic legal framework of protection.

In the United Kingdom the *Shoreline Managements Plans* (SMP) essentially have the goal of ensuring environmental protection of the coast and reducing risks from natural disasters related to flooding and erosion. The first generation of these plans was approved in the 1990s so that each area of the coastline is currently managed in a specific way according to the criteria set out in the plans. A second generation of SMP is currently under development.

In Spain, the responsibility for protecting the environment, landscape and land is transferred to the autonomous communities. However, the adoption of the Coastal Act and related Regulations later meant a significant boost in coastal spatial planning (Royal Decree 147/1989). Autonomous Communities in the Atlantic Area including:

In Andalusia, Law 1/1994, of Regional Planning, establishing a territorial planning system articulated on two levels: Spatial Plan of Andalusia and sub-regional plans. This region expects to complete, in 2012, the management of its entire coast after passing the corresponding sub-plans.

Galicia is the last region to join the coastal planning. There has been a Coastal Management Plan since February 2011 in which the landscape is set as the key instrument for establishing territorial model and framework for management. Its elaboration was consistent with the assumptions set out in this study.

Asturias has had, since May 2005, an Asturian Management Coastal Special Plan (POLA) developed by the Decree 107/93 laying down sub-regional guidelines for the coastal areas.

Cantabria has had, since September 2004, a spatial planning instrument approved by law, the Management Coastal Plan (POL).

The Basque Country has a basic instrument, the Regional Planning Guidelines, which are developed through several Partial Territorial Plans. The one for the Protection and Management of the coast was approved by Decree 43/2007 of 13 March.

2.2 Some methodological reflections

Comparative analysis of all these instruments and their evolution, can extract the following conclusions:

The main factor causing coastal deterioration is unlimited and uncontrolled urbanism, which causes a serious impairment of a territory and a landscape, previously enjoyed and utilised by the population, and that is an irreplaceable heritage resource, both economic and environmental.

Globally there seems to be an increasing understanding that land is an economic system, soil is a limited and non-renewable resource, and landscape is a right, an economic resource and a heritage. This is why plans for effective mechanisms of protection, planning and coastal land management have been implemented by coastal European regions even extending the provisions of GIZC programs to the sea and the interior.

It is important to understand the effects of transformation and to act locally, but think globally. It is only possible to implement processes as described above by using a joint multi-level policy. We need to incorporate regional needs and conditions when working on local projects. In this way we can integrate small scale projects into a larger regional, national or even international frameworks. We therefore need a detailed multi-level environment.

The definition of the boundaries of the coastal area from a systemic viewpoint is increasingly necessary. To make these definitions possible we must include units directly linked to the coast and to coastal dynamics or conditions. For example the extent of the influence of the tides in the estuaries, geomorphological affected areas and others related to marine action (landslides, wetlands, coastal terraces, sedimentary deposits, etc.), coastal habitats or vegetation types, and so forth. The consideration, as in the case of Cantabria and Galicia, according to relief through watersheds and the different mountain ranges and coastal alignments, defines the area to 'looking towards the sea' as one of the elements that greatly contributes to the definition of this limit. Other methodologies such as the Anglo-French or Andalusian opt for functional units, more linked to socio-economic processes.

Management of land use in terms of sustainability is a strategic requirement to streamline environmental, economic and social processes with aspects of urban planning. Although the first thought was for protection, we now realise that land management, incorporating many factors, climate change, land use, traditions, and so forth, is the important thing. We have evolved our philosophies on this theme from simple protection of small pieces of coastline, to responsible management of land covering a much larger area.

In the context of the present climate change it is necessary to deepen the understanding of coastal processes and ways to advance a coherent management plan to reduce risks for the population and allow development of these historic and natural environments. English and Portuguese Plans have already gone a long way towards this end.

Management implies a zoning of land in different homogeneous areas and the regulation of the uses and criteria for the development of different actions. All instruments tested in this research comply with this methodology. Strategically incorporating sustainability and landscape in spatial planning focuses on the best use of land, considered as a resource, and in line with the abilities of the different areas according to their capacity, quality and dedication.

This zoning is not exclusionary or exclusive to the need for different treatment of unique elements such as the beaches, the most important landmarks, paths or wetlands, among others. This approach is common to all plans analyzed, especially the regulation of Portuguese beaches, the coastal footpath treatment of United Kingdom and Asturian beach parks, among others.

These regulations and heritage awareness are necessary to preserve the nature of areas, especially coastal enclaves. Treatment of rural Galicia, the Asturias coast or maritime enclaves in the UK are examples of this interest. The identity of our territories is a fundamental value of society and a quality of the landscape. The different types of settlements, villages, towns, cities or new areas of development and their relationship with the environment are key factors.

Only by assessing their potential and growth patterns based on their location in the territory and their insertion into the regional model, will we be able to maintain their character, avoiding competitive situations and influencing those values and potentials that are specific to each model, in order to attain a greater degree of cooperation which is more balanced and efficient. The Coastal Management Plan of Galicia and the French approach to territorial planning is characterised by the symbiosis of landscape and urbanisation in their habitats. This is a good example of the path which we should follow.

It is increasingly necessary to coordinate public policy and mainstream actions regarding coastal management land planning and landscape. In this way we have a better understanding of the values of coastal areas and can act more rationally with the transformations which will result in an improvement in the quality and functionality of the territorial system. Fully integrated approaches will help greater sustainability

It is also necessary to improve both institutional and public participation, drawing attention to the need for a paradigm shift which everyone can agree to.

Society values these plans and understands that there is a simultaneous allocation of financial resources to implement them. It is vital to develop at least one action to demonstrate the advantages and potential for the people. This will serve as a guide for the direction of the plans for paths, beach nourishment, shoreline stabilization, re-qualification of the waterfront, and so forth. Likewise it serves to reinforce the idea that the protection involves active management of the territory. Last but not least, is sustainability education. Landscape education is an essential tool in the comprehensive protection plans of the coast, to make them more effective. All plans included elements of education and outreach.

3. Landscape in the Galician Management Coastal Plan (POL)

The works carried out during the years 2008-2011 developing Galicia Coastal Management Plan[1] allowed us to implement some of the key components described in this research. This is an integrated protection policy for planning and management of land and landscape. The methodology designed hinges on the concept that landscape is the best tool to acquire a thorough understanding of the spatial organization. This methodology has been used to define the scope of study, types of costs and sectors and units, such as the holistic interpretation of existing territorial organization models, which are constructed from a proposed new model key territorial sustainability.

The chosen option of using a measurement system based on defined landscape units, allowed us to analyze and discover the landscape on a human scale, thus enabling readings appropriated by society. At the same time, the versatility of this system allows us to move between different scales of the sector, or the coast, or coastline, to analyze and identify processes and dynamics of different scales and eras.

- Another step on the road to this new way of thinking and planning is to characterize the difference as providing values for each site. It is in this context that we have to frame, using mapping and assessment elements, for the Coastal Management Plan along with the description of these elements and their dynamics contained in the tabs of the landscape units. This characterization is based on toponymy more than on typology relations. That is an extensive characterization and is synthetic, descriptive, and almost narrative, emphasizing the identification, in the expressive, in the singular, thus abandoning approaches grounded in the natural or cultural value of certain items without regard to the relationship with its context and role. Thus, the spatial dimension of the biophysical matrix structure, climate zonality, ecosystem diversity, types of settlements and the logic that led, ultimately, to the organizational model of the territory, was analyzed for the first time generating our own unique mapping of the coast of Galicia. Mapping was performed which allowed us to 'read' the territory differently, allowing previously unknown values and relationships to emerge.

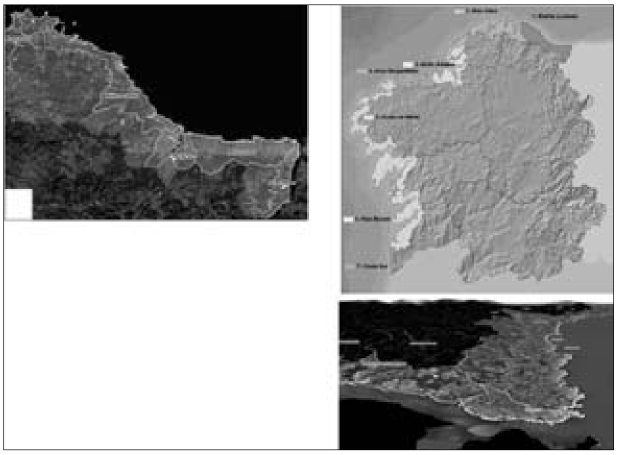

Fig. 1. Landscape: Counties, sections, landscape units and 3D simulation. Source POL

Similarly, there was a description and collection, through a series of supplementary sheets of landscape units, equipped with text, explanatory maps and photographs, in which all these elements are identified in relation to each other, building a compendium of coastline which includes the elements and their relationships, as well as their transformations. The information on these tabs is built based on the key fields of spatial knowledge, both observed and directly related to the socio-economic settlement pattern, as those other, less explicit and tangible, that explain the limits and potential of the medium.

Moreover, the logic of the territorial structure of the model proposed in the POL is relational and not zonal. The different model elements form a structure, which overlaps and complements, to collect all the wealth and peculiarities of each area. Each continuous area integrates adjacent spaces and isolated spaces reflect overlapping elements of interest (landscape or natural and geomorphic) and ecological corridors. The key to understanding this model is the integration of both continuous and isolated areas. This methodology enables us to give each area its own identity. It is a flexible and dynamic open-ended document that helps to improve understanding. The process of preparing the Coastal Landscapes Catalogs and Guidelines, a process that has already begun, will, in the future, be integrated into the POL.

4. Landscape as a medium for regional planning

After making this plan, we are more interested in the concept of landscape as a medium pointed to by Waldheim (2006) from the viewpoint, not of the urban project, but of regional planning, in light of the experiences described above. Here the concept of medium has to do with its double role as framework conditions (physical, chemical, biological, sociological, etc.) and as a tool that facilitates the achievement of a goal or application of a target. Therefore the landscape is revealed as the only means to respond to temporal changes, transformation, adaptation and, consequently, to its success. It presents both a socio-spatial versatility and allows us to analyze the processes of each scale. This enables us to adapt the way we analyse in different situations, linking environmental, cultural,

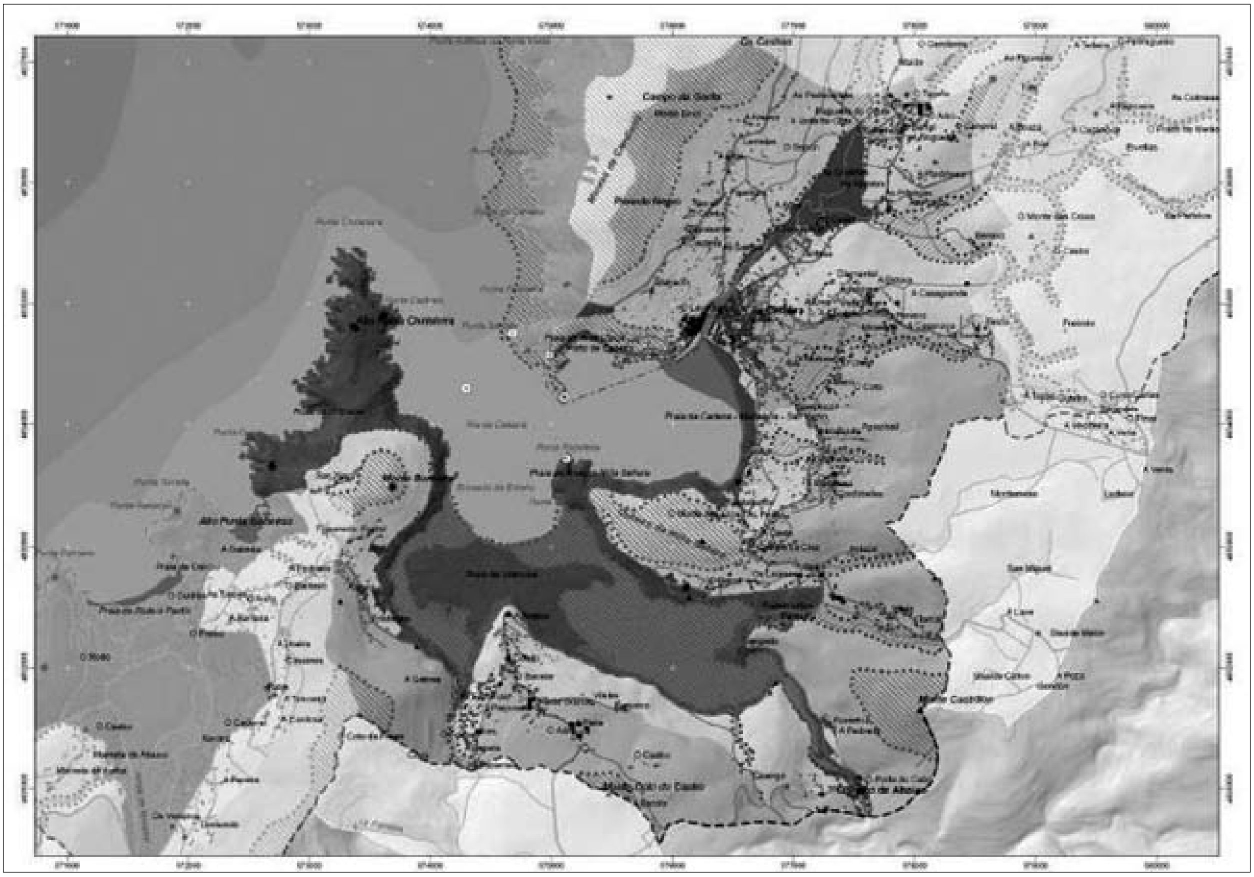

Fig. 2. Example territorial mapping model of the Galician Management Coastal Plan. Source POL

social and economic factors based on the particular characteristics of the area we are researching. Thus, landscape becomes the medium for utilizing analysis, characterizations, from the diversity, the identity and, of course, from public participation. Landscape is the human environment, a reflection of society, therefore, participatory processes in landscape, although not without complexity, are more affordable for citizens. On the other hand, the contemporary look of the landscape, which is based on CEP, covers the whole territory, and the landscape thus becomes an integrator. Not surprisingly, many of the territorial changes which have occurred on both sides of the Atlantic in recent years have to do with the recovery of abandoned and degraded areas, reclamation. What has been termed as *landscape urbanism* has studied the natural and artificial and their uncertain compatibility, the wastelands, infrastructure projects, public spaces, and mobility networks for instance. New methodologies have arisen in this context for territorial approach, including innovative projects of all scales.

We would like to draw attention to one type of project, which could be called *corridors*. The first function of corridors was ecological connectivity, but today they have additional functions aimed at total or partial recovery of areas as relational spaces, territorial cohesion and areas of natural beauty.

Ian McHarg made proposals in the 1960s based on applied ecology which are now being expanded upon in the areas of spatial planning and the contemporary conception of landscape. This requires incorporating new methodologies in the planning processes. This approach is contrary to deterministic making and territorial changes. It therefore requires a paradigm shift in planning, from deterministic plans to a dynamic approach for management of the whole territory.

Notes:

[1] POL: http://www.xunta.es/litoral/

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Imaginative Landscape Identification and Assessment: Exploiting the Pastoral Motif in Landscape Planning

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Abstract: With a radical reading of the European Landscape Convention's (ELC) definition of landscape, the paper presents a concept of 'landscape character' and an identification model that offers room for a more dynamic and imaginative way of assessing landscapes than what is currently common in landscape planning. The paper further argues that landscape planning is guided by an implicit pastoral concept of landscape which could and should be exploited more imaginatively in order for landscape assessments to answer the ELC's call for a forward-looking attitude. The aim is to raise awareness of the landscape assessment process in landscape planning as an equivalent to the less formalized process of description and conceptualization of place that is a part of any design process.

Keywords: Landscape assessment methods, Landscape education, Landscape concept of the European Landscape Convention, Landscape theory, Dynamic and imaginative planning, Pastoral

1. Introduction

The primary scope of the following text is to provide a contribution towards formulating a coherent and relevant theory both for the profession as well as the scholarly discipline of landscape architecture, encompassing both design and planning. We base our contribution on a critique of a commonly used methodology for landscape assessment, analysis or evaluation.

Using the ELC's (Council of Europe 2000) definition of landscape as a starting point and its mandate to the participating countries "to identify and assess landscapes throughout its territory", the present paper contends that there is a need to break away from current assessment methods, as they are typically used and taught in landscape architecture programs and schools. Following the ELC, a new perspective on assessment and evaluation methods has recently also been advocated by other authors (e.g. Brunetta and Voghera 2008). Yet while most of these advocate that methods must start with quests for the general landscape aspirations held by the *public* of an area, the emphasis here will be on existing and potential *expert* methodologies to identify and make explicit perceptions-of-areas, that is, landscapes, and how these can be brought into imaginative play in a planning and design process[1].

Instead of the insistence on methods which prescribe a quasi-ritualistic *inventorying* of landscape features, we argue for a move towards more open-ended and imaginative, but context related methods, *inviting* descriptions and conceptualizations of areas and sites as landscapes. We argue that a method of cultural and contextual reading, similar to methods in design is necessary if we as professionals are to be able to use assessments as ways to lead us to imaginative solutions to current and future landscape problems.

2. Conceptual background: Landscape as way of speaking

In an investigation (Geelmuyden and Fiskevold 2013, in press) of current developments in landscape assessment, the widely influential British Landscape Character Assessment method (LCA- method) (Countryside Agency and Scottish Natural Heritage 2002) and related methods, for instance in Norwegian planning (Norwegian Directorate for Nature Management and Norwegian Directorate for Cultural Heritage, 2010), the authors conclude that these do not really answer to the ELC's overall goals. They do not acknowledge the essentiality of landscape as perception, nor are they forward-looking. As a conceptual background for an altered assessment practice, the following points need to be acknowledged and gain theoretical terrain in the discipline of landscape architecture.

2.1 Area and landscape are not synonymous

With the ELC's definition of landscape as "an area, as perceived by people,…" (Council of Europe, 2000), combined with the general identification of landscape character as "the result of the interaction of natural and/or human factors" (ibid.), one essential, if not clear, point is made, which needs to be taken into account in any landscape architectural assessment of landscapes: A landscape must be treated as a phenomenon in perception. Although landscapes are inextricably bound to physical areas, they essentially exist in people's minds and, consequently, their way of expressing that perception in a particular way (Geelmuyden 1989, Trepl 2012), according to varying experiential circumstances on the one hand, as well as historically and culturally given conceptualizations on the other. As a phenomenon of perception and, in extension of that, of speech and other expressive acts, one needs to look at landscapes' properties and qualities pragmatically, that is as a result of varying physical, temporal, spatial, social and political contexts. The perceptual and presentational processes and elements through which landscapes come into being should be given prime interest.

2.1.1 Landscape as perceptual event: Circumstantially and physically experienced area variations

First of all, the term *landscape* does not mean a physical area and the various elements of it that are visible. The area's physical properties are only part of what a landscape is. Still, they are important for a particular landscape to emerge in a person's perception to a smaller or larger degree. Each new encounter with an area will be remembered as a particular event, changing and deepening or enriching the overall impression of it. Weather and light conditions, whether a person is standing, sitting or moving in an area, whether it is for the first time or routinely – make a difference. When moving, one's means of transport, be it one's feet or a vehicle of some kind, becoming an extension of the body as a perceived organic part of it, (as in the case of good hiking shoes, a car or a heavy rucksack) either facilitates movement or makes it more cumbersome. Furthermore, our abilities to see, hear, smell, to not become tired, to cope with changing terrain or make use of the technical finesses of a car or bicycle, our orientation skills etc., will crucially affect our perception.

2.1.2 Landscape as culturally and historically encoded, modern way of seeing

Secondly, however important the physical attributes of an area are, cultural preconceptions and personal biases or intentions can influence, dominate over or even substitute direct physical experience in many cases. A lorry driver transporting fish across the mountains from the Norwegian west coast to Sweden on a snowy winter day might not notice a *landscape* at all, whereas the same road, experienced as part of a vacation trip with his family will present itself in a completely different way, as landscape. So can, let's say a disciplinary method of landscape evaluation influence or even dominate a practitioner's immediate personal experience.

Landscape as a general cultural concept in Western society has been investigated in depth and with varying perspectives within cultural geography, art history and philosophy (Ritter 1974, Cosgrove 1989/1998, Groh & Groh 1991, Nicolson 1997, Seel 1996, Andrews 1999, Trepl 2012). As a synthesis of these accounts, we can frame a concept of landscape that has developed from being a pre-modern term, connoting a regional entity with certain legal and customary commonalities[2], to a modern term whose meaning has been coined as a particular way of seeing an area, notably, *nature-seen-as-landscape*[3]. As such, landscape is the result of an attitude towards land as aesthetic resource and asset, originally a way of demonstrating taste and conspicuous wealth for the few as well as, more recently, a way of marketing places within the real estate business and tourism. Yet it also embodies a more critical meaning: it has become a representational medium for negotiating a culture's relationship with land, the rural countryside and, more recently, what we have come to call the Environment. Essential to this modern landscape concept is the aesthetic dimension on the one hand and, on the other and closely connected to that, an intrinsic reference to an ideal, a promise of, or search for improvement. (Ritter 1974, Seel 2006, Trepl 2012, Benediktsson 2007).

2.2 The ELC's landscape concept

With its demand for "*a* forward-looking attitude on the part of all those whose decisions affect the protection, management or planning of landscapes" (Council of Europe 2000b), the ELC can be seen as a recent reinforcement of that modern concept of landscape. Not only does it emphasize the changing nature of landscapes, but it also, though more implicitly, assumes a perspective where landscape is closely connected to what people see and what they experience and hope for on a personal, as well as collective level. According the ELC (Council of Europe 2000), "Europe's populations want policies and instruments affecting national territory to take account of their wishes regarding the quality of their surroundings. In their view, this quality to some extent has to do with the feelings aroused in them by contemplating the landscape." (Council of Europe 2000b) Furthermore the following quotation from a later addition to the convention (Council of Europe 2008) states that the quality of people's everyday environments are "… recognized as a precondition for individual and social well-being (understood in the physical, psychological and intellectual sense)".

In sum, the ELC concept of landscape reveals itself as a complex phenomenon. Although the general ethos of the Convention seems to adopt the specifically modern connotations of the term when e.g. the above quotations are taken into account, landscape simultaneously seems to be understood very widely, as inclusive of a great variety of perceptions-of areas4. It is actually left unclear whether it includes perceptions-of-areas that do not comply with the referred modern cultural term and its aesthetic and utopian connotations, as in the lorry-driver example.

What is clear, however, is that in the case of planning, personal and individual perceptions-of-areas are of lesser interest. Only publically uttered perceptions, uttered as parts of societal discourses are our prime objects of investigation when we as experts attempt to identify and assess landscapes. In the context of public assessments, landscapes are outspoken perceptions-of-areas.

3. Identification of landscapes and landscape character: An epistemological model

An attempt to justify the attribution of a certain character or even value to a landscape with referral to the ELC definition needs to address how human and natural factors interact in particular ways that determine character and value. It needs to be based in a terminology with which to analytically examine the origins or genealogy of landscapes, as perceptions-of-areas, phenomenologically, historically and pragmatically. Conventional epistemological differentiations between natural and human factors, such as e.g. in the LCA-method (Countryside Agency and Scottish Natural Heritage 2002) then become irrelevant, because all perceptions result from an interaction between nature and culture. Because the ELC-definition implies that both natural features as well as culturally generated elements in an area must be *perceived* before they become parts of a landscape, it makes more sense to differentiate between immediate, physical/experiential on the one hand and symbolic/conceptual factors on the other, as the factors that are interacting in various landscapes.

Fiskevold (2013, in press) places the key elements to distinguish various perceptions-of-areas that may emerge in *one* area, on either end of two axes (see Figure 1):

3.1 A horizon of perception

One axis, labelled horizon, represents the degree to which a particular perception-of-area is characterized by References: to a person's physical journey in the area, or by conceptual References: about the area, such as concepts, images and narratives with more or less symbolic meaning. By horizon, then, it is meant both the physical horizon as well as the horizon of knowledge that characterizes a perception-of-area.

3.2 The regularity of a perception

The other axis, labelled *regularity*, introduces a temporal dimension, and represents the degree to which an expressed perception is characterized by habitual, routine or ritualistic rendering, or, on the opposite side, a one-time, maybe even sudden occurrence, in which case it can be regarded as an extraordinary event. An example of an extraordinary perception-of-area could be the sudden lighting up of building facades by a very low November afternoon sun, after a day of rain, turning a familiar and usually unnoticed view on a commuter's journey into a completely novel spectacle for a short, but memorable moment.

Each expressed area perception can be characterized as determined by its place between the four experiential extremes that the model identifies. In other words, landscapes must be seen as experiences and practices in relation to the land, emerging in dialectical relationships between the four *modes* of perception. The horizon can thus be described as a span between the immediate, material, *organic landscape* and the already interpreted immaterial *symbolic landscape*. At the same time, the axis of regularity can be understood as a span between a well-known and apparently "self-evident" *mythic landscape* and a hitherto unarticulated novel or exotic *poetic landscape*.

3.3 A characteristic motif

However a third element is equally as important as the two interacting axes in Fiskevold's (ibid.) model and of special relevance in the present context: Each perception-of-area can be analyzed as guided by a *motif*. The motif must be added to the modes of perception in order to further elaborate their function as dimensions of landscape. The motif is a previously given intentionality, both directed and directing attention that frames a particular selection of an area's parts into one unifying and unified landscape. As the German psychologist Kurt Lewin (2006) acknowledged when he enrolled as a fighting soldier in the First World War, the difference in the soldier's and the civilian's motifs was so striking that one and the same man, in the shift from soldier to civilian, was hardly able to recognise the same area. The motif fixes the area-as-perceived as *image*. The decisive role of the motif can be explained through the metaphor theory of Lakoff and Johnson (1980), which states that what helps us transcend the border between humans and nature, the body and the mind, the known and the unknown, is the metaphor. It works like this because the metaphor has its origin in precognitive structures based on our experience with the physical world. The literal meaning of the word metaphor is to 'carry over'. By help of the metaphor we use the structure of one area of life, most often that of concrete experience, in order to get a grip on and understand another area of life, so that a metaphorical projection is to understand one phenomenon or some aspect of it by way of another. To say: "this theory has no foundation", is to understand theory as a building. A building is the structure through which we understand the word theory. We 'carry over' some of the

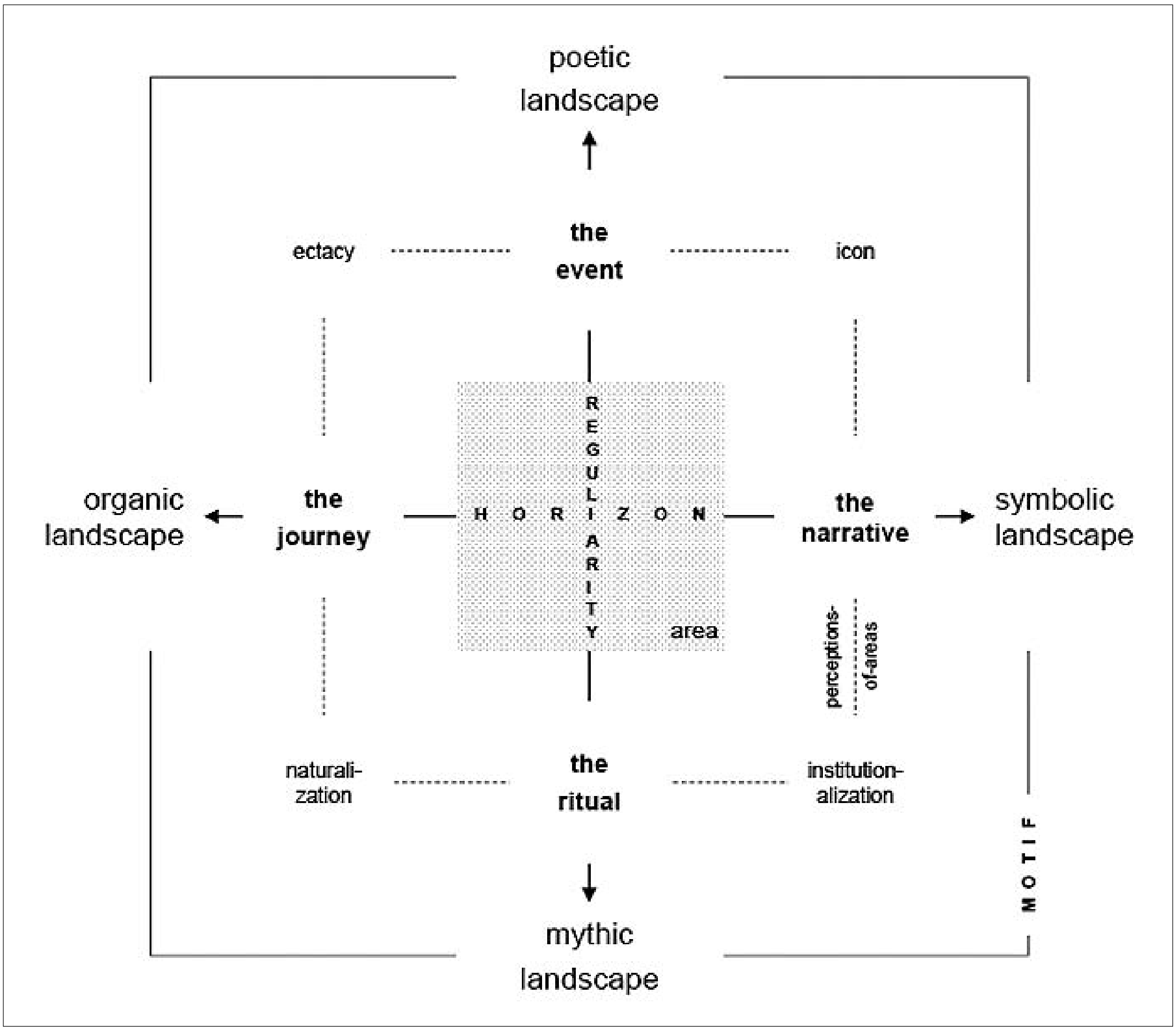

Figure 1: An epistemological model and terminology for landscape identification in landscape architecture and planning (Fiskevold, 2013, in press)

physical structuring elements of the building in order to structure and thereby become able to handle a complex concept as theory. Lakoff and Johnson (ibid.) claim that many, not to say most of our categorizations and concepts both in science and in daily life are irreducibly metaphorically structured.

3.3.1 Guided imagination

On the background of Lakoff and Johnson's theory (ibid.), the motif can be seen as an equivalent to a metaphor. It is a basic (in the sense that it is grounded in common experience) image conveying a societal practice. It offers an immediate conceptualization, a tool for immediate mastering, while at the same time it offers a structure for further exploitation and imaginative use. It can offer new angles of seeing that open up for new ways of experiencing.

The motif catches something essential to the area we approach, while at the same time offering a surplus of meaning, which can activate a rich register of other images and experiences. Returning to the building metaphor as an example of this, in addition to pointing out that a theory lacks foundation, we may say that it has a strong framework, and an acceptable superstructure, but that some of the levels need strengthening. If we stretch it further we could state that the theory has some cracks in the finish and a couple of rotten steps. In the last case we are near the limit for utilizing this metaphor. But the important fact shown by this example is that metaphors are not superficial forms imposed on reality by accident. We must see them as abstract dynamic figures, which can evolve in some directions, but not in others. They carry an intrinsic logic and contribute to meaning. They provide the foundation for a hierarchy of entailing metaphors we (to a large extent unconsciously) manipulate in order to memorize, orientate and adjust ourselves, to understand and be understood. Most important of all though, Lakoff and Johnson (ibid.) hold the opinion that they structure not only our thoughts and language, but also our perceptions, so that our sense impressions play in tune. With other words, we sense what we are tuned to sense. The motif as we use it in the model above performs a similar role as basic metaphors: In the example of Lewin's war and peace time perceptions-of-area, the motifs would be, respectively, Search-for-shelter and Nature-seen-as-landscape. The mentioned lorry-driver's motif, together with the entire transport industry's motif, could be labelled Efficient Transport, its visualizations typically being time tables, weather statistics etc.

The motif expresses an underlying purpose and thus, is not part of the existing symbolic representations of an area such as texts, pictures or statistics. Therefore, it is not limited to influencing the ideological/symbolic mode of perception, but equally influences the other basic modalities. It is the driving force that guides perceptive selection and the production of a landscape as a meaningful perception.

4. Identifying the *landscape* of the ELC and the *landscape* of landscape planning as pastoral motif

Landscape as implied in the ELC seems to be a motif in itself, but, as such, it is not clear what it is. As demonstrated through the quotations above, it stands for a cultural common good, as a symbol of the public concern for individual as well as collective cultural welfare. The idea of cultural welfare, as Fiskevold (2013, in publ.) points out, is crucial to the ELC's landscape motif. As already stated, it seems inclusive, apparently embracing a multitude of individual, national, cultural and disciplinary perceptions-of-areas. But is that really the case?

4.0.1 An implicit pastoral

No explicit and concrete imagery can be detected in the European Landscape Convention text itself. However, Geelmuyden and Fiskevold (2013, in publ.), in reflecting on similarities and differences between the landscape concept of the Convention and that of the professions of landscape architecture and planning, have suggested that both are guided not only by the general cultural motif of *Nature-seen-as-landscape (Seel 2006, Trepl 2012)*, but also by a *Pastoral* motif. The pastoral motif in Western art has had and still has a powerful influence on environmentalism's attitude and understanding towards land, rural life and nature. Gifford (1999: 15) has characterized the Pastoral as follows: "[f]rom the beginning of its long history the pastoral was written for an urban audience and therefore exploited a tension between the town by the sea and the mountain country of the shepherd, between the life of the court and the life of the shepherd, between people and nature, between retreat and return".

Malcolm Andrews (1999: 67) has drawn attention to the historical connection between a landscape architecture tradition, the pastoral motif in the arts and modern environmental concerns: "[t]he close connections found in renaissance Italy between literary pastoral, landscape painting, gardening, the locus amoenus, and planned landscape vistas, the promotion of land as aesthetic asset, and the mediation between domestic and wilder areas of a country estate – all these became central concerns in Enlightenment thinking about nature.

Landscape has been the *scene* of the pastoral. As such, landscape symbolically expresses a tension between distance and proximity, between periphery and centre, between the image as representation of reality as opposed to an imagined ideal and, in recent times, between landscape as picture versus process (Andrews 1999). In all these relations of tension, the onlooker's imaginative and participative mental movement between the dialectic opposites is the essential element. This move is also a physical one, historically rooted in the move from the main farm to the summer pastures in rural societies, or from the city home to the country estate in the case of affluent urban families. The practice continues in contemporary society, as for tourists, week-end cottage owners and others who choose to commute between their work life in the city and a holiday life in the countryside or other 'exotic' retreats.

With reference to the landscape and planning ethos of post-depression USA, as documented by Marx (1964) and Black (2000), the landscape planning version of the pastoral can be characterized by a dialectic between modern exploitative technology and progress on the one hand, and a romantic, aesthetic and protective attitude towards nature as scenery, on the other. The dialectic shows itself in the way landscape has become a topic in environmental impact assessments for various development projects. But in the planning systems and regulations of many countries, this dialectic has become more of a stifling *dichotomy*. This is reflected in guidelines for assessment and evaluation methods that are oblivious of the distinction between area and landscape, and which, consequently, place their main analytical emphasis on an inventory of existing physical elements, and base their evaluation on an implicit traditional pastoral-picturesque ideal. Concrete natural elements and area properties (with reference to their long history) are registered and mapped, but the selection that takes place involves a blatant understatement of modern infrastructure and built up areas or anything else that manifests a contemporary urban mentality and practice. Instead, the dominating narrative celebrates the traces of an old and especially *just-past* (Gifford 1999, Trepl 2012) culture's relationship with nature, i. e. the pre-industrial countryside. The ideal is presented spatially-aesthetically, as scene, often accompanied by photographs or sketches. Cities are neglected, as e. g. in the LCA-maps where they are shown as white patches.

The main problem with this is that many of the immediate and material *contemporary* experiential qualities of the assessed landscapes are suppressed by the conventionally symbolic and methodically reproduced compositional ideal. They are left unexpressed, either because development scenarios are disapproved of and downright denied, or because proposed developments are visualized as adapted to (i. e. camouflaged within) the pastoral scene. Thus the validity of the presented landscapes as relevant utterances about future area perceptions in the context of decision processes about desired development strategies is questionable, and even stays beyond negotiability. Assessments re-enact landscapes based on a motif that has become a fixed imagery and that defies potential renewal through reference to contemporary societal experiences and land use practices, to which, as intended in the ELC, they might act as counterforce.

4.0.2 A revived pastoral as guiding motif to comply with the intentions of the ELC?

In opposition to the fixed pictorial pastoral of many current landscape assessment methods, Geelmuyden and Fiskevold (2013, in publ.) have proposed to interpret the European Landscape Convention as an invitation, first of all, to acknowledge and make explicit, secondly, to reinvestigate and renew the pastoral motif in landscape planning. We propose the 'pastoral' as an essential motif for the profession, as well as the discipline of landscape architecture. Yet in doing this, we are not advocating a nostalgic perspective on the waning qualities of the rural countryside.

We propose a way of looking at the pastoral according to Alpers (1996), for whom the classical pastoral does not have the idyll as its main theme. According to his reading, shepherds or other persons of low rank, represent the lives of common people. Alpers (ibid.) argues that the core of the literary Pastoral is its representation of shepherds' coming together in a public and open space to speak about their vulnerable and dependent existence in the world. According to him, pastorals are "…not a vehicle of nostalgia for some Golden Age, nor of escape to idyllic landscapes, but a means of dealing with loss, decline, and limitation, and maintaining a sense of human community" (ibid., The book's back)

It is tempting to draw a parallel from this citation to the ELC's emphasis on cultural welfare and people's right to participate in decisions concerning landscape. What else is, in fact, Alpers' interpretation of the pastoral motif in literature, than a description of the core of the European Landscape Convention? The ELC explicitly calls for the people of Europe to convene and discuss their concerns for a common existence and interaction with nature.

How then can this 'pastoral' be made productive in landscape planning through landscape assessments? There are two considerations to take into account.

The first is that, ultimately, landscapes as perceptions can only gain *presence* as sensory aesthetic events, that is images, in the experience of each and every person. Therefore, at the same time as landscape assessments must adhere to collectively recognized and cherished motifs such as e.g. the Pastoral in public discourse, they must also appeal to individual perceptual faculties and imaginative projection for recognition and approval. The two poles of the horizon-axis in the above model must be brought into play simultaneously, as must also, potentially, the entire regularity axis. This very tension and interaction between a collective set of values on the one hand and each individual's, including each individual expert's, perceptive faculties and ability to express his or her perception-of-area to a wider public, on the other, must form the foundation for any theoretical framework in landscape architecture education and practice.

Secondly, a theoretical conception of landscape in landscape architecture and planning needs to address the forward-looking, imaginative, inventive and poetic impetus of the profession in dealing with contemporary and changing landscape problems, on whatever scale.

5. Conclusion: Landscape assessments as cultural readings

The landscape designer Bernard Lassus (1981: 50) advocates landscape as cultural reading: "[t]o say, to show, to make heard, means to propose other readings of what surrounds us, without modifying the physical presence. ...To develop a site is also to substitute landscapes we did not know how to perceive, imagined landscapes.... To reinvent the existing is to rediscover what has been obscured by habit, perhaps still present but in the process of disappearing.

It is along this same vein, a well-established way of working within design, that we propose to look at landscape assessments. With the European Landscape Convention, an agenda has been set and a conceptual platform has been created for the development of such a strategy.

6.1 Articulating contemporary pastorals in landscape planning?

Landscape assessments, as creations of shared images, need to employ a poetic; in other words a productively visualizing language for area-perceptions that might invite people to see their environments as they are and as they might be. In conclusion, we suggest that the potential role of the 'pastoral' as a relevant motif for the explication of the landscape architecture profession's landscape concept should be investigated further, through innovative landscape assessments as well as concretizations of the motif in landscape visualization and design.

Notes:

[1] The ELC also explicitly calls for expertise in landscape (Council of Europe 2000, Art. 6B a, c)

[2] E.g. Le Limousin in France or Jæren in Norway. Olwig (1996) has called for a reinstatement of such a more "substantial" understanding of landscape.

[3] Nature here is seen as all that is not currently under control of humans or the societal institutions that have nature control as their purpose, such as science, governmental agencies, etc.

[4] We shall distinguish between *perceptions-of-areas* on the one hand and *landscapes* on the other, the latter meaning perceptions that have a clear aesthetic and utopian meaning.

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Studio or/on Stage? From Ecology of Learning to Learning Ecology

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Abstract: This paper is drawn from two creative interventions into the traditionally linear profile of professional education: an initiative of a multidisciplinary team of practitioners in planning, architecture, landscape architecture, transport engineers and academics, *Create RIGA!* and the studio Strategic Spatial Planning at University of Leuven. The first – a number of innovative workshops undertaken in 2011-2012 in Riga, Latvia – introduces an integrated three-dimensional format of continuing professional education, amalgamating lifelong learning, urban action and implementation-directed outcomes. The second – a planning studio (fall semester of 2012) as part of advanced maser-programs at University of Leuven, Belgium – creatively transforms academic educational approaches into role-based open-ended learning. Both cases unfold how hybrid forms of professional education can serve as an open source and co-creation platform for urban landscape. Their creative drive and innovative content build upon a heterotopian set of metaphors – laboratory, field and stage – amalgamating them into a learning ecology.

Key words: learning ecology, spatial co-production, planning imagination, participatory design, public spaces, lifelong learning, role-game based learning.

1. Ecology and Learning: common measure

The notion of "learning by doing", enriched by a broadened notion of ecology, sheds light on the mutual contiguity of "learning ecology" (cfr. Schreurs, Pluym, 2012). The twofold nature of the participle enables the dual perception of "learning ecology": as a process of gaining knowledge in ecology of urban environment and as an ecological approach to the process of professional education.

In order to highlight the inventive design-and-planning-practice which puts the 'studio' on the 'stage', we use broad contours of a theoretical framework within the metaphor of 'ecology' – learning, of learning and of planning. The term ecology has several meanings:

- "a habitat in which individuals of various species co-exist in relative stability and inter-dependence;
- a set of overlapping but distinct territories and niches, each with its own rules, affordances and constraints;
- a self-regulating system that consumes and recycles resources;
- an organisation in which change occurs over time, modifying individuals, species and inter-

relations, without destroying the overall cohesion and balance." (Open-space learning, 2010)

Learning ecology has all these dimensions, interwoven by one of high importance - cognitive reflexivity (O'Toole, 2010). Kevin Lynch adds a value-loaded critical dimension to this reflexive character of a learning ecology, naming the connection of inner experience and outer action among other characteristics. (Lynch, 1981)

Confronted with the 'necessity' to design the physically, economically and socially viscous built environment, the disciplines of architecture, landscape and city design and urban planning have to reflect critically on the values, conceptual models and operational frames that are actually taught.

2. How we can know what we do not know: designing uncertainty

Rapid change of material and social conditions, contested (re)production of meanings, exponential demographic growth, exploding social-economic tensions, global structural change and transforming metabolisms are the intrinsic shapers of uncertainty. The general feeling of uncertainty has been the subject of many considerations about planning, future explorations, social conditions and societal expectations. 'Resilient collective structures' is a provisional definition for design strategies which are able to cope with uncertainty – and thus with flexibility, multiplicity, complexity, contradiction…

Developing knowledge which can cope with uncertainty in urban design and planning is an issue. This brings forward the issue of self-reflection on the actual/potential contributions of academic education, bringing its 'inner experience' of the laboratory in balance with 'outer action' in the Field.

3. The Field and the Lab

Metaphors of Field and Laboratory highlight the dichotomy between realities of a changing urban environment and academia as a workplace for researching, observing and approaching these changes. Both the Field and the Lab nowadays are facing the challenge of finding more communicative tools as well as an "emotionally rich language" (Sandercock, 2001) available for all actors involved in urban co-production.

Available today for the practitioners' "toolbox" , complex methodologies, instruments and approaches of urban design and planning as well as urban space related policies are created to a great extent from the belief (rooted in modernistic metaphor of city as a machine) of certain architects, planners and designers that space is a self-evident matter of design (cfr. Schreurs, Pluym, 2012).

Architectural practice is generally drawn from architectural design theory, which was, in the 1970s -1980s, "recognized either as elitist because of its affinity with 'art', creativity and insistently claiming avant-gardist positions or as epistemologically robust and independent because of its autonomous 'designerly' ways of knowing" (Schreurs, Plyum, 2012).

Mirroring the practice, academia nowadays still forms an 'autonomous' professional mentality. This mentality, incarnated in rather technical knowledge and skills (of spatial and architectural typology, morphology, structures of different scales and drawing-based production), shares the same destiny of the existing 'toolbox', conflicting and reality confronting. In this way, being ideologically fed by physicality and dynamics and ignoring theory, urban research and education meet defeat of three kinds: they estrange themselves from the 'real world', lose their role as facilitators (producers) of innovations and leave in the 'time scissors' suffocating practice without ongoing changes reflecting theories and appropriate instruments.

The following writing centres on two cases, which were approached by learning ecology. The first is a program of continuous professional education (CPE) *RADI RIGU!* ("CREATE RIGA!") - a number of innovative workshops in urbanism, undertaken in 2011-2012. The second is an academic course for masters students of strategic spatial planning studio at the Department of Architecture, Urbanism and Planning of the KU Leuven.

Each narrative will highlight several aspects. First: how can 'learning ecology' be applied to professional practice and/or academic learning environment? Second: which attitudes, mental ecologies and techniques are mobilized by the intensive program and the studio? Third: in which way does ecological approach to education modify urban mental landscape and enrich urban imagination? Explaining the cases and concluding the results "in the wild", we will try to discover how the "step to an ecology of mind" (Bateson, 1987) can be taken, creatively transforming a traditional format of master classes and design studios.

4. Learning ecology in practice

Organized in 2011-2012, the intensive training program in urbanism and city planning *RADI RIGU!* (CREATE RIGA!) was a reaction to the actual condition of planning policies and accepted planning practice in the city. It was a bottom-up initiative of a multidisciplinary group of professional planners, architects, landscape architects and civil and road engineers.

A scope of several factors worked as the driving impulse: the lack of political interest regarding public spaces, insufficient professional knowledge and experience in urban planning and design, and passive societal attitude. When starting the intensive training program under the subheading "public space as lever for social revival", the team put forward a broader aim - to bring to the 'round table' as many stakeholders and shareholders of Riga's development as possible, in order to activate discussions about an integrated approach to city development and to create trust among professionals, politicians and inhabitants.

The Intensive Program was inspired by "PrakTijk", a series of workshops on public space at the Belgian coast (Schreurs, 2008). It reconstructed a form of social action – '*talka*' – a kind of voluntary work broadly used in the USSR.

Spread over one year, the program consisted of six sessions of three days' intensive training and a study trip to cities of Antwerp and Ghent in Belgium. High-level professional expertise was guaranteed by an international team of coaches from University of Leuven (prof. J. Schreurs and prof. J.Van den Broeck), Free University of Brussels (prof. M. Martens) and experts from Copenhagen (T. Saaby, City architect), Antwerp (K.Borret, City-architect), Barcelona (J. Farrando, architect) and Moscow (A. Schtetinina, architect, leader of Arhstojanije)[1].

The format of the workshop in the field of urban planning and design was used broadly in the post-Soviet period for giving answers on rapidly and chaotically changing urban environment of Riga. A significant number of international workshops, seminars, contests and *plain-airs* were organized in Riga to develop large-scale real estates and to provide expertise in urban planning and design. Despite these activities, their actual impact on the built environment of the city remained insignificant because of the undefined responsibility for the implementation of the results and the elitist character, serving factional interest of architects.

Aiming at overcoming these faults, RADI RIGU! applied an integrated three-dimensional format, amalgamating traditional form of master classes, urban action and implementation-aimed outcome. The EAR acronym – educate, act, realize – envisages listening and hearing of multiple voices in the co-creation of space. It reflects three guiding principles: learning by doing, shared knowledge in practice and outcome into implementation.

The role-game approach to learning process was exercised in order to create a synthesis of these principles. First, RADI RIGU! provided experience in all stages of planning and design, from project definition to project management, inviting participants to become personified with different actors involved in the processing of urban project. Secondly, all participants, engaged in different architectural offices 'in the wild'; some of them having leading positions were organized into the mixed teams of five persons with a task to work together during one year on five of Riga's neighbourhoods. Thirdly, an atmosphere of a temporary planning laboratory (cfr. Gutmane, Schreurs, 2012) was strengthened by the most crucial provision: the results of the intensive program should be elaborated aiming at their implementation. The element of a 'reality show' was added by closing a contract with the Riga City Development department about the implementation of the outcomes of the teams' work.

The process of learning, having the format of a master class, used research by design as the methodology for assessing complexity of urban environment and for making choices of cases to work on. The workshops were organized into three blocks, each aimed at a different stage of project processing.

Table 1

Block 1 Method	Block 2 Design	Block 3 Management
Project preparation	Concepts	Implementation
Project definition	Sketches	Strategies

Collaboration as an overarching approach was applied to the whole process including the pre-phase. In the selection of cases (from 26 to 12 to 5) different stakeholders were involved: the planning team of the city development department, politicians, professors from the University of Latvia, coaches, and NGOs. At the first class participants had to choose five from the selection offering twelve spaces according to the criteria which had to be applied for the future project:

1. Strategic character of the neighbourhood
2. Large involvement of inhabitants
3. Public ownership
4. In favour of local authorities
5. Complexity
6. Shining example

Selections were made in an interactive role-based way. One of the stages of selection included voting. Instruments like mental mapping, analysis of different scales ('from space to place' method), visits of the sites, cross-evaluation and diversity games, combined with theoretical information given in the lectures by coaches, helped to receive and to adapt significant amount of new information as well as to apply the principle of integrated approach in the workshops and own everyday practice.

The motivating environment of the master classes was created by using various techniques: briefings, open cafes, elevator game, open space technology, World Cafe for discussions and brainstorming, social diving, ethnographic investigations to explore the cases' territories, actual tasks formulated by the municipality/community and practical value of the outcome of the learning process.

Bringing shared knowledge in practice was articulated as an urban action. The ultimate task of the programme, disclosed in its title "Create Riga!", was to make participants assume the role of professionals as mediators between decision-makers, stakeholders and the public. The traditional soft PR campaign tools were used: a website[2] information in public media and open lectures given by the external experts. Two public conferences were organized during the programme.

An effective tool for getting closer to users and city administration was 'moving workshops'. Started in the House of Architects, participants worked in all selected neighbourhoods, in the schools or district administrations, involving the local people. It created a platform for effective communication with inhabitants and local authorities.

Between the seminars participants did their 'homework' on participative design, organizing workshops for children and involving different departments, real estate developers, NGOs, police and port authorities.

The integrative approach, applied as a methodology to all levels of the programme (aim, structure of the workshops, preparation of the process, selection of the cases, branding and implementation of the results), doubtlessly served as a strong communicative platform. However, it must be admitted that the PR programme planned by the organizers was not entirely successful due to financial and time shortage. Big contribution to the successful 'RR-story' concerning 'best practice' public image was made by the well-organized and broadly (also by municipality) popularized final conference in the City Hall as well as the FORUM-format of this event.

Concerning the implementation of the outcomes of RADI RIGU! it is worth mentioning that the agreement made with the City was an encouraging step and a sign of trust from the side of the city administration and politicians because of a rather vaguely defined outcome and unknown result of the whole event. Moreover, the agreement was made with a programme which was just an urban action, without any legal status. *RADI RIGU!* elaborated programs for regeneration of five Riga's neighbourhoods using the strategic projects as a lever. From all projects presented, two went through valorisation on the political level and resulted in a political decision to subsidize further development of the projects. One can argue that *RADI RIGU!* became a unique example of (positive) collaboration between city authorities and urban activists, built on mutual trust.

5. Studio on the stage

An attempt to apply the EAR approach to the learning in the academic environment was recently undertaken within a masters program at the Department of Architecture, Urbanism and Planning of the KU Leuven. A strategic spatial planning studio about the city of Antwerp, organized during the fall semester of 2012, is part of the core of two post-graduate programs: the Masters in Human Settlements (MaHS) and the Masters in Urbanism and Strategic Planning (MaUSP). Both programs have an international scope: the nine students that enrolled in the strategic planning studio came from different places in the world: Spain, Columbia, Italy, Greece, Kenya, Turkey, Belgium.

The studios' main ambition was to envisage possible key strategies and key actions for a connection of the brand new masterplan of Antwerp's neighbourhood, New South (*Nieuw Zuid*), through the lenses of participation and envisioning.

The main challenges the studio met were:

- Complexity of the existing planning context
- Different interpretations of the notion 'participation'
- Students' insufficient experience in spatial and participative planning.
- 'Open' character of the learning process: unpredictability of the outcomes, determined by existing planning context.
- The format of the studio's limited time frame

In order to create synthesis of knowledge required for the fulfilment of the task of the studio, and simultaneously to provide training in the necessary skills for dealing with participatory planning, an 'ecological' approach to learning process was developed by the coaches of the studio. This approach was successfully applied to the Planning studio in 2011 and centred on the idea of the similar nature of the academic studio and the space itself. The concept perceives both environments as open, evolving and interactive, continuously responding and adapting to a setting that consists of dynamic relations between a diversity of agents (Schreurs, Plyum, 2012). The techniques proved in the previous studio - open studio format, interwoven dynamic of analytical and designerly activities, external informative lectures, field work and intensive interaction with stakeholders, close social exchange with coaches – were enriched by the role-play approach.

From the very start of the studio students were encouraged to make a psychological exercise shifting their self-identification from an image of a student to an image of a professional working on a real project. In order stimulate the shift, some helping tools were created: students were asked to give a name to their 'consultancy group', to define their role in the process of elaborating the development project for the site of New South, and to design the logo of the 'group'. The most challenging and emotionally and mentally controversial task - as it turned out during the process – was the shaping of one's own identity within the process. To valorize the impersonating exercise the students were asked to design mid-review as a 'real planning process':

- To design the process in a way which gives more opportunity in a short time to gather as much as possible of necessary information
- To situate themselves clearly in the process of the particular project towards other stakeholder as a tantamount partner by articulating own role, tasks and issues to deal with.

In order to fulfill the task students shaped the process of mid-review using an open space technology (OST) and putting themselves 'on the stage' as moderators. They designed a series of short visual and audio games, inviting jury members to play the roles they have 'in the wild' as civil servants or designers and to assess the planning context and conflicts of the project, instead of reflecting on the work done by students selves. Jury members were invited to take place by beforehand prepared tables with their 'business cards' placed on, creating mixed discussion groups of coaches, civil servants, students and coaches from another studio. After the students' short 15 minute presentation, the 'discussion groups' were led by the students through several different games, the aim of which was to highlight the mismatches, challenges, gaps and solutions for the different edges of space concerning several issues like connectivity, populating and shaping the neighborhood. Each group member was asked to reach a consensus about the issues and afterwards to present the result to the audience.

The overarching pedagogical goal set by the coaches was to train the skills needed for negotiations and discussions on planning and design, as well as experiencing power dynamics of planning 'in reality'. Two hours of 'planning' experience, lived out on high emotional 'stream', delivered significant amount of information on different levels. Firstly, valuable materials were gathered from the participants concerning problems, opportunities and solutions, which otherwise asked for higher time investment. Secondly, the understanding as well as the feeling of the controversial nature of negotiation and communication constrains in planning were formed. Thirdly, students own abilities and skills were proved and a high level of constructive self-reflection was reached, which would have been practically impossible to achieve using a traditional hierarchical 'two-dimensional' form of exchanging presentation and reflection between 'recording' students and 'judging' jury.

6. Conclusions

Framed as a 'learning ecology', workshops or studios bring students and coaches together in a dynamic frame. 'Learning by doing' methods play a very important role because much of the knowledge needed to design and to develop urban project is of a tacit nature. The EAR-approach - which brought together important stakeholders such as politicians, decision makers, inhabitants, professionals, foreign experts and urban activists - marks a shift towards an ecological approach to planning education and creates a new planning and design imagination which requires an expanded, more communicative and emotionally rich language available to its practitioners: a language, which can be used for organizing hope, negotiating fears, and mediating memories (Sandercock 2001).

'Ecology' serves planning education as a generative metaphor at least on two levels.

If space is considered as "complex clews that consist out of a patchwork of rapidly changing and potentially conflictive relations: relations between people, machines, money, images, objects, ideas, buildings, locations, ethnicities, streets, identities, goods" (cfr. Schreurs, Pluym, 2012), then learning processes gain from being conceptualized as a "study of places of habitation". Such ecological framing makes educational settings more effective, enjoyable and motivating when models of habitation are rebuilt on the school 'stage'. As in a theatre, an educational context can stage processes which are taking place in real life: coalitions and conflicts between stakeholders, co-production within limited time-frames, complex information-gathering. As such, participants/students can learn about the 'world of planning' in an analogous way within the educational setting. Metaphorizing academia as a 'laboratory' then helps to restore its position on the urban stage as a workplace for observation, experimentation and innovations.

On the other hand, the educational setting can also be staged using ongoing real planning processes. By bringing the workshop/studio amongst stakeholders, and by asking the participants/students to conceptualize, deploy and play a meaningful role within the ongoing process, a heterotopic setting is created. (Young) professionals who engaged in an educational context (workshop, studio) are invited to play - as students - roles within a (professional) planning context. Metaphorizing academia as a 'field' then helps to remove the perception of the educational laboratory as closed, far from practice, and 'scientific' (*Ding an sich)* by putting it in the heart of urban life.

This intricate setting can productively be structured as a learning ecology in which education, action and realization are the building blocks of a mental landscape and in which rational and emotional traces interweave into a mental ecology. The ecology of education coaches' specific imaginative skills is of great importance, without which we will always reduce emotional diversity of the human landscape to the physicality of urban environment.

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[2] www.radirigu.lv

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Landscape Strategies for Urban Waterfront Zones

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Abstract: Urban waterfront zones are an important resource in the urban landscape. They represent the city's image and have a critical influence on the city's ecological environment. Design planning should be considered in terms of four aspects: flood control, ecology, landscape and recreation. The city's premier waterfront often combines complexity and vulnerability. By looking at Nanchang Aixi Lake as a case study of landscape design, we explore an urban waterfront landscape design strategy and advocate ecological priority in the design of waterfronts.

Keywords: waterfront, landscape, sensitive areas, sustainable development, ecology.

1. Introduction

Urban waterfront zones are an important feature of the city's landscape; they improve the ecological environment and the city's image, extend recreation space, and develop tourism. People attach importance to the urban ecological environment. The development and renovation of urban waterfront zones is an important element of urban construction, as the waterfront is a very important criterion for valuing the city's landscape. Urban waterfront landscapes present the most complex and most challenging kind of landscape design. They require a fine balance between natural and artificial characteristics. Here we take Nanchang Aixi Lake as a case study of landscape design to advocate the ecological importance of a waterfront design strategy.[1]

2. Definition and features of urban waterfronts

1.1 Definition

Waterfronts are particular spaces in any city. The Oxford English Dictionary (1991) defines a waterfront as a: "Street, part of a town, etc that is next to water (e.g. a harbour or the sea)". It is not only a border, but also forms the water's edge. Generally speaking, 'urban waterfront' is "the general term for the areas that connect both land and water." They are composed by water, land and the water's edge.

1. 2 Features:

1. natural heritage
2. ecological sensitivity
3. public openness
4. human history
5. organism diversity

Ecological protection should be the most important goal of waterfront landscape design.

2. Urban Waterfront Landscape Design Strategies

Taking Nanchang Aixi Lake as an example, we examine urban waterfront landscape design strategies.

Aixi Lake sits on the eastern fringes of Nanchang CBD and has excellent road and transport links to the city centre and the outskirts. A new district is being developed around the lake based on technological, industrial, commercial and residential land use. The lake will not only serve the new district but also the city and the region as a whole.

There are many industrial parks, squares and memorial buildings that lack ecological design and natural landscape features and are unable to provide adequate support for sustainable urban development and ecological enhancement .

The city will grow and will require qualitative recreation, tourism, conservation and protection of its water resources and natural environment.

The current status of the site is almost undeveloped. It has some original ecological features. The water quality of Aixi is moderate. The northeastern coast is a wild landscape. It has some natural wetland habitat which can attract characteristic birds. The natural vegetation around the lake consists mainly of ground cover, bush and aquatic plants, with few tall trees. The terrain slopes gently. There is quite a height difference between the bank and the water's surface. Accessibility to the water is quite poor. Water accessibility and ecology are the key aspects of the design.

Upon studying the site's current situation and the city's current open space and recreational space, we decided on a planning position regarding Aixi Lake based on the concept of "recreating ecological features and a place of entertainment". This concept not only favours the city's long-term development, but also advocates playing an important role in improving the water quality of Aixi Lake and its surrounding environment. In keeping with the features of Aixi Lake, the landscape design adopted the design philosophy of giving ecological priority to the site.

2.1 Environmental Sustainability

The proposed design integrates the environmentally sustainable principles required to ensure the lake's functional and aesthetic longevity. The following environmental initiatives form an important part of the landscape's design:

Use of native vegetation;

Appropriate natural treatment and planting of banks to reduce erosion; Capture and treatment of storm water from hard surfaces through bio-retention filters to remove pollutants and nutrients;

Prevention of raw sewage discharge;

Reintroduction of natural eco-systems such as wetlands and islands,

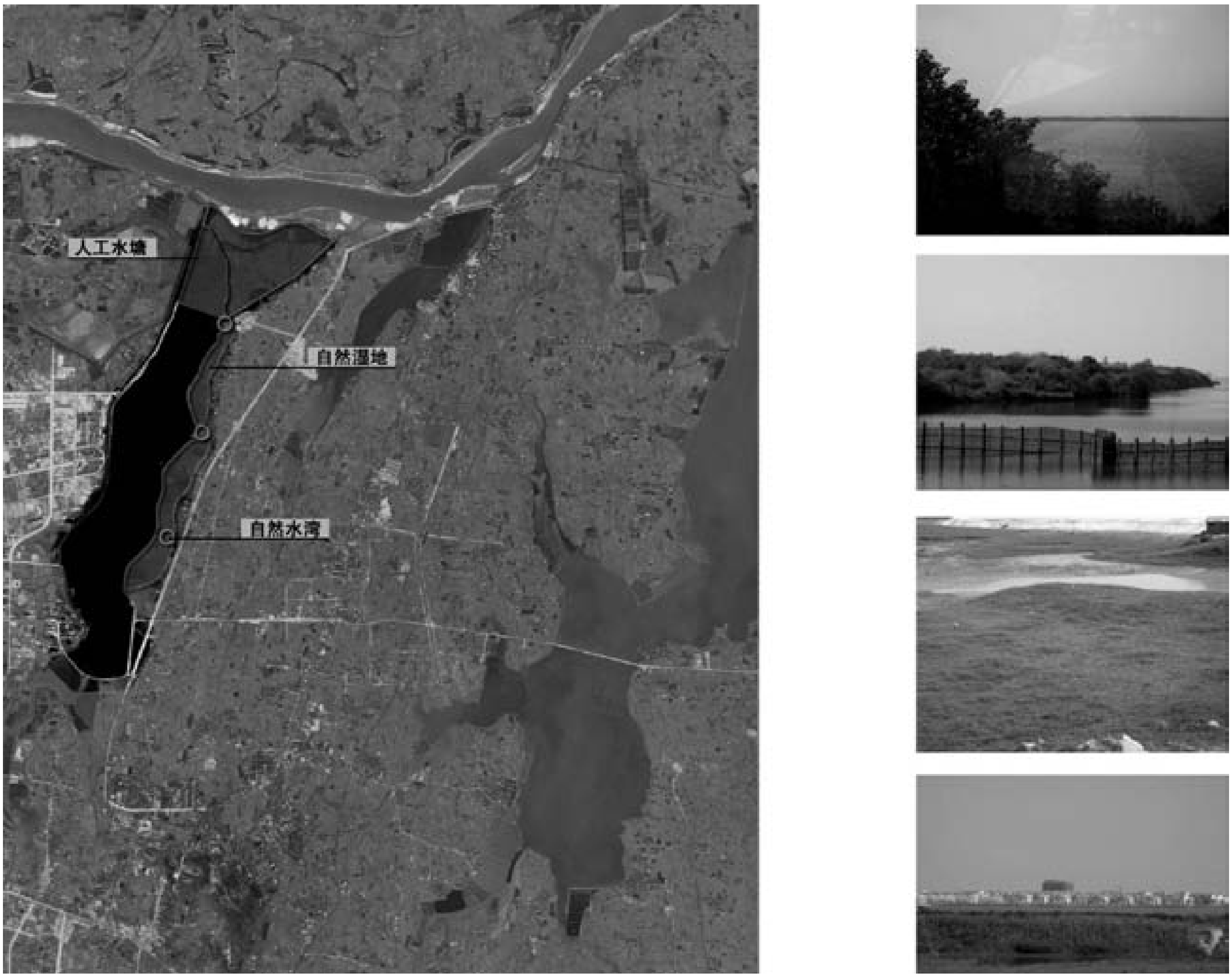


Fig.1 Current Site

which in turn improve the habitat for native wildlife; Circulation and aeration of the lake water assisted by a large water fountain.

These initiatives have been carefully incorporated into the master plan to ensure an environmentally sustainable solution that will enhance Aixi Lake's natural landscape.

3. The ecological priority principle

The natural water system is a vital organism, and requires a natural ecological environment to stay healthy. Ecological priority entails the following points:

1) Keep to the integrity rule: The waterfront ecological development emphasizes harmony as whole.

2) Integrate the landscape ecology idea: Apply the idea of ecological balance from the natural world to the waterfront landscape development. Simulate a natural ecological community structure, based on planting design, using natural materials to create a natural and livable waterfront landscape.

3) Biodiversity: landscape reflects the diversity of species and structural and space diversity, creating a favorable ecological environment.

4) Respect for the environment in accordance with local conditions Design with native plants, create a varied space.

Generally, the character of the landscape will be natural with formalized accentuation at strategic points. As a rule, the landscape will be unified by a natural canopy and a mass of native trees and shrubs. The landscape will be a contemporary expression of both the new and old values of Nanchang. Featuring a wide range of facilities, spaces and experiences, the landscape will appeal to all age groups and demographics.

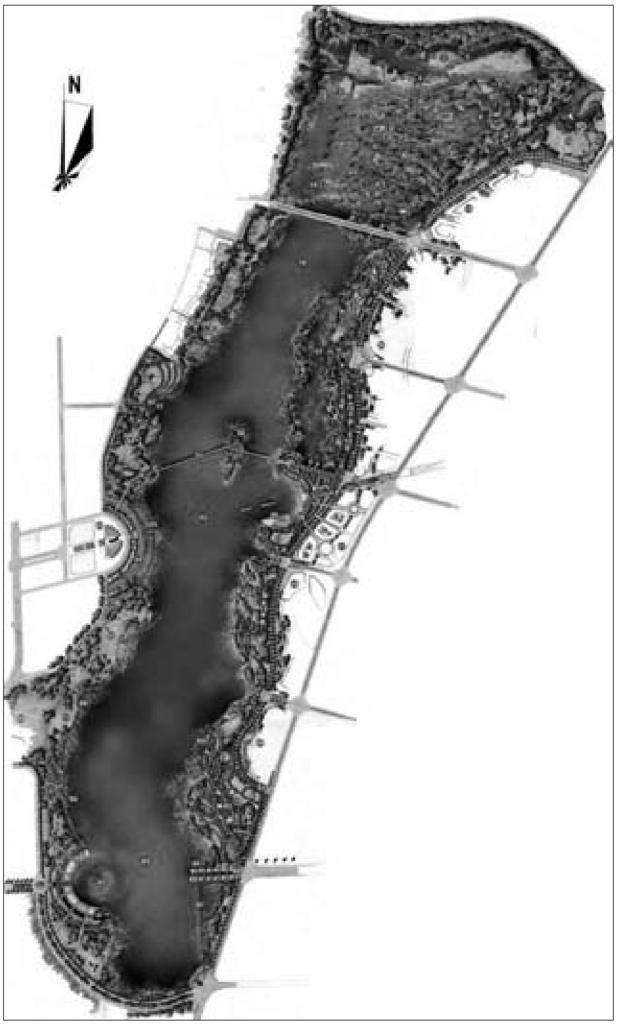
Presently, the lake is defined by a high earth bund, which physically and visually disconnects the lake from its surrounding edges. A number of specific treatments have been considered that retain the concept of the bund to control flooding while forming stronger connections. This has been achieved by modifying the shape of the bund to make it more landscape sensitive and by relocating it within the confines of the public open space zone.

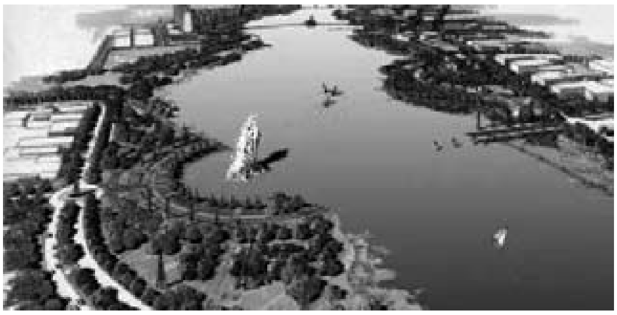
Highlighting Nanchang's culture, traditions, myths and natural features, a series of precincts have been developed, each with a particular theme and experience.

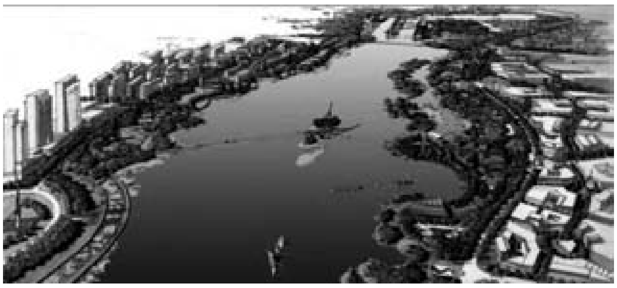
Four recreational lake zones have been defined, each with a particular function relating to adjacent land recreational activities and precincts: Ceremonial Gateway Lake, Events Entertainment Lake, Recreational Lake, and Nature Lake. Based on cooperation and integrity, there will be discrepancies between each precinct.

3.1 Landscape planting reflects the area's characteristics and the waterfront's distinguishing features

Planting is not only the basis of the waterfront's landscape image, but also the main factor for driving the waterfront area's ecological benefits. This project assesses optimizing original plants to create different landscape atmospheres according to the features of different precincts. Plant design uses the concept of landscape aesthet-







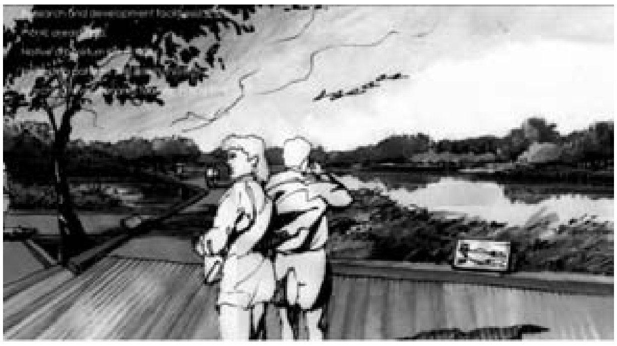


Fig.2 Master plan design concept

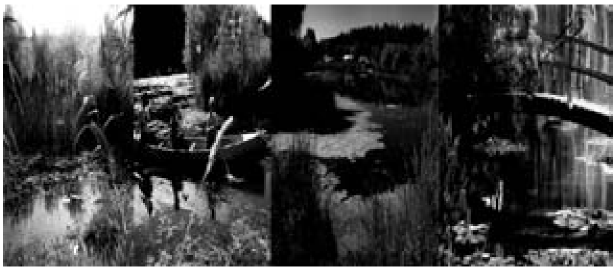


Fig.3 Site design with ecological planting design

ics to restrict space, use the natural ecology rule, strive to make the plant reflect the site's characteristics and represent Aixi Lake's unique features.Taking advantage of plants with different appearance, based on the same style, creates a harmonious unity in the waterfront's planted area. Preference is given to original trees, with consideration of their effect on current plants. The landscape is based on an ornamental forest, alternated with an open vegetation zone and a regional wetland.. Meanwhile, each plant's different space features will be used to create a recreational space for activity and rest.Plant varieties and landscape styles vary according to different precincts. In wetland regions, where plant allocation adopts the natural ecological cycle, the aquatic plant is the most abundant and has the most diversity.While in the "Lake Community Civic Park", the plant design was suited to an urban style, with Rosa chinensis, lagerstroemia indica, and Asculum chinensis as the primary species.The main plants chosen for the cultural park have cultural connotations: bamboo, Prunus mume, Campsis grandiflora, and cortaderia. The colorful foliage of the trees and the fragrant plants in the recreational park area create a relaxing atmosphere.

3.2 Lakeshore management according to different site characteristics based on cooperation.

The design of different waterfront areas varies according to the intensity of tourism activities and environmental sensibilities. Natural revetments are placed for ecological preservation of the area and Natural Park, where wild life's habitat and migration passages can be found. Artificial revetment for commercial entertainment towns and activity plaza areas cater for massive steams of people, and semi-natural shore line treatment is envisaged for two types.

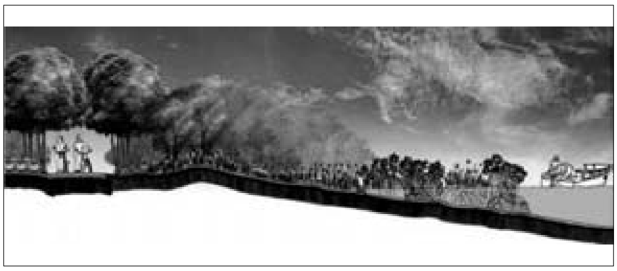
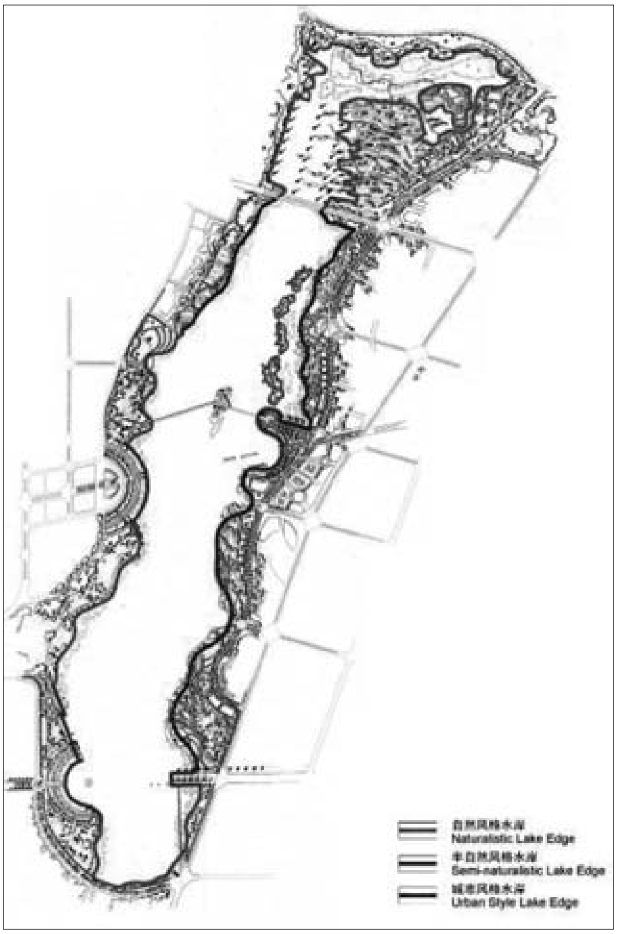


Fig.4 Different shore line design

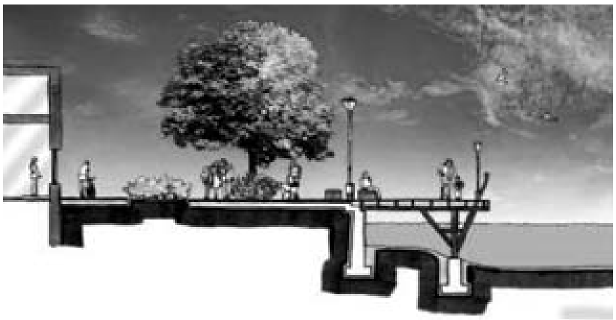


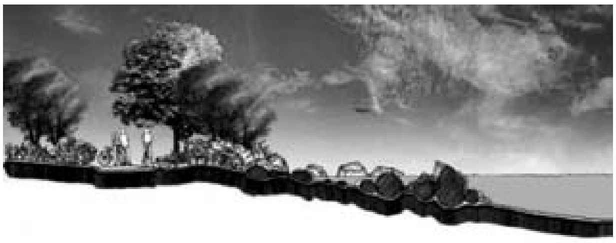
There is an earth bund with a huge height difference on site. The project keeps the band's flood control function while adjusting it to suit the landscape, surrounding land use and recreation activities. Reform of the bund is conducted at macroscopic, mid-scale and microscopic levels. On the eastern side of the lake the proposed road that defined the edge of the lake will be lifted to levels at least equal to the height of the bund. This will maximize spatial connections and will form a better and stronger relationship between the lake and its surrounding edges.

3.3 The concept of an ecological natural landscape embodied in architectural details

Within the overall principles, Aixi Lake planning is based on achieving a design vision to promote the concept of an ecological landscape. Based on guidelines of simplicity and comfort in architectural design, structure is a cultural symbol in harmony with the surrounding environment. Traditional materials used in certain parts of the structure illustrate the historical past.

The design takes advantage of modern energy-saving ecological technology and road design. The simple design of paving and pebble paths, the selection of local hard wood without any painting but with its the natural surface, and wait until it matures into a grey color. These strategies ensure the harmony of both Aixi Lake, and artificial and natural landscape.





4. Conclusion

The design of Aixi Lake within the whole framework of Nanchang, provides a space for leisure entertainment and facilities, while improving the water quality, Aixi Lake environment, and the surrounding district. The landscape recalls the cultural history of the site through the sculptural elements and subtle References: found within the landscape. Landscape is the most direct and basic goal of waterfront planning. Clear water, rich green vegetation, and artificial constructs communicate with each other in a natural and pleasant way. All of these form a harmonious and ecological waterfront landscape. Only if we respect the fragile ecological system of the waterfront and improve it, following the ecological priority rule, can we balance the complex urban ecological system and work towards a truly ecological city.

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1. The project name is " Nanchang high-tech district Aixi Lake landscape planning", all images is from the project report. The chief design of the project is Lesile Wood.

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Spatial Imagination and Underground Spaces: Case Study of Tehran Metro Stations

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Abstract: In recent centuries, due to the development of subways, malls and their interconnections, underground spaces have become a major part of urban spaces. An important point is the process in which the spatial image forms. In fact, in usual urban spaces, visual interactions with environmental and urban elements influence spatial image and identity. While in underground spaces, where there is an absence of such interactions, spatial identity and image are concentrated on architectural design. However, there are different approaches in forming identity and image in underground spaces: conformation of lower and upper urban space, creation of contiguous identity in spaces, or forming separate spatial identities. In this article a semiological analysis is applied to metro stations in Tehran and the approaches used in the formation of their identity.

Keywords: spatial image, underground space, semiotics, identity, metro stations, Tehran.

1. Introduction

Underground spaces are usually known as a 'solution space' in accordance with sustainable development due to the horizontal expansion of cities (Durmisevic, 1990). Of course this form of spatial development seems become increasingly attractive in the future. Nevertheless, current forms of using underground spaces are actually quite numerous. Nowadays, we are spending an important part of our life underground in different ways. Parking lots, shopping centers, subway stations, etc. are just some underground spaces that are used in our everyday life.

Among these spaces, metro stations are the most populated. In fact, these stations, sometimes combined with shopping centers, are public places with enormous amounts of visitors. That is why the qualitative aspects of these spaces might be considered more important than parking spaces or infrastructure. However, underground spaces usually face a problem, which is the lack of visual interactions. As a matter of fact, in common urban spaces, one of the most important sources of environmental data are visual interactions. Landscapes, urban monuments (whether it is a special building or monuments like statues etc.), urban green areas and even some disorders like traffic jams, generate a totality, mostly based in visual terms, which affects the image of an urban space and from a broad perspective, produces a part of our urban image. But in underground spaces, the lack of such visual interactions leads to a state in which users may lose their position regarding the cognition map. An essential result of this situation is that underground spaces cannot achieve a specific identity.

Of course, there are several ways for generating identity and this shortage can be overcome by different measures in such spaces. In this paper, through a semiological approach, metro stations in Tehran are studied. In this regard, there is first a review on theoretical aspects, and then some specific stations of Tehran's metro network have been selected. Therefore, the relationship between the symbols used in the station,the characteristics of the urban environment on the surface and also the name of the station have been analyzed.

2. Theoretical fundamentals

2.1 Image of the city

Spatial image is a term mostly discussed in environmental psychology. Kevin Lynch believes that "environmental images are the result of a two-way process between the observer and his environment" (Lynch, 2007: 157). In other words, in the process of perception, a conceptual comprehension of the perceived space will be generated in the mind of the audience (Norberg Schulz, 2007; Paumier, 2004). This comprehension, known as image, will be the basic pattern, and any further perception of that specific space and even other similar spaces will be based on it (See Lynch, 2007; Norberg-Schulz, 2007).

One of the essential parts of this process is formation of a mental map. In fact, going through different spaces, the human mind generates a guidance map. This map, known as the 'cognition map', is the very means that leads us to specific places and is the most important part of the process of orientation (Lynch, 2007; Carmona et. al., 2006). Actually it is obvious that a cognition map is generated by environmental data. Thus the more data gained from the perceived environment in the mind of the observer, the more exact and precise the cognition map.

The quality of a space which may result in the generation of an image is called *imageability.* According to Lynch, imageability 'is that quality in a physical object which gives it a high probability of evoking a strong color, or arrangement which facilitates the making of vividly identified, powerfully structured, highly useful mental images of environment.' (Lynch, 2007: 158).

On the other hand, Lynch discusses the elements which are involved in the generation of the image of a city. As a conclusion, based on an experimental study, he represents five elements in this way, which are paths, edges, districts, nodes and landmarks (Lynch, 2007: 160-161).

In other words, although the image of the city for any individual citizen is unique, there are some aspects which are shared in common between them; and Lynch believes and proves that these common means are the five elements of a city's image.

2. 2 Underground spaces

Underground spaces might be considered as one of the very early houses or shelters of human beings. Living in caves or pit-houses, especially in cases like Cappadocia (ancient Persian city in central Anatolia, Turkey), are evidence of such an argument. In fact, ancient humans used caves, whether natural or artificial ones, as their first houses. But while man's construction abilities improved, underground spaces where utilized as warehouses and so on.

As the industrial revolution changed the essential features of cities, the idea of using underground spaces as service spaces was rising. The most famous idea was introduced by the French architect, Eugène Hénard (1910), in his paper "The cities of the future", which consisted of different means of public transport, organized in different levels. Nowadays, most buildings, especially high rise ones, use underground spaces as parking areas, installations, warehouses, etc. Of course, underground spaces are not merely limited to such uses. In fact, various ways of using underground spaces have been developed which have led to the emergence of shopping centers, museums, railroad stations, etc. Furthermore, going through underground space has sometimes been seen as 'solution space' as a matter of urban sustainable development (Durmisevic, 1999).

However, subways and metro stations are known as one of the most important types of underground spaces. This importance is rooted in different characteristics. First of all, public and private realms play a role. In fact, whilst most of the underground spaces like parking lots and warehouses are private, metro stations are public. On the other hand, metro stations are actually much more populated in comparison with other public underground spaces. And another reason is that the majority of urban residents participate in metro stations in their everyday life.

2.3 Semiotics

Charles Sanders Peirce (1839-1914), the well-known theorist of semiotics believed that "all this universe is perfused with signs, if it is not composed exclusively of signs". Although this was scientifically studied in the early 1900s, its use is rooted in the 'dawn of humanity'. In fact, early ancestors of ours were used to considering any unknown phenomena as divine and sinister essences and represented them via signs. However, these signs and symbols have grown and generated different cultures all over the world.

Semiology, as the science of signs, plays an important and significant role in spatial perception, whether in architectural or urban spaces. Especially in cases with limited access to actual and realistic objects, semiotics can be a very effective way. In the same way, in underground spaces, where the visual or any other way of interacting with the outer environment is dramatically less, semiology is usually the most affective means and might be considered as the only one
.

2. 4 Identity, image and underground space

Regarding the previous discussions, being in underground spaces can lead to a lack of spatial identity and image, mostly because of the limited interaction with the outer environment. In other words, according to the considerably limited relationship with outer space and its elements, the possibility of image generation, which is known as an essential keystone of identity, decreases dramatically. So in order to achieve this spatial image, a major part of identifier elements in an underground space should be generated within the place.

On the other hand, while there is limited room in most underground spaces and at the same time activities are not so varied, identifier elements can not be so various and are usually limited to facades, statues, carvings, etc. In such situations, semiology can play a significant role.

In the process of image generation and emerging spatial identity, semiotic trends can refer to different sources. Sometimes symbolic elements are developed in a contextual manner and refer to some historic and cultural elements which are linked to a specific district or region near the underground space. Also the References: used might be in accordance with the specific company or organization that is in charge of the space. Through another approach, identity might be considered as alone-standing matter. In other words, instead of looking for other sources of identity, the underground space might be the source itself.

3. Study process

In this study, in the first step, the criteria of the analysis were determined. These criteria are based on the meanings of urban areas and the semiotic features used in the spatial design of a metro station. In the next part, selected metro stations were analyzed via criteria.

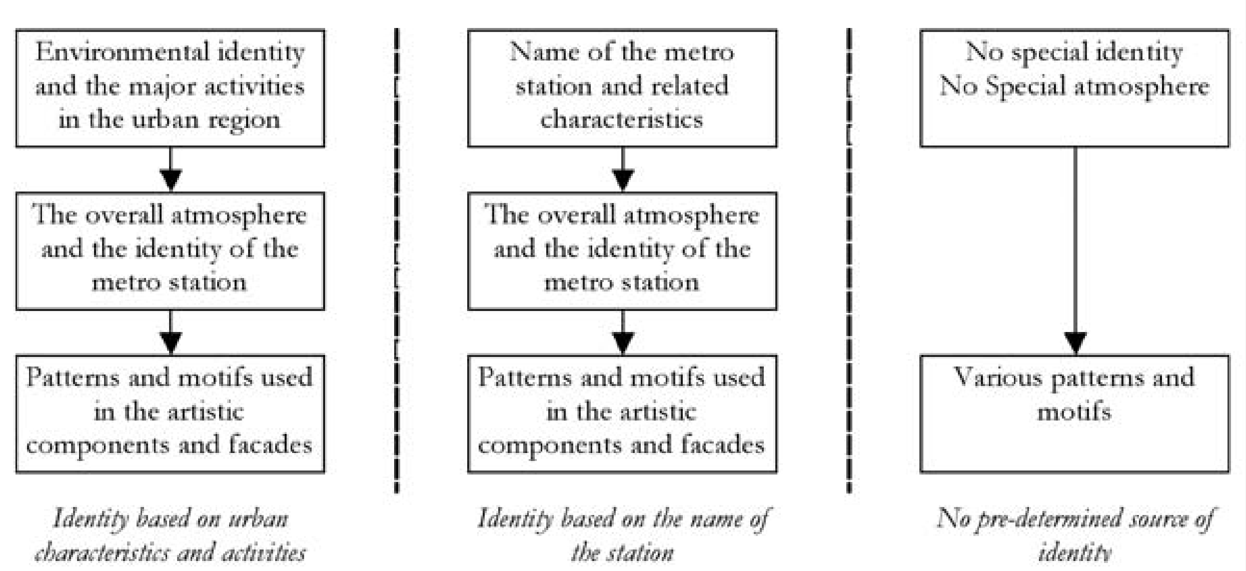

Environmental identity and the major activities in the urban region
The overall atmosphere and the identity of the metro station
Patterns and motifs used in the artistic components and facades
Identity based on urban characteristics and activities
Name of the metro station and related characteristics
The overall atmosphere and the identity of the metro station
Patterns and motifs used in the artistic components and facades
Identity based on the name of the station
No special identity No Special atmosphere
Various patterns and motifs
No pre-determined source of identity

Figure 1 Conceptual model; three procedures for generation of semiotic motifs in metro stations (authors)

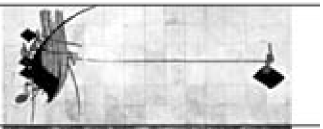
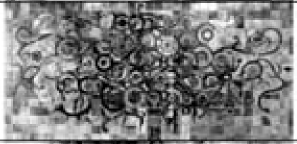
Station Name	Meaning of the name	Urban region characteristics	Semiotic aspects of the artistic elements	Semiotic elements of the station space	Sample picture
Mosalla (line 1)	Praying hall	Grand praying hall of the city	Religious symbols and calligraphies	Religious and traditional tile patterns	
Beheshti (line 1)	Name of a revolution martyr	Common space with no specific characteristics	Various subjects (not related)	No specific element	
Haghani (line 1)	Name of a revolution martyr	Common space with no specific characteristics	Various subjects (not related)	No specific element	
Mofateh (Line 1)	Name of a revolution martyr	Common space with no specific characteristics	Portraits of Mofateh (the martyr) + some religious patterns	No specific element	
Imam Khomeini (line 1,2)	Revolution's Supreme leader	Northern part of the city's historic zone	Some traditional scenes and perspectives	No specific element	
Azadi (line 2)	Freedom (name of a square and boulevard)	An important square and boulevard	Some abstract scenes of nature	No specific element	
Tarasht (line 2)	Name of an ancient village	Village surrounded by the city	Ancient monuments and decorative elements	No specific element	
Ferdosi (line 4)	Persian poet focused on mythology	Central zone of the city	Some mythological symbols and hero's	Limited use of traditional patterns	
Engelab Islamic (Line 4)	Islamic revolution	Central zone of the city, Major universities	Symbols of the Islamic revolution + some religious patterns	No specific element	

Table 1 Comparison between conceptual and semiotic characteristics of the selected metro stations of Tehran
Source: authors, pictures from official website of Tehran Metro Network (http://metro.tehran.ir/Default.aspx?tabid=360)

It is notable that these analyses were based on both the overall atmosphere of the station and the specific facades and artistic components in different parts of the stations.

3. 1 criteria and conceptual model

Independent variables used in the analysis are determined by the meaning of the station name and the image of the urban region near the station. On the other hand, the dependent variables are the semiotic features used in any station. Based on the probable ways of the relationship between the meanings and the semiotic components, three different procedures can be assumed. Figure 1 represents these procedures. In the first type of relationship, the semiotic References: were drawn out from the identity of an adjacent urban region or sometimes from major activities in this region. The second category consists of situations in which the identity and semiotic process is based on the name of the station, apart from the actual image of the related urban space. However, in the third category no special source is used for semiotic patterns. In this case, spatial elements in the final output might have coherence or might stand alone and separately.

3. 2 Selected stations

Tehran's metro network consists of four currently active routes (lines 1, 2, 4 and 5) and four others which are under construction.

Lines 1, 2 and 4 are metro routes within the city, while line 5 is a connecting road between Tehran and Karaj, a major city in the west of Tehran.

In the selection of stations, the main considered criterion was the variation of the cases to cover all different procedures. In fact, among the stations of Tehran's metro network, there are cases in accordance with any of the mentioned procedures. However in this paper one or two samples from any case have been represented.

In this regard, the selected stations are Mosalla, Beheshti, Haghani and Mofateh from Line 1; Imam Khomeini as a transfer station between line 1and 2; Azadi and Tarasht stations from line 2 and Ferdosi and Engelab from Line 4. These stations cover a vast diversity of urban identities.

4. Analysis and evaluation

Table 1 represents the characteristics of the selected stations. These data are categorized in two major parts. The first part includes the meaningful aspects of the station and its surroundings, such as the meaning and the traits of the name, spatial characteristics of the urban region related to the station and so on. The second part represents the semiotic characteristics involved in design of the artistic components and facades and also the overall atmosphere of the station.

5. Conclusion

As an overall assessment, it can be concluded that measures have been taken to generate and improve the identity of metro stations in Tehran. Furthermore, through the comparison of the criteria in different stations, it can be noted that:

- In most cases, the semiotic elements used in artistic components are related to the name of the station.
- Except in some specific cases, there is not a distinct relationship between the identity of the station and the spatial design (the overall atmosphere).
- In many cases, in the absence of a unifier concept which is needed to achieve coherence, semiotic elements are completely varied.
- It seems that the unifier concept is more effective in the process of identity generation compared with the alone standing symbols.

The measures which have been taken in metro stations in Tehran have led to higher identity and as a result better legibility. However, in some cases this identity is not coincident with the urban identity. In other words, the semiotic elements of the metro stations can lead to the generation of a specific special image; which might be similar with the urban image or completely different.

Of course, both cases can be effective enough. But more accordance between these images can lead to increased unity in the perception of these different realms of space. However, some creative and avant-garde themes in a metro station can generate identity which may even expand and influence the image of the urban region.

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Challenge in Education: a Project with a Story

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Abstract: In actual projects, the design of an integrated landscape is achieved through the participation of various stakeholders. Those who participate in the design process should cooperate with each other as a team. In the undergraduate Civil Engineering Course at Kyoto University, we provide students with a program that gives them experience and knowledge for creating high-quality landscapes or urban environments as part of design teams. This program is not simply design practice, but rather a project designed as a "story." Students learn from a feedback process that includes field surveys, planning, making sketches or 3D models, evaluation, and refining on the basis of an understanding of the story. In addition, to sustain the learning effect, the program is designed to be a memorable experience. The results of the questionnaire after the program show substantial increases in students' comprehension and satisfaction.

Keywords: design education, design process, design project, design team, feedback process, story

1. Introduction

In the curriculum of a civil engineering course, education about landscape design is very important. Many students who study civil engineering eventually work as engineers in central or municipal governments, consultancies or contractors. Many of them work as engineers in the conservation and creation of public projects, that is, planning and designing infrastructure or public systems such as roads, bridges, tunnels, rivers, coasts, railways, transportation, disaster prevention facilities and city planning, etc. They do not always become professionals of landscape design. However, their work often has an enormous impact on regional landscapes, and in the future, many of them will take positions that give them control over the operation of public projects. Unfortunately, sometimes in Japan, the lack of understanding of landscape design on the part of civil engineers results in the creation of ugly structures in public areas. Furthermore, they sometimes do not understand that a design is a kind of ornament. Such an idea leads to things existing in public spaces that are unsuitable for them. Therefore, it is very important that there be material relating to landscape design in civil engineering courses.

Recently, there has been an intensive challenge in design education in the civil engineering field (M. Schlaich 2006, M. K. Thompson 2011 etc.). However, they do not usually focus on landscape design.

The Civil Engineering Course at Kyoto University is trying to educate students about landscape design. Landscape design programs are provided for third- and fourth-year students in the undergraduate school. As an effective method of landscape design teaching, we provide each exercise with a "story." The exercise is a project instead of a mere lesson. The story enables students to position the design assignment in a social context and work with an understanding of the background of the project. As a result, according to the questionnaire completed after the course, many students reported that they were satisfied with the landscape design project.

In this paper, we describe our challenges in teaching landscape design in the civil engineering course. In particular, we describe an educational method for landscape design that includes basic understanding, hypothesis, process, output, and evaluation.

In addition, in this paper, we use the word "design" to represent a comprehensive meaning while we use the words "aesthetics" and "human factors" to represent more limited meanings of outlook or feeling.

2. Basic understanding of landscape design in civil engineering courses

In civil engineering courses, students usually learn the basic subjects of mechanics, structural engineering, hydraulics, soil mechanics, material science, and transportation engineering. Moreover, they also learn city planning, disaster recovery engineering, seismic engineering, or environmental engineering. Thus, students in civil engineering courses should learn a broad amount of different subjects relating to engineering. Though landscape design is also important for students of civil engineering, it is not easy for them to understand and master landscape design including the integration of some sense of aesthetics. Almost all of them are familiar with the scientific and analytical approaches to the design process. Therefore, what is needed in the class is an explanation that is easy for them to understand.

2.1 Fusion of engineering and aesthetics

There is a tendency for engineers to design something from a functional perspective. However, not only for civil engineering facilities but also other products, the aspect of aesthetics is clearly important. In general, the balance of engineering and aesthetics depends on the physical size of the objects or the environmental conditions to which the objects will be exposed. Fig. 1 presents a simple image of this relationship. Many civil engineering objectives are strongly influenced by engineering aspects; however, the perspectives of aesthetics and human factors must also be taken into account.

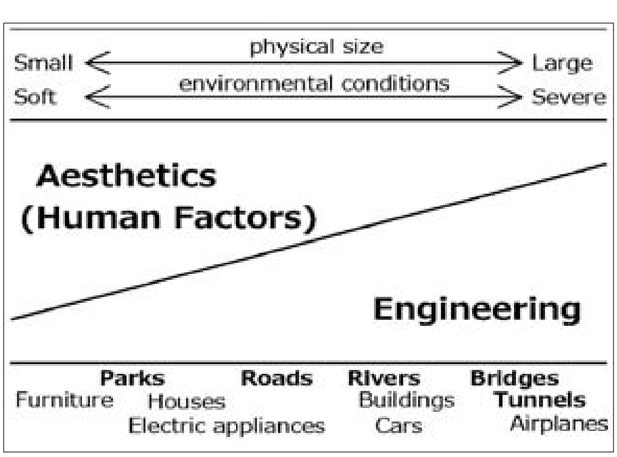
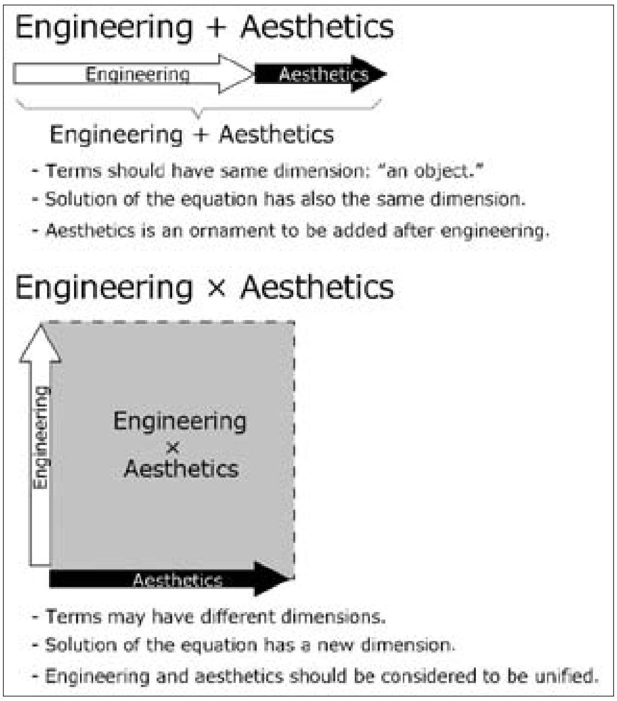


Fig. 1 Relationship of balance between engineering and aesthetics

Some students think that aesthetics are a kind of ornamental element of design. However, aesthetics are essential and a designer should take engineering and aesthetics into consideration simultaneously when designing something. Engineering and aesthetics should be viewed as intertwined.

To make students understand the meaning of "design," the analogy of addition and multiplication is useful. In the case of addition, all terms of an equation should have the same dimension, that is, a mere object. In this way of thinking, one would regard aesthetics as an ornamental element that can be added after engineering. As a result, full integration is never achieved. On the other hand, in the case of multiplication, the dimensions of terms could be different from each other. As a result, a new dimension is generated by multiplication. Thus, the multiplication approach is needed to take different dimensions into consideration simultaneously (Fig. 2). When designing or planning civil engineering facilities, it is important to integrate engineering and aesthetics. Thus, students are expected to understand this point in the early stages of study.



- Terms should have same dimension: "an object."
- Solution of the equation has also the same dimension.
- Aesthetics is an ornament to be added after engineering.

- Terms may have different dimensions.
- Solution of the equation has a new dimension.
- Engineering and aesthetics should be considered to be unified.

Fig. 2 Analogy of addition and multiplication

2.2 Accountability of public works

Accountability is required for public works. Since public structures influence society for a long time, the accountability of public works should not be limited to recent taxpayers but should extend to people 50 or 100 years later. However, it is impossible for planners, designers, and decision makers of public works to continue to be responsible for their work for 50 or 100 years. Thus, only the objects that are left behind can hold that responsibility. To hand down an appealing landscape for posterity is an immense responsibility in the civil engineering field today.

3. Hypothesis of the program

3.1 Necessity of a story

In civil engineering courses that cover many engineering subjects, it is difficult to devote adequate time for design exercises like architecture or landscape architecture courses. Hence, it is important to educate students in civil engineering courses effectively about landscape design. We defined the conditions required to accomplish this goal as follows:

1) The program should provide students with an opportunity to become interested in landscape design and participate in the class actively.
2) The program should enable students to obtain knowledge of and experience with landscape design simultaneously.
3) An effective learning experience for landscape design should be remembered by students for a long time even after the class.

To develop exercise programs that include the above-mentioned requirements, we planned to give each assignment "a story." By reading, understanding, interpreting, and sometimes partially assuming the contents of the story, students position the design project in a social context. Our hypothesis is presented below.

< *Hypothesis* >

A project with a story would enable students to have an interest in the program, participate more actively, think about the quality of the landscape by themselves, gain insight, and remember the experience in the future. Thus, their understanding of landscape design would also be sustained in the future.

3.2 Structure of the story

The story comprises three stages, namely, "background of the project," "needs of the people," and "rules of the design proposal." The story is distributed to students at the beginning of the program. The story should not be too complicated or long-winded; however, it should be an interesting story that excites the students. Furthermore, the role of the students should be clearly described in the story. For example, in the story, they play roles of participants of a competition, city planners of the municipal government, or consultants. At present, we have conducted three programs using this method, and the outline of the contents are shown in Table 1. Students grapple with the programs gradually from Levels 1 to 3.

3.2.1 Background of the project

The story started with the provision of in-depth background pertaining to social issues. Gradually, the story focused on the unique matter of the project. The description of the background helped students to gain an overview of the project, avoided too much immersion in the task at hand, and worked with an awareness of the project's social meaning.

3.2.2 Needs of the people

Next, the needs of the various stakeholders were described. These needs were set fictionally as the results of questionnaires administered to the people. They were presented to contain one or more tradeoffs.

3.2.3 Rules of the design proposal

The rules of the design proposal were described in the story. It was preferable for the story rules to be almost identical to the actual rules or systems. However, it was permitted to partially improve or simplify them for the sake of the educational task.

4. Process of the program

The most important expectation of the students in the program was that they deeply understood the importance of the landscape

Table 1 Structure of the programs

Level 1	Theme		Landscape design of a street approaching the main entrance of Kyoto University
	Purpose		a) To read the landscape of the site and surrounding area b) To analyze the utilization of the site c) To propose a renewal design
	Role of students		Participants in the competition
	Story	1) Background	Landscape design as part of the city branding of Kyoto City
		2) Needs	a) Improvement of the attractiveness of the area, b) Pedestrian safety, c) No interference with campus bus traffic, d) Respect for the importance of the entrance as an old shrine, e) Solution of campuses divided by the street, etc.
		3) Rules	Idea competition that is open to the public
Level 2	Theme		Revitalization of industrialized heritage in Kyoto
	Purpose		a) To read the urban landscape of the site and surrounding area, b) To realize that civil engineering facilities can be assets to improve the city's attractiveness, c) To accomplish tourism planning, d) To propose a renewal design
	Role of students		City planners of the municipal government of Kyoto City
	Story	1) Background	Urban landscape design and urban renewal as part of the city branding of Kyoto City
		2) Needs	a) Regional branding through revitalization of industrial heritage, b) Increase in tourists, d) Creation of a new main sight in Kyoto, e) Comfortable atmosphere, etc.
		3) Rules	Fundamental survey and design by the Department of City Planning of Kyoto City
Level 3	Theme		Renovation plan of a railway station square and a design of a pedestrian deck over the square
	Purpose		a) To read the urban landscape of the site and surrounding area, b) To plan a layout of the public facilities in the square and propose a renewal design, c) To design a deck from both architectural and structural engineering viewpoints
	Role of students		Consultants
	Story	1) Background	Urban landscape renewal project requested by the community
		2) Needs	a) Departure from the image of a station back entrance, b) Conservation of all present functions of the station square (bus stops, a taxi stand, and smooth pedestrian traffic lines), c) Creation of an attractive place as a new station square, etc.
		3) Rules	Design competition for the professional consultancies

and develop a mindset that allowed them to continue creating regional landscapes as civil engineers. Many students in the civil engineering course do not become specialists in landscape design even though it is very important for them to have a fundamental understanding of and attitude towards it. However, it is highly probable that they will become people who can influence regional landscapes. At that time, they should be able to manage the project with careful consideration of the landscape.

The process of the program is shown in Fig. 3. The students learned a feedback process that included field surveys, establishing a vision, making concepts, planning, making sketches or 3D models, evaluation, and refining with an understanding of the story.

4.1 Explanation of the project

At the beginning of the program, a project story was distributed to the students. The schedule of the program was also announced.

4.2 Organization of teams

In actual projects, the design of an integrated landscape is achieved as a result of the participation of various stakeholders. The field of civil engineering is very diverse, and each branch is very specialized. Therefore, civil engineering facilities are usually designed by a group of engineers and designers working in a team. Thus, it is important that they work well together and create good landscapes or urban environments. Even in cases where an engineer or designer plays a central role in the design, without the cooperation of the team, it is almost impossible to realize the project's purpose. Likewise, in the program, cooperation among team members was indispensable. To encourage the team to bond, we conducted an icebreaker before the exercise.

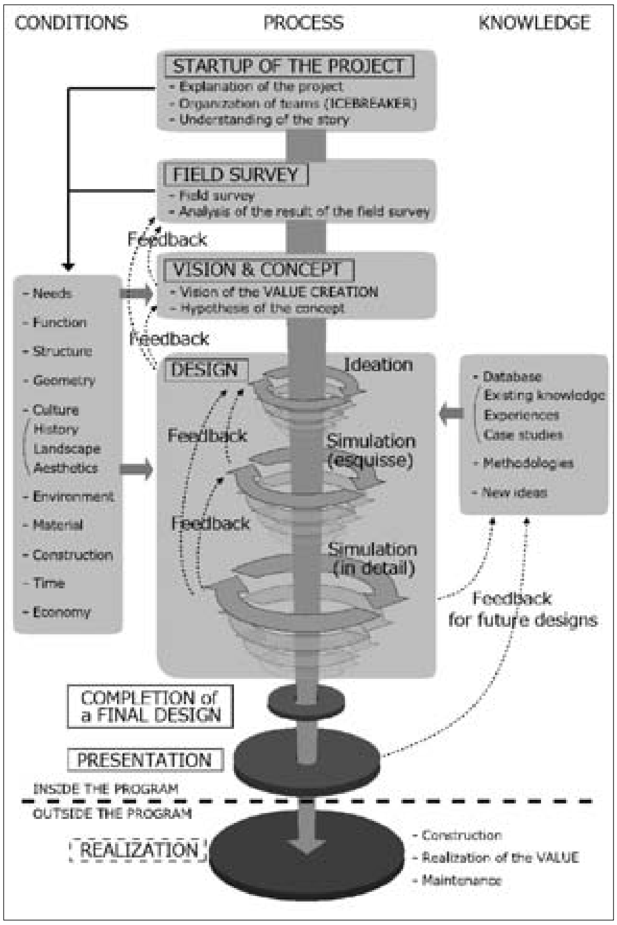

CONDITIONS
PROCESS
KNOWLEDGE
STARTUP OF THE PROJECT
- Explanation of the project
- Organization of teams (ICEBREAKER)
- Understanding of the story
FIELD SURVEY
- Field survey
- Analysis of the result of the field survey
Feedback
VISION & CONCEPT
- Vision of the VALUE CREATION
- Hypothesis of the concept
Feedback
DESIGN
Ideation
Feedback
Simulation (esquisse)
Feedback
Simulation (in detail)
- Needs
- Function
- Structure
- Geometry
- Culture
History
Landscape
Aesthetics
- Environment
- Material
- Construction
- Time
- Economy
- Database
Existing knowledge
Experiences
Case studies
- Methodologies
- New ideas
Feedback for future designs
COMPLETION of a FINAL DESIGN
PRESENTATION
INSIDE THE PROGRAM
OUTSIDE THE PROGRAM
REALIZATION
- Construction
- Realization of the VALUE
- Maintenance

Fig. 3 Process of the program

4.3 Understanding of the story

The students read the story and understood the background of the project, needs of the people, and rules of the design proposal. Then, they positioned the design project in a social context.

4.4 Field survey

The student teams surveyed the site to grasp the landscape structure, characteristics of the surrounding area, detail of the landscape, and people's activities. The site selected was one the students knew well in their daily life, so they could watch and consider the characteristics of the site carefully and frequently. The familiarity of the site could remind them of the project even after the conclusion of the program. This aspect might help the students remember the experience of the program.

4.5 Analysis of the result of the field survey

After the field survey, each team analyzed the characteristics of the site, such as positive points, negative points, and the conditions to be considered. Then, they discussed the team's vision and aims for the project.

4.6 Vision and concept

After analyzing the results of the field survey, the teams established their vision for value creation. Then, they generated concepts to accomplish their vision of value creation. Until the end of the project, the concepts remained hypotheses. They were continuously modified and improved on the basis of feedback provided during the following stages.

4.7 Ideation

The teams generated as many ideas as they could. They used a brainstorming technique (Fig. 4); to initiate brainstorming, an instructor conducted an icebreaker before the teams began work. Furthermore, background music was useful to create an active atmosphere in the room. Sometimes, a competition for the number of ideas was held.

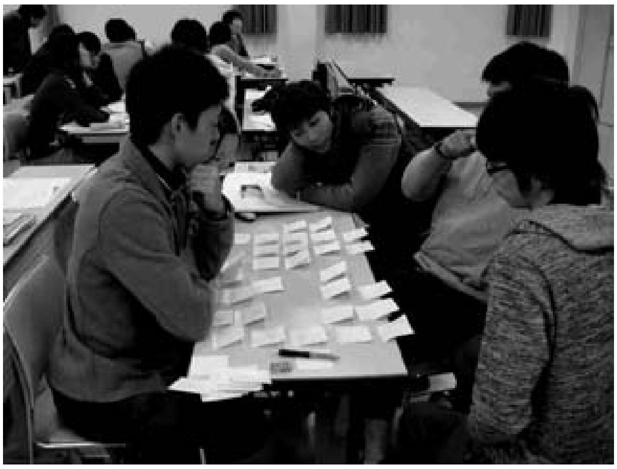


Fig. 4 Ideation

4.8 Simulation

The teams created visual images to simulate their design. Images were expressed as drawings, sketches, computer graphics, or 3D paper models. Then, they were evaluated and advised by the instructors and teaching assistants. The teams received feedback from this advice. They revised their designs and examined them in greater detail. This feedback process is indispensable for every integration process. Without the feedback process, no design can be well integrated and sophisticated.

In the civil engineering course, some students were not good at this kind of work. However, once they understood that landscape simulation played a similar role in the engineering experiment, they began to work harder with an understanding of the importance of this kind of work (Fig. 5).

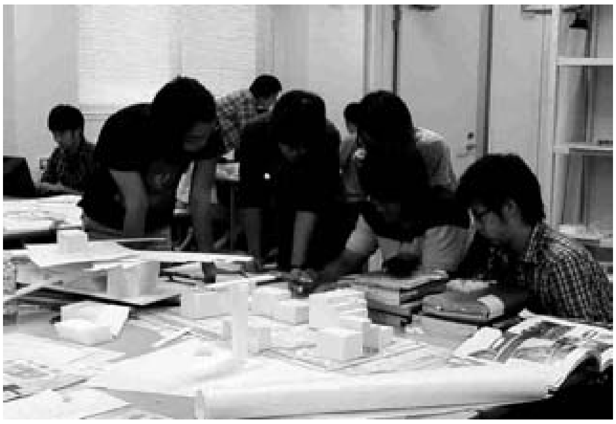


Fig. 5 Group work for design simulation

4.9 Completion of a final design

After the above-mentioned process, a final design was completed. Next, all works were displayed and then evaluated by a poll by the participants.

4.10 Presentation

The teams made five-to-ten minute presentations for their work. After the presentations, the instructors reviewed the presented works.

5. Output of the design practice

Since this was not an architecture or landscape architecture course, a tendency existed for the design quality of the works produced by students in the civil engineering course to be unskilled in terms of techniques for visual expression. However, some works reached a certain level of design. As a whole, they could create output of their works effectively and rationally despite the short timeframe of the exercise (Fig. 6 - 8).

6. Evaluation of courses

It is difficult to test our hypothesis exactly. However, according to the results of the questionnaire survey held at the end of the course, it is clear that in comparison to the previous year's course (which did not include a story), the students' satisfaction levels improved for almost all items of the questionnaire. Furthermore, some students developed a strong interest in the role of landscape design in civil engineering and started to study it more specifically.

7. Conclusion

With a story, students can position assignments within a social context and work with an awareness of the social perspective.

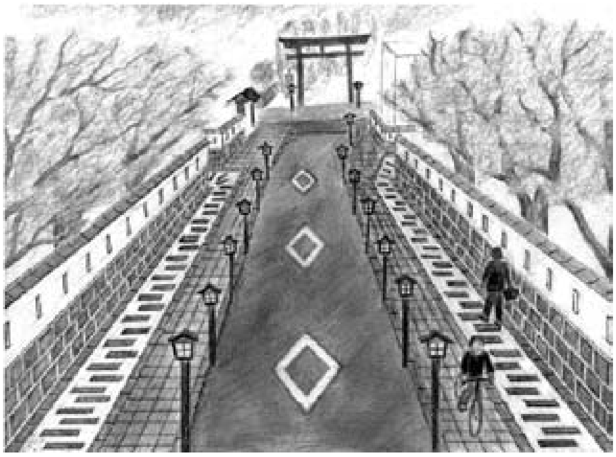


Fig. 6 Example of an output (Level 1)

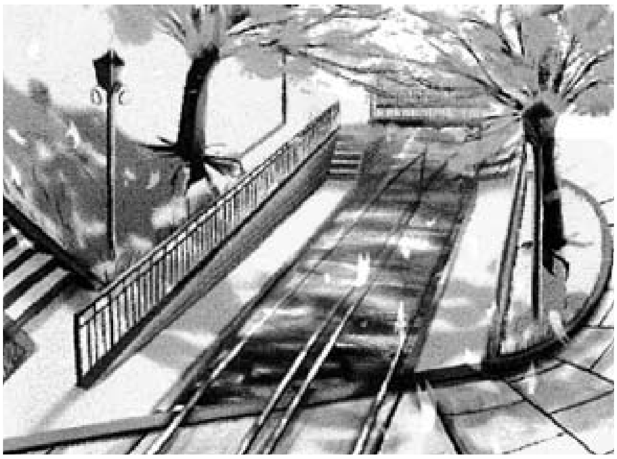


Fig. 7 Example of an output (Level 2)

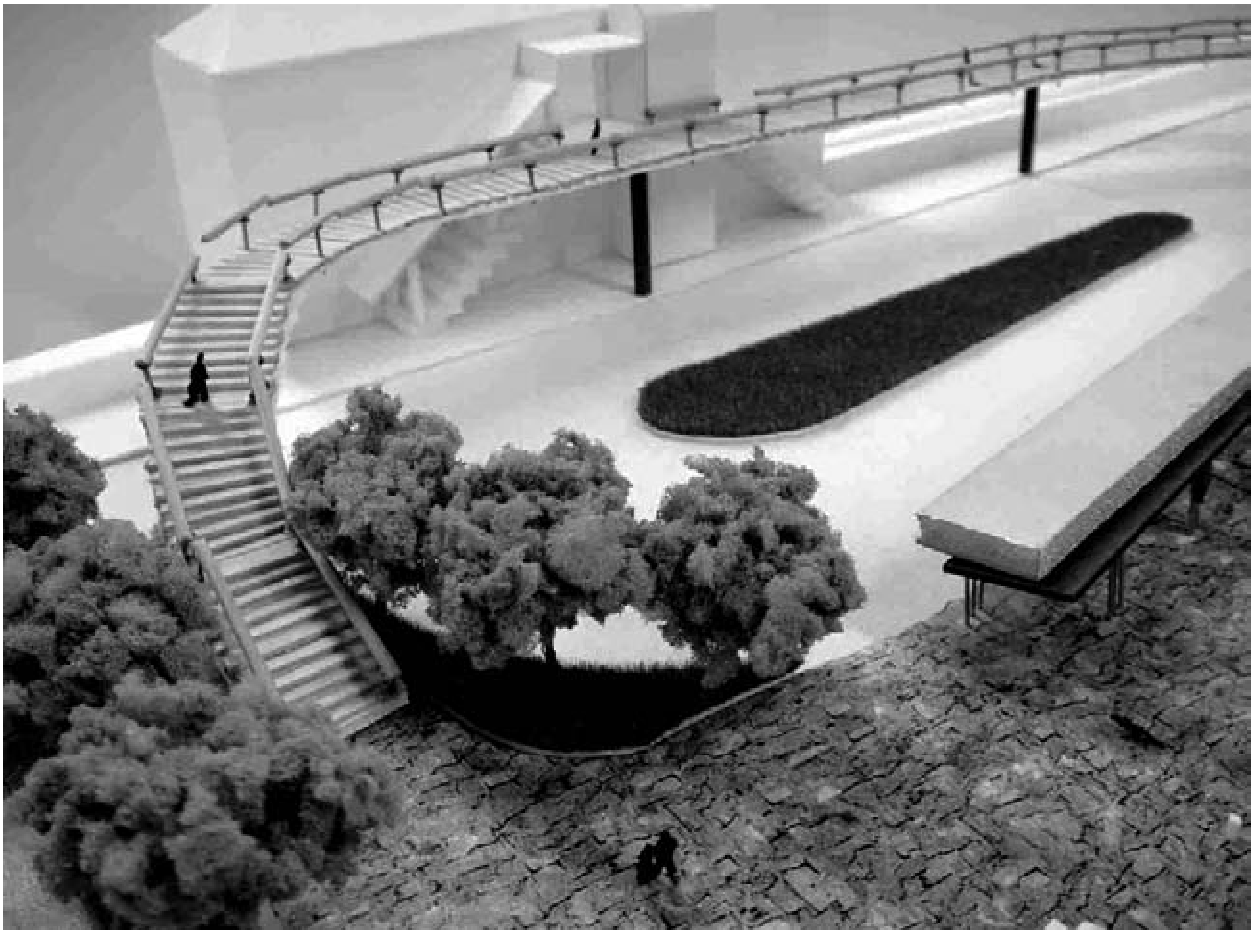


Fig. 8 Example of an output (Level 3)

This project stimulated students' motivation and urged students to work actively.

The students learned how to integrate the elements of public structures and facilities into an urban landscape through these programs.

It is difficult to examine whether these projects will become memorable experiences for the students in the future; however, we hope they do.

It is also expected that students will learn skills by not only designing hardware and using civil engineering knowledge but also by developing software pertaining to sightseeing programs, ways of revitalizing historical elements in the city, people's activities, etc.

In civil engineering courses, it is not easy to provide many courses for design exercises because of the curriculum.

However, one way to achieve effective education of landscape design and to make it memorable for students is to incorporate a story in the program.

By conducting more studies in this area, educational methods of landscape design for the civil engineering field will continue to be improved.

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The Relationship between Townspeople and Land as a Premise to the Process of Teaching Landscaping

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Abstract: The verticalization of towns, in accordance with the mono-functional tower model of either housing or services prompts townspeople to isolate themselves, thus creating a conceptual and physical distance between themselves and the landscape. This paper sets out to demonstrate that the relationship between townspeople and land plays a role in determining someone´s capacity to perceive the landscape and the sense of belonging to a place. This relationship enables people to appropriate cultural attributes and those of Nature. It is these which constitute the landscape and heritage that people should preserve. To ensure substantial participation in the process of town and regional planning, the process of teaching landscaping to younger people needs to take into account the relationship between people and land as a premise for the subsequent development of specialized knowledge on the landscape.

Keywords: perception of landscape, sense of belonging to a place, teaching how to appreciate landscapes

1. Introduction

The process of teaching appreciation of landscapes is a relatively recent topic, even though the first studies about this conducted by geographers date from the early 19th Century. Concepts concerning landscape have progressed from the comprehension of a static scene, which could be represented in a painting, to that of comprehending something more complex and alive. Whatever one´s opinion, it results from the interaction of human beings with their environment, in accordance with a bi-univocal movement. That is to say, after appropriating tangible aspects of space and intangible attributes of place, someone shapes a landscape in his/her mind and, due to this very fact, that person becomes an integral part of that landscape.

This paper emphasizes the rupture of the link which might otherwise exist between man and land, as a consequence of the verticalization process of towns, which has been carried to extremes in different urban agglomerations. Living in a verticalized environment prompts residents to isolate themselves since the process of verticalization creates a conceptual and physical distance between residents and the landscape.

This paper therefore sets out to demonstrate that the relationship between people and land plays a role in determining the capacity to perceive landscape and the sense of belonging to a place, thus permitting them to appropriate tangible aspects of space and intangible attributes of place.

2. Conceptual Considerations

The origins of the rupture in the link between the urban population and land, observed in large contemporary urban agglomerations, can be found in the propositions of modern town planning. According to Augustin Berque (2000), when the architect Le Corbusier championed the liberation of the surfaces under buildings, which were supported on slender columns, he was thinking exclusively in terms of square meters. Berque says that Le Corbusier was far from imagining that by isolating the architectural shape from the land, he restricted the possibilities for people to extend their existence on Earth. Nevertheless, the origins of this rupture may well be more ancient given that, since Plato, western civilization has conceived of place only as *topos*, forgetting the *chôra*, viz., that which is inseparable from the tangible thing, from that which is place (Berque, 2000).

According to this idea, the more that buildings grow vertically, the more the rupture becomes evident and the relationship between people and landscape becomes abstract. The anecdotal situation to illustrate the consequences of this rupture is said to be that of a child who asks his mother what a chicken is, and the mother tells him to look the word up in a dictionary. Without doing so, so the anecdote goes, the child would only have the industrialized shape of a chicken in his mind's eye.

3. The Perception of Landscape

Throughout human history, different epochs have formally marked the creation of landscape, as a mental category, and the forms by which it is perceived. According to Berque (2000), the environment became landscape by 400 AD in China, when tangible things were inserted into an intangible environment. According to Simmel (2009), it was necessary to distance oneself from Nature to understand it as landscape, even if he considers landscape as inseparable from nature. This understanding is reinforced by Merleau-Ponty's thinking (2006) who considers nature as our soil, not that which is in front of us, but that which supports us. That is why there is no contradiction between Nature and landscape.

The understanding is rather that people transform Nature, brokered by landscaping, and, therefore show their relationship with the world. According to Cauquelin (2007), the urban landscape in particular is better characterized as landscape than natural and wild landscape because it is a human construction which demonstrates lighting effects, a clearing of crossroads and tortuous paths, open avenues and a loosening of the senses.

At the beginning of the 1960s, Gordon Cullen (1983) proposed observing the town in an emotional way that must consider the human scale and everyday experience, which was different from the quite ordinary decorative concern, typical of many historical actions of preservation. He indicated two ways to perceive landscape: the first corresponds to common sense, based on everyday experience of the place, related particularly to health, amenities, facilities and privacy; the second corresponds to subjective creativity, brokered by art.

4. The Particular *Mundus* of the Dwelling

Mundus from Latin, and *cosmos*, from Greek are both related to the sense of order. According to Berque (2000), nowadays we can hardly understand why adding a female touch, something cosmetic, to appearance has a cosmic dimension while our ancestors employed the same words to say three different orders of things, i.e. three arrangements: those of the body, the town and the universe. Between these three orders, we could insert the dwelling as another arrangement category which would also reflect the ideas of *mundus* and *cosmos*.

Therefore, the dwelling might keep a tight relationship with the three categories mentioned, particularly with the first two. As dwellings in large urban agglomerations are being arranged into skyscrapers more and more, the relationship between this category and the urban soil is cut off and thus, dwellings become a sort of abstraction, of a particular and individual *mundus* or *cosmos*, without any relationship with the arrangement of the town.

5. The Relationship between People and the Soil

Nationality reinforces the identity of many people. Two main juridical criteria, expressed in Latin, determine nationality*: jus soli* and *jus sanguinis*.

The first means *the right of the soil*, that is, one's nationality is determined by the country of one's birth, and the second means *the right of the blood*, that is, one's nationality depends on one's biological parents. In general, most countries adopt *jus soli* but other countries may adopt *jus sanguinis* when there is movement of large numbers of people. In practice, both criteria are often mixed.

Independently of place of birth, the relationship between a population and the soil is very important to determine a sense of belonging to a place because everyday experience and the process of appropriation can determine this sense.

In Latin, *territorium* comes from *terra* and means a 'piece of appropriated land'.

According to Corrêa (1996), the original meaning was a sense of belonging, not necessarily as a material property, but due to the appropriation process.

According to Bonnemaison and Cambrèzy (apud Bortoleto, 1996) the power of the territorial link reveals that space is impregnated with intangible values which include ethical, spiritual, symbolic and affective values. Feeling part of the cultural territory precedes that of feeling part of the political and economic space, and thus a sense of belonging to a place can be determined through one's perception of the cultural landscape.

According to Bartalini (2007), the experience of the first modern look at the landscape is attributed to Petrarch, who climbed to the top of Mount Ventoux in 1336. From there, he felt as if he had moved out of himself.

For this, the *bird´s eye view* was essential to obtain a panoramic view of the landscape.

Unlike, nowadays, when contemporary inhabitants of skyscrapers try to look out on the urban landscape from their dwellings, usually, instead of moving out of themselves, they seem to be restricted to the physical limits of their dwelling.

The panorama is so interrupted by the monotonous sequence of built volumes, exempt of any natural or human attribute, that it becomes abstract and arid. To be able to take a look at the urban landscape, contemporary inhabitants have to go down onto the soil and to linger there until they are able to recover the sense of human scale and, only then, to be able once more to perceive the urban landscape.

There is no doubt that living in an apartment represents a simplification of habits and duties for contemporary inhabitants of urban agglomerations.

This leads some people to confusing isolation with a sense of freedom. If there is no alternative to living in apartments in contemporary urban agglomerations, there is a need to make up for the rupture between inhabitants and the soil through a process of education, based on direct and frequent contact with urban open spaces, preferably on foot.

6. Premises for the Landscape Teaching Process

The theoretical structure for education proposed by Rudolf Steiner (apud Tummer, 2001) in his theories on child development describes three major developmental stages of childhood, each of which has its own learning requirements, as well as a number of sub-stages.

These stages are broadly similar to those described by Piaget. In early childhood, practical activities amount to learning in largely experiential, imitative and sensory-based ways.

As to the process of teaching what the landscape is, it is interesting to put children in contact with natural and cultural structures such as urban vegetation, rivers and lakes, urban furniture, the road sign system, monuments and all kinds of examples of cultural heritage. Out-of-school activities are the best way to introduce children to these elements and attributes, as well as asking them to observe their surroundings when they are walking between their home and school, and to instil in them respect for the urban landscape.

Beyond tangible aspects and urban equipment, it is necessary to show younger people the importance of public open space as a *locus* in which to exercise citizenship. The continuity of this kind of public space, all over the urban fabric, as per natural, human and artistic attributes, enables people to extend simultaneously their look and their imagination so as to understand the richness of urban landscape.

Gordon Cullen's method (1983) of observing the town is very useful to put the experiential and sensory-based process of teaching urban landscape into practice.

This is based on using one's emotional response to the attributes of the landscape, but, at the same time, it is necessary to explain, also with practical examples, what a human scale is. Afterwards, it is important to put into the relationship the tangible aspects of space, related to the everyday experience of the place, and the intangible attributes, related to a subjective creativity, brokered by art.

All that might be useful in order to instil into younger people's minds is the notion of landscape.

The process of teaching what the landscape is and how to design such town planning activities for teaching purposes on technical and university courses is just starting, at least in developing countries.

The strong influence of modern patterns, championed by Le Corbusier and both his ideas and those of the Bauhaus school are still over-represented in post-school curricula. According to Artigas (1967), during the 19th Century, the opposition between techniques and art, when some European societies were moving into the machine era and others who dug romantic trenches for themselves resisted this, a dualism arose which was not constructive.

In other words, those who clad themselves in the plating of the machine considered art served no useful purpose, while artists and philosophers regarded the machine, i.e., the materialization of techniques, as the monster which would dominate mankind, impeding humans from realizing themselves through the arts and crafts.

Very often, this dualism is reflected in town planning exercises which consider landscaping as a non-worthwhile, artistic concern. In developing countries, building intensively is usually held to be synonymous with progress, particularly in terms of verticalization. In such situations, concerns like the continuity of open public spaces, in order to preserve green areas and open views over aquatic surfaces seems to have been totally forgotten. On the other hand, the human scale, which enables us to be the central element through which the relationship between built environment and open public spaces is achieved, seems to have been forgotten as well.

In society, in general, the challenge is how to make people more aware of the importance of landscape as a mental, but also a practical category, to ensure liveable towns. In some developing countries, institutional mechanisms, such as the *participative budget*, represent a channel for organizing and mobilizing people to fight in favour of preserving the intangible attributes of place.

7. Conclusion

The process of teaching landscaping therefore covers different periods of a citizen's life. In the early years, everyday experiences related to the tangible aspects of space and to the intangible attributes of place represent an essential phase to develop the awareness of the future citizen. In this phase, out-of-school activities are the best way to put this into practice.

The following phase of the teaching landscaping process, and probably the most operational one, corresponds to the technical and university period because the specialists graduating from these courses will, in large measure, be responsible for bringing about changes in the urban fabric, and thus, in the urban landscape.

Finally, the focus is put on citizens, in general, those who are no longer following elementary school nor have ever attended technical and university courses. According to Freire's theories (1970), experiential learning is an important way to develop a citizen's consciousness which covers a large range of facets, amongst which is knowledge of natural and cultural structures, and respect for them, as mentioned above. To know and to understand the relevance of landscape as a mental category is to ensure the balance between built environment and open spaces and, by analogy, to also ensure that the balance between material and immaterial human values together form the first steps to be taken to obtain liveable towns.

The next challenge will be to involve citizens and to have them participate in the regional and urban planning process and in landscape conservation.

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The Architectural Project as Permanent Revolution

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Abstract: In the logical tree which organises the thought of architectural projects, changing the first parameter is fundamental. The territory, understood as a system of transformation, and as a living organism, must become the source for an architectural project to organize thought governed by environmental concern. It requires the project to take a potential interest in all components of the territory, opposing the lack of differentiation, yet recognizing visible specifics under the 'metropolisation'. Thus, students are encouraged to think again inside and outside of the city and to invent new 'natures', plural and necessarily artificial, to structure a durable territory.

Keywords: transformation, living organism, the culture of the vision, hypothesis, simultaneity

1 Thought of the Project

1.1 The Educated Vision by the Territory

During a seminar of a masters degree, *Aedification- Grands territoires-Villes*[1], Marco Assennato, italian philosopher, reminded us how, from Vittorio Gregotti to Vittorio Ugo**,** as well as for Manfredo Tafuri, "the architecture is the culturally determined transformation of the environment and the landscape at different scales of the house, of the city and of the territory" (Assennato, 2011). This reminder reassured our way to organize the teaching of architectural projects so that it would be well structured towards environmental questions with the territory as the first level of the thought for the project. This project methodology ensued of a research methodology implemented during the first 'Interreg programm' produced by the Politecnico di Torino and the Ecole du Paysage de Versailles, whose results was published in 1997: Le Alpi, les Alpes (Comoli, Fasoli, Very, 1997).

However, there is no strict and linear approach between the work from the laboratory of research, Les Métiers de l'Histoire de l'Architecture, édifices-villes-territoires, and the masters degree. Through various progresses as researchers, professionals or teachers, of inductions in deductions, we were able to record, firstly, thoughts on the project in its relation with the territory. We finally enunciated the necessary change to act in the logical tree that organizes the architectural project. Indeed, usually and implicitly, it is the relationship with 'the city' that organizes the thought of the project. We had come to formulate that 'the city' was a modality of the territory and that the first level in the logical tree which organizes the thought of the project would be "the territory" (Very, 2012).

It was not a linear process. There had been many steps that we are able to relate to today with hindsight. These are rather concomitant researches which come together and express themselves throughout results of projects and publications[2]. The first expression of the methodology, which was then only a desire to orientate a part of the *Interreg* research, was to propose *the landscape as freeze frame from a system of transformation in act : the territory*. We were thus abled to consider the territory as a living organism, a source of the architectural project. Little by little, we considered that there were two essential facets of the architecture, which came together into the question of "project": the culture and the profession – the first one relating to the long term, the second one to constant and rapid social and economic transformations (Very, 2012).

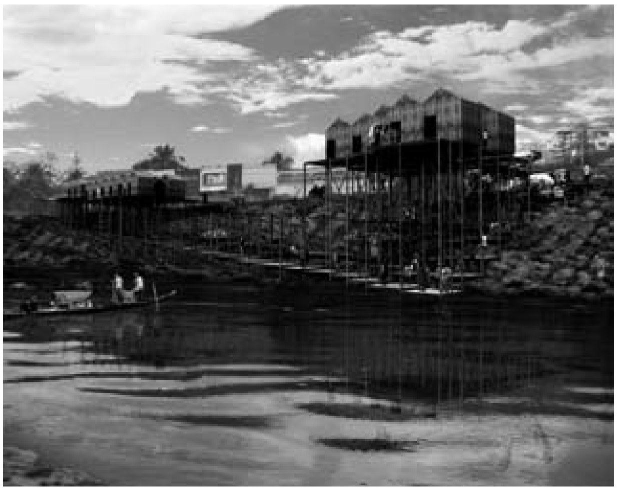

Fig.1, Phnom Penh 2563 , 2011, Water as territory: meeting the Khmer rural heritage with urban cash economy, PFE

We began to work on a precise inspiration of the architectural culture; the culture of the vision. We were consolidated by the idea of "educated vision" found by Althusser in a totally different context, as in his preface to *Lire le Capital* (Althusser, 1965). Then, the organisation of the symposium *in situ / de visu / in motu* in September 2011 in Quebec with the University of Montreal, (of which its publication is in progress), enabled us to structure this theme of research: "culture of the vision" (Very, 2007, Maumi, 2007, Simond, Paviol, 2009). This interest for the vision can seem contradictory with the decision to pass from 'landscape' to 'territory' for the thought of the architectural project. Actually, it possibile to operate two different conceptual levels, allowing us to progress and to take into account "the perception and the temporality" as suggests in the workshop 4 of the symposium. However, we do not want to develop a process of planning but a process of project from the territory. Only then can territory planning tools possibly be deducted. Indeed, our issue is an architectural thought that functions at the same time on very different scales and not a hypothesis of territory planning or an urban planning project. It is an urban planning project that can result from a hypothesis formulated by the architectural point of view, and articulated on very different scales, from 25000° to scale 1:1 for example, but the thought works at the same time on different scales and not successively by zoom effects. Indeed, if we insist in our teaching on the role of project as hypothesis, it is because the hypothesis status allows to involve the crossing of various stakeholders to advance in the precision of the project in a shared way, according to the elaboration. Otherwise, the aim of the architectural project is not necessarily for us to uncover – that many square meters or small actions can trigger important transformations *(Very, 2008).*

From the question which was asked by the status of the Green Belt of Ouagadougou, we clearly understood that we had reached a milestone in our way of thinking about the architectural project, in its teaching methods and in crossings between the research in the laboratory and in the masters degree by the test of this *in situ* major action in February 20123.

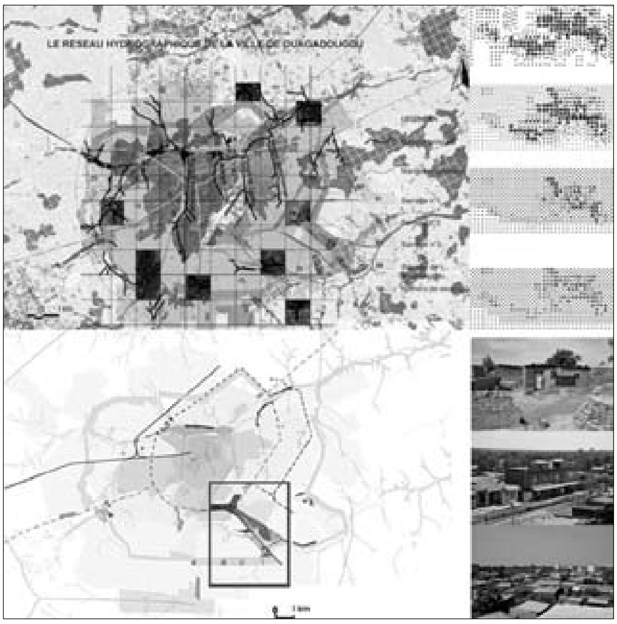

Fig. 2, Ouagadougou, 2008, Green Belt, Price Tony Garnier Académie d'Architecture Paris 2009

1.2 The Project as Process and the Dynamic of the Environment

Lessons learned from the laboratory of research, but also from other horizons, all merged generations[4] and brought us to think of the project as the start-up of a process and not as an end in itself. We therefore consider that the concept of 'project' no longer focuses on the shape as an outcome but on the number of links that it is able to generate at all scales, questioning the territory.

However architectural form apparently similar or same process projects can serve very different purposes. The development of a project has need of a "driving force", clear objectives, and ethics (Assenato, Very, 2011). This is why the "critic of the ideology" can become operational today[5], not to guide methodological processes of project but to pronounce the framework of the architectural thought that moves it.

Rhythms of transformations are multiple and are superimposed. All does not change at the same time. 'Great ideas' die hard – dead stars whose light still reaches us. So the urban project can again be presented as an architectural aim. It suggests that the urban project still exists based on a morphological city organization, while from this point of view, it does not exist since the end of 16th Century in Italy where this thought was born. The architectural ideal continues to enrol in an idea of 'good city', recently called on again by the 'sustainable city', after the idea of a clean city by the urban planning of 20th Century. Between tools and the thought, there are often discrepancies that sometimes take a long time to identify and to understand. So the 'sustainable' has not been reduced to a technical question, otherwise it is a pure problem of 'market'.

The teaching in the masters degree tries to build methods and provide tools which lead up to the reflection on possibilities for 'sustainable' territories and which question our current ways of doing. At the time when issues of mobility, density, hubs of life and distribution on the territory are at the heart of realities, it seems essential to bring into focus these issues to future architects. It is so that they will be able to no longer consider it as negative constraints, but as parameters of the project. Raised issues in terms of energy production and economy have, as a consequence, the widening of the range of necessary competences and the project requires an awareness of increasingly varied constraints. Of course, in practice, they should not remain 'constraints', but become a part of the arsenal of 'matters' for projects and fields in which the architect will draw on.

1.3 Projects about the Rhône river: to weave

The Rhône river invites the development of a relative thought, giving the most attention at the presence of the unbuilt and the impact of built. The diversity of these urban and 'natural' landscapes (metropolis, vineyards, industrial inheritances, listed natural sites and diffused city...) potentially obliges one to be interested in every part of its territory, as if to try and weave them. This complicated, meticulous and patient relationship of material and immaterial data is strategic in its opposition to the lack of differentiation, while still recognizing visible specificities under the 'metropolisation' of the river. So the thought of the architectural project changes the primary parameter. The territory of the Rhone river, understood as a system of transformation, and as a living organism, becomes the source of the architectural project so that the thought could be organized by the environnemental concern and it give a sense of durability upon implementation.

2. The Teaching

During this first year of the masters degree, students examine a close territory, and constitutes a way of looking and thinking which then applies to other territories and other issues. Students work consistently on great territories from which they have to build a strategic vision of which the architecture as edifice is a part.

2.1 The Multiplicity of Thought Scales "At the Same Time"

Always having "in front of eyes" the representation of several scales is the instruction for the posed problem in the second year of the masters degree. In first year, the 'framings' needed for the project thought are introduced in the organization of work for the year, and also in the tools of thought and representation tested in the seminar, and formalised as conceptual models. For each semester, the workshop functions on a dual approach between the seminar being about the territorial analysis, and the studio of project in which students develop their projects.

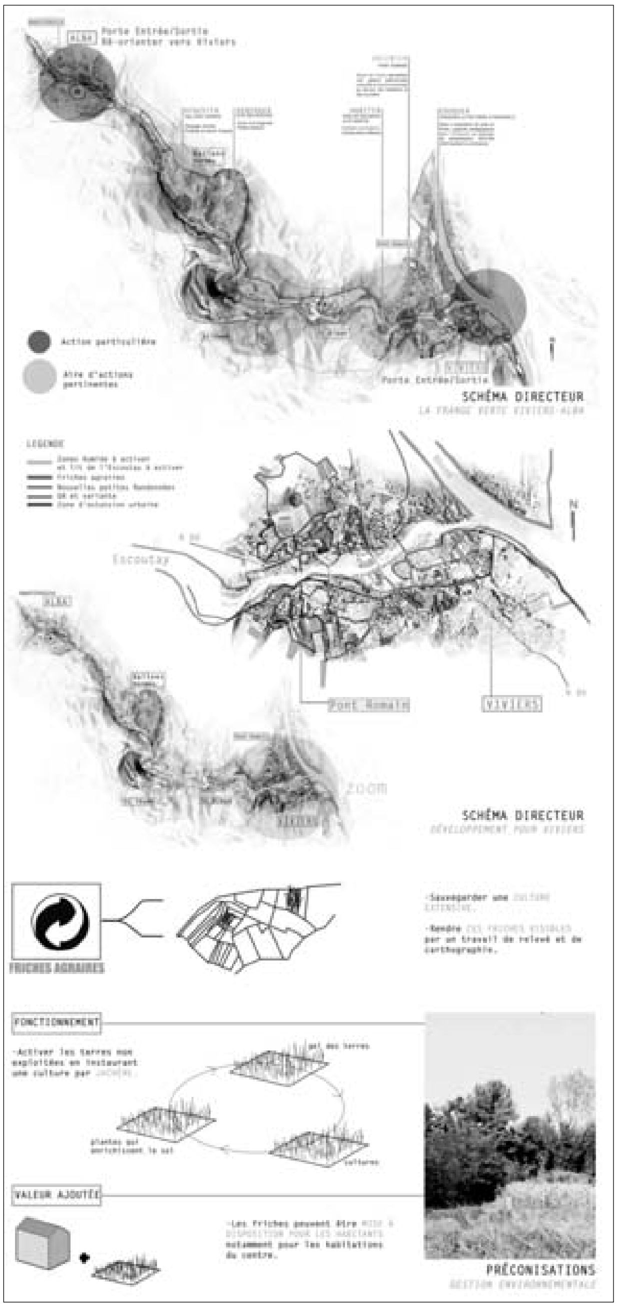
ALBA
Porte Entrée/Sortie
Action particulière
Aire d'actions pertinentes
VIVIERS
SCHÉMA DIRECTEUR
LA FRANGE VERTE VIVIERS-ALBA
LEGENDE
Escoutay
Pont Romain
VIVIERS
zoom
SCHÉMA DIRECTEUR
DÉVELOPPEMENT POUR VIVIERS
FRICHES AGRAIRES
-Sauvegarder une CULTURE EXTENSIVE.
-Rendre DES FRICHES VISIBLES par un travail de relevé et de cartographie.
FONCTIONNEMENT
-Activer les terres non exploitées en instaurant une culture par JACHÈRE.
VALEUR AJOUTÉE
PRÉCONISATIONS
GESTION ENVIRONNEMENTALE

Fig. 3, Viviers , 2009, Sewlandscape, master1

The academic year is composed of two phases allowing the finest possible understanding of the territory and part of wide and adapted proposals. The way to work between different scales is staggered year-round with back and forth aspects.

2.2 The Seminar of Master 1: tools for the thought of the project

Our educational proposal is to explore in turns representation tools of the geographers and of the landscaper : an approach which aims to distance the reality in order to objectivize it and the other which favors the proximity with the site.

The cycle of the masters degree starts by a seminar in the form of a workshop. This is for a teaching that differentiates ways of thought from territory, by practicing to corresponding ways of representation.

Two conceptions are presented separately, one stemming from the work of geographers, the other landscapers. A link is made using the intervention of a visual artist, particularly by the introduction of a very effective tool : the conceptual mock-up. In the first semester of the second year masters, in the work of the project, a new exer-

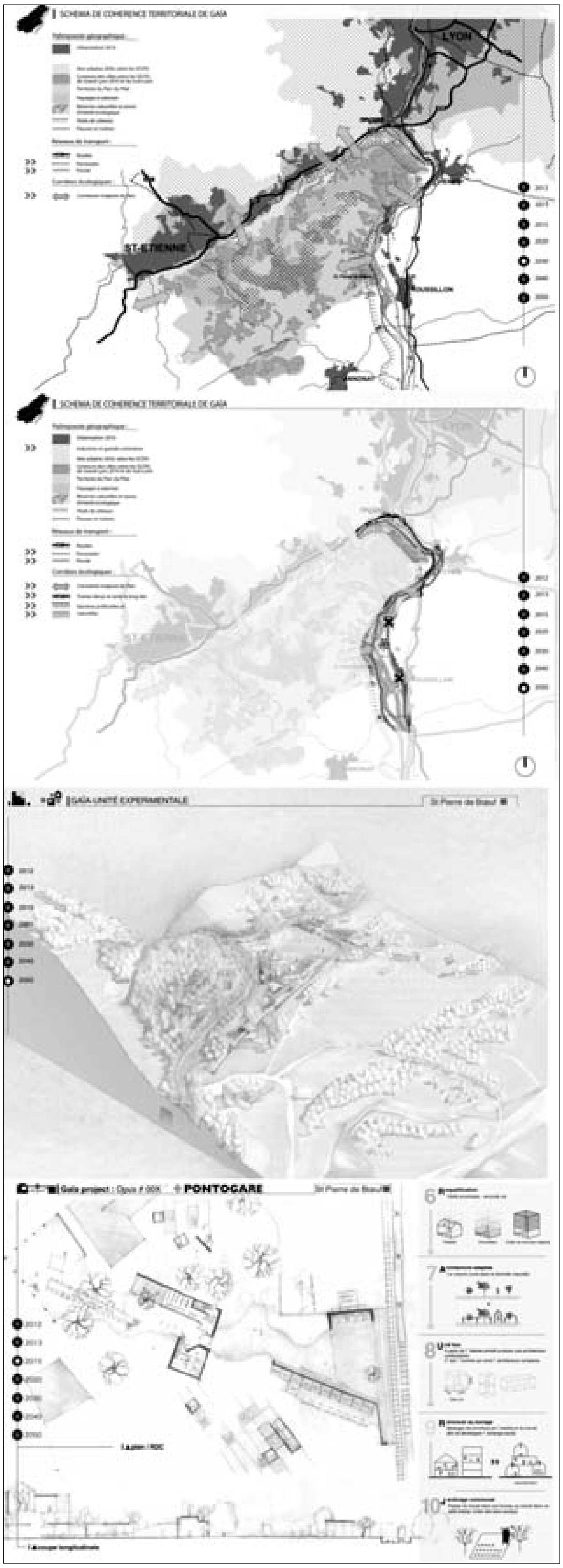
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Fig.4 , Rhône downstream/Natural Park of Pilat, 2012, GAIA, master 1

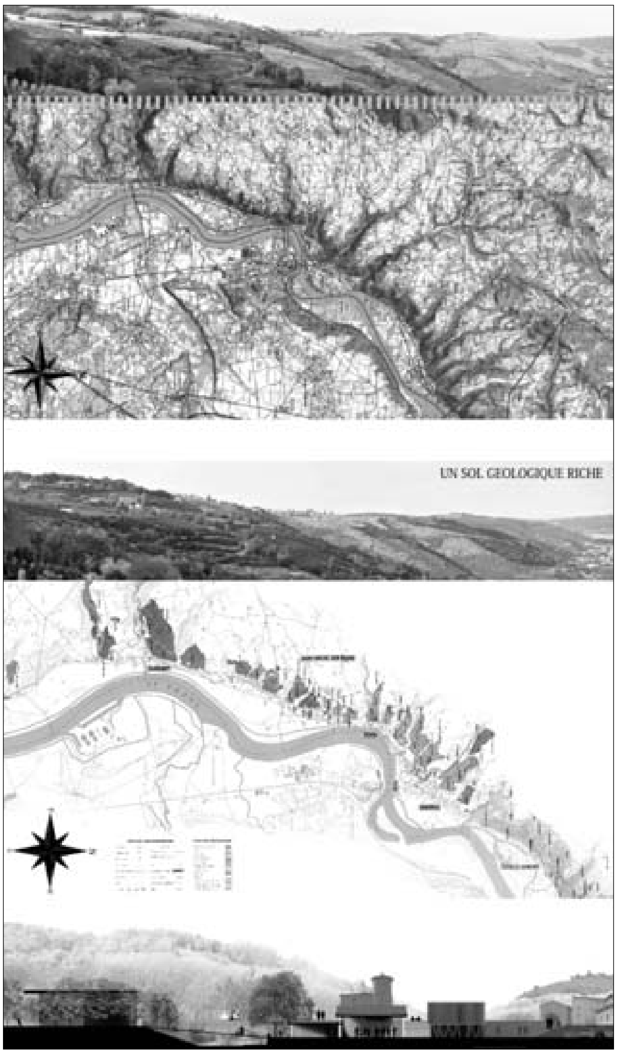

Fig.5 , Rhône downstream/Natural Park of Pilat, 2012, Souce of sharing , master

cise of conceptual mock-up is organized. In the end of the first year of the masters, for the presentation of projects, a graphic designer intervenes so that students try out different regular machineries of the professional life as tools of representation and as a driving force for the project and as communication of the project. In the second year, the calendar of work for projects of end study organises times of report writing, of posters arrangement, and of preparation of the powerpoint presentations in order to stress the importance of communication work.

In first year, the topic of projects is always an 'order' by one institution or several reunited institutions. Students are received on the project territory by their teachers for several days in order to get acquainted with the site and projects in progress. For important 'renderings', important representatives of partner institutions are present.

3. Conclusion

Our project method rests on the priority conceptually given to the thought of territory. The figuration of physical and lived realities, with various scales of time and space, allows for the formulation of a new collective imagination. This imagination, once shared, transforms the territory in inhabited landscapes. The pertinence of this process is demonstrated to us every year by the manner of stakeholders of the territory, who seize hypotheses proposed by our students to bring forward political projects.

Notes:

[1] The masters degree was created during the organisation of architecture studies in France : Licence, Master, Doctorate. It combined teachers of various disciplines.

[2] Projects of first year master' degree being always for a institutional partner, the work of project communication is important. Issues of projects as results are then integrated to reflective processes of different works producted by the research laboratory, as Projects of end study from master's degree.

[3] To see conference "Development of green belt Ouagadougou" organized by MHAevt in Ouagadougou for the cities of Grenoble and Ouagadougou, from 1 to 3 February 2012.

[4] Crossings of international experiments: Italy, the Czech Republic, Slovakia, Montréal, Madrid, Poland, Turkey, United-State of America, interdisciplinaries, merged generations…

[5] cf. Manfredo Tafuri (1935-1994), founder of the Istituto di Storia dell'Architettura di Venezia.

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The "Querença Project": From Theory to Action

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Abstract: Portuguese rural areas have suffered in recent decades from an aging process leading to physical and human desertification, with negative economic and social effects. This demands new solutions for development. Bearing this in mind, we searched for solutions able to re-approximate rural areas and young people, with innovation capacity and technical knowledge, in order to re-invent production and add value to resources and existent activities. The Querença Project is a project of territorial rescue, carried out in a territory in a critical condition. Nine young graduates with different specializations were recruited according to territorial needs, and went to live in Querença. A dedicated institutionalism was created. Links with the inhabitants were made through a "Village Fórum". The final result of this project lies in a balance between field work, action research and theoretical studies.

Keywords: territorial rescue, innovation, rural planning.

1. Introduction

Portuguese rural areas, particularly in-land areas of the country, have suffered in recent decades from a marked aging process leading to physical and human desertification, which significantly constrains the existent economic and social systems resilience.
The Agricultural Census of 2009 shows that in Portugal we have27% less farms today than in 1999 (which means that 1 of 4 farms ceased activities during this period). This decrease is most concentrated in small farms (40.9% less farms with less than 1 ha). Additionally, the elderly agricultural population (between 45 and 65 years old and more than 65 years old) increased by 23%. The average age for the rural population increased from 46 to 52 years old and the only age group where a decrease has been registered is the younger one (under 35 years old) (INE, 2012).
These changing circumstances surely have to modify project processes and it is necessary to search for new solutions. It is necessary to consider a different way of comprehending the territory. Bearing this in mind we searched for solutions that could re-approximate rural areas and young people, particularly young graduates, with innovation capacity and technical knowledge, in order to re-invent production activities adding value to resources and existent activities.

The Querença Project (from theory to action) is a project of territorial rescue, held on a territory in critical condition, seriously affected by desertification processes and assets (natural, productive, social and symbolic), abandonment, and thus closer to limits of resilience.

2. Challenge tackled

According to the European Landscape Convention (2000) understanding landscape as "an area as perceived by people" means that people are at the core of what we consider as landscape. Thus, aging and abandonment mean not only a physical problem – desertification, erosion, etc. – but also a loss of collective conscience regarding the territory, which enables future choices (and models them) and contributes to a lack of systems' resilience.
Additionally, Munda (2007) states that systems, including humans, are reflexively complex. This means that the presence of self-consciousness and purposes (reflexivity) of these systems can continuously add new relevant qualities/attributes that should be considered when explaining, describing or forecasting their behavior (i.e. human systems are learning systems).
Meanwhile, as Lambeck (1999) states, while the need for integrated management of more diverse landscapes is increasingly being acknowledged, little progress has been made towards developing procedures for achieving this. In fact, much of the theoretical debate has contributed little towards practical application (Saunders et al. 1991) although diversification of productive landscapes, combined with multiple objective management, is seen as one means of simultaneously retaining production, conservation, social and amenity values (Lambeck, 1999).

3. Approach applied

The Querença Project is a project of territorial rescue, held on a territory in critical condition. It integrates three kinds of actions: social interaction projects, symbolic interaction projects and entrepreneurial projects. It is a matter of confirming the social acceptance of the project by the population, rehabilitating the social and community spirit in the villages and creating a small group of sustainable local business.
The project philosophy points to 8 main aspects:

1 - Where there is no territorial normality, a territorial exception must be developed: the territorial rescue.
2 - Where there is no institutional motivating project, an innovative collective action must be undertaken: a mission group
3 - Where there is no social capital, social capital must be imported: young graduates.
4 - Where there are no stocks, a flow must be created: an economy of nets and visiting.

5 – Where there is no continuous economic activity, maybe discontinuous economic activity can be undertaken: an events economy strongly reticulated.
6 – Where there are no collective players, collective action must be re-invented: a sociology of net-players and territorial clubs.
7 – Where there is no conventional funding, news methodologies must be undertaken: micro-financing and partnership engineering.
8 – Where there is no real image a virtual one must be created: a self imaginary and a brand image.
The young graduates were recruited according territorial needs – nine graduates with different specializations: agronomy, biotechnology, biology/environmental tourism, environmental engineering, landscape architecture, marketing, communication, design and management – and they went to live in the territory.

A project dedicated institutionalism was created: a coordinating commission, a local commission and a technical commission, linked both to university and to the village institutional partners, forming a Foundation that exists in the village and had almost no activity (the Manuel Viegas Guerreiro Foundation)where the project was physically installed, the parish council and the Loulé Municipality. The linkage to the village inhabitants was made through a "Village Fórum" where everybody could participate – this way, students were made aware of the role played by time in the layering of the land, of the value of this "reading" as a source of creativ¬ity and of the importance of time for the future of projects.
The project was made operational in three stages: the pre-project stage, the project stage and the post-project stage. All of these phases have some critical points that are crucial for the project's development:

a) The pre-project stage (6 to 9 months)
- Preliminary contacts and work team formation
- Resources evaluation
- Strategic, methodological and operational definition
- Selection of students
- Logistics and reception for students and the village work group
- Selection of a pivot to manage the project in situ

b) The project stage (9 months)
1st trimester
- Installation of the group and work division
- Social interaction with the village community
- First definition of activities, products and services in the territory
- Key actors' definition and support activities
2nd trimester
- Final definition of activities, products and services in the territory
- Commercial networks and first market tests
- Business plans definition
- Project for social interaction
3rd trimester
- Business plans consolidation
- Territorial marketing plan and communication strategy
- The entrepreneurial format and the project's financial engineering
- Plans for a submission for institutional support

c) The post-project stage (3 to 6 months)
- Entrepreneurial project consolidation
- Financial engineering consolidation
- Partnership and entrepreneurial cooperation settlements
- Project consolidation in its three aspects: social symbolic and entrepreneurial.

4. Results

The results of this project, seen as a process of how to teach using perception and participation in the land use planning process, are quite interesting and also quite diverse.
Being very interdisciplinary, the results are not homogeneous and are probably not perceived in the same way by each territorial actor.
During all the stages, the project benefited from substantial media coverage, which was very important for lending visibility to the project.
The pre-project stage was very successful. From this stage we have to stress the results on the pivot selection and the students' selection.
The important thing to focus is that the first of these tasks must be the pivot selection, which is important because it must participate on the students' selection so students can see it, from the beginning, as one of the project's manager.

In what concerns the students' selection the result, being obviously a group of students with the characteristics defined earlier in what concerns their specializations, shows that it is important to appreciate, in the selection process, the student skills not directly linked with the work to be developed, so the group spirit can be strengthened from the beginning.
Our group was the following:
- An agronomist who had also a background in philosophy.
- An agronomist who was also a specialist in photography.
- A biotechnologist who also had the 8th grade in classical dancing.
- A biologist attending a Master in Environmental tourism who played flute.
- An environmental engineer who sings.
- A designer who played guitar.
- A manager, a landscape architect and a marketing specialist who participated actively in their students' organizations.

The project stage was the most demanding one. In what concerns its results, it must be stressed that the three trimesters had very different results.

The 1st trimester had quite good results. The social interaction with the village community enabled the assignment of several ha of non-used land to the project, which is not only a crucial result as it shows the dimension of project's acceptance by the community. The activities, products and services defined were horticultural production, for which the territory is particularly good, ornamental plants production, namely the native ones, the transformation of typical products, such as figs, almonds, carobs, etc., the footpaths, and the image and marketing plan for Querença. Finally, the key actors, namely the University, the Municipality and the Foundation that gave the physical location for the project were defined.

The 2nd trimester also produced a good result. After three months of agricultural experiences, some interesting products appeared – together with the most traditional horticultural products, such as lettuce, tomato, carrots, cabbages, etc. the students began some experiences with native plants and aromatic herbs and also with thistle (Cynara cardunculus L.). Some transformed products were attempted, such as an energetic bar made with carob almond and fig and a crude aqueous extract of thistle flowers to sell for cheese producers, namely those who sell special Portuguese cheeses. Some footpaths were defined, namely one to see damselflies, very particular in this area and some projects for children's activities, namely summer camps. A label and an image for the Querença project were designed. In relation to the commercial networks and first market tests, the project team created a very successful little market on Querença main square, every first Sunday, after mass. In this market, local people also participated, bringing their own products, from horticulture to cakes, jams, marmalades, lacework, etc. Also, some partnerships were defined, particularly with restaurants, hotels and supermarkets that were interested in making some experiments with particular products. Finally, the business plans began to be developed. These results also enabled the village social network.

The entire community benefited from the image created and from the markets, and the management student also helped other businesses with her knowledge concerning the business plan and the business development.

In the 3rd trimester, the results achieved did not entirely meet the goals. Although a territorial marketing plan and communication strategy took place, the business plan's consolidation was not the same for all the students and the entrepreneurial formats were also diverse for each business. In the end, the project's financial engineering and the plans for a submission for institutional support were worsened by the crisis and financial difficulties, both from the students and from financial institutions.

Closely linked with this, the post-project stage showed us that from all the students that took part in the project, the designer, the manager and the marketing specialist had some success as consultants and were planning to work in this area – different enterprises that somehow were linked with the project network used their services and they had some opportunities. The landscape architect began a business in the area of sustainable gardening, making projects and rehabilitating gardens – he still works in its business plan.

One of the agronomists began a small business on horticultural production, but not in Querença, and the other is working on a business plan for thistle production, with a view to selling the crude aqueous extract. The biologist and the environmental engineer tried to develop the footpath business but there is still a long way to go to make it a sustainable business. Finally, the biotechnologist did not want to follow the entrepreneurial way after the project and she returned to the University.

Nevertheless, something very important happened with this project. Even if not all the students were able to develop their own business plan after 9 months, the Querença village became a place often visited by people and organizations linked with sustainable development and has been presented as a case study even by people from other European countries; the village restaurant and one of the main village's business – a producer of marmalade, liquors, etc. – benefited from this exposure. Finally, the Foundation, which is one of the project partners, received since the project began lots of seminars, workshops, courses, etc.

5. Conclusion

From the results achieved some conclusions can already be made. The land use planning process is a very interdisciplinary project. Using the approach proposed here, these different perspectives are linked and complement each other to give a unique view of the territory. The students became aware that the sustainability of a territory's development implies the involvement of the relevant institutional partners and that the social acceptance of the use and *modus operandi* proposed is a critical success factor. They also understood the *in situ* interdisciplinary nature of land use planning – the territory will be modeled by the activities developed and the products must be sold. The image we are able to present for each specific territory will help the development of sustainable activities that support its land use.

In relation to the project itself and the possibility of using this approach in other locations, it is remarkable that it is already being developed in at least three other locations in Portugal, with different areas, different agricultural characteristics and different territorial organization.

Nevertheless, some appointments must be made:

- The pre-project stage seems to have a correct duration, but the number of partners involved, namely institutional partners such as parishes, that may have different political connections, may advise a different period of time for this stage which is quite important for the future success of the project.
- The project stage should be longer; the 9 months correspond to the duration of a scholarship given by the Portuguese Institute of Employment and Training to insert young graduates into professional life. This scholarship paid the students' salaries during the nine months but young students, who had never worked and came almost directly from the University, need more time (at least in some specializations) to be able to develop a sustainable business. Also, this is quite a short time for the institutions' reaction (namely those who manage the structural funds and the financial ones).

In the end this seems to be a relevant and interesting approach for teaching that links field work, action research and theoretical studies.

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Landscape Project Teaching and the Effect of Surprise: An Experience in Lisbon

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Abstract: Community gardens have been growing in number in European cities, including Lisbon, associated with social, political and economic changes. Aware of the importance of this activity, we asked architecture students to design a landscape proposal for a community garden in the historical centre of Lisbon. The abandoned site started to be farmed by a group of people, standing against the municipality's plans for the area. The students, from diverse origins and, most of them, not knowing the site, had to experience the place without previous information. Therefore, the surprise when facing the site (landscape contrast, rural practices, alternative community, contact with locals), was a catalyst for the engagement with the project. The spontaneous interaction between students and the community triggered the interest for the project, from both sides, and led to cooperation for a counter-proposal to the municipality's project. This was the starting point of a work in progress.

Keywords: Landscape project, Community gardens, University, Architecture Department, Participation, Creativity, Lisbon

1. Introducing the Rise of the Community Gardens Phenomenon

In the last years, the rise of urban farming is evident in most European and North American cities. Its impact on cities' spaces is widely recognised by researchers and professionals in the areas of landscape, architecture, urban design and planning. A sign of this recognition are some recent publications in the areas of architecture and urban design focusing on urban agriculture, such as magazine issues (Lotus 2012, Architecture d'Aujourd'hui 2012) or books like *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities* by André Viljoen (2005) and *Urban Agriculture* by Graciela Arosemena (2012).

Now that the Western World faces a situation of crisis (economic, social and environmental) together with the existence of more buildings than the necessary, architects are required to take a new attitude towards their work. In the Portuguese context, some architects declare that the act of building should not be a priority anymore and that architects must work in participatory projects with local communities, focusing on creative and sustainable ways to use existing spaces (Coelho 2012). However, the teaching of architecture and urban design very often still does not consider the relevance of this change. Therefore, future architects do not deal easily with this new approach, where landscape and urban agriculture can play central roles.

In fact, a transformation is going on concerning the appropriation of vacant lots, generating new and creative types of public spaces, built by and for citizens. Not only due to local communities and individuals who use these spaces, looking for self-sufficiency, a socialising activity or a closer connection to nature and rurality, but also thanks to local governments and institutions of different kinds, such as universities, who tend more and more to participate actively in this transformation.

The current context of economic and social crisis, combined with the general awareness of the importance of sustainable urban development, is a major motivation for this commitment of urbanites to agriculture (Arosemena 2012: 32-34, Astruc 2012). Also, very often, the search for a connection with urban public green spaces through gardening reveals another aspect: a demand for social change (McKay 2011). Consequently, new types of green spaces emerge in urban voids, reflecting a new urban paradigm and gradually transforming the landscape and the concept of 'city', undermining the opposition urban/rural. This opposition was inherited from the Industrial Revolution; until this period, horticultural production was usually present inside and next to the city (Arosemena 2012: 20-26).

The success of urban gardening also reveals the search of urbanites for an ideal. As some authors remind us (Clément *et al* 2012, Donadieu *et al* 2007: 36, McKay 2011), urban green spaces relate to the utopia of the ideal city, therefore playing a major role in urbanites' seek for their ideals and well-being.

Finally, social aspects play a significant role in community gardens, in particular regarding integration, community cohesion and civic participation.

A community garden can assume different types; for example, it can be organised as an open space or with separate lots, generated by locals or activists, illegally initiated or promoted by an institution. Although their origin is often nurtured by a critical position towards some rules of society or urban lifestyles, informal community gardens are sometimes incorporated by institutional policies, responding to the increasing demand for the expansion of green urban spaces.

This demand is visible in Lisbon and the municipality is aware of it, supporting some local initiatives for the implementation of community gardens. Also, the academia perceives this tendency, sometimes participating actively – as we will see in a particular case of cooperation with a community garden.

2. Community Gardens in Lisbon

Gonçalo Ribeiro Telles (2000) reminds us that the existence of urban gardens, used as meeting places, and of urban farming, as a parallel activity of the city's inhabitants, is part of the traditional character of Lisbon. This visionary landscape architect – who played for decades an important part in central and local governments for the preservation of endangered ecosystems – always stood for the relevance of traditional urban farming for the sustainability of the capital city – an activity which started to be disregarded in the first half the 20th Century. Actually, in the beginning of the 20th Century, Lisbon was still a city characterised by its yards in the interior of blocks being used for farming. Even later, in the 1940s, a considerable part of the neighbourhood of Alvalade was designed by Faria da Costa according to this principle. Gradually, these *hortas* or *quintais*,[1] in historical neighbourhoods or in more recent ones, have been occupied by warehouses, garages or have simply been abandoned or covered with concrete (Telles 2000). Recently, urban farming is, again, taking a new élan in Portuguese cities,[2] where community gardens are generally called *hortas populares* or *hortas comunitárias*.[3] We can find a few of them in Lisbon, some of spontaneous origin, others created whit the support of the municipal government. The activity of farming engages the interest of very different types of urbanites: citizens with a rural background now living in the city, immigrants from distant countries, retired people looking for a healthy occupation, families with children or activists standing for permaculture. On the one hand, the municipality supports the creation of new *hortas comunitárias*, such as *Jardins de Campolide* (Lusa 2012). Here, the city authorities' decision of supporting the *horta* was the consequence of a referendum among the inhabitants of Campolide, who voted for the creation of a community garden in an area previously destined to be a car park. On the other hand, the extinction of some of these *hortas*, caused by the implementation of other municipal projects seems to be a threat (Matos 2012). This is when social movements focusing on the preservation of community gardens are quite active, in particular the GAIA.[4] Simultaneously, the academia has been promoting research and activities related with these *hortas*, in areas such as landscape, architecture or sociology (resulting, for instance, in the event "*Arquitectura e Sociologia da Agricultura Urbana*").[5] We should also bear in mind that the European Landscape Convention (ELC) recognises the public's wish "to play an active part in the development of landscapes" and recommends the establishment of "procedures for the participation of the general public, local and regional authorities, and other parties with an interest in the definition and implementation of the landscape policies" (Council of Europe 2000). With an awareness of the city's dynamics concerning the growing use and demand for public spaces for farming, along with the ELC recommendations, students and teachers from the Architecture Department of *Universidade Lusófona de Humanidades e Tecnologias* (ULHT),[6] in Lisbon, began to develop a series of projects focusing on urban farming. Besides, there was a will to introduce to future architects to new possibilities for the practice of the profession. The first experience took place in the context of the workshop "Cut City", where a group of students had to make a video on *Horta de Chelas,* as part of a film on the theme of the workshop. This *horta* is an extensive farmed area situated in a valley, among high-rise apartment buildings, train lines and the highway, where private lots and communal ones co-exist. The students were very enthusiastic with the close confrontation with this reality, which was unknown for them. Besides the discovery of a contrasting landscape with a particular morphology, they were particularly sensitive to the social aspects (interacting with members of the community, becoming aware of the different types of users) of a way of life connected to rurality and of the difficulties inherent in this activity.

Then, we turned to *Horta do Monte*, a considerably different case, located right in the historical centre of Lisbon. Here, future architects could test their ability to handle a new challenge, by designing a space based on a sensitive landscape approach.

3. The Case of *Horta do Monte*

Horta do Monte[7] is managed by an active community concerned about the future of the place. Located between the central and historical neighbourhoods of Graça and Mouraria, it stands out in Lisbon's hilly landscape, as an isolated circular peninsula, surrounded by a street. It is positioned as a belvedere over the city (*Fig. 1*), combining a sunny farming area with a leisure garden in the shade of pine trees at the top of the hill. The land of the lowest part is divided in lots, separated with fences, belonging to "private owners". The area was a void, generated by the urban transformations of the beginning of the 20th Century, filled with litter and waste for decades up until around than ten years ago, when the farming began.

Fig. 1. View from Horta do Monte

The activities in this *horta comunitária* began in a spontaneous way, thanks to the motivation of several people, who started giving use to this land, property of the municipality. The community, composed by locals, GAIA members and others, defines itself as a non-formal group, open to all, with a representative who coordinates the activities. The members practice permaculture and their activities include workshops on diverse sustainable and green practices (farming, bio-construction, cooking and handcrafts). The social role seems to be one of the main objectives of this group of citizens, sharing their know-how and calling the local community – including children – to take part and interact.[8]

However, the acts of vandalism inflicted on the *horta (Fig. 2*), as well as the negative comments that can be found in the blog of the community, are signs of a lack of consensus about the benefits of this project, even if it is supported by many citizens of different ages and social backgrounds. These citizens cooperate in the initiative of proposing a landscape project, keeping the *horta* as an alternative to the intentions of the municipal authorities to transform this privileged place into a conventional leisure garden (or even a car park). The local initiative, calling for the municipality to preserve this space as a community garden, is a work in progress involving external institutions, including ULHT.

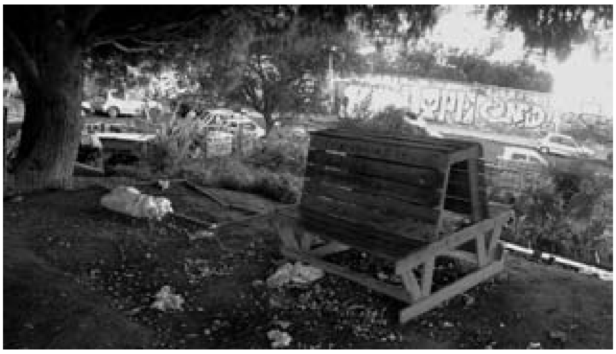

Fig. 2. Vandalism at Horta do Monte

4. Architecture Students at *Horta do Monte*

The cooperation between the community of *Horta do Monte* and the Architecture Department of ULHT began in 2012. Architecture students from the curricular unit of "Landscape Architecture Fundamentals", in the second year of the course, were asked to design a landscape proposal for this site. If the notions of 'landscape' and 'landscape project' proved to be barely understood by many of these future architects, the notions of 'community garden' or 'urban farming' were practically unknown by most of them in the beginning of the landscape approach process. Even though the rising importance of urban farming plots for urban sustainability and as public spaces was explained to students, it was obvious that they had to work on a real case to be able to grasp these notions. By asking them to engage in this project we were trying to get them out of their comfort zone, using surprise and curiosity as stimulus to discover new ways of 'being an architect'. The students were told, first of all, to go to the site and sense the *genius loci*. They were encouraged to approach the site in its singularity, using the method of the 'inventive analysis', as described by Bernard Lassus (Lassus 1998: 57-59). After the first contact with the site – the phase of 'floating attention'–, social, functional and ecological aspects had to be taken into account for the design of the proposal. It should consist of the combination of a leisure area with a communal garden area.

4.1 The First Experience

The students, from diverse origins (Portuguese, from other European countries and from Portuguese speaking African countries), most of them, not knowing the site, had to experience the place for the first time on their own, without previous information. Therefore, experiencing the landscape contrast *in situ*, seeing rural practices in the city centre and meeting a previously unknown alternative community were catalysts for the engagement of some of the students with the project. Also, the spontaneous interaction between a few students and the community arose the interest for the project, from both sides, and led to the beginning of a fruitful cooperation between the Architecture Department of ULHT and the community of *Horta do Monte* for the elaboration of a counter-proposal to the municipality's plans.

Before describing this process we must say that, out of thirty-five projects, only approximately a third presented a creative proposal, revealing a knowledge of the place and trying to invent a new concept of public space. These projects were conceived by the ones who could perceive the *substratum* of the place, "after exploring the most precise or the most vague dreams carried by the collectivity" (Lassus 1998: 57). They could discover hidden memories, old uses and understand the potentialities of the place, reinventing them. However, in most cases, the students simply divided the space into two distinct areas, destined each to one function, indicating species to be planted but without aesthetic concerns in terms of design. This attitude could be explained, in part, by the difficulty of these architecture students in dealing with the project of landscape, when they are mostly trained to work with the built and enclosed space. Also, for many, the notion of landscape architecture is still associated almost exclusively with vegetation, even if, during the classes of this curricular unit, there was a continuous effort for a change in this misconception.

Another aspect which was identified was the refusal of a few students to include a farming land, maybe because of the difficulty in conceiving a creative design for an agricultural area, so different from the projects they are used to propose for urban areas. Besides, as we already mentioned, a new vision of the role of architecture, adapted to the current context of crisis and excess of built structures, is not yet the mainstream in architecture schools. Therefore, the concept of urban agriculture as an important element of urban space was not easily absorbed by most students.

Among strongly motivated students, two distinct approaches were identified. Some previously sensed, read and analysed the site carefully and sometimes discussed with the community the issues to be incorporated in their proposal. The main focus of the design of their proposals was on the integration of the functions serving the activities of the community. Others, mainly Erasmus students, made a careful analysis of the relation of the site with the urban morphology and the urban landscape, revealing a conscientious research work about a city that was quite new for them. These last ones proposed solutions that enhanced the integration of the space into the urban fabric, with an emphasis on urban design (*Fig. 3*).

Thanks to the interest of the community in the work of the students, a selection of projects was publicly presented and debated at *Horta do Monte* in October 2012 (*Fig. 4*). Together with the pedagogic aim of this cooperation – where all actors share social, environmental and aesthetic motivations –, the immediate intention was to contribute with ideas for a proposal for the refurbishment and legalisation of the community garden, a proposal which is being prepared by the community to be presented to the municipality.

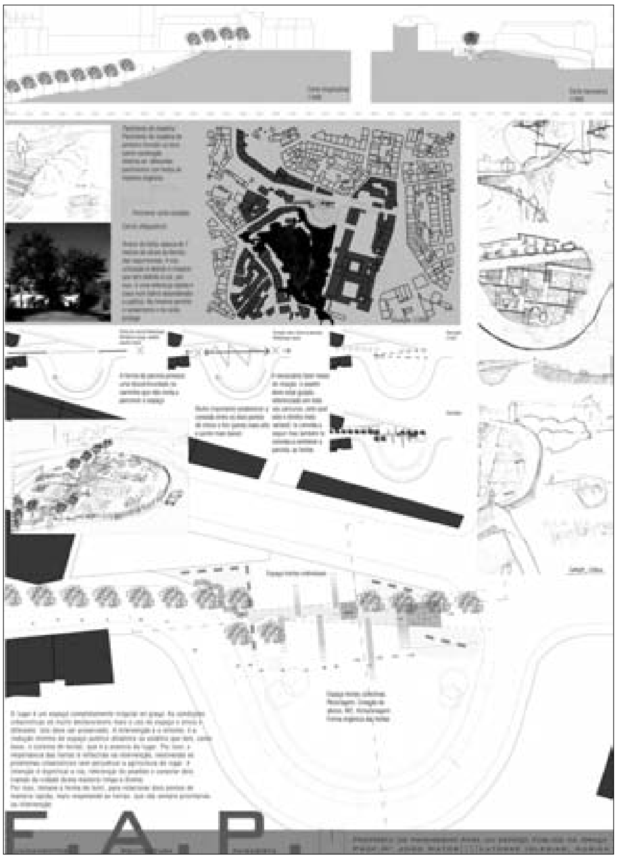

Fig. 3. The proposal of the student Adrian Latorre Iglesias

4.2 A Work in Progress

This was the beginning of a cooperation which is a work in progress, as the Architecture Department of ULHT and *Horta do Monte* are still participating together in other two projects. The students of the curricular unit of Architectural Project (second year of the

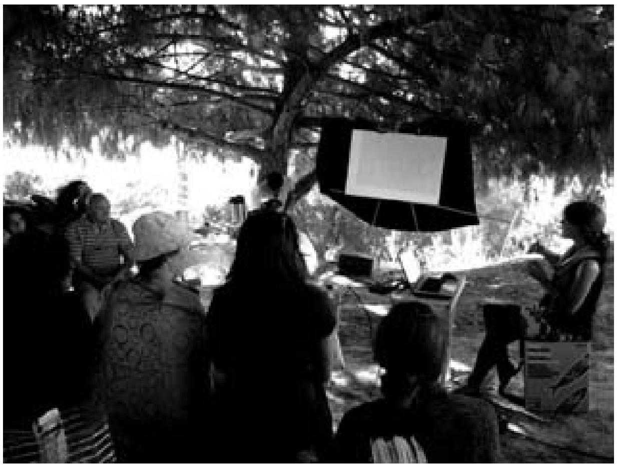

Fig. 4. Discussion at Horta do Monte

course) are currently designing a mobile structure for sun and rain protection for the community garden.[9] A single project will be chosen in a competition and a full-scale model of it should be built. In March 2013, a workshop on bio-construction will take place on site during a week. A sitting structure will be built by students with bales of straw covered with clay. These initiatives – besides helping to keep *Horta do Monte* as a community garden, cherished by locals and approved by the municipality – should encourage future architects to engage in civic participation, using their skills in the conception of new types of public spaces.

5. Conclusion

The cooperation between the Architecture Department of ULHT and the community of *Horta do Monte* suggests an innovative approach in the fields of architecture and landscape, adapted to an emerging urban paradigm demanding for civic participation and new approaches to existing spaces. A closer interaction of architects with communities is needed, for the conception of public spaces and urban landscapes built by all and open to all, improving the life quality of urbanites and feeding their necessity of participating in the conception of idealized green spaces.

As we already mentioned, one main objective of this process was, first of all, to open students' minds to different approaches to reality, using their skills for more than designing and constructing buildings for conventional clients. In this regard, the method of the 'inventive analysis' was helpful in encouraging students to approach the site without misconceptions and, consequently, to deal with a new type of landscape architecture project, in which the combination of rural and urban practices were a demand of the local community. In this context, the landscape approach proved to be a strong catalyser for future architects to discover inventive ways of dealing with new forms and uses of public space. Secondly, we intended to show to future architects the importance of civic participation for the transformation of the city into a place where landscape is an asset and where people enjoy living in. As we could see, some could understand these issues and propose creative and intelligent solutions. Others were not able to succeed in doing it. However, we hope that this experience was not inconsequential for most of them and that it can draw their attention to emerging issues that are now changing the role of the architect in contemporary societies.

Notes:

[1] *Horta* is the Portuguese word for a vegetable plot. *Quintal* is the Portuguese word for a backyard, generally for horticultural purpose.

[2] See the *Portal da Agricultura Urbana e Peri-urbana* (PORTAU - http://www.portau.org/), a platform promoting the exchange among Portuguese institutions of different kinds (local governments, universities, civil society organisations,...) which constitute a cluster around the debate and actions concerning urban agriculture.

[3] In this context *Popular* means "grass-roots". *Comunitária* means "from the community". In general terms, an urban piece of land used for agricultural purpose is called *horta urbana*.

[4] GAIA – Grupo de Acção e Intervenção Ambiental (http://gaia.org.pt/). In English, Group of Environmental Action and Intervention.

[5] In English "Architecture and Sociology of Urban Agriculture". The event took place in May 2011 at Technical University and Lusíada University, in Lisbon.

[6] See the site http://arquitetura.ulusofona.pt/

[7] *Horta do Monte – Projecto comunitário* (http://hortadomonte.blogspot.pt/)

[8] Idem

[9] See the blog *Projecto de Arquitectura I - 2012/2013, 2º ano Universidade Lusófona* (http://ulhtpa1.blogspot.pt/2012/11/exercicio-2-estrutura-de-abrigo-para.html)

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A Biographical Approach to Understanding the Landscape

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Abstract: Contemporary development is complex; not easy to define or manage. It requires an increasingly detailed understanding of a place in context, of its milieu and of its actors and networks. Such a meticulous approach can be inferred by the biography metaphor. The "landscape biographical approach" seeks to better understand the current local cultural conditions, issues and circumstances disclosed through stakeholder participation, and by other means, by linking them to the past physical, social and economic "life" of a place and its people and their on-going transformation. The landscape biography follows change through time, through a local lens, leading to a better understanding of context. Implementation of a biographical approach to project work is illustrated through the study of a site in the south of France.

Keywords: landscape biography, process, project.

1. Introduction

This paper seeks to demonstrate the implementation of a landscape biographical approach to site analysis and its relevance to subsequent development propositions, through the example of the study of a rural commune in the Var, in the south of France.

The biographical approach seeks to better understand local cultural conditions, issues and circumstances, disclosed through stakeholder participation and by other means, by linking present conditions to the past physical, social and economic "life" of a place and its people. The aim of the biographical approach is to better understand the "essence" of a place and thereby follow its "scent" in the elaboration of proposals for future development. The hypothesis is that greater and more detailed understanding of a settlement in its milieu can lead to development proposals that respond better to place. The author believes that the "biographical approach" has potential in terms of practice, research and landscape architectural education.

2. Why the biography metaphor?

The biography, an ancient form of literary expression, is used to describe the life of someone (or something), usually from either the historical or personal perspective of an author who draws upon personal evidence and memories as well as written, oral, and pictorial material. The preceding text precisely describes our methodology in collecting information to do with the site. The notion of landscape biography supposes a subject (a site) and a biographer (or researcher) or in this case multi-disciplinary team led by landscape architects. The biographer's personal knowledge of the subject can be equated to our deep immersion in the past, present and future of the site. We also liked the biography metaphor because of our aim to retell the story of the place. Our view through the "outsider's" lens brought a fresh and particular perspective to our understanding of the place and our approach to the project, not least because some of our team was foreign. Much information was collected through conversation and we talked as we walked and we gathered things. We found that the most interesting way to relate what the team had understood about the site was to tell it again, as another story, to the client. Our written analysis became a story, about a place: a biography! The story that we told meshed past with present, and with the people who live, or who lived there, or would live there in the future in reflection of the layering that occurs in the landscape and the "fact that life must be lived amidst that which was made before" (Meinig 1979).

3. Authorship and landscape architecture

The notion of authorship is traditional not only in literary but also in artistic disciplines, including architecture and landscape architecture. Not all, but certain special buildings and places are known either for their designers, or for the individuals that influenced their creation. Approaching site analysis through the biographical lens seems to be relatively un-documented in the discipline of landscape architecture, although it is popular in (at least) two neighbouring disciplines. One example of a not dissimilar approach within landscape teaching is the series of annual workshops organised by the Periscape Network experimenting with what they have labelled a "dialogical" approach. (LAMB 2011).

4. Biography and neighbouring disciplines

4.1 Archaeology

The notion that objects, artefacts and even certain places in the landscape have a "biography" of their own is current amongst archaeologists and theorists. The idea of artefact biographies builds on, but goes beyond, Schiffer's (1972; see also Schiffer and Miller 1999) idea of object history and the concept of sequences of production and consumption. It provides a framework to understand the diverse 'lifeways' of artefacts, through the reconstruction of life histories or 'cultural biographies' of objects (Ashby 2008; see papers in Appadurai 1986; Kopytoff 1986; Hoskins 1998; Gosden and Marshall 1999; Saunders 1999; Gilchrist 2000; Jones 2002). Thus, perceptions of objects are contingent upon context (Kopytoff 1986). Archaeologists (Kolen 1995, Roymans 1996, Gerritsen 1999) introduced the concept of biography to Dutch landscape research twenty years ago and it later became the central tenet of a programme run by the Netherlands Organisation for Scientific Research. Roymans *et al* (2010) note that their early biographical approaches were inspired by anthropological studies (Appadurai 1986, Kopytoff 1986) and by the notion that land and landscape were "handed down" from generation to generation, but that their later biographical approaches more closely followed Samuel's ideas of landscapes of expression.

4.2 Geography

Reading of the landscape is discussed in a collection of geography essays edited by Meinig (1979) in which Samuels (1979) also introduced the terms "biography of landscape" and "authored landscape" to signify the role of individuals (or groups) in the "*making*" of landscapes. Samuels made an important distinction between "landscapes of impression" that are fictional, or imagined, rather than real ones (more *about* than *in* the landscape), and "landscapes of expression", that contain, or are, the physical consequences of an intention (Samuels 1979). As noted above, geographers have long used the biography metaphor in seeking to describe particular landscapes in terms of the people who made them. The text that Gay M Gomez wrote in her *Wetland Biography* has particular resonance for us: to reveal the essence of a place, two things are necessary. The first is knowledge about a region, the second, actually knowing it. Knowledge comes in the form of information gained from studying the wetland through time and across perspectives. It provides the rich mixture that waits only for a catalyst to begin the distillation. That catalyst is the researcher's immersion in the region itself. Only by taking an outsider's perspective "inside" to experience the wetland through the lives of its people can one discover the essence of the place. This is the "knowing" that complements "knowledge" and completes our comprehension of the wetland (Gomez 1998). Implementation of our biographical approach to project work is illustrated through the study of a site in the south of France.

5. The case study: political context

The European Landscape Convention (ELC) was adopted in France in 2000 and ratified in 2005. In that same year (2000), an important law was passed in France: the *loi SRU* ("of solidarity and urban renewal") that integrated notions of sustainable development and required an overhaul of all French planning documents. The law instituted a more coherent hierarchy of planning documents and required the articulation of local, departmental and regional (or territorial) development plans causing a fundamental review of the planning process. Several years before the introduction of either of the above, however, a third significant law came into force in France: the "Landscape law" of January 1993. The objective of the *loi Paysage* was the protection, conservation and/or enhancement of landscapes, of all types: natural, rural or urban, remarkable or otherwise. The text of the law requires not only the protection but also the *mise en valeur* of the landscape, which can be translated rather clumsily into English as "added value" or "enhancement".

The *Plan Locale d'Urbanisme* (PLU) is the local planning document that expresses the Municipality's intention in terms of development and conservation. The PLU consists of a detailed text and accompanying graphic document that identifies various zones in which different types of activity will occur. The Landscape law came into force before the revision of French planning documents, but from 2004 it required local planners (the municipalities) to ensure the quality of their landscapes. The study that is the subject of this paper was carried out in context of the *loi Paysage* and was contracted by the Municipality of La Mole in the Var.

6. The study team and method

The current reflection concerns a site that was studied over a period of 18 months between autumn 2000 and spring 2002 during which time the design team worked in association with the Mayor, his team of local councillors, the Direction Départementale de l'Equipement and the inhabitants of the Commune.

A number of meetings were held in consultation with the political team and public meetings took place to discuss progress. Apart from the collecting of archived documentation including maps, plans, photographs, various types of literature and scientific and other existing information, much time was spent in visiting the territory, and talking to people, simply experiencing the place, on foot usually, but also from a car, by plane and on horseback, mapping, photographing and otherwise recording the place, meeting people who wanted to show us things in the landscape that they thought were important, or tell us things about their lives, or their ancestors that they wanted us to know. We tasted local cuisine, enjoyed all the local restaurants and drank the wine, usually whilst deep in conversation, in private or at one of a variety of local cultural events. Telling the story of the site and its people and their transformation over time led to the distillation into separate layers of natural and cultural elements that were strongly interrelated. We avoided the telling of our story in chronological order but instead chose topics and cross-cutting themes and examined them at points in time, and place, creating maps that could be overlaid. Some relevant themes became apparent only once we had become acquainted with the Commune.

7. The site

La Mole, a rural territory of 4,258 hectares, is a spectacular site located within the Massif des Maures, an isolated mountain range that runs parallel to the Mediterranean coast between Frejus and Hyeres (see Fig 1).

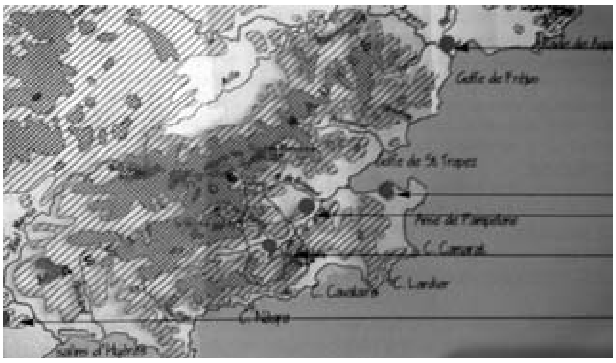

Fig. 1 La Mole in le Massif des Maures

Despite its proximity to the coast, the commune of La Mole is separated from the sea both physically and visually by steeply rising hills. Cork oak covers almost 90% of the land (the hills) and the narrow alluvial plains (the valleys) are covered in grapevines, or prairie. The visitor to the village of La Mole is met by spectacular vistas across vineyards, towards steeply rising, forest-covered hills (see Fig. 2). The commune of La Mole is rural, its population is small, the village is recent, having been founded at the end of the 19th Century before which time the population consisted of a shifting number of relatively isolated farmers. By the turn of the 21st Century, a population of 800 people is concentrated between two main centres: the village

Fig. 2 Spectacular morphology

of La Mole and the Moulin Roux housing estate that are juxtaposed alongside the single road that runs along La Mole river valley to connect the Gulf of St Tropez to Hyeres and Toulon. The remainder of the population is scattered in farms, or on remnants of farmland concentrated within several narrow river valleys (see Fig. 3). Despite its rural image, the majority of La Mole's inhabitants commute to work in neighbouring towns; unemployment within the Commune is relatively high. There is some agri-tourism (bed and breakfast, *tables d'hotes*) and a campsite. The tradition of farming continues but otherwise, La Mole's main sources of revenue are its tiny airstrip (that serves St Tropez), the dam (that provides drinking water for the entire Gulf of St Tropez) and its amphibolite quarry.

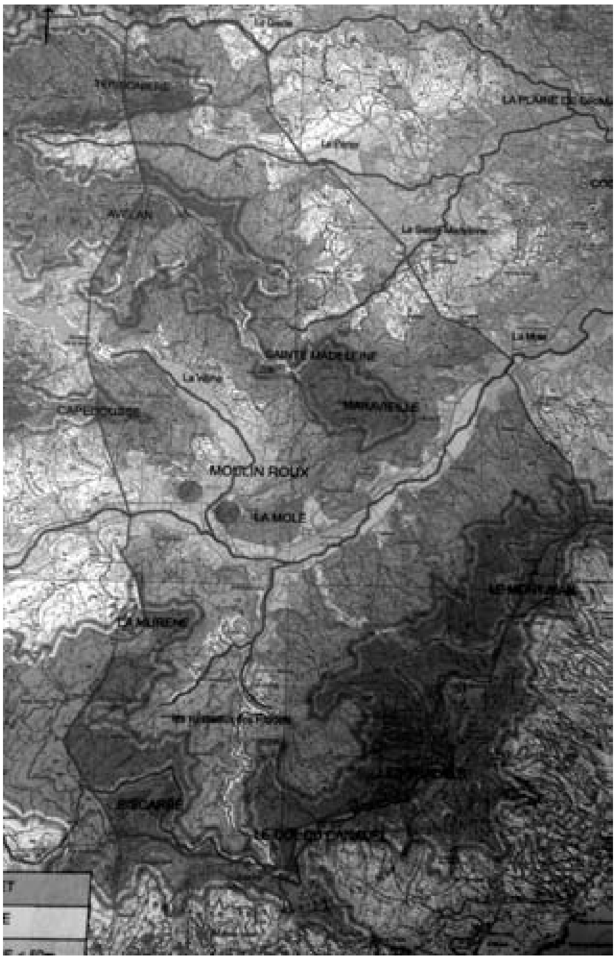

Fig. 3 La Mole and the Moulin Roux

8. The purpose of the study

We were asked to assist the Municipality in developing a holistic strategy for local development within the context of the *loi Paysage*. Amongst other things, issues that concerned the municipality were the need to ensure enlargement of the general population, the extension of the village (see Figs 4 and 7), the problem of the main road running through La Mole to the detriment of village life, the need to enlarge (or not) the main road and/or the possibility of bypassing the village, the visual impact of the airstrip and the quarry and other constraints and inconveniences associated with them.

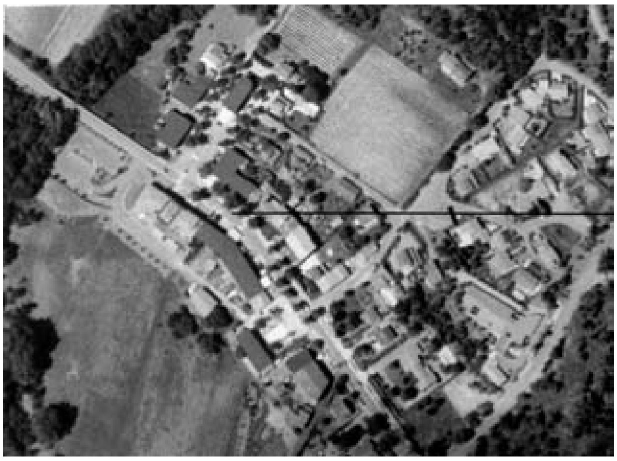

Fig. 4 The beginnings of the village

9. Study results

Themes that were covered by the study included the rural habitat and its evolution (see Figs 5 and 6), outhouses and farm buildings,

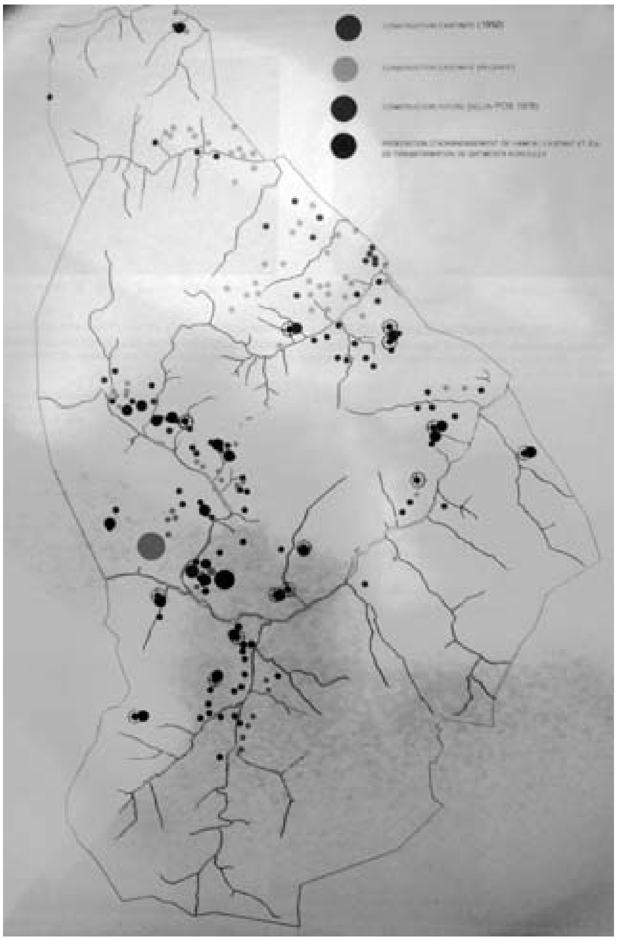

Fig. 5 Settlement types

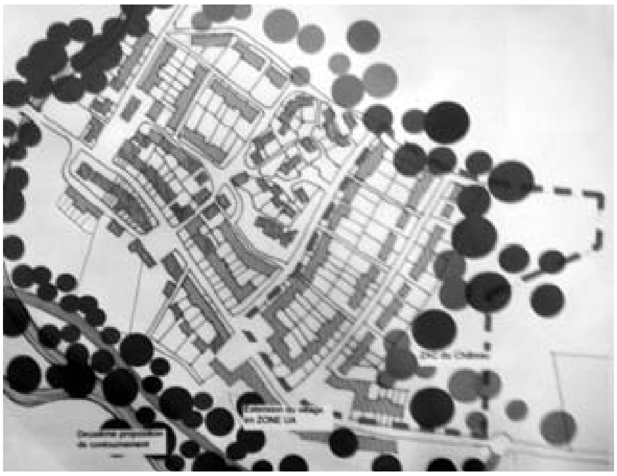

Fig. 6. Village extension scenario 1

colours and materials, ruins, religious and civic constructions, evolution of access (roads, paths, tracks and accessibility) and traffic. As well as farming activity and traditions, transhumance, productions, forestry, irrigation, ground cover, animal husbandry, storm water management, and pollution. The river valleys were studied as objects, as was the *Chateau de la Mole*, the airport and the quarry. Cultural traditions, feast days, family trees, demographics, inheritance, land ownership, division of land, abandonment. All these elements resulted in a series of maps that overlaid to identify an inventory of significant physical (and sometimes imagined) elements that we found were fundamental to the spirit of La Mole.

10. Protection and development advice

The final chapter in our story looked towards the future in terms of potential for success as well as for failure. We identified the positive as well as the negative in the Commune, identified mistakes already made (in our opinion) and suggested ways to minimise their impact, or even correct them in the future, warned of potential impact of decisions yet to come and looked further than the short term by envisaging future development scenarios and modelling them for debate and discussion at public meetings.

Some of our recommendations were related with management, for example, of the forests and pastures as well as of the vistas emblematic of La Mole, but also of the protection of habitats that shelter rare species. Others were concerned with the form of village development (see Fig. 6) and domestic typologies, the extension of the cemetery, improvement of village life (by opening up a bakery for example) and creation of a public space where children could play safely. Others were related to the renewal of habitat on abandoned sites. The documents that we submitted already contained the results of contributions and feedback from public meetings and were annexed to local planning documents after a vote by the local Council. A next step for the Municipality was the integration of propositions to local planning documents. We were not involved in that stage and the translation of our ideas into the planning documents was not always simple since, some, but not all of them could be taken into account. Some work was completed on site (extension of the cemetery), some of our propositions to do with attention to detail (colours, materials in building projects, etc.) were incorporated into local procedures and other tasks (integration of propositions to local planning documents) required further legal procedure before implementation.

11. Conclusions

Although this study was carried out before the ratification of the European Landscape Convention in France, it can be noted that the *loi Paysage* anticipated some of the changes in the perception of landscape later predicted by the ELC and reflected in teaching approaches.

Landscape biography can be used to ensure that the collective and individual consciousness participates actively in the process of transformation and, as such, it is also in the spirit of the ELC. Stories of landscapes and settlements can serve as a source of inspiration for architectural and landscape design, and urban planning, as well as for landscape and heritage management.

Working sustainably can suppose the need for pragmatic small-scale low-key responses to specific situations that can depend on micro-context and milieu. As such, a biographical approach to site, place and people is a useful addition to more traditional approaches to analysis that are taught in design schools.

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An Automated Gis Partitioning Approach For a Large Scale River Basin Landscape

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Abstract: River valleys are unique landscape features for their different physical processes and properties with respect to neighboring hillslopes. River valley buffers or floodplains are the subject of detailed maps identifying the spatial distribution of the frequency of saturation and maximum inundation limits. This zoning activity is a fundamental tool in urban and landscape planning for protecting the natural fluvial domain as well as the development of human, animal and industrial life. Standard zoning approaches, based on expensive topographic, hydrologic and hydraulic studies, are often difficult to implement at the basin scale. This work presents an automated hydrogeomorphic method for river valley mapping using advanced terrain analysis algorithms - which makes extensive use of GIS and remotely-sensed topographic information of DEMs - for capturing the floodplain footprint. The case study of the Tiber River in the Italian region of Umbria is presented along with results and a discussion on the potential applications of the proposed method.

Keywords: landscape zoning, floodplain, GIS, DEM, hydrology, Tiber River

1. Introduction

River valleys are landscape features of paramount importance, as water is a fundamental asset for human activities in both natural and artificial settings. It is evident that a sustainable landscape model must take into account the spatial and temporal dynamics of surface and sub-surface flows at the river basin scale under actual and future (e.g. forced by climate change) conditions for the safe and efficient use of the territory for rural, industrial and commercial activities. The water footprint must be properly identified and understood when performing urban and land planning. This is why detailed Hydrologic and Hydraulic modeling (H&H) studies are needed to identify the quality, quantity and limits of channel and floodplain flows, including the transported sediments, nutrients and pollutants. This zoning activity has multiple aims: delineating the extent of saturation, erosion and deposition in the river valley; defining the maximum inundation limits that should be preserved from development to safely convey the design flood; verifying the adverse impact of a specific urban development project for both the affected water resources and for not increasing the downstream flood risk. Standard H&H flood modeling algorithms are still applied in an inhomogeneous and discontinuous manner at the river basin scale and detailed analyses are often provided only at the small (specific urban development project) scale. This is mainly due to the fact that those studies require significant economic resources and time, and also for political reasons since private and public interests are managed at the local community or regional level. Only rarely do political and technical inputs and related economic support come into play at the large (national/basin) scale.

Nevertheless, a river basin's main morphologic features, floodplains and hillslopes, are clearly distinguishable without the need of advanced and detailed H&H studies (e.g. Nardi et al., 2006). In fact, those morphological terrain features have been shaped by floods in centuries of intense erosion and deposition processes. This water-driven footprint is characterized by different geomorphic properties that are directly or indirectly linked to specific topographic attributes. Floodplains are, thus, defined as those predominantly flat or gently sloping concave landscape features where water tends to accumulate and propagate downstream. Hillslopes, on the other hand, are those rough steep convex features where water tends to diverge. There is often, where urbanization is not significant, a well defined break in slope delineating the floodplain with respect to the hillslope, that is the concave with respect to the convex, the frequently saturated with respect to the usually dry surface. This limit also clearly demarcates different geology and vegetation. As a result, floodplains can be clearly identified from space using Earth Observation (EO) technologies for automatically distinguishing the different hydrologic, geomorphic, geologic, biogeochemical and ecological features. This study presents the results of the application of a floodplain identification algorithm that analyzes the topographic information with respect to a standard hydrologic forcing scenario to provide an inexpensive yet accurate river valley zoning tool at the large scale. The proposed method is based on advanced Terrain Analysis (TA) algorithms for extracting the geomorphic trace of floods from Digital Elevation Models (DEMs). This is achieved by implementing an automated code, built within a Geographic Information System (GIS) that filters flood-prone cells along the river, such as those cells whose elevation is less than the maximum flood stage for the design scenario. The case study of the Tiber River, one of the largest basins in Italy, covering approximately 17.500 km^2, is presented for proposing an alternative fast floodplain delineation model with respect to standard flood mapping, and for understanding the performances, drawbacks and limits of the use of such a model for landscape partitioning and planning at the large scale.

This manuscript is organized as follows: in the next section (section 2) a brief summary of current standard methodology for flood modeling and mapping is inserted together with a description of the proposed hydrogeomorphic DEM-based floodplain delineation algorithm; in section 3 and section 4 the case study of the Tiber River and the floodplain results are respectively presented and compared with the standard flood maps. A discussion of results with conclusive remarks is inserted in Section 5.

2. Computer-based river valley mapping

In this section computer-based methods for standard flood mapping using hydrologic and hydraulic simulations and for the geomorphically-based floodplain characterization are described.

2.1 Standard H&H Modelling For Flood Mapping

Flood map production and updating is the result of the evaluation of the impact of the design hydrologic forcing on the river valley. This impact is expressed by estimating the hydraulic effects of the flood wave propagation along the channel and within the valley. The procedure is characterized by five main steps: 1) identification of the domain of interest; 2) definition of the hydrology and flooding scenario for the different design frequencies (i.e. return time); 3) topographic representation of the domain also including the urban features; 4) evaluation of the impact of the design flood on the river valley within the domain by means of flood routing hydraulic modeling algorithm; 5) analysis of the hydraulic modeling results for identifying the inundation extent, depth and dynamics (e.g. direction, velocity and energy of propagation), for producing the flood maps of a given return time.

These 5 main steps are depicted in the general sketch diagram of Figure 1 which represents the interconnection between the different activities.

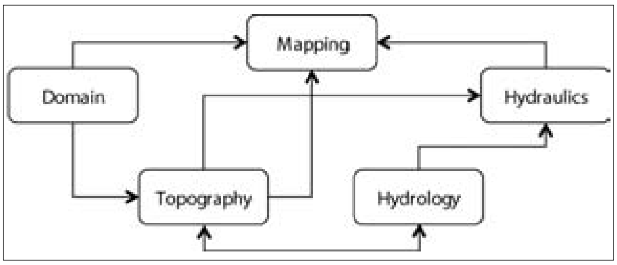
Mapping
Domain
Hydraulics
Topography
Hydrology

Figure 1. Schematic diagram of the five iterative steps for standard flood modelling and mapping

In Figure 2 a more detailed and descriptive flow diagram is inserted for explaining the entire procedure with the main steps and substeps. These two figures provide the general framework for the complex iterative and multidirectional work flow for producing standard flood maps.

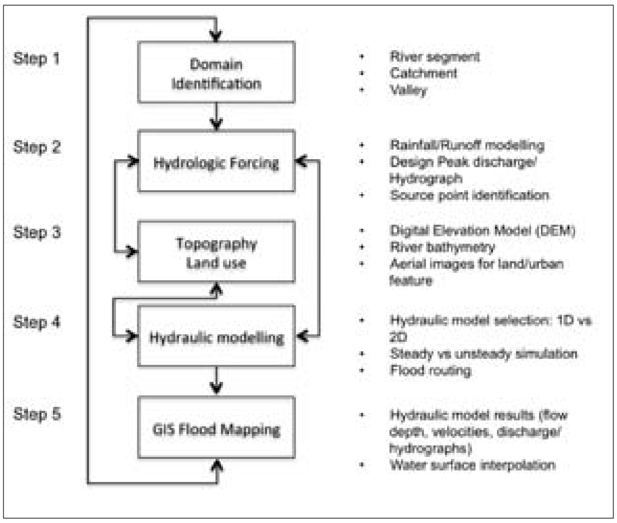
Step 1
Domain Identification
River segment
Catchment
Valley
Step 2
Hydrologic Forcing
Rainfall/Runoff modelling
Design Peak discharge/ Hydrograph
Source point identification
Step 3
Topography Land use
Digital Elevation Model (DEM)
River bathymetry
Aerial images for land/urban feature
Step 4
Hydraulic modelling
Hydraulic model selection: 1D vs 2D
Steady vs unsteady simulation
Flood routing
Step 5
GIS Flood Mapping
Hydraulic model results (flow depth, velocities, discharge/ hydrographs)
Water surface interpolation

Figure 2. Flow diagram of the activities for standard hydrologic and hydraulic modeling for GIS-based flood mapping

2.2 River basin landscape partitioning (floodplains and hillslopes) using DEMs

The proposed river basin landscape partitioning method for distinguishing river valleys and hillslopes is based on the following steps:

1. DEM correction and preprocessing for flow direction, drainage area and stream network extraction using standard terrain analysis algorithms (Jenson and Domingue, 1988);
2. Automated estimation of the flood peak discharge and corresponding flow height using only the DEM, a floodplain cross section extraction tool and a predefined design flood peak discharge for the outlet;
3. Floodplain delineation using a geomorphologic approach that identifies those cells that are positioned above the corresponding channel flow surface elevation.

A detailed explanation of step 1 is provided in Nardi et al. (2008) while the core landscape partitioning model of step 2 and 3 is described in Nardi et al. (2006).

Figures 3 and 4 show the results of the above mentioned steps 1 and 2 for a sample small watershed.

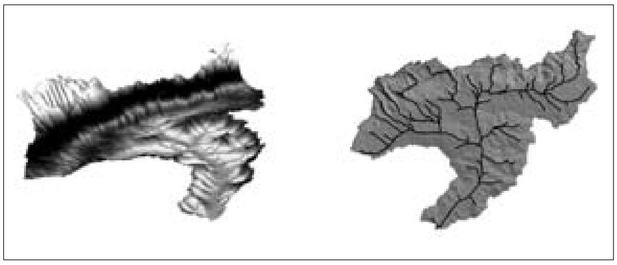

Figure 3. 3D view of a sample subwatershed DEM for the Tiber River (on the left) and corresponding simulated stream network (right)

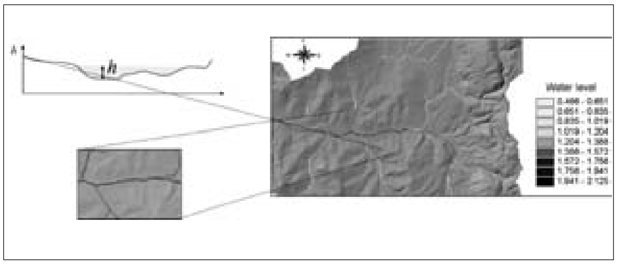
h
Water level
0.466 - 0.651
0.651 - 0.835
0.835 - 1.019
1.019 - 1.204
1.204 - 1.388
1.388 - 1.573
1.573 - 1.758
1.758 - 1.941
1.941 - 2.125

Figure 4. Schematic figure representing the DEM-based floodplain cross section extraction algorithm for the automated peak discharge and flow height estimation (Nardi et al., 2006)

3. Case study: the Tiber River in Umbria

The Tiber is the second largest river basin in Italy, after the Po river basin, covering an area of approximately 17,500 km^2 including Umbria, Lazio, Toscana, Abruzzo, Marche and Emilia-Romagna. The Tiber river basin, upstream of the regional boundary dividing the Umbria and Lazio regions (see also Figure 5), covers an area of approximately 5,500 km^2. The land use is predominantly characterized by agricultural (more than 50%), forested and urban areas (only 5%).

The DEM used for the selected case study is the NASA Shuttle Radar Topography Mission (SRTM) DEM with 90 m of resolution and floating precision (Farr and Kobrick, 2000).

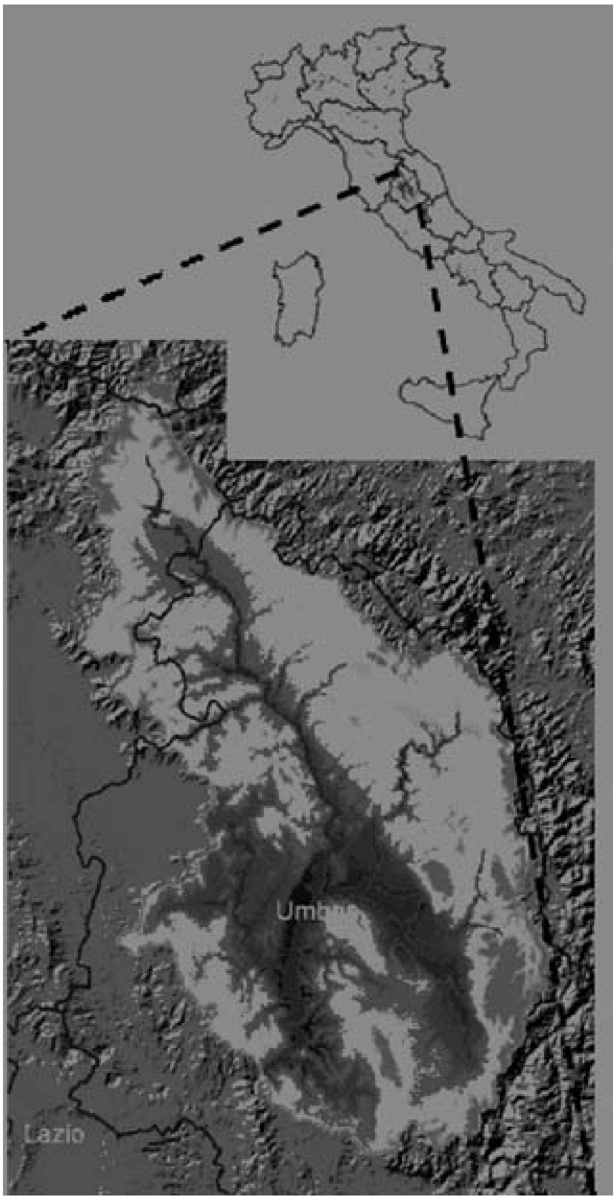

Figure 5. Case study domain covering the Tiber River upstream of the Lazio-Umbria regional boundary in central Italy: hydrogeomorphic flooplain mapping results

4. Results

Results of the application of the hydrogeomorphic floodplain delineation algorithm with respect to standard Tiber river flood maps developed by the Tiber River Watershed Authority (2006) are inserted in the following figures 5 and 6 that show respectively the entire territory of Umbria and a zoomed box on a sample area for a better comprehension of the behavior of the proposed method with respect to the official inundation maps.

5. Discussion and Conclusions

The presented case study investigates the performances of an automated DEM-based GIS algorithm for floodplain identification in large river basins.

The comparison of the simulated floodplain with standard flood maps shows that the proposed hydrogeomorphic floodplain provides a solid representation of the river valley bottom with respect to the surrounding uplands.

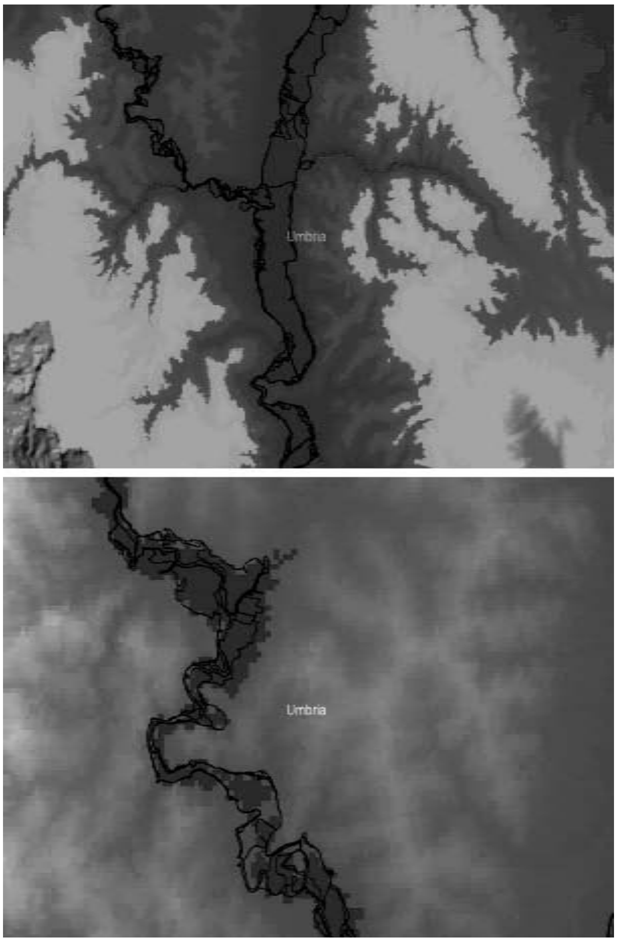

Figure 6. Detailed cartographic representation of the comparison between the hydrogeomorphic floodplain (shaded blue) and standard flood mapping (black boundary) for two different sample areas of the Umbria domain.

This GIS model - which does not need sophisticated parameters, but mainly the DEM and other hydrologic information that is usually freely available - may be used for several applications related to landscape and urban planning. In particular, floodplain delineation is useful as a preliminary large scale mapping of water related risks for sustainable socio-economic asset protection and development as well as for understanding the different physical processes and features that intervene along the riparian areas. Additional applications of the proposed model include all the multidisciplinary projects (e.g. toponomastic, historical and biological studies) which might use the floodplain polygon as a spatial query for analyzing the features falling within or outside the river corridor.

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The Landscape Project: Creative Process and Experimental Tools

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Abstract: The dilemma that we intend to reflect on here concerning landscape and space is based on the principles deriving from the artistic vanguards of 20th century modernism and their operational tools in the architectural project. Reviewing the idea of space from this point of view entails a rethink of architecture, or better in the Borgesian[1] term, a "renegotiation" of architecture through the concept of landscape as a mechanism for articulating and proposing a system of relations with the environment and the territory, in which the architectural and landscape project acts as a tool.

Key-words: Landscape Project, Space, Public Space, Natural-Artificial Process and Tools.

1. Concerning landscape

Alexander von Humboldt[2] defined landscape as the "totality of all aspects of a region". The concept of landscape was forged in Europe at the end of the 16th century, when at the time it was considered as the view of a territory possessing aesthetic qualities: beauty, the sublime, magnificence.

All this changed later when modernity abandoned or set aside the landscape, with the emergence of the machine, matter, the domain of objects and expressionist psychologism, in order to break and dilute the conventional images of the world for the sake of a few completely new forms.

The concept of landscape recovered and was revived with land art and the earthwork. At the end of the sixties, authors such as Walter Maria and Robert Smithson created their works by linking them directly to the characteristics of the environment and the workplace. They began to think of the landscape as a mental concept, not as a space of great dimensions, not as a set of objects configured by nature, but as the feeling that interprets a place.

Nowadays, the concept of landscape has been extended to the scientific, political, economic, and even sociological fields, recalling in this regard the European Landscape Convention and its text, adopted in Florence in 2000. This concept does not coincide nor does it arise from the urban, economic or planning implementation of the land where we live.

The landscape is understood as a whole, which is why it requires new urban planning, new technological, architectural and legal tools that are able to renegotiate the idea of landscape, as well as place and site.

There is no single landscape; there are many. Assuming this is to recognize a priori, the ineffectiveness of the landscape surrounding landscape, as an agent able to resolve our doubts, admitting, first and foremost, that we are at a time where the experiences of discontinuity, fragmentation, and even ignorance and multiculturalism are obvious, so it does not seem logical to grasp a nostalgic vision of landscape as a valid operator if we aren't able to unravel the cultural dimension of landscape and the operational tools appropriate for its performance.

2. The idea of space in the modern movement

Vitruvius' determination that architecture was based on three virtues (firmitas, utilitas and venustas) went unchanged until the new ideals of the modern movement, which replaced those virtues with words such as: functional, rational or the idea of space. Space was not intended in the literal meaning that had always existed, but as an added value, from which the architectural work is generated and carried out.

Space was represented as an intellectual theme, as a philosophical subject flowing from perception to the field of reflection. It centres on the idea that space takes on its full meaning through movement, highlighting sequences and rhythms; time is considered as inextricably linked to space.,

The idea of planning a priori both the temporary process and the willingness to formally bring it into being from its functional value and rational conception, led to instrumental casuistry of enclosure, limitation, and delimitation of the urban form in the second half of the 20th century.

The idea of continuous space and time was initially exposed by the sculptor Hildebrand, when he proposed the idea of kinetic vision, and it is also found at the core of Albert Einstein's theory, in 1905[3].

After numerous and exciting artistic experiences in general culture and architecture in particular, we could observe the loss of the sense of perception of space and time in the face of the predominance of plate tectonics and objectual emergency.

The space generated by an architectural project in the modern movement is no longer dominant.

The idea of space has been in continuous transformation; we could say that there are several concepts of space, in some cases architecture has become its container.

Dynamic interiors, such as museums, where the shape of the space or the natural lighting define other large spaces, relate to transport and leisure, which plays with the concept of time as transition and other virtual spaces, even in cyberspace, which in turn allows us to connect to different buildings without having to be physically connected.

3. Rethinking the idea of space in public space, in the landscape

From this perspective, the idea of space in architecture is presented as a paradigm and a necessary basis of reflection, for which we propose a disjunction between the "concept of landscape" to the "idea of space" defined by the modern movement. A series of considerations concern the concept of landscape, as arguments and principles which highlight the need to offer and rethink a new sense of space as a dimension of landscape. But if we are talking directly about the importance of public space or open space (parks, gardens, avenues, highways, roads, squares, parks, etc.), it has acquired an important role in the definition of the shape of the city. On the contrary, the city has delegated many activities it is not able to sustain. However, in the continued growth and mutation of these roles and the continuous diversification of potential users, what are the limits of variability that the landscape project can and should be in the definition of public space?

Architecture is more explicitly an artifice, as long as it acts according to the manipulation and transformation of nature, and often, in clear opposition to nature. But the same architecture is an integral part of the landscape. And the best architecture is the one that collaborates in the interpretation and integration (even by denial) of the landscape.

A "public space" project means - more or less acting on the landscape - making an artifice in nature, manipulating it through perception or human experience. Sometimes, it means differentiating between natural forms and contrasted trilithic forms of construction, or even avoiding contact with natural forms. There is a perfect harmony of technical projects between landscape and public space and, in this sense "kinematics", landscape and architecture often tend to melt and conjoin in a single aesthetic operation.

Currently, conventional public space does not respond to uses, behaviours, and perceptions needed by citizens. The public dimension has transcended the limits of its own spatiality, defined in the modern movement to be located in territories where the rules of its conception are contrasted with their own roles giving rise to natures, surfaces and parts with very different characters, where the architecture must provide answers. Hybridization between a tectonic concept of space, and environmental and landscape responses, characterize this new public dimension, combining persuasive instinct and order, security, playful and festive alternatives, spaces to share, to enjoy on the basis of precise activities…The static and monumental public dimension and representation has disappeared; The singularity is in the concept of landscape or better in the reinterpretation of this concept[4].

But in any case, to act on the landscape from this perspective of public space we need an architect mediator with the technical capacity and aesthetics needed to interact with nature, the territory and the city, and the ability to accept the differences. Jòao Nunes describes it in terms of "Tolerance and generosity" in the design[5], as the recognition of "time" as an instrument of the action project.
Both concepts tell us about learning by exercising a culture that developed the "idea of object and space containing", as a cultural framework of the 20th century the "landscape as relations system concept" proposed in the research and work on the landscape of today: from "culture of the object" to "space-time" to the "cultural landscape". In this sense, the culture of landscape as study and research offers some disconcerting paradigms that need to establish a new way of looking at, understanding and operating with reality that is that as evident as it was with the modern movement; especially in the public space project.

Paul Virilio has already said in reference to the French revolution in 1789, that the profound revolution is in the invention of a "public eye"[6] and this public gaze is what rewards and lasts from the Panoptican of Jeremiah Bentham, to Berlin - Alexander Platz, in the text of Alfred Döblin or on the film by Rainer Fassbinder Weiner, or in the film Blade Runner by Ridley Scott about Los Angeles, or in the agonistic public gaze of Joel Silver in the Matrix and the brothers Wachowski where the need for evolution claimed by Virillo can be found. In all of these examples, the dimension of the public is conceived as a new form of perception, understanding, and acting in a dubious reality.

The common points between them are focused on establishing a precise angle of the gaze, in the "principle of vigilance": "An eye that sees everything". The mechanisms of vision (and transmission) have acquired not only practical but also symbolic functions; artefacts, engineering and mechanical toys and architectures such as those in Blade Runner or the Matrix. "The view, but without being seen".

In some way, we are witnessing this change which Virilio predicted and which Antonio Álvarez Reyes refers to in Actas Huesca, 1998[7]:

"from the moment that public space becomes public image it is necessary to perceive the monitoring and lighting moving at the same time from the squares, streets and avenues, in direction of this Terminal for receipt of announcements and information to address supplies to the city", to the territory, to the urban space, to the luminous landscape at Alexander Platz, the television for any use which has captivated us in Blade Runner or the "interface" of multiple programmatic computer Matrix. "All of them, in the eagerness to be complete forms, adopt a transformative approach, able to dispense with a mestizo and machinist aesthetics."

Reviewing this concept by R. Bocchi in City Landscape[8] included in Finestre sul Paesaggio (editors Gargemi), the terms and instruments 'vitruvians' and "the albertian finito" have ended in architecture (I would say with the classic role of the architect). "This is not the dissolution or destruction of form; it is the restoration of spaces to time, giving time to the space in a continuous dynamic which contradicts the static and tectonic." "It wanted spaces of relations and relations between spaces rather than finished spaces which celebrate modern or archaic rites."

Contemporary culture is analysed in this paradigm by philosophers, geographers and anthropologists. Richard Sennet, John Brinckerhorf Jackson, Jürgen Habemas, Hal Foster, E. Soja, Mike Davis, Giuliana Bruno, David Harvey, Franco Farinelli, etc., all agree on rethinking the dimension of space in the context of late capitalism, where public space has been practically abandoned after the deregulation of the market and the increasing attraction of media space as a way of linking the public and policy.

We are, therefore, in the midst of a representation of our own space, so that its scenery can offer us new ways linked and inexorable to the environment, and nature, creating a landscape from the project as a tool in its performance.

4. Conclusion

Rethinking the idea of space offers a new physical and conceptual dimension to landscape according to our time. This search process requires a renegotiation of any code involving thought, action, obligation, or participation, and a review, in turn, of the concepts of representing reality, as a paradigm of our convulsive, ephemeral and dynamic time. The territory and the city have come to represent a copy of its representation of maps and plans, including their imagery. Their reality lies in the cartographic representation as normative legal connection, thereby evading the presence of man. The landscape must be the result of the interaction between coordination, social participation and the critical project. The relationship between systems of even heterogeneous elements should be placed in sequence constituting a semantic unit.

It is a fact that landscapes change over time; this is one of their main characteristics. The continual reinvention of landscapes is possible and necessary. The source or origins of our reinterpretation depend on our sensitivity to discovering the artificial or natural workings of the landscape. As described by Franco Zagari in "Manifesto of the Canary Islands for the European Landscape Project" (2011)[9], "acting on the landscape means being able to see and knowing what to propose".

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[1] Borges, J.L., *El Aleph*, Alianza Editorial, 1982.

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Architecture as a Cultural Vector: the Case of School Infrastructure in Vorarlberg

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Abstract: The concept of sustainability is largely associated with the three basic pillars of environment, economy and society. In this research, we consider that this concept makes sense once interpreted in a particular milieu characterised by its specific culture. The architecture of Vorarlberg, apart from its technical dimension, includes a broader vision that relates it to other branches of everyday life. We propose to explore the role of local culture's transmission and its impact on the perception and conservation of landscape's nature in Vorarlberg through architecture and a particular educational building type, the school. We will try to understand how this expression of local specificities evokes awareness among students and anticipates their future participation in the process of sustainable regional development.

Keywords: milieu, transmission, locality, school infrastructure, culture

1. Introduction

Vorarlberg is Austria's most industrialised land, where timber culture is an inherent characteristic of building tradition. The architecture of Vorarlberg has nothing spectacular but is marked by its simplicity and functionality that arises from the exchange between building professionals, aware of the quality cost as well as of the environmental measures investment's return. Therefore, Vorarlberg is nowadays known (except from architecture) for ensuring energy independence, as well as the collaborative and cooperative synergies that witness the principles of 'collective intelligence'.

2. Challenges Tackled

In this research, we chose to examine the impact of school infrastructure as a vector of locality that plays an important role in the transmission of culture. The aim of the paper is to consider its influence on the perception of the land's environment while respecting the definition of landscape as "an area as perceived by people" (European Landscape Convention, 2000). This perspective is perfectly consistent with the statements of this conference "Landscape and Imagination" which focuses on the fact that "the future of landscapes depends on what the collective consciousness creates as values and functions for our environment, as well as the crucial societal choices to be made in the coming years" (UNISCAPE, 2012).

3. Approach Applied

To do so, we realised first of all a research on governmental measures related to the educational system in Austria as well as on the impact of other initiatives derived from local organisations. We tried afterwards to find architectural examples illustrating these practices and revealing the architectural contribution on inspiring traditional 'nuggets' that carry the local culture. We organized our findings into three parts. The first one is centred on the programs demonstrating the dynamics of educational politics and the second is based on local institutions and actions developed in order to cultivate cultivate fragments of locality by initiating to characteristic professions and inspiring their future evolution. The last part is focused on the architectural impact of school infrastructure on children.

3.1 Towards a Dynamic and Responsible Pedagogy

The environmental issues are part of the national policy and are demonstrated in domains such as the educational system. After the first expansion of school facilities in the 1950s, a new wave of construction was followed in the late 1980s. Austria is among the ten countries that participated in 1986 in the involvement of schools in favour of the environment. From 1996 to 1998, a large number of institutions were gathered around a program of "Green School" that fixed as goal the desire to "shape the interaction between man and his environment on an intellectual, material, spatial, social and emotional basis, in order to obtain a sustainable quality of life". Following this experimental project, a new approach was considered necessary and was finally integrated into the educational system. In Vorarlberg several institutions have introduced environmental programs before 2002, the date at which this option turned into an obligation.

These initiatives adhere to the dynamics of social capital and are translated by a new way of teaching, which includes the principles of sustainable development: if we consider that today's children are tomorrow's citizens, it is essential to integrate sustainability related actions in the school environment in order to provoke and cultivate automatic reflexes of an everyday environmentally responsible life way. The changes occur in all levels of education, from Kindergarten, technical schools and learning centres in university, so that educational infrastructures become vectors of responsible behaviour towards sustainability issues.

Traditionally, in alpine villages, the school is considered as a pillar of the social structure, as well as other facilities (shops, post office, restaurants). The fact that community's cultural centre and public place are currently assigned to educational infrastructures makes school environments agents of urban planning and community's evolution. During the AREF Congress Symposium 2010 "Schools of Alpine Regions and the Socio-Economic Transformations: context and perspectives", the interest was focused on the impact of social and economic transformations since the 1970s that "have an impact everywhere, even in areas that were considered to be protected by their geographical location, their culture and their traditions". More emphasis is given to the importance of being interested in the effects of territorial practices' regionalization on elements of politico-ideological nature.

The pedagogical experiences connected to sustainable development orient students towards a reflexion that aims to arouse their ecological sensibility. The initiative of BMBWK "Quality in schools" (*Qualität in Schulen*) contributes to the development of programs and practices of (auto)-evaluation. This process is characterised by a transfer of priorities: the analytical knowledge is replaced by a knowledge based on more complex and less structured situations of real life. Interdisciplinary work substitutes individual practices. Education becomes associated with the development of knowledge that is more close to the local context: an 'active' knowledge.

The BMHS (secondary schools of professional education) proposes a number of training schools in arts and crafts, technical or industrial professions, as well as an orientation towards building, interior architecture and timber construction. Implementing training schemes especially oriented towards practice, and including professional training to school teaching (Berufsschule), proves the adoption of a 'dual' teaching system. The community school in Doren (Cukrowicz and Nachbaur, 2001) with its workshop on timber techniques is characteristic of such an approach. Other educational programs are put in place aiming the environmental initiation. We could name for example the project Leader + "Forest school of Silbertal" in order to review the teaching on forest matters within the compulsory school in Vorarlberg.

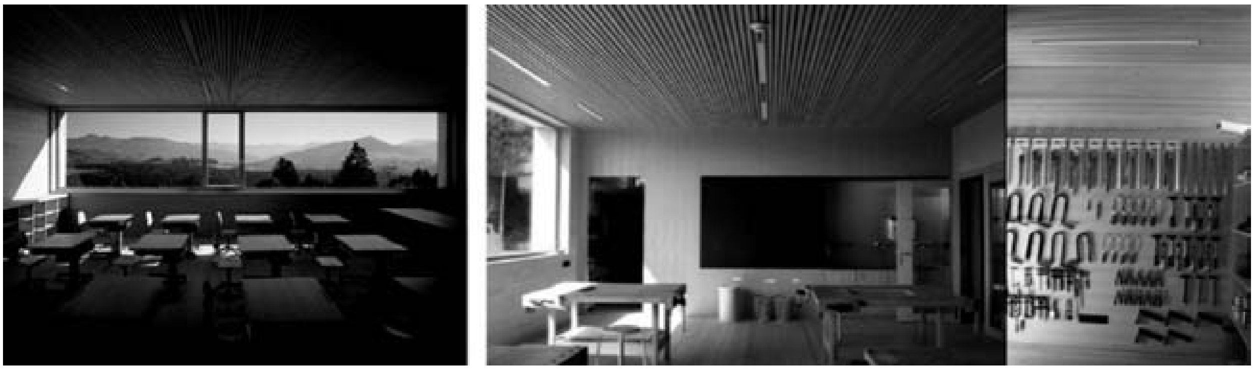

Fig. 1 The community school in Doren.

3.2 An Integrative Approach

Local institutions often take initiatives in order to cultivate a link with a specific social context, serving always the principles of 'social capital'. The *Büro für Zukunftsfragen* had launched in 2005 a program entitled "Friends and more-Sozialkapital macht Schule", aimed at young people between 14-18 years of age and tested three scholar establishments of Vorarlberg. Methodological and strategic choices are initiated in order to allow and assure the sharing culture and mediation, while parallel strategies are also encouraged, as with the use of sustainable means in terms of mobility (European project Provider, walking or cycling bus, Go to school network).

Other approaches largely reflect this environment that cultivates in young people a deep relationship with their surroundings. Local organizations inspire them with the desire to prosper professionally in the same milieu they grew up in: working in the timber industry, while continuing the tradition and adding prosperity perspectives to the potential of local wood-based culture. The association *Werkraum Bregenzerwald* for example anticipates the future by offering two educational projects giving children a taste of manual labour. The first, entitled "Children Construction Site" (*Kinder Baustelle*), addressed to children between 5-12 years old, allows them to discover and become accustomed to basic materials (earth, wood, metal, water and air) through craft knowledge and skills, while using basic tools. The second is the "Ongoing Crafts project" (*Handwerk in Unterricht*) that allows college students to obtain advice about their future career. Moreover, in 2005, the Vorarlberger *Holzbau-Kunst* launched an advertising campaign entitled "Put your life in motion: learn wood construction" focused on learning timber based professions. Matthias Ammann, Head of *Holzbau-Kunst*, explained during a speech in July 2004 that "*Holzbau-Zukunft* is designed to provide energy to these young people - for their brain, their hands and heart - and also to bring enthusiasm and success in their profession" (Müller, 2009). It is sure that familiarity gained with manual labour from childhood can subsequently move towards timber related professions. Students are encouraged to develop an individual creative reflection and a critical attitude, necessary for understanding an increasingly more complex environment and model it according to co-responsible principles. The learning environment is seen as a framework supposed to encourage both autonomous and collaborative learning activities. In this perspective, the physical environ-

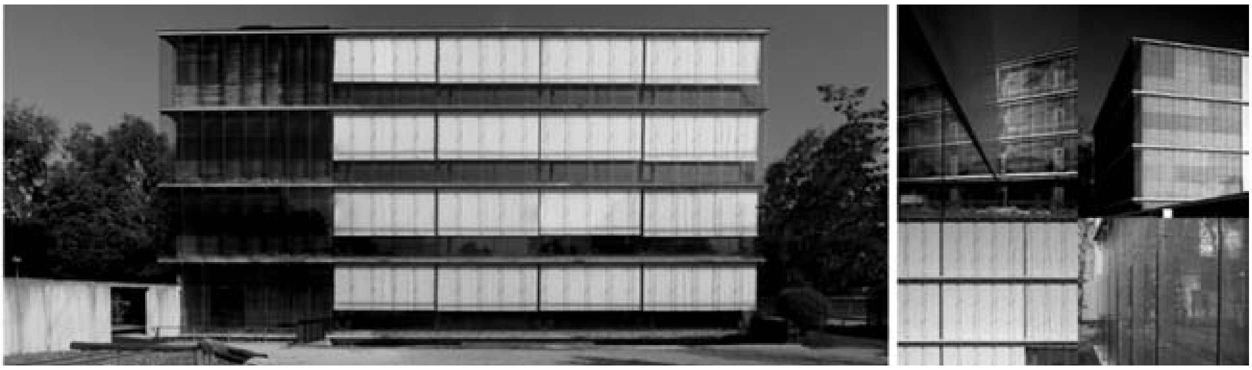

Fig. 2 The college of Mäder.

ment is designed in a way to be regularly reorganized according to educational needs (Partnership for 21st Century Skills, 2002). The goal is to 'weave' links between people, places, topography and time. From an architectural point of view, the objective of an 'integrative' approach is not energy efficiency, nor a commercial advantage by an attractive design, but the development of dialogue process between man and his environment, a commitment that involves personal responsibility. Sharing this approach that aims to rethink school as a training tool of civic consciousness, Manfred Hellrigl, director of the Bureau of future's questions, says that awareness begins at school (operation "Children at the Center") and intends to rescind the citizen's passive role by involving him or her more directly in public life and decision making: supporting local initiatives and promote self-organization. The college of Mäder (Baumschlager and Eberle, 1998) is the first ecological scholar infrastructure in Austria. The project emerged after the insistence of the local political structure that it is through future generation that lifestyle changes can operate. The use of local timber, low environmental impact materials, solar and photovoltaic cells and finally the energy management make this project an exemplary reference. Beyond the building itself, what was asked was to develop the students' ecologic sensibility by organising obligatory ecology courses, gardening, and so forth. We quote here the impression of Jean-Louis Coutarel, architect and professor at the School of Architecture of Clermont-Ferrand after a study trip in Vorarlberg, who underlined that the sensitive organization, common to both individual, community and professional level, seems to produce a sense of humanity and ethics policy that breaks with irresponsible practices, while generating a smart and prosperous economy.

3.3 Architecture as Part of Physical Environment

It is fair enough to criticize contemporary learning environments for their lack of originality and innovation: school buildings considered to be sustainable are mainly characterized by technology and 'green' materials usage, while abandoning other sustainability components. Sustainability is often considered synonymous with eco-design and the focus on environmental impact implicitly generates social and economic benefits (Allacci, 2009). What is needed is a responsive design based on a set of educational principles called 'theory of practice'. In this case, an important element is the interaction between learner and its environment, the concept of "planning adapted to the users' needs" (responsive commissioning): studying the relationship between the interactions' nature and social and physical components of learning environment (Lippman, 2010). The planning of interior spaces adapted to user's needs demands the consideration of social context and relies on the idea that the physical environment is shaped by spatial design, the integration degree of information technologies and finally the efficiency and rational use of a sustainable construction system.

The architecture employed in Vorarlberg takes into account the role of social context and consists in structuring the physical environment in a way to promote learning. The incorporation of sustainable technologies is obvious to any type of building. Advances in the field of energy savings (alternative materials, evaluation process along the life cycle) ensure the requirements on an energy level design and reduce the environmental impact. Certification programs, labels and energy passes known in Vorarlberg for the promotion of green building, do not however ensure the buildings efficiency or their relationship with social and environmental dynamics. Scholar architecture embraces these principles and recognizes that students interact with their educational environment and that sustainable conception recognizes both the application of green principles and the look for solutions maximising the contribution of educational, social and physical environment to students' evolution. That is why learning is contextualised to time and space (Altman, 1992). The role of social context and the structure of physical environment are particularly taken into consideration during the conception process in architecture. That explains the need to know existing environments and understand their functioning. The identification of social tendencies reflected by the activities held within educational environments and vice versa is equally inherent in the elements of this approach. According to the *Regionale Wertschopfung* (regional value added chains), the aim is to achieve mobilisation around timber use as regional resource, emphasizing the potential of local timber culture based on the respect for nature and the need for quality work: the use of local wood becomes an evident constructive choice.

As part of the educational process, adequate spatial planning and use can transform school space in a collaborative environment that fosters respectively dialogue and collaboration, as more convenient forms of communication and classroom interaction. Thus, we insisted previously that the relationship between child and space acquires a supplementary dimension, the pedagogical dimension that makes the characteristics of spatial planning associate to the educational process (Vayer *et al.*, 1997; Dudek, 2000). In practice, the stimuli coming from space are learning stimuli because they provide information on aesthetic, social and cultural values of their own social environment, while they can encourage the adoption of forms of behaviour linked to processes of social learning (Fisher *et al.*, 2006; Spencer *et al.*, 1989). Environmental psychology emphasizes the cultural, social and societal conditions of the physical environment where the learning process takes place, which determines both the social and cultural quality of the physical environment.

The primary school and high school in Blons (Spagolla, 2004) (price of project management 2004 and price of timber construction of Vorarlberg 2005), situated in the village's centre and despite a rather simple program, assures a functional environment in having the classrooms oriented towards the panoramic view. The wood used for the construction comes from the village's forest. In the case of the infant-school in Egg (Dietrich and Untertrifaller, 2003), the classrooms' south orientation with the opening to the terrace allows both a maximum solar profit but as well the possibility of creating a strong link with the outside environment. This is also encouraged by the use of common materials between the inside and the outside. The south glass-fronted *façade* and the overflowing roof create a path that invites to the school's interior.

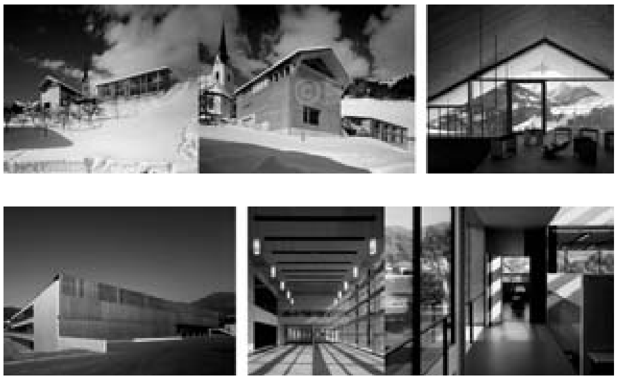

Fig. 3 (above) The primary and high school in Blons; (under) The infant-school in Egg..

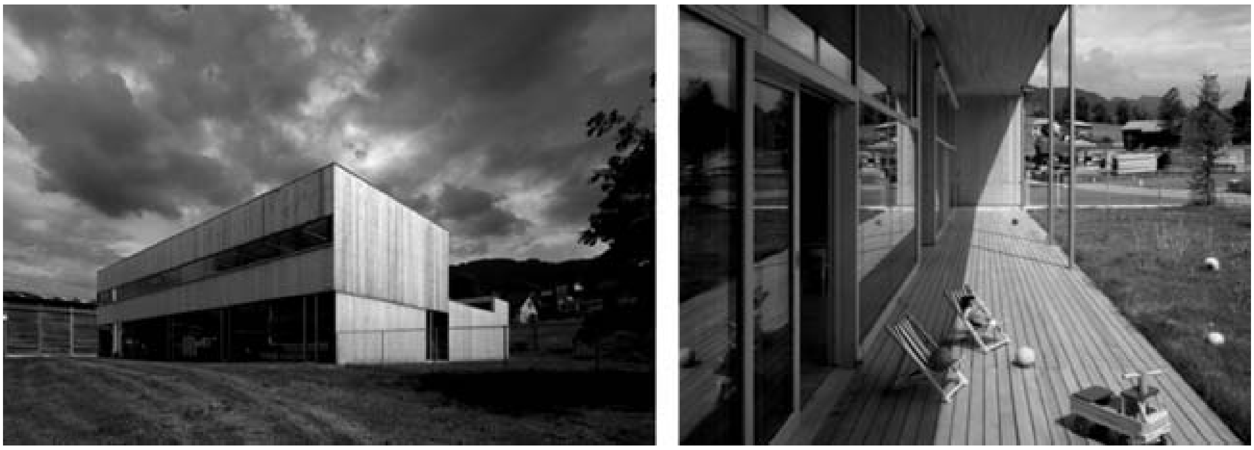

Fig. 4 (left) The high school in Klaus; (right) The infant-school in Langenegg..

The high school in Klaus (Dietrich and Untertrifaller, 2003) (special mention of timber construction of Vorarlberg 2005, national price for architecture and sustainable development 2006), conceived following the principle of *Passivhaus*, is among the exemplar buildings for applying the standards of passive housing in the case of scholar infrastructure. As the product of inter-communal collaboration and educational and functional demands, we highlight its generous interior spaces, material sobriety and use of local wood, as well as energetic performances. The building's evaluation, the media coverage and the frequent presence of enthusiastic visitors allowed both students and teachers to embrace its particular characteristics, encouraging a positive audience: they "are proud to be able to use this building and feel well in it".

The infant-school in Langenegg (Fink and Thurnher, 2004) (price of timber construction of Vorarlberg 2005 and special mention of project management 2005) follows the existing spatial organisation and becomes a central point for the village. It consists of an attractive centre that beyond its educational use, re-launches the local economy. The planning of a generous central space of double height is formulated along the main axis visible from the entrance, as well as the entrance, integrating elements of traditional architecture. The use of local wood resources and especially of white fir tree for the main structure reinforces this dialogue with locality. Other examples are the school in Dornbirn (Walser and Werle, 2005), the elementary school in Mäder (Fink and Thurnher, 2010) or the professional school in Marktoberdorf.

We encounter similar processes which are part of a cultural continuity and where design is based on social and educational processes. In Japan, some primary schools possess micro-ecosystems created outside the classrooms in order to facilitate observation and research. Garden planning, bordered by small rice fields, streams and various plants that attract butterflies and dragonflies, is also

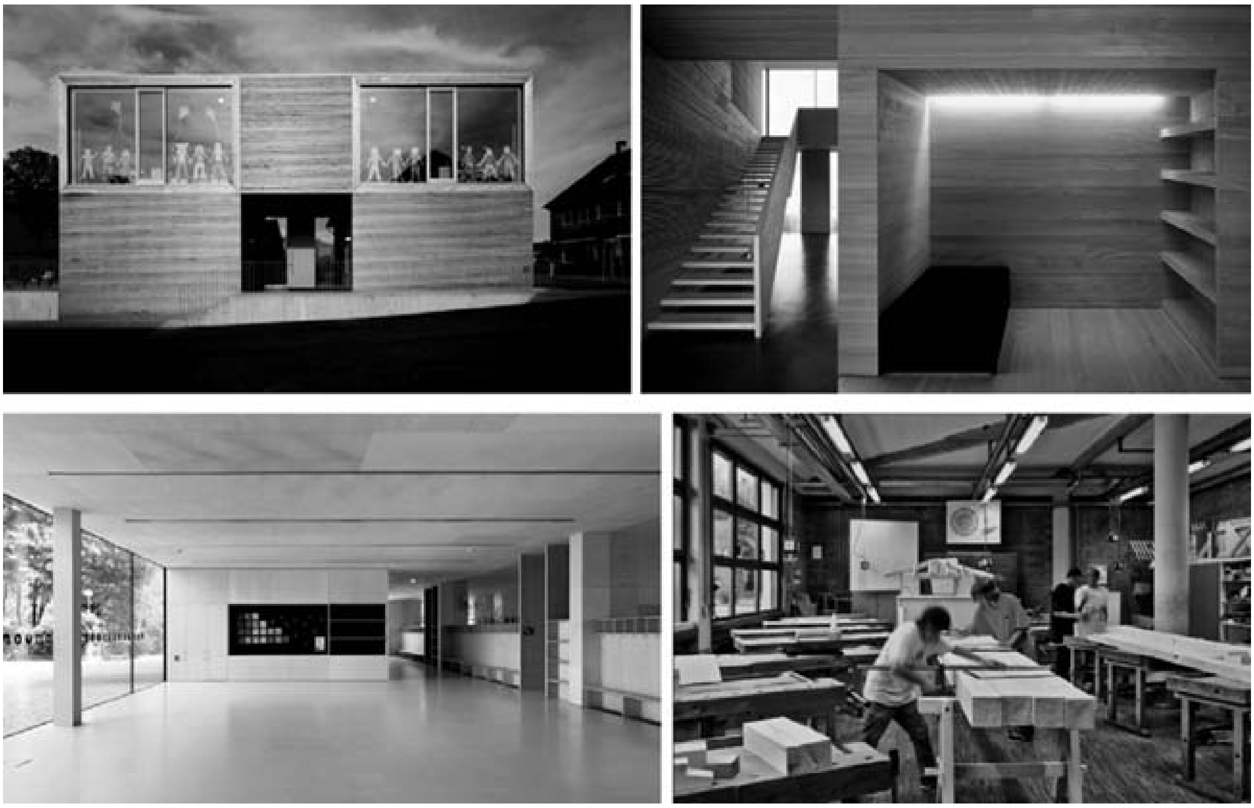

Fig. 5 (above) The elementary school in Mäder; (under) the professional school in Marktoberdorf.

provided for walking and meditation. In Iceland, the example of the school in Snaefellsnes (Bjorgulfsson and Candi, 2004), located in an area of agriculture and fishing, is designed to create a flexible and stimulating social environment. With its four learning areas that have a wide variety of space types, the school plays a role other than that of a learning centre: it contributes to the preservation of the socio-economic development of rural communities and jams rural exodus.

4. Conclusion

Unlike France where, for example, countless sources of information devoted to the environmental dimension of sustainability do not always include the social and/or economic dimensions and where information on the social aspects of sustainable development are more fragmented, in Vorarlberg the combination of the three pillars of sustainable development through the cultural prism is obvious. The difference is that consciousness of sustainability is born from a common social sensitivity that is shared since the 1960s when *Baukunstler* (artists of the building), mindful of the savings in material and energy, developed an approach that could be qualified as a synthesis between what is "aesthetically desirable, constructively reasonable and socially justified" (Müller, 2009). In other words, architecture becomes a practical realisation of the "triple bottom line" concept (Elkington, 1997), which defines sustainability as a means to reach a compromise between social, environmental and economic interests. And it is local culture that forms the link and generates their harmonious "*cohabitation*".

The scholar architecture of Vorarlbeg testifies an extended research of educational environments' functioning, but mainly claims a culture of curiosity based on a rigorous analysis, an active dialogue between all those who are implied on the process and an exploitable knowledge of available information. Redefining work as a communicative process inside a natural environment becomes a leitmotiv common in many fields. This approach is based on the principle that only team work can allow enlarging its disciplinary field and obtain access to new knowledge.

We tried to show in this paper the necessary conditions in order to conceive the physical environment in a way that promotes interactions operating on a daily basis and conditioning the student's progress. In the same way that the members of the Vorarlberg School are influenced by the respect of the tradition and genius loci that allowed a fair implantation of their constructions in the natural, cultural and social environment, students, by inhabiting this architecture that empowers their education, feel associated with it, conscientious of its influence. Finally the constructive culture (*baukultur*) becomes synonymous with local culture. It is this microcosm of school environment that inspires a positive social ambiance and allows a cultural development in a healthy economical frame and a high-quality natural environment.

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Where A European Convention Meets A European Directive: Challenges For Landscape Management And Practice

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Abstract : Since 2000, the European Landscape Convention has sought to strengthen the statutory basis for landscape management among the signatory states. These new legal frameworks are, for the first time, based on a consensual understanding of 'landscape' as a complex and multi-layered concept, of which perceptions and values are at the core. Previously, formal articulations of 'landscape' tended to be grounded in the scientific, the concrete; in other words that which is, by and large, measurable. Seen in this light, a set of dichotomies is emerging between the qualitative provisions of the ELC and the more empirical focus of European environmental directives. There are also educational implications for people in the different landscape-related disciplines. Using Strategic Environmental Assessment as a lens, this paper draws out these tensions, and investigates the role of the planning system as a key mediator.

Keywords: Landscape values, Landscape perceptions, Land use planning, Spatial planning, European Landscape Convention, interdisciplinary education, Strategic Environmental Assessment, European SEA Directive

1. Introduction

Ireland's ratification in 2002 of the Council of Europe's *European Landscape Convention* (ELC) brought about fundamental changes in Irish planning law. In 2010, the *Planning and Development (Amendment) Act* based alterations to previous landscape requirements on the new interpretation of landscape advocated by the ELC. Central to this interpretation is the concept of 'perceptions', replacing, what was up to then, an interpretation largely based on designations, with a strong emphasis on the visual. This paper sets out the continuing tensions emerging between "perceptions-based" and "designation-based" (O' Sullivan & Ray, 2013) approaches to landscape assessment and management, exposing the interpretive clutter currently barricading the way for the successful implementation of the ELC in Ireland. It also exposes the challenges that these tensions pose for the processes of the planning system and the creation of robust landscape policies and targets. The ELC identifies the planning system as key vehicle for the delivery of its requirements – a measure also reinforced in a recent consultation paper for the establishment of a National Landscape Strategy (NLS) in Ireland (Department of Arts Heritage and the Gaeltacht, 2011). It is through this strategy that Ireland commits to deliver the requirements of the ELC.

It is the purpose of this research then to examine the role of planning in resolving these growing dichotomies, thereby informing better interpretations of landscape which comfortably link education, training, and practice. It sets out the potential for a particular type of knowledge and understanding of landscape, one that recognises the contribution of a variety of disciplines, yet is selective in its approach to dealing with such epistemologies, especially for the purposes of practice.

2. Landscape: Conceptions and Interpretations

The establishment of plans for the NLS and its accompanying consultation paper offered the first official illumination of the fact that Ireland was taking, quite seriously, plans to improve the quality and consistency of its landscape assessments and policies. The concept of 'landscape' had already found its place (rather than being simply implied) in the *Planning and Development Act 2000* which required, for the first time, the inclusion of measures for the preservation of the character of the landscape. While this legality had its own share of flaws, it promoted this new emerging concept of 'character' which has become central to landscape thinking and practice today. It sits comfortably within the theoretical comprehensions, both within and outside of Ireland, that landscape is not static, that it is the domain in which change occurs. Whiston Spirn (1998) writes of the "language of landscape", how it "reminds us that nothing stays the same, that catastrophic and cumulative changes shape the present". Therefore the less restrictive preservation of landscape 'character' is presented, which allows room for flexibility and change rather than absolute preservation of landscape itself. It works with the methods put forward in the *Landscape and Landscape Assessment Consultation Draft of Guidelines for Planning Authorities* (Department of Environment, Heritage and Local Government, 2000) brought out in the same year as the Act. It was here that the particular method of Landscape Character Assessment (LCA) was advocated, and so these two developments triggered a new approach to landscape in Ireland. LCA broke down the landscape into three categories for its methodology – character, values and sensitivity. This allowed for the idea that landscape went deeper than simply scenic, and that more complex values could be extracted through new methodologies and public consultation. Despite the guidelines' blatant attempt to move away from the old idea of designations-based landscape planning and promote the inclusion of "ordinary" landscapes, the Act of the same year still reflects the more 'dated' approach by limiting its interpretation to preservation, conservation, and scenic/interesting landscapes.

As a result, the amended Act of 2010, now in interpretative compatibility with the ELC, bases its laws on this modern concept – that landscape is everywhere and can be regarded as anything around us.

However, while the emerging NLS set itself up as the tool for endorsing these new perceptions-based approaches of the ELC, even more so, it illuminated the challenges of implementing the ELC's requirements.

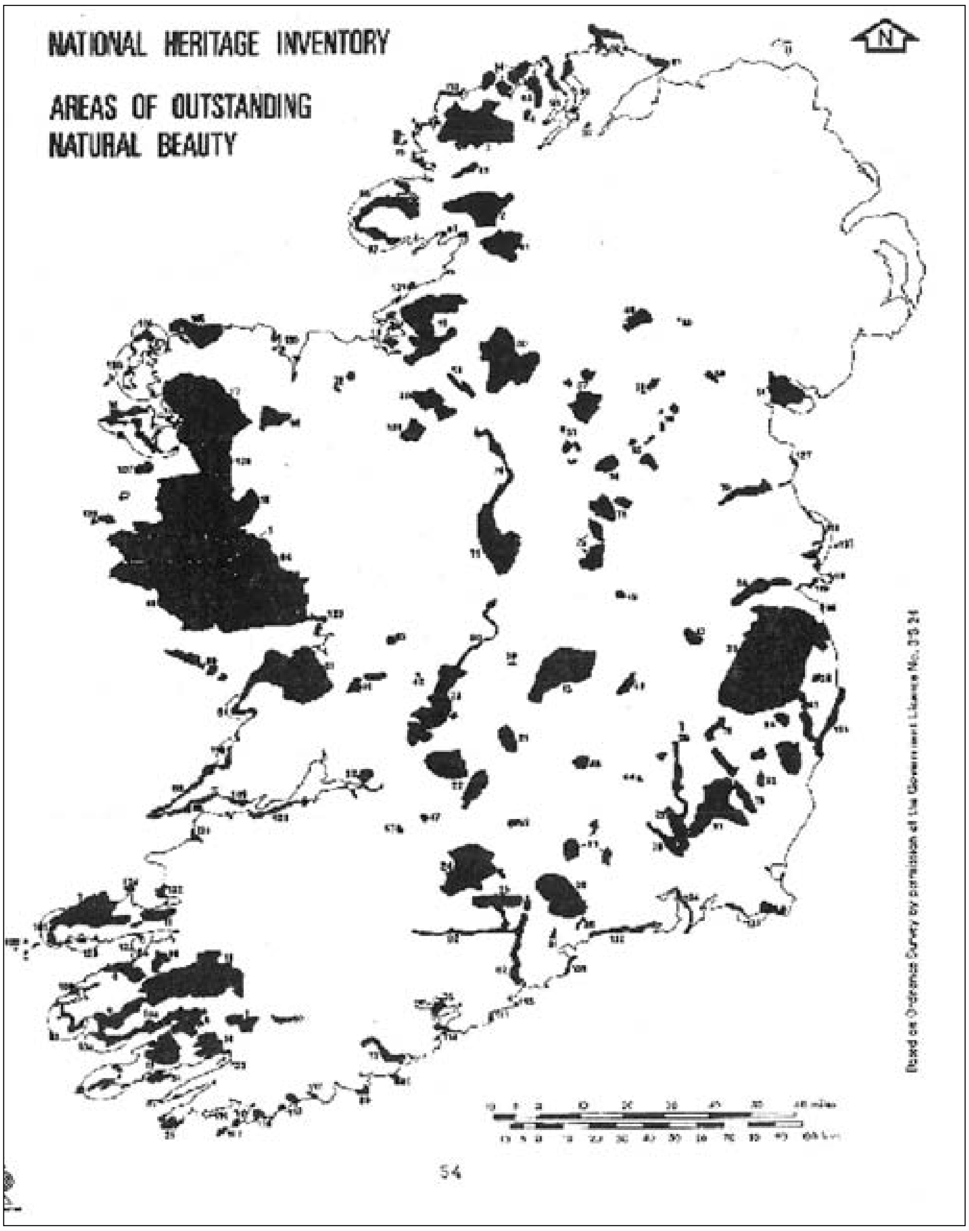
NATIONAL HERITAGE INVENTORY
AREAS OF OUTSTANDING NATURAL BEAUTY
Based on Ordnance Survey by permission of the Government Licence No.
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Fig. 1: Designations-based approach - only existing national designations of 'landscape', now regarded as a stale approach (Map - An Foras Forbartha, 1977)

2.1 Planning Processes and Landscape

Both the ELC and emerging NLS identify the planning system as central to the implementation of their objectives and measures – an identification of which the planning system is highly supportive.

The first challenge is presented at this point. The ideals, principles and objectives of any strategy aiming for planning or indeed any other sector must be orchestrated around a core understanding of the sector itself. In other words, knowing how the vehicle works in order to drive it. Engagement with and knowledge of planning processes is essential. The emerging NLS expresses a desire for planners to have a better understanding of landscape. Yet as the planning system accepts this national landscape challenge, discrepancies are being exposed in Ireland's response to the ELC which not only reveal critical misconceptions of the planning system and processes, but also the continuing interpretative problems for landscape in the context of practice. Nevertheless there is some prospect. These tensions between landscape ideals and landscape practices are being revealed in the very early stages of Irelands' new national motive. The potential exists then for the planning discipline to clarify its role in this context, efficiently harness this welcomed appetite for good landscape management, engage with and develop new insights on landscape, and in turn offer understandings of landscape that make sense for practice.

The success of the strategy also depends on planners embracing the carefully crafted interpretation of landscape set out in the ELC (2000), that is, "an area, as perceived by people, whose character is a result of the action and interaction of natural and/or human factors". It is an interpretation which, in one sense, triumphantly stands for the incremental evolution in official and semi-official landscape definitions of the past few decades. It moves away from the designations-based approach advocated in An Foras Forbartha's 1977 *Inventory of Outstanding Landscapes* - the first guidance document for landscape assessment and management in Ireland. Instead it champions a new perceptions-based approach, opening up a myriad of interpretations. The definition of what landscape actually is has been exhaustively contested across the spectrum of many disciplines, in theory and in practice, yet only now is there a sense that – officially anyway – it is beginning to stabilise. Before the ELC, landscape was defined in a selection of Irish documents, yet never quite reached consensual agreement. Such definitions remained in the shadows due to the stale status of shelved reports and perpetually 'draft' guidelines. Up until the *Planning and Development (Amendment) Act, 2010*, (which defined landscape in sync with the ECL), the *Heritage Act, 1995* was the only formal source for a definition of landscape in Ireland. Here, landscape "includes areas, sites, vistas and features of significant scenic, archaeological, geological, historical, ecological or other scientific interest". The problem with this interpretation lay with the word "significant", casting aside ordinary landscapes and placing value and understanding of landscape itself only on areas of importance. Similarly, An Foras Forbartha's unpublished and shelved inventory based its interpretation on the purely scenic and sublime, identifying specific designations to protect certain landscapes – an approach now seen as dated (Fig. 1).

In 2000, Ireland released its *Landscape and Landscape Assessment Consultation Draft of Guidelines for Planning Authorities* which sought to remedy these old interpretations and move away from the idea of ranked landscapes. This was a bold new move that took its inspiration from landscape appraisals in Britain and Northern Ireland. It advocated the importance of all landscapes – not just the sublime. Its definition of landscape as "all that is visible when one looks across an area of land" was a milestone for Ireland's interpretations of landscape.

Yet again, there were problems. Landscape was being limited to two specific aspects – the visual and the land, and so the concept continued on its contested journey to what we now observe as the holistic, complex and multi-layered definition presented in the ELC, with a particular emphasis on the more intangible concepts of perceptions and values. It must be emphasised at this stage however, that the shelving and lack of formalising of these older documents was not motivated by interpretative problems. Instead, another force was continually undermining the integrity of landscape policy making in Ireland.

2.2 Politics and Landscape

Political will, or more so the lack of it, has been one of the greatest challenges for landscape policies and designations in Ireland. With 'landscape' often seen as a bad word in this context, the emerging NLS has presented a particularly striking endeavour to 'sell' itself and ward off conceptions of restrictiveness. Now more than ever there is a sense of desperation for development in Ireland. Landscape policies were never attractive during the economic boom, with acute pressures particularly on green belts, peri-urban and rural landscapes being exposed through a haemorrhage of applications and pushes for zoning. Calls for coherent landscape designations were silenced by the reluctance to agree to anything that would contradict Ireland's deep-rooted pro-growth psyche. O' Regan (2008) offers an insight to the weakness of landscape policies and guidance in Ireland, arguing that it is "symptomatic of the total absence of political commitment on environmental issues at the time" which forced Ireland into a "time warp" in terms of its landscape appraisal. He stresses this further by revealing how a call for a National Landscape Strategy was in fact made over twenty-five years ago when the *Heritage Act 1995* was also established.

Such insults to Ireland's landscape planning system have resulted in deep wounds that still impede its development. The most striking example of this is in the consultation issues paper for the NLS. Consciously avoiding past trends that advocated for designations and ranked landscapes (which would imply rigid development management), it goes so far as to state that "the strategy will not mean an extension of local authority planning control into areas outside the remit of existing legislation, nor will it curtail property rights" (Department of Arts, Heritage and the Gaeltacht, 2011). While this 'marketing' attempt might mean intentions for the landscape to be formalised and received in the political arena, it will nevertheless be at the expense of meaningful planning policy and once again the integrity of landscape interventions is compromised. Planning policy loses its purpose, reverting back to the discordant relationships between planning and politics, landscape and politics, and landscape ideals and planning processes.

2.3 The Breakdown of Meaning

Overcoming the dichotomies of these discourses is a considerable task for good landscape interventions, especially now in the context of the similarly unstable concept of sustainable development (now associated with landscape in the amendment Act of 2010). Definitions of landscape have experienced a new refinement that seems to satisfy a range of perspectives, offering for the first time an interpretation for the purpose of practice that is also in accordance in with the theoretical underpinnings of years of landscape research. Nonetheless, the question is asked at this point – is this understanding refined enough for planning processes? Can robust policy be created using this perceptions based approach?

In one way it is quite difficult to fault the interpretation of landscape documented in the ELC. In a vague approach, it covers everything, exposing the transitions and developments that have tirelessly been emerging over the years, building up to this new official consensus that now landscape can be anything and everything. It can be urban, rural, natural and/or manmade. It can have associations of the past, present or future. It is highly interdisciplinary. It can be subjectively or objectively perceived. It can have a stack of layers – layers contested in a wealth of literature on landscape. Aalen (1997) for instance, expresses this notion in his description of the cultural landscape – how it is "our major and most productive creation; it is both an artefact, based on foundations of geology and climate, and a narrative, layer upon layer of our history and nature's history intertwined". The ELC also presents a concept of landscape no longer tied down to the purely visual – instead it is cleverly altered to that of "perceptions".

It is not restricted to land. Its conceptualisation is seen as a mosaic of both expert and public perspectives, with a particular emphasis on harnessing local contributions on landscape value. Public engagement has become a major inclusion in modern landscape policies, and again this is reflected in more theoretical writings: "our landscapes cannot be satisfactorily protected solely by a managerial élite; more vital is the informed stewardship of local communities whose heritage they are" (Aalen, 1997). All this ties in with the concept of 'value' that lies at the heart of modern landscape thinking – a concept complemented quite well by the ELC.

Yet with the multitude of these 'layers', the move away from traditionally more 'measurable' landscapes of designation, the new perceptions-based approach that landscape is 'everything and everywhere'; the growing emphasis on community consultation and involvement, means that the identity of 'landscape' itself is being lost, and landscape objectives and policies are revealed as vague, weak, pointless, repetitive, generic or overly ambitious. More importantly, in the context of the ELC and emerging NLS, what landscape means for policy making is suffering a critical breakdown at a time when the call for good landscape management and planning is at an all-time high. In order to pinpoint exactly where 'landscape' is falling through the cracks, it is necessary to look at a current environmental planning tool which deals with landscape, among other things, and fundamentally, informs planning policy.

3. Landscape: Finding Identity in Practice

In 2001, a new European Directive was established for the assessment of the effects of certain plans and programmes on the environment. Directive 2001/42/EC (known as the SEA Directive) brought about a legislative framework and methodology for environmental assessment at plan/programme level. In other words, unlike Environmental Impact Assessment (EIA) which responded to project level, SEA was set up as a strategic pro-active tool to assist forward planning, prior to any adoptions. Aside from LCA, SEA is the only other tool to inform landscape policy in the preparation of development plans. Unlike LCA, SEA has a much more formal status, coming from European law and with a set of official guidelines and regulations for Ireland. It is also identified in the NLS consultation issues paper as an important planning tool in facilitating its objectives.

The interest of SEA for this study lies in its holistic environmental approach, assessing landscape as one of nine environmental indicators, by which policies within a draft development plan are measured. SEA therefore offers a lens for the relationship between landscape and planning, and the relationship between landscape and other areas/indicators. As well as this, SEA is a highly methodical; a step-by step practical tool with a focus on informing efficient planning policy. It is, in this way, quite 'scientific' in nature, stemming from its legislative environmental context. It is of interest then to explore how a highly practical tool like SEA, which embraces the more quantitative and 'measurable' trends of assessment, responds to the more qualitative and values/perceptions based requirements of the ELC and the emerging NLS. It acts as a platform on which to expose some of the major chasms between designations-based and perceptions-based landscape approaches, and how the ELC is manifesting itself (or not) in practice.

3.1 Pilot Study of SEAs in Ireland

This small study sets out to examine a selection of SEAs in the Republic of Ireland in the context of its response to landscape. A sample selection of ten SEAs was chosen. Using partly random selection, five county plans and five city plans were assessed, with a certain manipulation of choice based on accounting for all regional authorities. LCAs for the same selection were also assessed as an accompanying interest to the main study. A detailed examination took place of each SEA, using both quantitative and qualitative analysis methods, in an attempt to extract patterns of understandings, approaches to and treatment of 'landscape' and landscape issues. While this is a sample study, based on a relatively small percentage of SEAs in Ireland, it still offers an initial insight into the substantive processes of SEA and how it accommodates for landscape.

3.1.1 Core Findings of Pilot Study

After analysing and evaluating the selection of SEAs, several key patterns were identified in relation to landscape.

Firstly, a general sense of the generic emerged among the SEAs themselves, with a lack of detail on what exactly are 'elements' of landscape. As a result, the distinctiveness of each place and its landscapes was not well accounted for.

The SEAs made little or no reference to existing data on landscape (mainly in the form of LCAs – however not all authorities assessed had completed an LCA), and very few made any reference to landscape character.

Of particular interest, a clear trend was revealed as landscape, on average, received the least attention of all indicators within the environmental reports. When attention was given, the strategic objectives, targets and indicators charted very weak interpretations of landscape, which were quite generic in style, largely narrowed down to views and prospects, and even then offered impractical suggestions for monitoring impacts (e.g. number of complaints received).

Impacts were not elaborated on, with a presumptuousness in identifying what these were likely to be.

Despite some good intentions at the beginning of some SEAs in regards to landscape, objectives, targets, and indicators tended to reduce the concept to something quite vague and more in tune with designations-based approaches (even at this the objectives were weak), with little resemblance to the multi-layered and complex interpretations of the ELC.

The SEAs show little or no regard to cumulative impacts – surprising for a strategic tool. This contradicts Therivel's (2004) statement that SEA specifically "deals with cumulative and synergistic impacts of multiple projects".

Obligatory evaluation of the inter-relationship between environmental indicators is insufficient and therefore meaningless – yet it is a part of SEA that defines its potential as a strategic and objective tool.

SEAs tend to favour designations based approaches, with landscape objectives often limited to views and prospects, and areas of scenic amenity.

Finally, and most importantly, landscape is suffering an identity loss due to duplication of other objectives for biodiversity and heritage – which are already well established indicators. Objectives for wildlife corridors and tree planting for instance are at times repeated and disguised as landscape objectives, despite the fact that such measures already exist for biodiversity. In addition, SEAs for urban environments tend to confuse landscape with landscaping, limiting interpretations to open space and design planting.

4. Conclusion

In the light of the holistic interpretations of landscape now brought about by the ELC and the emerging NLS, it is clear that, for the process of planning, landscape as an environmental indicator is becoming saturated with meaning. While this is fine for other epistemologies, it is to the detriment of the creation of meaningful landscape objectives and planning policies.

SEA reveals the range of difficulties associated with landscape interpretations for practice and, despite good intentions and its early engagement with development plan policy, it nevertheless fails to deliver objectives that respond to the understandings of the ELC. This has implications for all landscape planning policy, not just in SEAs. Similarly for instance, LCAs in Ireland express a pattern of 'stalling' half-way through the process. Once the physical characteristics of a particular landscape are identified and mapped, values and sensitivities are, on average, largely avoided. Making a call on landscapes, whether in relation to sensitivity or clashing strategic indicators/objectives is not well practiced in Ireland. While political pressures are a certain influence, the concept of 'landscape' itself needs to exercise practical coherence in regards to what it means for the planning process. If landscape is 'everything' and 'everywhere' and everywhere is important, then delivering varying policies that respond to the distinctiveness and sensitivity levels of particular landscapes becomes highly difficult.

In order for the emerging interventions at national and European level to work, they must make use of rather than contradict the role of planning. Strategic planning processes in particular have the potential to be invaluable for the early integration of the ELC's implications into development plans. This can only be done once European and national objectives comprehend and engage with the substantive & procedural components of both planning thinking & the planning system (O' Sullivan and Ray, 2013). In turn, political acceptance may result from increased co-operation between these two forces, with better clarity of interpretation, and strength of purpose. Denying an extension of planning controls in light of the emerging NLS for instance jeopardises the credibility of the strategy in the first place, with its workability being strained under weight of bureaucratic pressures and misguided by overly restrictive conceptions of 'landscape'.

Allowing planning then to identify and make a call on landscape sensitivities, where the concept of landscape is refined for planning practice (such as for tools like SEA) is what is required for meaningful landscape policy. Such policy would respond to the ELC's perceptions-based interpretations, using these to inform the 'values' layer of landscape, whether for LCAs or SEAs. It would do this by acknowledging these values in the context of planning, in order to avoid duplication of objectives and meaningless overuse of the term. Therivel (2004) points out that SEA "needs to be responsive, adaptable and quick. This often means that SEA cannot be as robust, detailed and 'scientific' as one might like". If the planning system encourages this potential of SEA, then the findings of the pilot study might be altered for future evaluations and the likeliness of its response to the ELC would be heightened.

It would also adopt this approach when integrating the older designations-based interpretations, which would find purpose in the assistance of identifying landscape 'sensitivities', and where suitable, used to make more effective calls on landscape policy.

The ELC and emerging NLS must therefore avail of planning's proven capacity for robust decision making about places and acknowledge that the 'all landscapes are important' approach is impractical for the workings of planning thinking and practice.

It appears that SEA struggles to respond to the multi-layered and complex meanings of landscape, which are central in the revelation of tensions between designations-based and perceptions-based approaches. SEA's comfort zone lies in that which is typically 'measurable' – rather than the more subjective and qualitative implications of the ELC. The planning discipline therefore, well versed in the synthesising of values and strategic decision-making, can mediate such tensions in these ways, offering specific interpretations of landscape that avoid repetition, duplication and conceptual identity loss. Perceptions and designations then can be integrated on more clarified and reasonable 'measurable' aspects – for example strategic green belt gaps, standards for tall buildings, landscape setting and spatial coherency of settlements, prominent ridges, to name but a few. It is aspects such as these that are most immune to the disguises of other indicators that pass themselves off as 'landscape'. They possess an intelligible identity within planning, and therein lies their strength for decision-making.

In addition to these, the concept of the landscape 'scale' is also a key planning aspect, and can harness both designations-based and perceptions-based approaches. It can be used to plan for a specific landscape unit or to plan through numerous landscape units (Selman, 2006). It can be used to interpret small local landscapes, such as a self-contained village settlement, or landscapes of a selected region, such as a metropolitan setting of a large city (O' Sullivan and Ray, 2012), and therefore the landscape 'scale' must be considered in detail to assist the tensions mentioned above.

Landscape may be 'everything and everywhere' for many disciplines – a notion offering a variety of intellectual and creative reasoning. For the domain of the planning discipline however, the requirement to support and inform strategic decisions is fundamental to the success of landscape interventions everywhere.

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The Green and Blue Frame, a Landscape Project Between Territory and Ambiances

The Chemin du Gabugy Teaching Experience Conducted at the Lyon School of Architecture (2012)

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Summary : Project ownerships and designers catch the green and blue frame thematic to invent big and small scales urban landscapes. From territory to ambiances, this thematic set a new planning paradigm that could propose new manners to dwell together and with nature in urban contexts. There are the stakes of the *atelier La Fabrique in situ* urban project teaching (Master 1, ENSA Lyon) in order to design an urban project and to test it *in situ* with residents. This teaching exercise answers the request of the Vaulx-en-Velin (69) city to requalify a way that links the city-center and the canal de Jonage. This paper debriefs the teaching methods aiming to articulate scales, integrating ambiances and citizen practices to the design process; in short to teach landscape to architects through knowledge from other disciplines.

Keywords: green and blue frame, biodiversity, urban project teaching, citizen practices, ambiances

1. Introduction

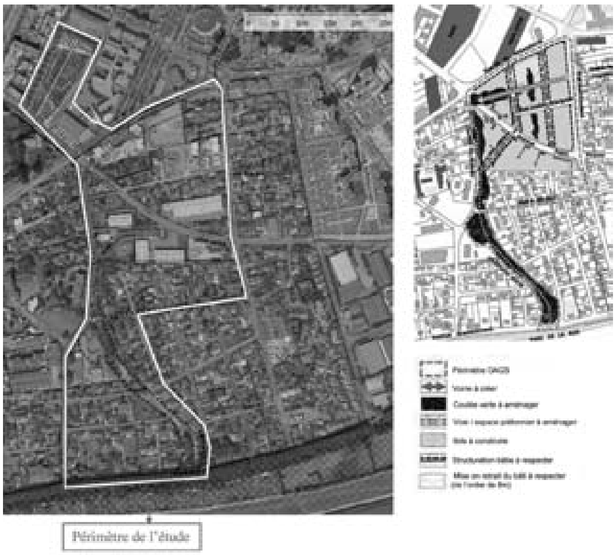

Fig.1 Excerpt from the étude fonctionnelle de pré-programmation pour la liaison centre ville / Rize, via le Chemin du Gabugy

In Vaulx-en-Velin (69), a suburban city located in the east of the Lyon conurbation, landscape is not produced like it is in the core of big cities. In this sprawling urban fabric, composed of large housing projects and green areas and fragmented by big transport infrastructures, biodiversity[1] is different, its is not only sheltered in hotspots (ZNIEFF, Natura 2000…). Biodiversity is located in an in-between nature, within residential gardens (Lortie 2008 et Frileux 2008), allotment and community gardens (Chelkoff et Paris 2010, 2012 et 2013), roadsides (Chelkoff et Paris 2010 et 2012 et Delbaere, 2012), waterwaysides and ripisylve, agricultural (especially market gardening) fringes. This potential richness is sheltered by a mosaic structure, source of landscape design.

The teaching experience related here is framed by the Master teaching department of *La Fabrique in situ* of the Lyon School of Architecture and the *Université citoyenne et solidaire* research program financed by the Rhône-Alpes region (Regnault et Fiori 2010). By proposing since two years places to experiment and *extramural* project situations, the councillers of Vaulx-en-Velin try to lead a prospective reflection on suburban qualities and possibilities. At the beginning of 2012, the city council launched the adjudication of the *étude fonctionnelle de pré-programmation pour la liaison centre ville / Rize, via le Chemin du Gabugy* [pre-brief functional study for the city-center /Rize link through Gabugy way]. The Gabugy way links the new city center and the *jardin de la Paix*[2] to blue corridors :The Rize, a little affluent of the Rhône, and the Jonage canal (which shapes the *anneau bleu* [the blue ring] with the Miribel canal). The study is conducted by the *Hors-Champs* urbanists team.

Here is the landscape teaching context of 2012 second semester atelier. The prospective reflection and the design experiment concern both architectural and landscape scale and green and blue frame scale.

2. The stakes of green and blue urban frame

At the regional, intermunicipal and municipal scales, project ownerships and designers catch the green and blue frame thematic[3] to invent new urban landscapes. The green and blue frame is a plant-covered and aquatic circulation network for animals, network followed by sustainable transport infrastructures. If the stake of this urban frame is eminently ecological, it is also a social and landscape stake. Theses frames are composed with pedestrian ways and linear and continuous plants structure (trees and shrubs lines and ripisylve…) and also with plants-covered punctual spaces (private and public gardens) that shelter numerous uses. The stake of this frame is also multiscalar: green and blue frames could held together and articulate the territorial, urban and micro-local scales. From territory to ambiances - and particularly to residents that compose these ambiances everyday -, the green and blue frame thematic set a new planning paradigm which could propose new manners to dwell together and with nature (plants and animals) in urban contexts. Here are the goals presented to the twenty-six students of the Master *la Fabrique in situ*.

3. To learn landscape design to architects

For these aspiring architects, it's about answering in a critical way the Vaulx-en-Velin city request about the future of *Chemin du Gabugy*. This way is a vital link in the chain of green and blue frame since it connects a public garden, municipal greenhouses, private gardens (detached houses' gardens), allotment gardens, a future public park and blue corridors[4]. The *Gabugy* way is fitted in a hybrid urban fabric mixing detached houses, little industries, small condominiums and a school; thus it holds strong urban stakes.

The teaching exercise is structured in three parts which complement each others in creative iterations. The first part is an individual work whereas the two others have been worked in group of 4-5 students. The first part begins by the critical analysis of designed ways References: crossed with a first in situ survey of the Chemin du Gabugy. The second part is based on the surveying and the mild-tempered observation according to the method of derive (Debord, 1956). The *derive* encourages students to try to meet users of the way, to explore a same place several times and to describe places in an *oulipienne*[5] way and particularly to anchor their first design on their understanding of everyday uses and on the observable uses of the way. Different designs have been produced on some or all parts of the way in this second part of the exercise. The last and third part consists of implementing an experiment in order to test in situ the designs of the second part, this experiment is involving in different ways the residents of the Chemin du Gabugy. It ends with urban, architectural and landscape designs in the light of the experiment results.

If the synchrony of the teaching exercise and the pre-briefing functional study conducted by *Hors Champs* could seem to be a bargain, finally too few meetings with students and urbanists have been realized because of the timetable of teaching on the one hand and professional world on the other hand.

4. Reference and *in situ* to switch to project situations

The first part of the exercise consisted of analyzing landscape projects References: chosen by students for their pedestrian thoroughfare qualities. These qualities have been classified in five categories. The first one tries to qualify the pedestrian experience: loose or guided thoroughfare, chemin de ronde (round path), labyrinth, etc. The second category describes the spatial qualities of the way: above and below positions, soil textures, width and length of the way, soundscape and smellscape, etc. The third category identifies the landscape outlines: the diagonal draw or the sequences for examples. The fourth underlines the social fabric: fitness trails, informative discovery tracks, lignes de désir (shortcut modeled by footprint)… Finally, the fifth category precises the ecological quality of the outline and especially its contribution to green urban frame (biodiversities, horizontal and vertical structures, continuity, fragmentation, etc.). These five categories allow students to describe precisely walkscape projects and to identify the stakes held by a main category.

In focus of this References: typology, students had to produce individually a sketch design based on their first face-to-face with the Chemin du Gabugy. These first designs have been classified according to five design-operators that have been discussed during a presentation session: coexist, compress/stretch out, unify, link and reveal. Five verbs that allow us to compose the students groups according to the operator(s) they mobilized in their sketch design. With the benefit of hindsight, these operators have been effective tools to start the exercise, then to guide students and to stay the course during the four months.

5. The scales of the urban project: from the plant variety to green *armature*

In the 1990s, the *Atelier des Paysages* (landscape architect) and *Bernard Paris* (urbanist) proposed the notion of *parc urbain diffus* [scattered urban park] to answer the *vaudais* context. According to them, the big urban parks could not give structure to these urban fabrics. The solution is to connect what have been detached by designing for example *Rues-Jardins* [Gardened-ways][6]. The landscape architect and the urbanist were already thinking in terms of continuities, of composing a plants network that is nowadays called an *armature végétale* [green *armature*]. Stained with *faubourg* atmospheres, the *chemin du Gabugy* is far away from the well-known forms of our city-center public spaces. This way is composed of different dwelling places sewing together without any urbanistic thought. How in this context could we plan the future of this way as it is requested in the pre-briefing functional study?

The teaching exercise assumes that the approach of ecology could help to design in a new way the urban project through the composition of a green framework that allows to locate the city into nature rather than the opposite (Reygrobellet, 2007). Then, priorities are rephrased in terms of diversity (concerning plants and animals but also uses and management), new forms and continuities. This armature holds a multiscalar approach from plant to territory in order to stop the loss of biodiversity. This biodiversity concerns three scales: the scale of the individual, animal or plant (specific and genetic biodiversity), the scale of ecosystems (ecosystemic biodiversity) - or more correctly the biodiversity of the ecocomplex (Blandin et Lamotte, 1988) because it includes humans in the system - and finally the scale of the green and blue frame where biodiversity is maintained through plants and aquatic continuities (functional biodiversity according to landscape ecology; Burel & Baudry, 1999). The six students' projects focus on one or more of these three scales. We underline, through these projects, the stakes and the architectural proposals that this multiscalar approach could allow.

By working with the three scales, the *Histoire de goût* [It's a taste matter] project questions some of the misconceptions about biodiversity (Lévêque, 2011) and about suburban dwelling through the idea that this kind of dwelling contains unexpected qualities. The students propose first to transpose the biodiversity notion (genetic and specific biodiversities) to the detached housing by realizing an inventory of the detached housing diversity (house+garden) through a camera-eye exploration and an awareness of the residents with this exploration. Diversity is here examined through forms, color, textures, etc. Then, this group of students worked with the ecosystemic scale by designing an innovative improve and upgrade of the way which consists in setting, on the street, the biodiversity of the backyard garden on the one hand and on the other hand on considering that the house, the garden, the residents, the street and the pedestrians compose an ecosystem that could be arrange through the frontage (Soulier, 2012) and different ways to design limits and their surroundings (hence and fence for example). Students take notice of questioning the dwelling density and propose a moderate density in order to be polite toward detached housing: « La politesse des maisons. Portes chaleureuses, porches accueillants, escaliers pour grimper et s'asseoir, perrons discrets ou somptueux, balcons fleuris, la maison, dans la ville, s'occupe de l'autre, connu ou inconnu » [Housing courtesy. Warm doorways, stairs to climb and sit on, discreet and splendid doorsteps, flowered balconies, the house, in the city, takes care of the others, both familiars and strangers] (Gailhoustet, 2009). Finally, the students focus on the functional biodiversity scale considering the suburban housing fabric as a fragmented mosaic (*stepping stone* type) contributing to green urban frame. This *dezoom* allowed them to see differently the dwelling housing density they were considering with the previous scale. The five other projects focus on one of the three scales: two projects at the functional biodiversity scale – *Accordéon* [Accordion] et *Légendes urbaines* [Urban legends] -, and three projects at the ecosystemic biodiversity scale: *Fantômes de la Lône* [Ghosts of the Lône], *Rêves de jardiniers* [Gardeners' dreams] et *Domestique urbain* [Urban domestic].

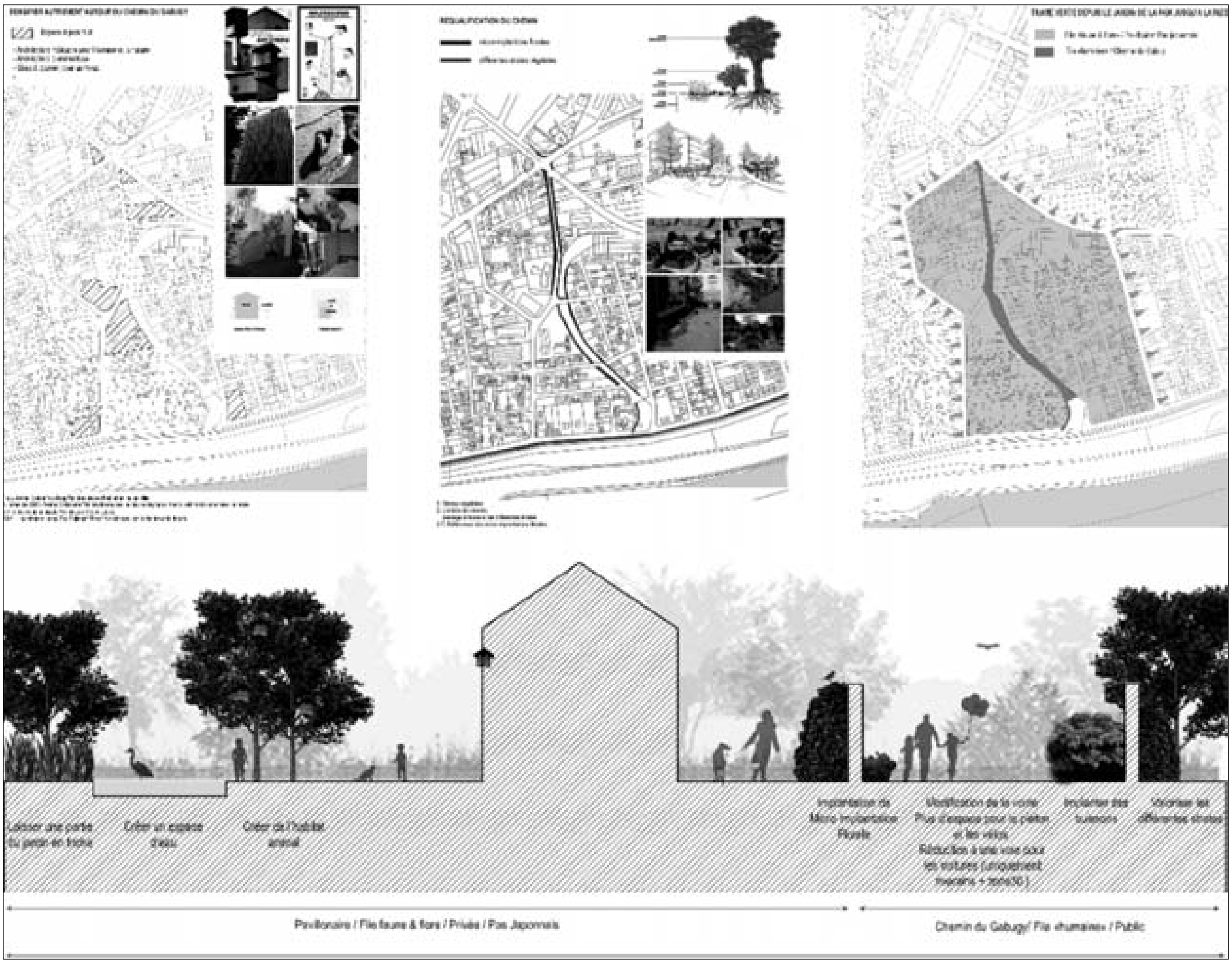
Laisser une partie du jardin en friche
Créer un espace d'eau
Créer de l'habitat animal
Implanter des buissons
Valoriser les différentes strates
Pavillonaire / File faune & flore / Privés / Pas Japonais
Chemin du Gabugy/ File «humaine» / Public

Fig. 2 Histoire de goût, maps and section on the Chemin du Gabugy

Accordéon propose to densify the suburdan fabric by constricting the built areas and by completing and stretching the green framework already there, in this project, the students are only focusing on the urban fabric. *Légendes urbaines* plays with connections between places through evocations. Starting with a signage system on the *Chemin du Gabugy*, which aim is to link it to other places (The *Tête d'or* park for example located 6 km far from Gabugy) and other times (evocation of the Lône – an old branch of the Rhône - in 1958), students propose to place the way in its geographical and temporal territory. This signage system comes from a survey conducted with the Gabugy neighborhood. At the scale of ecosystemic biodiversity, students focus on parts of the green frame without thinking its globality. The actors of the system and the relationships that join and divide them are into the spotlight in the three projects. F*antômes de la Lône* pays attention, without back water in this old branch of the Rhône, to reveal its outline with a colorful plastic intervention. *Rêves de jardiniers* concentrates on the municipal greenhouses by transforming it into a public park gardened in a natural way (*gestion différenciée* [specific management for each site]), an experimental paradigmatic place ecologicaly and socially since there the gardeners' work is highlight. Finally, the project *Domestique urbain* focus on removing cars and on reconciling, on a part of Chemin du Gabugy, uses from the inside and uses from the outside through three key verbs - cultivate+play+read -, thus in order to create a hybrid place articulating private and public. To conclude, we could say that the multiscalar approach is not easy for future architects that are not used to go from one scale to another. However, students that have played the scale game have all the more specified and based their spatial propositions. Beyond the way, these six projects propose innovative forms of public space that could allow new ways to dwell together in the nature-city. These forms are innovative because they question separations and links between private and public, because they create spatial and temporal paradox that could promote an urban imaginary, because they highlight the forgotten role of some of the city actors as the municipal gardeners and the non professional gardeners and finally because they think together the natural and the build system with-

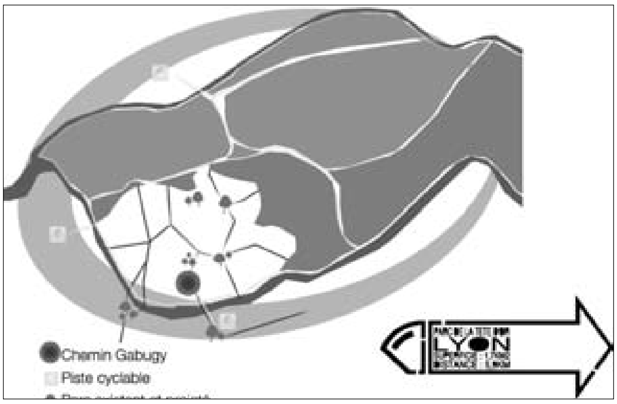

Fig. 3 Légendes urbaines, green frame and signage system

out promoting one or the other but by highlighting the usages, the perceptions and the representations of public space.

6. The resident at the center of the landscape project

The priorities that emerge from the ecological concerns focus on the uses and the ambiances and allow to anchor the design in a *in situ* reality. To design by integrating residents is without doubt the most difficult exercise we could propose to an architecture student. It means also that the teaching team agrees on terms that a third person (*a priori* uninformed) is included in the teaching process. Yet this teaching situation is really interesting: to make discuss students and residents, to make arise projects that involve both resident's representations and expertise in the landscape transformation of the *chemin du Gabugy*. The innovation is based on both the briefing and the city fabrication process which in the context of teaching is emancipated of the tough schedule of code on Government Procurement (by beginning for example by an experiment), or of the management of public (green or gray) space.

Among the users involved - community associations, residents, schoolchild, teachers, private and municipal gardeners, etc. – we would like to focus on two students' projects : *Rêves de jardiniers* and *Histoire de goût*. Located into the municipal greenhouses, the *Rêves de jardiniers exhibition* propose big utopian photomontages based on the discussion with the city gardeners. This exhibition is an invitation to share the work of the green spaces city service. Designed as the continuity of the exchanges with the municipal gardeners, which work is often depreciate, this exhibition is a shift change between the city services and the residents, by showing

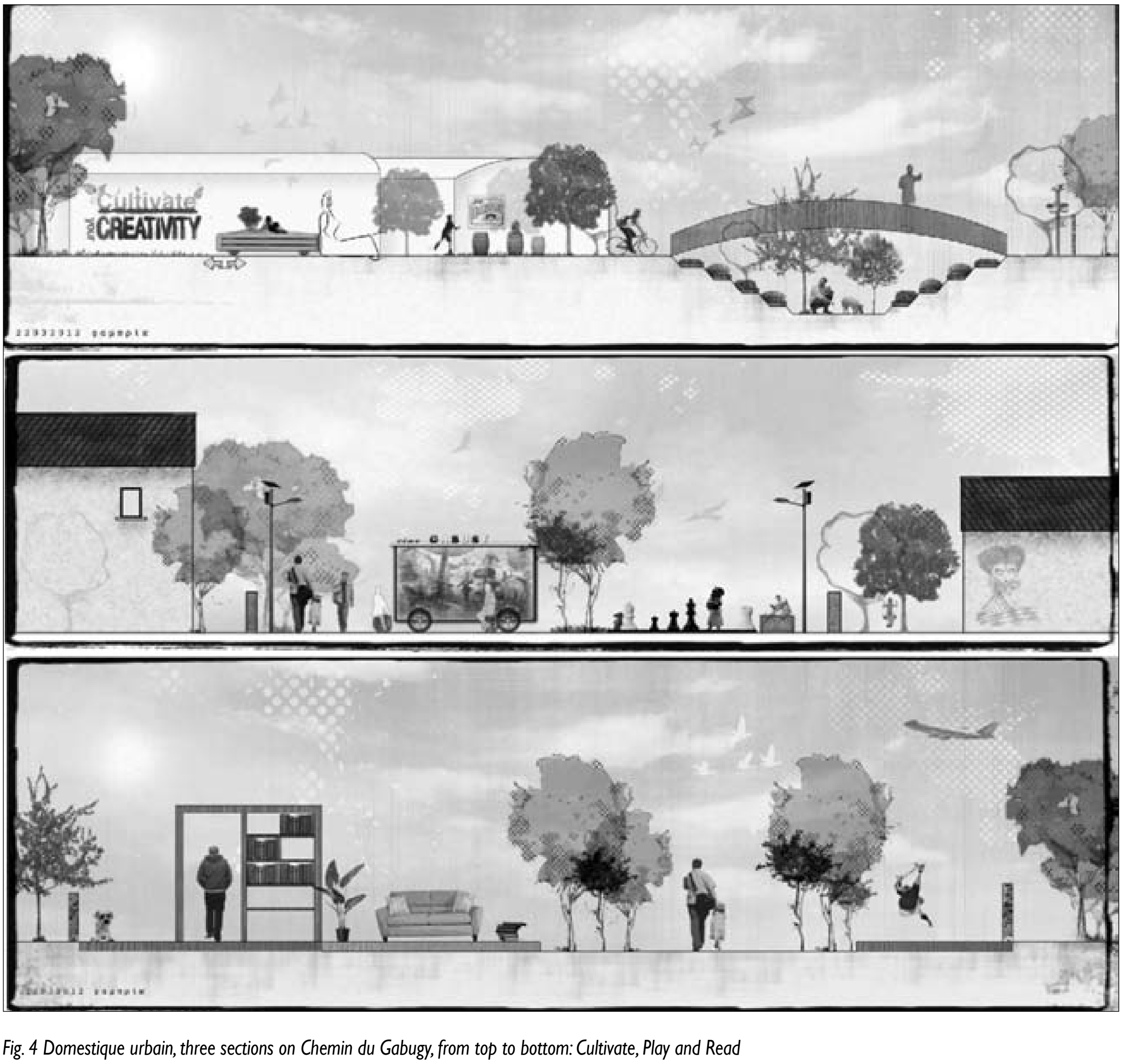

Fig. 4 Domestique urbain, three sections on Chemin du Gabugy, from top to bottom: Cultivate, Play and Read

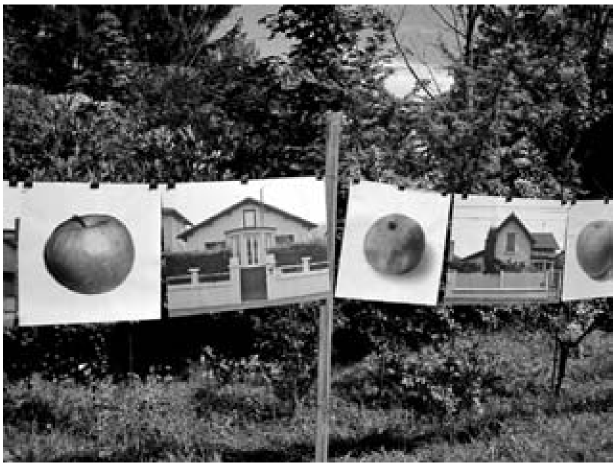

Fig. 5 Manifesto exhibition Histoire de goût

them how community gardens could take place there on the outline of the old *Lône* and how this place could become an exchange platform between gardeners. Likewise, the dialog led during several weeks with the promoter of the *Croqueurs de pommes* garden shows the place that such a local association could take in the transformation process of *Chemin du Gabugy* neighborhood. The *manifesto* exhibition *Histoire de goût* composed by series of big pictures linking an apple variety with a detached house is an instructive way to talk about biodiversity with residents.

To sum up, those two projects have called up in a very interesting way the stakes of involving residents to the design process: integrate uses to design, develop a user expertise in terms of biodiversity and gardening knowledge.

7. Conclusion

We discussed, in this paper, teaching methods that could articulate scales, integrate ambiances and citizen practices to design process; all in all we answered this question: how to teach landscape to future architects through methods and knowledge from ecology?

From this teaching period, three main design stakes of the green and blue frame arise: thinking of the in-between places that allows two opposite worlds to coexist, considering green places as support for ordinary creative appropriation and bringing to the forefront a sensory and imaginary biodiversity.

The contemporary city is composed by environments often in contradiction with each others, public and private for example. The question is not to standardize all those environments but to design the green frame as an in-between, a transition, an ecotone (Chelkoff, Paris, Linglart, 2012) that could allow the coexistence of different environments. The ecotone breaks the dualism at the territorial, ecosystemic and individual (genetic and specific) scales.

The second stake of the green frame design concerns the public involvement in the design process and beyond : the ordinary fabrication of the city. Residents and municipal gardeners are the first actors of the biodiversity; they produce every day the ecotone through private and public plants compositions that we should consider as supports for ordinary creative appropriation. Thus, the green frame is not only produced by experts, it is also the result of intuitive and ordinary practices[7] which should be however supported by innovative informative actions (cf. 6 The resident at the center of the landscape project).

Finally, beyond its technicity and its sociality, the green frame is an environment to experience and to dream and contributes to the design of a sensual city. Indeed, biodiversity is also about sensory perception (plants and animal density and diversity that involve the fifth senses), perceived biodiversity is then engaged, a biodiversity that could be in synergy or in contradiction with the biodiversity measured by the ecologists (Chelkoff, Paris, 2010). The imaginary of the green frame is also a trail to follow through place memories, distance paradox (with transport modalities and network design for example) and human/nature relationships (humans/plants and humans/animals).

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Notes:

[1] We understand biodiversity in its quantitative and qualitative aspects, but only the qualitative ones will be discuss here. According to Blandin (1996) that sets the origin of biodiversity from the neologism biological diversity (1985), we assume that the main stakes of biodiversity lay on both its conservation and its adaptability in particular facing human activities.

[2] Designed by l'Atelier des Paysages (Alain Marguerit).

[3] The goals of green and blue frame is to maintain and recreate an exchange network on the national territory in order to allow animals and plants, as well as humans, to communicate, to eat, to move, to breed and to rest (definition from the french grenelle de l'environnement meeting 2007).

[4] The role of the different components of the green and blue frame (especially the role of private gardens) has recently been questioned during the ANR symposium of the green urban frame 18-19th October 2012 that has been held at the Muséum National d'Histoire Naturelle in Paris. Cf. also Lortie (2008) for the ecological role of private gardens.

[5] For example, as Georges Perec was leading it in Tentative d'épuisement d'un lieu parisien [exhaustion try of a parisian place] (1975). Perec was a famous member of the Oulipo (Ouvroir de Littérature Potentielle).

[6] Gardened-Ways to be designed in their length through green continuities and in their depth through Frontage (Soulier, 2012), this place between buildings and roads. The structuring role of garden in urban context had also been discussed by Werquin and Demangeon (2006).

[7] Students have dealed with both popular gardens culture and gardens culture from expert by being involved, in the same time of the vaudais experiment, in a project within the Lyon Ecole Normale Supérieure Gilles Clément's garden (cf. Mouvement(s) movie, to be published in 2013).

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Landscape after Dark: Lighting as Project

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Abstract: In this paper, we will present an innovative pedagogical initiative that integrates lighting in landscape education. In third-year studio, students articulate planning strategies at the regional scale through a critical framework, and address issues such as working landscapes, uses and margins, flows and infrastructure. We also engage students with light and lighting so that their project includes a nighttime project. Dusk-to-dawn hours are intrinsic to land uses, and they generate patterns of light and darkness which must be documented, analyzed and intended by design. In contrast to conventional curricular divisions, this integrative process expands the dimension of the landscape project, and contributes to promoting lighting as a critical design field beyond technique or technology.

Keywords: critical study, design, education, landscape, lighting, technique

1. Introduction

Every environment is also a night environment. Dusk-to-dawn hours are intrinsic to land uses, and they generate patterns of light and darkness which must be documented, analyzed and intended by design. However, students in design disciplines such as landscape architecture and urban planning seldom learn to design for the night. In an innovative pedagogical initiative created and taught by the authors since 2003 at the Ecole Nationale Supérieure in Versailles (ENSP) and since 2009 at the Ecole Nationale Supérieure d'Architecture et de Paysage in Lille (ENSAPL), third-year students in landscape architecture receive training in lighting design during an intensive workshop led by lighting designers and educators.

The workshops' objectives comprise (1) integrating lighting design in the planning and process of the landscape design project (daylight and artificial light), and (2) applying new knowledge –critical, compositional and technical- about light and lighting design.

The pedagogical content includes fundamentals about light and human factors (physiology and psychology of vision), light sources and technologies, lighting applications and best practices, and visualizations and communication strategies.

Students use design thinking to explore the formal and social practices of the nighttime, and to define the nocturnal context of their studio project. They survey and analyze existing site conditions, articulate a conceptual framework based on their programs and design propositions, and develop design lighting schemes that become integral to the studio projects.

As a result of this original educational endeavor, landscape architecture students gain knowledge on lighting design as a creative and critical design discipline, and they graduate with a greater understanding of collaborative processes and practices.

2. Learning Objectives: Lighting as Design

Lighting design is the art and science of lighting the human environment, and applies to both indoor and outdoor spaces. It is a comprehensive design discipline centered on the expertise of light, yet it is transdisciplinary within both art and science, and its practice is inherently integrated, multi-faceted and trans-scalar. It integrates knowledge in the natural sciences and the social sciences, as well as technology, engineering and design. As a profession, it is distinct from architectural, interior, landscape and urban design, as well as electrical and electronic engineering, yet it intersects with all of these.

Lighting design requires expertise in the physics of light and the physiology and the psychology of light perception by humans, also known as ergonomics or human factors. Lighting designers compose space with contrast, both in brightness and hue. A key design principle is that in visual perception, nothing is absolute and all is relative, because humans have evolved a visual system that is attuned to relative relationships rather than absolute measures.

Any design project is a complex sum of parts yet must perform holistically. In order to create aesthetic compositions that provide appropriate answers to all programmatic specificities, lighting designers work with multiple variables. These include aesthetics, program, function (the users' visual tasks, safety, and orientation), context, identity, photometry, technology and sustainability.

Lighting design is also a spatio-temporal design field. Both daylight and electric light are dynamic, and their transitions require to be designed over the course of the day and night and varying programs and seasons. In addition, new and developing mandatory regulations on energy efficiency require both light levels and occupancy-based controls.

Outside of the lighting design field and industry, lighting is typically reduced to consumer products, energy, light bulbs and light pollution. However, both issues of light and sustainability and light and health are complex issues, and cannot be reduced to universal applications of low-consumption' light sources and 'dark sky compliance'. Notwithstanding the sustainable trade-offs that dense urban environments provide, our 21st-Century built environments are artifacts that separate us from the natural environment beyond starry skies. Moreover, unessential lights are a visible indicator of only a portion of the far greater problem of energy conservation at large. Additionally, current scientific research on the impact of the intensity and spectral emission of artificial lights on circadian and ecological systems is driving new trends on how we apply light and sources that will increase in the near future. These issues are culturally transformative: they have begun and will continue to dramatically affect the critical, conceptual and technical aspects of the lighting design project.

Significantly, lighting design is also still a relatively young design discipline, and it is not a field known for its critical work. New research is needed to develop a more comprehensive understanding of how lighting contributes to the urban ecosystems that evolved within the constructed environment. New analytical frameworks can help us comprehend and expose how lighting applications express cultural beliefs, social networks, power structures and infrastructural models within modern global nightscapes. Through renewed critical inquiries and experimental studies, we can explore and propose idiosyncratic models as effective substitutes for the current models of practice and study that are in use today but remain largely borrowed from other disciplines. The role of lighting design and applications of light in the performance, presentation and perception of the modern built environment remains largely uncharted and ignored in critical discourses: too few scholars and academics address the cultural, political, economic and material dimensions of lighting.

Today, the grounds of lighting design professional practice are limited, whereas pervasive uses of lighting in the built environment would require a more widespread expertise. New specialized or integrated curricular structures are required to increase lighting education in order to disseminate its best practices as well as its emergent critical and scholarly culture.

A list of selected further readings on the topic of lighting is provided at the end of the paper

3. Pedagogy: Design and Technique

3.1 Experiencing the Night

At the beginning of the workshops, students experience the night environment in two ways: a night walk and a visit of their sites at night.

3.1.1 The Night Walk

Students take a local night walk guided by lighting faculty, and observe light in the nocturnal built environment, such as streetscapes, parks, plazas, buildings and landmarks.

The night walks offer nocturnal experiences during which students are both users and observers, and they learn by observation how to connect issues of visibility, face recognition and orientation with comfort and mood. These observations greatly serve the acquisition of new knowledge on light and lighting such as Color/ Distribution/ Effect/ Perception. A strong emphasis is placed on the subjective experience of these night environments. For instance, students are asked to qualify elements or spaces with a matrix of non-technical terms such as Warm/ Cold; White/ Color; Bright/ Dark; Soft/ Harsh; Appealing/ Deterring.

Field observations are later directly connected to knowledge gained in class, and can be transposed into design propositions.

3.1.2 Site Visit at Night

Students are also required to visit their sites at night, to document these nocturnal environments with a photographic survey, and to synthesize their findings. The resulting analyses provide a framework that informs their conceptual propositions and lighting design projects. Since the third-year studio projects address the regional scale, these preliminary studies of the nocturnal environment require from the students that they observe and document all scales within. This exercise is particularly useful for them to understand the visual similarities and differences between the nocturnal and diurnal spatial experience.

At the large scale, they can contrast for instance how the perception of depth varies between day and night, and how lighting becomes an indicator of uses rather than of space. At the application scale, such as infrastructural networks or urban elements, they can observe critically the interaction between light and materiality (textures, colors, transparency/ opacity, specularity on vertical and horizontal surfaces) and lighting and program/ uses (uniformity, brightness, density).

Students can also observe how lighting strategies translate into technical implementations such as placement, spacing, mounting conditions of luminares, and mounting height, intensity and selection of light sources.

3.2 Lectures: Light and Lighting

A series of lectures are offered throughout the workshops, which can be categorized as follows: fundamentals about light and vision; lighting design creative practice and applications; and visual communication in lighting design.

The fundamental lectures on light and vision address human factors such as the visual and psychological perception of light. Current lighting technologies such as sources and optics are presented within the comparative framework of the physics of light and optics, such as spectra, color, color rendition, intensity and distribution. Sample luminaires are used to illustrate the properties explained.

Lectures on lighting applications present how a lighting design project is developed, from an analytical framework of existing conditions and program requirements to conceptual propositions and technical implementation. They include examples of conceptual frameworks and compositional proposition for built and unbuilt projects, as well as visuals that illustrate design effects and their technical implementation.

In addition, lectures engage students in a critical study of designed or vernacular lighting applications.

Lastly, the workshops include a section on graphic communication. Lighting Design raises unique visualization questions. The visual communication of a lighting design project should implicitly and explicitly provide qualitative and quantitative information about light, space, and time. The properties of light are absolute, yet materiality and human vision make lighting effects relative in the experience of space. Moreover, nested scales of time imply temporal design variations (a.k.a. 'lighting scenes' for various times of the day or year).

During the workshop, students are provided with a glossary to use precise words when communicating about light and lighting, as well as reading References:.

3.3 Studio Project: Designing Lighting

The intensive lighting workshops operate within the studio process and environment, in which students interact one-on-one with the faculty. The pedagogy follows the principles of what is known as 'project-based learning': the studio projects are used to situate the lighting design projects. These include the development of analytical and conceptual frameworks as bases for design, and the articulation of multi-scalar design propositions and detailed implementations.

The third-year studios focus on the regional scale, and require that students address issues such as topography, identity, economy, policy and politics at the regional and local scales as part of their design projects. During the lighting workshops, students apply design thinking as they explore similar or different parameters that construct the night environment. Within the context of their landscape architectural project, inquiries of scale, access, uses, temporality visibility, identity and economy help define the scope of their night project, and articulate how lighting can reveal, highlight, transform, announce and connect spaces and uses.

The workshop culminates in a final presentation of the lighting design project. The presentation requirements include a project title that expresses the design intent (the title of the lighting project may relate or not to the title of the studio project), and a short project narrative (50-100 words). The graphical presentation must comprise at least the following documents: a synthesis of the existing conditions; a lighting plan; reference images which illustrate the design intent and intended effects; plans and sections that describe lighting applications; and technical details that show luminaire selection and integration.

All project documentation is presented during a class-wide critique, and is partially integrated in the studio project as deemed relevant by the students.

4. Conclusion

2013 marks the tenth anniversary of the first workshop at ENSP. Both ENSP and ENSAPL have now integrated these intensive lighting workshops in their third-year curricula. To date, approximately 300 students who graduated from both institutions have received this innovative training as part of their education.

In contrast with conventional curricular divisions, the integrative project-based pedagogy expands the dimension of the landscape project, and contributes to promoting lighting as a critical design field. Critical observation and reasoning are foundational for creativity and effective learning. Knowledge transfer is only a part of the instruction provided in the lighting workshops: these foster learning through experimental and analytical skills, and expand the students' perception and knowledge to the spatio-temporal context of the nighttime. Students are challenged to expand their creative and critical design thinking as they complement and resolve their own designs from a new perspective. As a result, the workshops offer a strong pedagogical integration of design and technique, which is inherent to design fields in general and the field of lighting design in particular.

Lighting design is a discipline that is currently taught at the undergraduate and graduate levels in only a few academic programs worldwide. Many interior design and architectural programs offer a few fundamental courses on lighting design. Integrating the art, science and technique of light in the education of landscape architects and urban planners is critical to scale up the positive contribution that lighting design makes in the built environment.

As a general assessment, the integration of these intensive lighting design workshops greatly enhances the education of students in landscape architecture. They represent an innovative pedagogical initiative that advances multidisciplinary culture in education, and directly and indirectly support better professional practices. Expanding and exchanging transdisciplinary expertise across academic design disciplines serves the dissemination of creative practices that are ergonomic, sustainable, ecological, and esthetic. Greater knowledge about the night environment benefits professionals in creative and critical practices in landscape and lighting design, and by extension to all related stakeholders and constituencies.

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Language, Learning, Literature, Landscape and the Law in Contemporary Ireland

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Abstract: This paper explores modes of writing landscape in contemporary Ireland. A consideration of the fictional oeuvre of the eminent Irish writer Colm Tóibín is presented as offering the opportunity to encourage a reconsideration of aspects of the 2011 Draft National Landscape Strategy for Ireland, and as a model for an approach to writing land within architectural education.

Keywords: landscape, coast, Ireland, Colm Tóibín, Draft National Landscape Strategy of Ireland 2011, architectural education, landscape studies, Wexford, Doneraile.

1. Introduction

In this paper I am concerned with modes of writing landscape in contemporary Ireland. I introduce the fictional oeuvre of the eminent Irish writer Colm Tóibín as a way to encourage a reconsideration of aspects of the 2011 Draft National Landscape Strategy for Ireland, and as a model for an approach to writing land within architectural education. With Uniscape's conference title being *Landscape and Imagination*, the consideration of the work of a fiction writer offers highly relevant insights on approaching the working with, study, and understanding of landscape via this theme.

The European Landscape Convention of 2000 attempted a definition of landscape as "an area as perceived by people." The Irish Draft National Landscape Strategy of 2011 proposed a definition of landscape as "an area as perceived by local people." This addition of '*local*' to the definition has been challenged by public expressions of interest by Irish groups such as An Taisce and the Irish Landscape Institute. That Tóibín's work offers a window onto a carefully observed, closely known local world perhaps offers some nuances to this debate of definition. In contrast to the concerns of other academic work considering Tóibín, I wish to concentrate solely on the geography and topography of his fiction and to present his *oeuvre* as an exemplar of spatial character assessment. This is to contrast with the generic language for landscape character assessment being proposed by the Draft National Landscape Strategy. To contribute to this debate, I also wish to introduce written work on Doneraile, Co. Cork by students of architecture as part of a module I teach in Limerick on landscape history (Figure 1).

2. Writing Wexford

Colm Tóibín is a prolific Irish author born in Enniscorthy, Co. Wexford in 1955. I wish to introduce four of his novels, written and published over a span of three decades: *The South* published in 1990, *The Heather Blazing* in 1992, *The Blackwater Lightship* in 1999, and *Brooklyn* in 2009. All four of these novels site themselves, in full or in part, in an intimate terrain – an identifiable stretch of coast in Tóibín's Wexford on the eastern seaboard of Ireland.

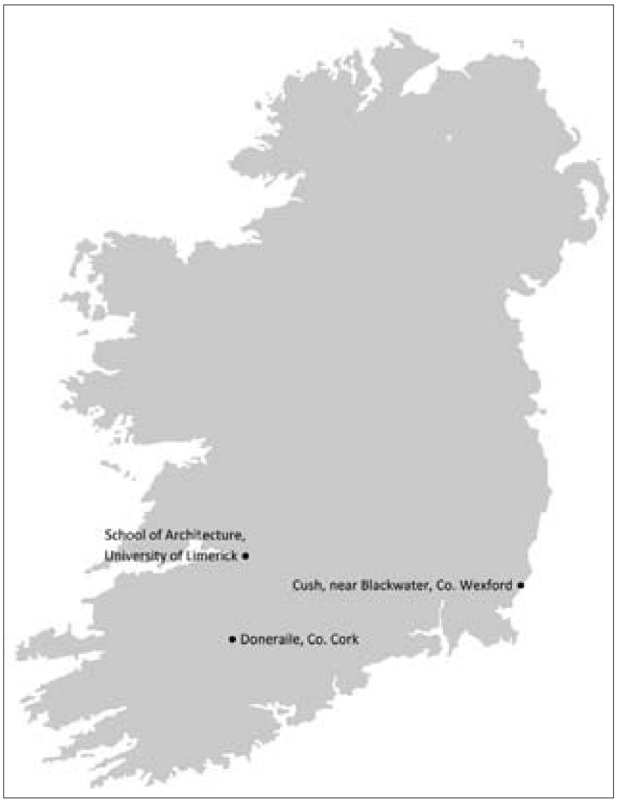
School of Architecture, University of Limerick
Cush, near Blackwater, Co. Wexford
Doneraile, Co. Cork

Figure 1. Map showing locations in Ireland discussed in the paper

The four novels I am looking at all have a common type of character – the individual protagonist, at odds with the world; though involved in its actions, each main character presents him or herself as a cocoon of self-isolation, frequently suffering from this challenging, but largely, though unconsciously, self-maintained condition. Running as a common thread through these four individual narratives is a protagonist present in all: the stretch of Wexford coast, from Morristown in the north, to Wexford harbour in the south. Recurring locations – Cush, Ballyconnigar, Blackwater, Curracloe – meet the characters, again and again. Each of the protagonists walk, observe, talk about, and let themselves be embraced by these sites, their lives and bodies participating with each place, their hands grabbing the same cliffs, their feet walking the same lanes and stretches of strand. This land is not background to their actions and thoughts. This land, as presented by Tóibín, is fully a character in itself, responding to and having a physical conversation with Eilis and Helen, Eamon and Katherine. By selecting, for short consideration here, the moment of arrival at this Wexford cliff-coastline, I will now introduce how Tóibín, as novelist, writes the land; how his language of its materiality and character delineates a local *landscape* along this stretch of soft sandy shore.

2.1 Approach

The Wexford coast has a particular topography. Similar to McGahern in Leitrim, Tóibín's Wexford presents a structure of laneways, perpendicular and parallel to the sea. In *The Blackwater Lightship*, Helen's experience of driving south from Dublin to Wexford to tell her mother and grandmother of her brother Declan's illness, passing through the village of Blackwater, and arriving to the most frequented site of these novels, Cush, describes this topographical condition of laneway in relation to cliff: "[w]hen she turned at the ball alley, she felt she was entering a new realm. For the first mile or so there were no houses, and then a new bungalow appeared on a corner just after the turn into the forest....The sudden rise in the road and then the first view of the sea glinting in the slanted summer light made it easier." (Tóibín 1999, 45-46).

In *The Heather Blazing*, Tóibín presents Eamon Redmond as experiencing the approach to this coast in a similar way as he drives his wife, daughter and grandson from Dublin to their holiday house at Cush: "[t]hey drove towards the sea at Ballyconnigar and then turned at the hand-ball alley to Cush....There was always that moment when he saw the sea clearly, when it took up the whole horizon, its blue and green colours frail in the afternoon light. The road was downhill from then on. He drove along the sandy road" (Tóibín 1992, 95). It is a transitional experience of movement, from the village of Blackwater, along laneways – spaces enclosed by their narrowness and foliage – through to the openness offered by the sea, beyond and below. The nature of the land, fused in this way by Tóibín with the characters' thoughts at those given moments, is presenting these two characters with a site of both physical and emotional transition. The characters' encounter with this spatially shifting site becomes actively part of offering them an alternative, a place for a new experience.

The sandy laneway, sometimes "muddy with the previous week's rain" (1992, 149), stops abruptly at the top of the cliff. The suddenness and sheerness of the cliff, its height above the strand and sea, engages the novels' characters in various ways. In *Brooklyn*, "[w]hen they came to the bottom of the lane," Eilis and Jim "peered over the edge of the cliff" (2009, 220). There is a sense of the body tilting, in slight danger above a drop. The cliff is also a moment of pause in the journey to the strand. The form of the cliff, and the negotiation of its descent, demands a certain change in pace from the walkers. Tóibín recounts Eamon's recollection of a summer visit to the beach to swim with his father: "[t]hey found the gap in the cliff. Steps had been cut into the moist clay, which made some of the descent easier, but for the last stretch there was nothing except banked sand and they both had to run down." (1992, 52). There is a precision to the description of the changing materiality of the land immediately visible.

Indeed, Paul Delaney presents how Tóibín "pares descriptions and observations down to bare essentials", resulting in a prose "painstakingly exact" and "sounding so restrained and concise" (Delaney 2008, 17). The make-up of the cliff itself is presented in such a manner. In *The Blackwater Lightship*, Tóibín writes of "the marl and the mud and the dry clay of the cliff that were eaten away by the weather, washed away by the sea", (1999, 260) while in *The Heather Blazing*, it is "the soft edge of the cliff, the damp, marly soil which was eaten away each year." (1992, 13). Despite the terseness of the prose, there is a poetics to this presentation of materiality of the cliff. Tóibín shows Helen noting that, "[t]he erosion had stopped, but when she watched now she noticed fine grains of sand pouring down each layer of cliff, as though an invisible wind were blowing or there was a slow, measured loosening of the earth" (1999, 51). This ongoing movement of the physical material of the coast, visible at detailed and more dramatic scales, is a constant of this place, and hence, given his care of description, is a constant in Tóibín's presentation of it. These presentations of coastal erosion are presented, not as detached from the characters, not as setting the scene for their actions, but are presented as observations made by the characters themselves.

2.2 Challenging the 'proper' reading

Paul Delaney notes that "[r]eaders of Tóibín will recall that the topic of coastal erosion plays an important part in his Wexford-based fiction...that it provides one of the most significant tropes and metaphors across his *oeuvre*." (Delaney 2008, 4-5). Liam Harte (2010), in particular, has written specifically on Tóibín's "marine imaginary." Harte writes of Tóibín's "revisionist sensibility", arguing that the "unstable, flux-filled" (2010, 339) coastal spaces in Tóibín's novels offer him the opportunity to suggest his alternative futures for Ireland: "the marine spaces of these novels are properly read as enabling metaphors for the transitional state of contemporary Irish society, which may yet figure forth a future freed from the constraining myth of national territory and its attendant calcified ideologies, as perceived by the novelist." (Harte 2010, 339). Land and sea become metaphors in Harte's analysis. Harte maintains that the "long-standing assumption of Irish literature" is that place stands for nation, that the permanence of place and land has always offered visions of stability and timelessness; however, in writing of the erosion of the land along the Wexford coast, Harte believes that this is Tóibín offering "postnational versions of how a more inclusive and positively liberal society might evolve in twenty-first-century Ireland, a society founded upon the acceptance of difference and diversity" (Harte 2010, 348).

As an architect and cultural geographer, and not as a literary critic, Harte's analysis appears to me too sudden, too certain, too single-minded for my approach to and interest in Tóibín's work. Rather than focus on its "signifying potential" (Delaney 2008, 5), I argue that the presentation of the erosion of this coast should be more importantly considered as the writing of the land – the writing of this place, Tóibín's "tiny stretch of childhood territory very clearly fixed in the memory." (Tóibín in Canning, 2003: 192 in Delaney 2008, 3). That the critics and academic discussants of Tóibín immediately jump to the signifying potential of Tóibín's presentation of the coast is, to me, a leap of faith – *their* desire to read for metaphor, to find a particular meaning for which they are searching. The physical becomes immediately metaphorical, and, once that reading has been made, it is then left unquestioned. This analytical jump overlooks the importance of presenting the place itself spatially, as Tóibín has done. It overlooks understanding the meeting of land

and sea itself as a character – a character that Tóibín has written through these four novels, a character that goes beyond the human; a character that weaves together the differing narratives. Tóibín clearly takes pleasure and care in noting how this knowledge is embedded into daily life – the intertwining of the spatial and the social. Harte could argue that I am not "properly read[ing]" the metaphors he proposes. Yet I maintain that Tóibín's meticulous care in repeatedly writing the precise and progressive shifts along this stretch of shore goes further than the Wexford coast acting as metaphor. Tóibín is allowing the land room to breathe – to write itself; to write the changes that are physically occurring to it; at no point in the novels does Tóibín overtly present the land and sea as being veiled with additional meanings or readings. Sea, sand, cliff, and grass exist alongside Katherine, Eamon, Helen, Eilis. The land writes its own presence.

3. Architecture students writing land

In considering landscape and education, I wish to discuss now how Tóibín's work of writing land – of writing (a part of) Ireland's land – offers a model practice for those studying landscape. I will discuss one part of a History and Theory of Architecture module that I teach to second year students of Architecture at the School of Architecture, Limerick.

Architecture students the world over are and encouraged to develop both their observational and their propositional skills through drawing and model-making. Yet, as I have written elsewhere, writing, too, offers a very useful and critical design tool (Ryan 2012b). Developing writing skills in a school of architecture is not generally the norm. However it is a practice I have been working on with students in Limerick, predominantly in the first, second and fifth years of architecture, exploring varying modes of writing styles and genres, from standard academic essay writing, to more exploratory modes of writing. What I have come to notice is that oftentimes, in the development of an academic argument through writing, students, for whom writing is not their central medium of communication, can forget that an engaged, careful description can regularly offer much of the basis of an argument, and that so much potential exists to strengthen the argument in this way. Thus, in the Autumn semester of 2012 with second year students, I have given close attention to this.

The semester-long module consisted of a weekly lecture and reading course following the changing nature and taste and construction of the designed landscape across Italy, the Netherlands, England, America and Ireland from the 16th to the 20th Century. Our considerations moved through various mediums of representation and action: through art, literature, geography, landscape architecture and so on. In historically exploring the concept of landscape, we were thus implicitly and explicitly considering the relationship between the social and the physical; the relationship between idea, representation, and reality.

Each lecture was highly visual, via the presentation and discussion of paintings, drawings, plans, photographs, and maps – from Lorenzetti in Siena, to *poesia* and Palladio around Venice; with van Eyck, Breugel and Ruisdael in the Netherlands; from Kent to Capability Brown, Gilpin to Repton; Turner and Ruskin; and Nash, Loudon, Paxton in England. We looked at Irish monastic gardens, the Earl of Boyle at Youghal and Lismore, Kilruddery and the Brabazons, Dromoland and the O'Briens, and Castletown and Lady Louisa Conoly. We considered cartography, language and placenames with the Ordnance Survey of Ireland, and also through the work of Thomas Jefferson and the American grid. Each week the students were asked to privately engage in a close reading of two specific texts and to discuss their responses with their classmates in the following week's class. The texts the students were asked to read ranged across four centuries and included letters from Joseph Heely and newspaper articles from Joseph Addison of the eighteenth century; Edmund Burke's "A Philosophical Enquiry into the Sublime and the Beautiful" of 1757; texts by John Ruskin and J.C. Loudon from the 19th Century; 20th Century master of the landscape vernacular J.B. Jackson; and more contemporary texts by historian and writer John Stilgoe, cartographer and writer Tim Robinson, landscape historian John Dixon-Hunt, cultural geographer John Wylie, landscape architect James Corner, landscape theorist Charles Waldheim, academic of landscape aesthetics Malcolm Andrews, architect Katja Grillner, and a chapter from my own book (Ryan 2012a). I deliberately chose texts that varied in period, intent and purpose in their consideration of and writing of, through and about landscape. The content, vocabulary and approach to writing differ – from the more 'traditional' type of academic argument (such as Andrews and Waldheim), to the exploratively descriptive (such as Ruskin and Heely), to contemporary experimental writing (such as Grillner and Robinson), to projective and propositional writing (such as Loudon and Corner). Though I did not explicitly draw attention to these differences in advance with the students, they themselves picked up on this range of approaches, and used their growing understanding of these writing strategies to their advantage in their own writing of and through landscape – as I will discuss later.

Thus armed with an expansive visual exposure to a series of designed landscapes through the lectures, and armed with a studied sense of how people of multiple disciplines and backgrounds wrote and write about and on landscape, the 17 second year students of architecture then visited Doneraile Park, a demesne landscape in North Cork, Ireland (Figure 2). At Doneraile, 17th, 18th and 19th Century garden designs lie *alongside* one another – not as a palimpsest, as so often is the case – thus an evolution of elite designed landscapes can be perceived. Following the day-long visit (Figure 3), students were asked to write a 1000 word letter to a friend describing the experience of their time at Doneraile. In effect, this was a request to write the site – to present the physical and spatial and experiential qualities of the landscapes using words, to write what

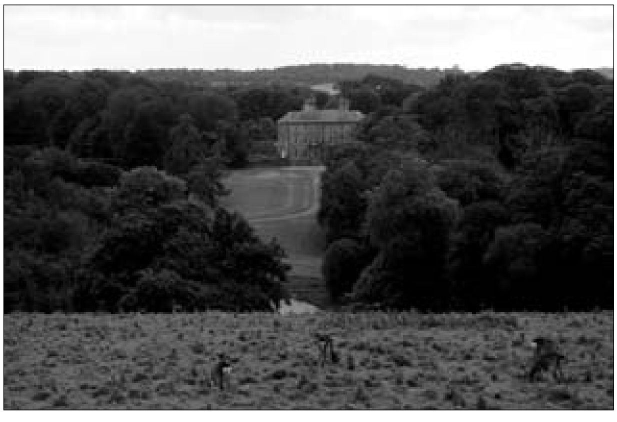

Figure 2: View of Doneraile Court and Park, North Cork, Ireland

they see and experience of the landscapes they have spent time in; in other words, a visceral three-dimensional bringing-to-life of the concepts of landscape they had engaged with theoretically through the lectures and readings.

3.1 Writing Doneraile

I offer now a short selection from their texts to demonstrate their writing of the land(scape). What follows gives a sense of the place and their writing of it. William Haire noted that "[as] you approach Doneraile Park you arrive via the 18th century cut limestone entrance gate, approximately 10 meters in height suggesting a long established and powerful estate…A specimen tree standing alone in direct view draws the eye along the hill top, a second in the distance accentuates the horizon, which is framed by mature beech trees in the foreground." Eoin Horgan's text continues a similar set of observations on the tree planting strategies: "[t]echniques such as using narrow trees like firs to the front and wider oaks to the rear of the clusters give an exaggerated perception of depth when viewed in the distance. The boundaries of the demesne are marked with thick plantations of deciduous trees which claim the viewer's eye and block views of the neighbouring land." Most of the students then describe the promenade that follows, the orchestrated opening and closing of spaces via the manipulation of trees and topography, framing views of the estate house along the circuit approach towards it. As Jessica Berney wrote, "I was not overwhelmed with signs to direct a way but instead gentle trees subtly controlled my passage."

In his text, Wojciech Kumik pauses to describe the moment of arrival at the house: "[t]he focus of the whole estate is the house standing on top of the hill, with the surrounding landscape designed to be viewed from there, much like it is done in case of villas. Standing on top of the hill with the Doneraile Court behind you, an extraordinary view is to be seen. A valley with the River Awbeg at the bottom, an artificial small waterfall in the central axis of the view, further up a single tree standing on a grass hill. This creates harmony and is pleasant to the eye of a connoisseur that is willing to appreciate it. As one walks down the hill, he gets closer, or 'into' the view he just has seen as if he entered onto the canvas of a painting. At the bottom, there are two bridges that need to be crossed as the river was diverted to create the waterfall, thus creating a small island. The first bridge brings you onto the island. There, you can take a break and enjoy the sound and view of the waterfall at a stone bench, just under a tree. The second bridge, made out of stone, lets you escape the island, and brings you to completely new scenery. From that point, one is standing at the bottom of the previously described grass hill." Through his writing, Wojciech has presented the central spatial aspect of the eighteenth century part of the demesne at Doneraile. This direct observation, the careful writing of one's movement through the directly experienced space, is the kind of task I am encouraging. I like to call this work spatial writing, a way of writing the land. Though of course with different intent and focus than Colm Tóibín's fiction, his writing of the land as critical to his narrative, the parallel with careful description is what is important.

Figure 3 Second Year students of architecture from the University of Limerick on visit to Doneraile Park, October 2012.

Figure 4 Second Year students of architecture from the University of Limerick on visit to Doneraile Park, October 2012.

Some students spent close time examining the 18th Century map and comparing it directly with their 21st Century on-site observations (Figure 3, 4). Commenting on the 17th Century walled garden, Seán Murphy notes "[f]rom studying the 1728 estate maps one can see that the walled garden spread down to the river in three terraces…The walls around the area are still there today and the three terraces are clearly noticeable. Although shown on the 1728 estate map a straight path which led through bowed walls on the top terrace travelled eastwards to further rectangle patches outside is no longer present today. This is an extension of the walled inner garden, and reflects the ambitions of the residents to extend the garden into the surrounding farming landscape when times were more secure than previous eras."

3.2 Reflecting on learning

Including in an undergraduate architecture degree the study of varying landscape strategies over time (the formal designed landscape as one part) allows for many important lessons for architects. Documents of the land's past – period texts and maps – can be brought into conversation with the traces of that past that remain embedded within the land itself. Similar to Séan's careful engaging with the map, Declan Macken noted that "[v]isiting the Special Collections in the library and engaging with the texts on Doneraile from the 18th century was also very helpful in giving some insight as to what Doneraile was like at the time of its occupation. It also gave me a good idea of what the culture at the time was like and how functional Doneraile was to the economy." Beyond this special assignment on Doneraile, the impact of the weekly reading was broad, in terms of enhancing everyday engagements with one's physical surroundings. Maeve Curley comments that "[t]he content of the course was interesting. I have never studied one idea in such depth. Ideas like J.C Loudon's Hints for Breathing Places for the Metropolis, John Dixon Hunt's text describing ways we move through the landscape and John Ruskin's discussion of ways we look at the landscape were very engaging. As I move through a landscape now I will be thinking am I rambling or am I strolling. From this module I am taking away a new way of looking at the landscape. I no longer dismiss a group of trees as natural growth. I now look around and try to find signs that the landscape was man made."

Studying these texts also went beyond their content. As Declan Macken reflected, "[t]he texts that we have covered showed me different types and styles of writing styles that I could possibly utilize when writing in the future." Students responded very well to the experiential writing of the land. In his reflection, Adam Boardman goes further in his consideration of the role writing played in his experience of the module: "I think my writing style has developed. Originally, I would have leaned towards writing factually, with concise, to the point information – nearly in the form of bullet points. But now I can appreciate more freestyle creative writing. I think that when writing about landscapes and architecture generally, it is important to use evocative language, to describe emotional experiences, feelings and to write subjectively while still getting the facts across. I also find that instead of being concise, it is more important to pay attention to detail especially as you may have noticed something unique that nobody else has. I now look at different texts and take inspiration from different writing styles e.g. the stream of consciousness style of writing in *Ulysses* and the attention to detail. Also, I am now getting used to writing in more interesting ways about places, for example, using letters, diaries and newspaper article formatting or again, as in *Ulysses*, describing sites or mapping out places through description of people's journeys or day-to-day activities." Adam is clearly showing an understanding here of the ways in which different modes of writing can function in the study of landscape.

In their reflections, a number of students commented on their initial concerns with the content of the module. As Jessica Berney wrote, "I didn't think architecture would have such a major link to the landscape. It is evident now I couldn't have been more wrong." In the course of an architect's education around landscape, this module's approach via history is one facet within a much wider strategy held by the School of Architecture at UL, where emphasis is on the future, on action, on responding through design projects to pressing contemporary issues of the land.

However a close studying of the landscape's past can have very meaningful impacts on speculations and propositions for its future. As Aran Healy, in his reflection on this history module noted, "I think the reason why I enjoyed doing the writing on Doneraile so much is because I thought that the visit to the demesne was very exciting. It made me think about architecture in a different view. My design studio project [in Limerick city] was based on linking levels of a landscape that incorporated a canal, train track and a rugby grounds. The knowledge I acquired during the [History and Theory] module helped me a lot with the project." Aran is describing the ideal fusion of learning achieved across modules, across courses with different contents and intent. That this history of landscape module impacted in the Design Studio is one of its successes. Actively encouraging this synthesis between different modes of learning and different contents of modules, between reading, writing and design, can be encouraged through the relationship between teacher and student in a school of architecture – emphasising the importance of taking responsibility for the direction of one's own learning.

Through developing and teaching this module, I have found that paying attention to writing and language in the learning of landscape can have great impact for students of architecture – the designers of our future landscapes.

4. Conclusion: writing landscape policy

In considering ways of writing land, I now wish to consider the contemporary situation in Ireland, in particular, the Draft National Landscape Strategy for Ireland which was developed as a result of Ireland's signing and ratification of the European Landscape Convention in 2000. I specifically wish to consider the implicit leaning of the National Landscape Strategy on words to present the Irish landscape qualities. As noted in the document, "[a] major role of the Strategy will be to coordinate and improve how landscape character assessment is carried out in Ireland" (2011, 9). A major part of this 'improvement' is suggested to be via uniformity, a grouping or gathering of similarity. Throughout the Strategy, this point is repeated a number of times. One early statement to this end reads, "The National Landscape Strategy will facilitate the development of: a. landscape character assessment within a national landscape framework, which will provide objective and consistent descriptions of Ireland's landscapes within a standardised format" (2011, 10). The Strategy's desire for one authority on landscape in Ireland is palpable: a set of hierarchical character groupings into which different places, different counties, different areas, can be placed. Language – words – are proposed to hold a central role in such assessment of 'character'. It is proposed to develop "[a] set of descriptors of names – and characteristics – that would be used as the referencing standards for all sub-regional descriptions and related policies and actions." (2011, 25). Examples are given, such as, "*The North Midland Drumlin Belt* or *The South Munster Folded Valley System*" (2011, 25).

Whilst admirable in ambition to desire to bring together the entire country into one approach to landscape (perhaps akin in ambition to the British Ordnance Survey mapping of Ireland in the 1830s and 1840s), my concern is that the desire for objectivity and consistency of the Draft National Landscape Strategy of Ireland will gloss over the particular, specific and intimate, in favour of a language of determinacy. I ask whether it is at all possible, or even worthwhile, to standardize our physical surroundings into descriptions in words? What does this offer, beyond another tool to generalize and to pre-determine a particular way of looking – a new gaze – a new 'landscape', for the 21st Century. In relation to our concern with the pressures on our land today and our concern with developing strategies for its management, how do we bring some of the nuance and understanding of Tóibín's careful writing of the land into our political world of strategies and assessments into our search to define and rank the characters of our land?

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Landscape and Gardens in the Architecture and Urbanism Curriculum in Recife, Brazil

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Abstract: The conservation measures performed in the gardens of landscape designer Roberto Burle Marx signal changes for Recife´s urban landscape. In 2004, the restoration of a historical garden was performed, and between 2006 and 2008 two other gardens underwent the same process. It is known that particular changes unchained by these garden restorations have materialized in the new syllabus of the Architecture and Urbanism graduation course in the Federal University of Pernambuco since 2010. The teaching of landscape architecture, formerly restricted to two semesters, is today part of the educational structure in eight of the ten semesters, which demands new connections in the conception process of the course. It is presumed that the restored gardens influenced the faculty who are responsible for the new conception of the course.

Keywords: Landscape, Garden, architecture and urbanism course, Recife, Brazil.

1. Introduction

Almost ten years were needed for a new curriculum and educational changes to be implemented in the Architecture and Urbanism Course of the Federal University of Pernambuco, located in the state of Pernambuco, in the Northeast of Brazil. From 2001 until 2010, a restless team of lecturers noticed the urgency to adapt the teaching to new society demands, to the technological advances for the conception of plans and projects, and to the federal policy regarding conception, organization, construction and conservation of the space, comprising architecture, urbanism and landscape architecture. When including landscape architecture in the structural axis of the course, next to architecture and urbanism, the city started being seen both by its built heritage and by its natural heritage, which demands sustainability concerns. More than different heritages, the notion of landscape also allows for the understanding of the city as a whole, where nature and culture inter-relate inseparably. Even though the notion of landscape distances itself from a nature-related simplification, in other words limited only to natural elements, this first understanding was the source of having, as a project, landscape incorporated into the subject matter which is considered the 'backbone' of the new syllabus, imposing new concepts, theories and teaching methodologies.

Initially unnoticed as an intentional act, the concern over the landscape seems to have been awakened by a parallel movement established in Recife between 2003 and 2008, when the Landscape Laboratory of the Federal University of Pernambuco, partnered with the Municipal Government to initiate the restoration process of three of the twenty-five public gardens planned by the Brazilian modernist artist and landscape designer Roberto Burle Marx. The simultaneous structuring of the curriculum and the pioneering restoration of the gardens, which at that moment were not officially recognized as historical heritage, was no coincidence and gave rise to innumerable discussions and a great controversy within the city community.

The innovation proposed by the Architecture and Urbanism Course at this moment can be considered an extension of what had been initiated in 1930, when Roberto Burle Marx, alongside writers, artists and art critics who expressed their feelings towards Recife, highlighted its waters, woods, and architecture, contributing to the formation of a collective thinking more closely related to the notion of landscape that is now imposed in the curriculum´s structure.

This article proposes to address the art of the gardens and their conservation theories extended to landscape as driving factors for this reflection and renovation; the transverse condition of the landscape as a subject that develops throughout the whole of the Architecture and Urbanism Course at the Federal University of Pernambuco – UFPE; the methods adopted and some of the products generated from the renovation of the curriculum.

2. The art of the gardens

The poetic description of a Garden bathed in sunset light, which obliquely lengthened the shadows and the imagination, impelled Anne Cauquelin towards landscape, which, in her opinion, without this idyllic childhood image, would not be possible to understand (Cauquelin 2007). The gardens, along with poetry and painting, come close to the landscape science and "serán siempre consideradas por los entendidos como tres hermanas, las tres nuevas Gracias que visten y adornan la Naturaleza." (Buratti apud Moreno, In: Arenas, 1988, p.317).

As the skin that covers and embellishes, the art of Garden throughout the eighteenth century was considered as "aquel que representa el más completo desarrollo interior, y que mantiene la máxima uniformidade en su estado interno." (Buratti apud Moreno, Id., ibid). Perhaps because, even before the mediation between painting and poetry, the invention of landscape happened through the creation of paradisiac gardens, when, among the disorder and the emptiness of wild nature, a sacred space can be delimited, an oasis of infinite joy (Roger 2007). Thus, as a microcosm for recreating nature and converting it into metalandscape, a product of men's ideals and aspirations, represented within a delimited space and time (Luengo 2009). The garden is the first conscious reference of landscape design, which in Brazil, in 1934, arrives with the innovative spirit of Roberto Burle Marx, invited by the Government of the State of Pernambuco to rebuild existing squares in the city of Recife, and design others.

Dwelling in Rio de Janeiro, he had arrived from Berlin, where he had gone to learn about painting and music, and where, extrapolating the formal learning process, he exercised the look that curiously roamed through the Brazilian plants exposed in the greenhouses of Dahlem's botanical garden. This experience was decisive for the creation of gardens with Brazilian plants – palm trees, water lilies, philodendrons, cacti – and not European ones, as was common practice, and understanding the plants as an object of the painting. The denomination 'garden' was adopted by him to emphasize the presence of the plant as the main element of the landscape design. The artist implements a new way of projecting the Brazilian garden, considering as a parameter the use of the richness of the landscape domain found in the countryside of Brazil, therefore, their macro landscape. The concept towards which he directed his way of thinking of the garden was founded in the understanding that the garden is an 'organized nature', with functions of hygiene, education and art (Marx 1935).

In the plan idealized for the city of Recife in the thirties, 13 public gardens were included, among them Euclides da Cunha Square and Derby Square. The former – named 'cactus square' by the artist – characterized what is identified as the Brazilian garden, as the landscape design used plants from the 'caatinga' (scrubland) domain, typical of the northeast semi-arid region, with a very different configuration from the coastline ecosystem, where the city of Recife was situated. His interpretation of the scrubland landscape relied on a classic work of Brazilian literature, 'Os Sertões' ('Rebellion in the Backlands'), written by Euclides da Cunha in 1902. This fact shows that his landscape view captured, more than anything, the ignored nature, one which enchanted and surprised, such as what happened to the artist in a landscaping experience when observing Dahlem's garden. In Derby Square, Burle Marx introduced vegetation by creating welcoming recesses next to the existing water mirrors and palm trees alleyways, characterizing an oasis in a place where there is intense movement, next to institutional buildings and mansions. In 1937, Burle Marx returned to Rio de Janeiro, leaving the origins of modern gardens in Recife landscapes.

The consolidation of the modernity of these gardens takes place in 1957, when Burle Marx returned to Recife, again invited to project two other gardens: the Ministro Salgado Filho Square and the Faria Neves Square. The conception of each one of these gardens had an interactive relationship with their surroundings, considering the users and the landscaping elements, as well as the set as a system of parks and squares which articulated through the indicated vegetation and still characterizing the landscaping character of each neighborhood where they were placed. The Faria Neves Square had an immediate relationship with the Botanical Garden and with the village of workers. The focal element of this square was a sidewalk made of concrete, idealized by the landscape design for the children in the surrounding village of workers.

Throughout the years, these three gardens were losing their original conception because of the lack of conservation, being used as parking lots and for informal commerce, and the features created by Burle Marx were altered by physical interventions in the original project, done by the Municipality. With the initiative of the University, meetings with City Government technicians were conducted which resulted in the decision of restoring the gardens that were most affected by the lack of conservation. These three gardens – Euclides da Cunha Square, Derby Square and Faria Neves Square -, were restored between 2004 and 2008, supported by a partnership between the Landscape Laboratory at the Federal University of Pernambuco and the Recife Government. The restoration experience started in the Euclides da Cunha Square, which was mostly uncharacterized. From the guidance and the restoration possibilities of historical gardens referring to the 'Carta de Florença' from 1981, the methodological procedures for the three gardens depended on a historical survey of the squares in public archives, including cartography and project documentation, survey of News and local newspapers, consulting of the Burle Marx & Cia Ltda Office, interviews with technicians and dwellers, and a survey of the restoration experiences and botanical studies. For two of them, the original projects of Burle Marx were not found. In the case of the Euclides da Cunha Square, a study on the scrubland plants was performed, having the technicians and researchers team allocated to the Backlands area to identify the species as Burle Marx did in the thirties. Meetings were also held with the community, explaining the restoration project, its content, and the implications, such as the retrieval of twenty-five trees from the central nucleus where the cacti plants should be. It is important to remember that forty-eight individual tree crowns would be planted to fill the empty spaces of the ones which did not last. Despite these meetings and explanations in testimonials given to local media, the population reacted in oblivion to the theme and purpose of the work, the philosophy of Burle Marx and the history of the square´s project.

Different opinions generated a debate of great interest in the local News, and many projects of the researchers from the Landscape Laboratory were and are still being presented in national and international congresses. This garden is still, to this day, a reason for debate, repeating the events from the moment of its creation, when journalists exalting the tradition felt attacked by thorned-plant gardens. However, at the same time, it propelled the elaboration of an inventory of the six main Burle Marx gardens in Recife and their subsequent addition to the registry of the Institute of National Historical and Artistic Heritage in 2008.

Two years later, in 2006, the Faria Neves Square was restored, also meeting the claims from the population who lived in the surrounding area, and had been fighting for ten years for the recuperation of the public space, which was functioning as a parking lot and bus terminal. Without the original project, the population played a fundamental role, explaining how the garden was before, drawing on the ground, and providing old photographs. The restoration project was defined along a course named "Pensar a paisagem, projetar o lugar" (Think about the landscape, design the place), ministered by the lecturers from the Landscape Laboratory in 2001, which, in partnership with the Center of Advanced Studies on Integrated Conservation – CECI -, had the participation of the technicians of the Recife Government. The inauguration represented a great achievement of the fight of the surrounding community and has remained as a public space of intense use, which valued the local landscaping where the Dois Irmãos Zoo and Botanical Park is located.

The last restoration experience took place in Derby Square, in 2008, located in an area of great movement, because of the intersection of several bus routes. The space had already deteriorated from the lack of maintenance, and suffered more aggression throughout the construction of two large bus stops, which created unsteadiness with the garden´s scale, and seriously fragmented its use. The focal point comprehended a lake with aquatic plants and alleyways of palm trees. The restored square enriched the Derby neighborhood landscape, where there are several old mansions and surrounding institutional buildings, bringing a healthy use to the public space.

The three restoration experiences ergo happened before the landscape design centennial in 2009, when the primer "Os jardins de

Burle Marx no Recife" (The Gardens of Burle Marx in Recife) was released, elaborated by the Landscape Laboratory and published by the Recife Government to celebrate the date. This primer has been distributed in elementary schools – to children – in the municipality and all over the state, and also given to the participants in the "Burle Marx gardens circuit", which is part of the leisure and education activities of the Recife Government on weekends.

The Landscape Laboratory is still a partner of City Hall, now, in the elaboration of a Management Plan of Conservation of each one of the six gardens, which are in the process of being registered as historical preservation sites. All these facts that have reverberated throughout the city are, in different ways, discussed in the subjects of the Architecture and Urbanism Course, as parts of the syllabus content, and brought as a reflection for the understanding of the city and the exploration of the projecting possibilities. Overall, the new proposal has as one of its challenges the construction of knowledge from the concrete reality and which has in the landscape the support in the understanding of the city as a work tool. Looking at the landscape and understanding it as a garden may be the right way for the education of these new professionals.

3. The transverse condition of the landscape

In Brazil, the Architecture and Urbanism Courses are structured in ten semesters, which develop articulately through the project subjects and architecture and urban planning, besides two subjects of landscape design, considered mandatory.

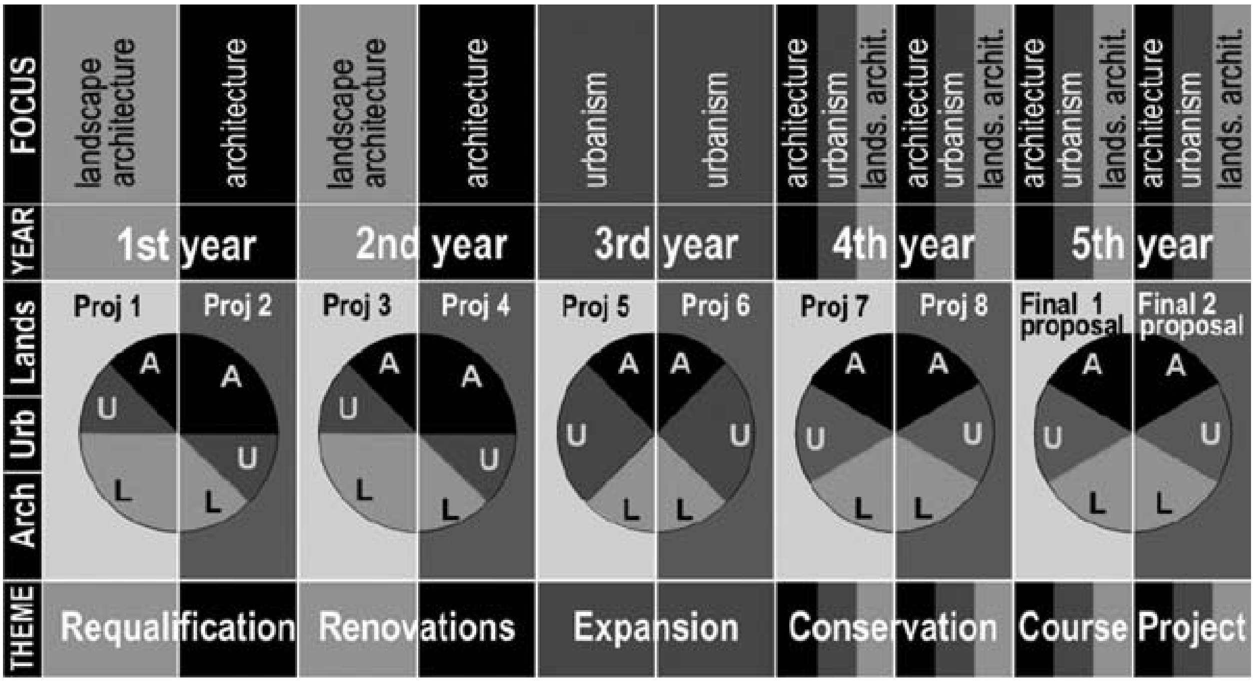
The new structure proposed for the Federal University of Pernambuco extrapolates the national demands, and inserts landscape in all project subjects throughout the course, named Architecture, Urbanism and Landscape Architecture. The concern with landscape, formerly limited to two semesters and ministered apart from the set of contents studied in the course, is now extended for eight semesters and articulated into urbanism and architecture, as the following figure 1 illustrates. This scheme synthesizes the balance imposed to the content of architecture, urbanism and landscape design in each semester for the proposed subject matter. Even though a bigger focus is given per area in each semester until the third year, all contents are present throughout the course, articulating the necessary knowledge articulated with the investigative activities and the resolution of contemporary issues of architecture building and of the city.

Thus, the didactic-pedagogical premises are:

- Articulating the production of knowledge, integrating teaching, research and extension;
- Adopting a holistic approach in the solving of problems, relating contents which favor the interchange between students, lecturers and other institutional technicians;
- Incorporating the access to new technologies in fields such as technical-constructive, analytical, presentational and propositional;
- Providing tools to allow the student to establish their own proper framework for emerging themes;
- Implementing an integrated and systematic evaluation.

The *Project* subjects are integrated and fed by the *Conceptual* subjects (theory, history, aesthetics, and social and environmental studies) and by *Instrumental* subjects (research methods and techniques, retrospective techniques, construction techniques, structure systems, environmental comfort, topography, computer science and design and graphic expression). The final integration happens in the development of the course conclusion project, where the student shall apply and demonstrate the acquired integrated knowledge, and will be able to center their work in one of the three offered structure areas.

Still in implementation process – as of now, the new approach has been implemented up to the third year -, some projects can already be presented, such as the Requalification Project for Várzea, developed throughout 2011 and presented as follows.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Proj 8
Final 1 proposal
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A
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L
THEME
Requalification
Renovations
Expansion
Conservation
Course Project

Fig. 1 Distribution of Project subjects in the curriculum structure of the Architecture and Urbanism Course in UFPE. Source: Picture produced by the Architecture and Urbanism Department, 2011.

Fig 2 Várzea Diversity: river, ceramics factory, ruins from the nineteenth century, cultural manifestations, UFPE. Source: http://www.onordeste.com/onordeste/index.php

4. Landscape in the 'Várzea' proposal

Named "Requalification Project: habitability and sustainability in the Várzea Neighborhood," it was implemented throughout the first year, having emphasis on landscape during the first semester in Project 1, and on building Architecture in the second semester in Project 2, permeated by Urbanism.

With the goal of providing tools and knowledge for the student,

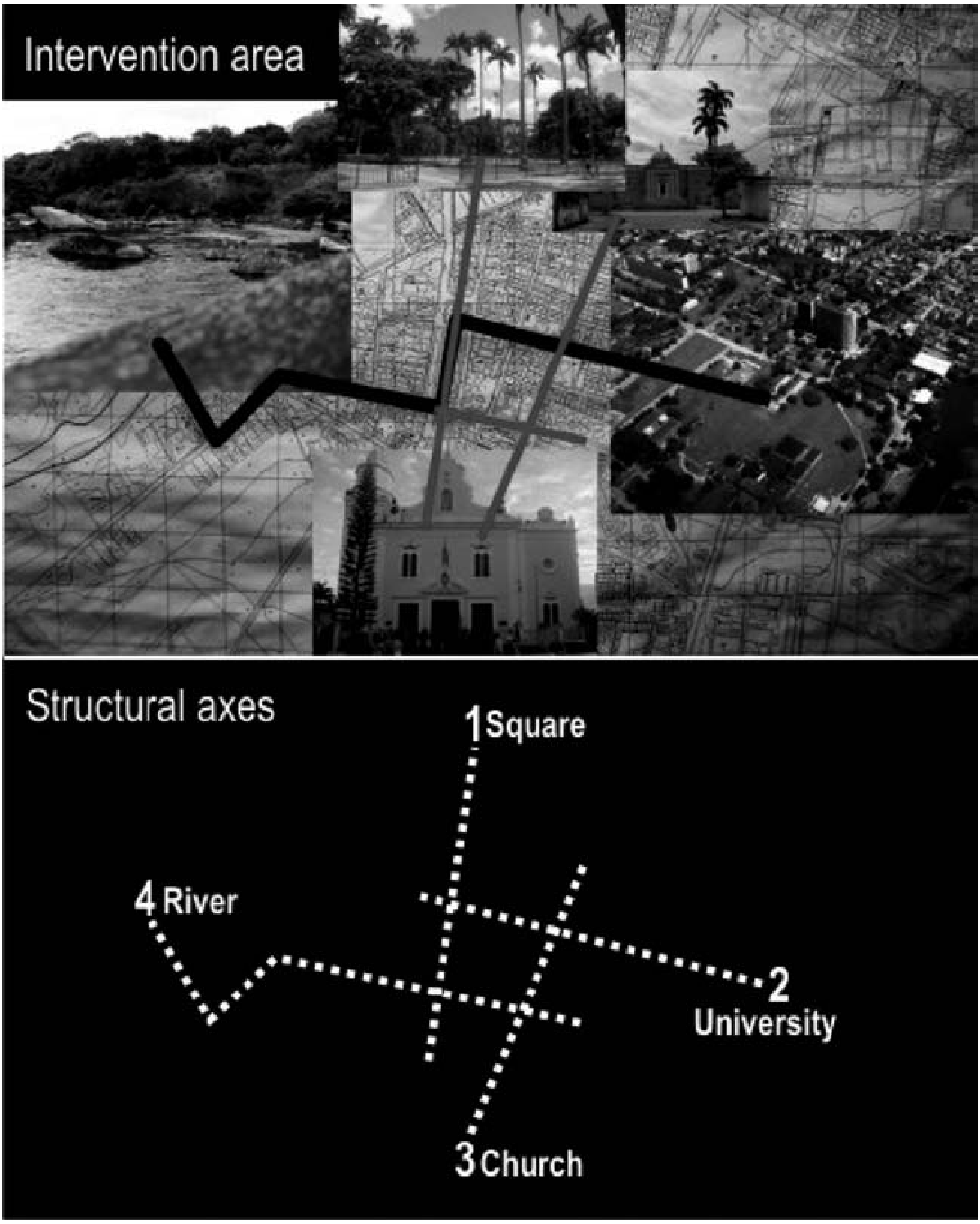

Fig. 3 Structural axes in Várzea neighborhood: (1)University, (2)Square, (3)Church and (4)River. Source: Picture produced by students in Project 1, 2011.

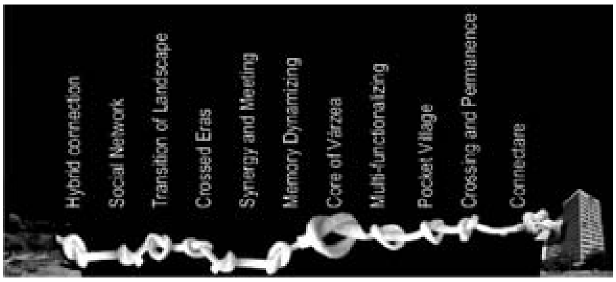

Fig 4 Eleven Generating concepts of the projects. Source: Picture produced by students in Landscape Project 1, 2011.

who has just entered the university, to be able to dominate the procedures to guide the decisions of a requalification project (architectural, urbanism and landscaping), the conceptual principles as defined below:

- Designing based on the landscape character;
- Distinguishing the essential from the accidental;
- Understanding 'walking' as an aesthetic experience;
- Exploring the existing infrastructure;
- Listening to the will of the people from the area;
- Expressing pre-existing values: culture, creativity and appropriation of the Várzea place.

Applied throughout two semesters, Project 1 had to perform the task of understanding the place and, from this understanding, anchor both theory and history, defining the structural concepts of the landscaping projects that should guide, including during the following semester. In Project 2, the students dealt with theoretical discussion and the perception of the landscape. This is followed for the architecture project that should define the program, the structure of the modulation of the buildings, and insertion of this building on the street, block and neighborhood, as well as expressing the abstract concepts which generate them.

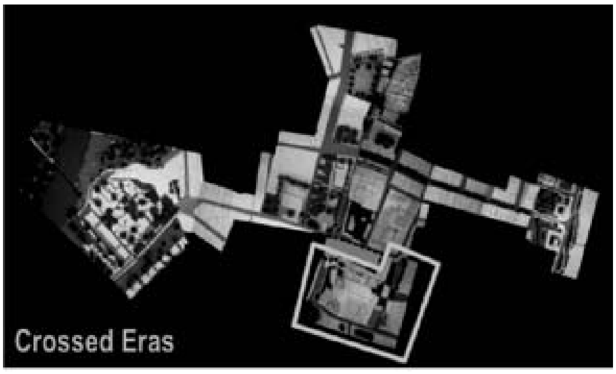

Fig. 5 Model of the eleven projects and a highlight of the Crossed Eras project, inserted in the limits of Várzea's Historical Area. Source: Picture produced by students in Landscape Project 1, 2011.

Crossed Eras

Fig. 6 Model of the eleven projects and a highlight of the Crossed Eras project, inserted in the limits of Várzea's Historical Area. Source: Picture produced by students in Landscape Project 1, 2011.

The Várzea neighborhood is situated in a flat area, in western Recife, between the Federal University of Pernambuco and the Capibaribe River, the landscape power line and one of the three structural hydric axes of the Recife territory. Today, Várzea has no public access to the river. Other than these physical characteristics, the cultural, architectural and landscape diversity of a historical neighborhood in the city was presented to students as a stimulus for rethinking and re-qualifying that landscape, as figure 2 illustrates.

The perception of the landscape was stimulated by walking through Várzea, feeling the 'spirit of the place'. "Walking is an art from whose loins spring the menhir, sculpture, architecture, landscape. This simple action has given rise to the most important relationships man has established with the land, the territory" (Careri 2009, p.20). The landscape design was initiated by this exercise, understanding the walking as an aesthetic experience for the acquiring of the place. Thus, landmarks were identified, and those, punctuated throughout the way from the univesity to the river, helped define the structural axes of the place.

With regard to these four axes – University, Square, Church and River –, 50 students were distributed in 11 teams, and by expressing the structural concepts, resulted in theoretical and historical studies, *in loco* surveys and exhaustive walking. Telling an articulated story through this trajectory – from *Hybrid Connection* (river/neighborhood) to *Connectare* (neighborhood/university) –, the concepts comprehended an articulated line through the knots that represent the project proposals (Figure 4).

As abstract mental representations, the concupets function as intermediary elements between what can be learned from the area and what can be projected for the area. All projects started from this concept and the outcomes were presented in line drawings, blue prints, cuts, façades, photographs, montages and models. These, articulated as a jigsaw puzzle, demanded that the students concern themselves with the connections among the proposals, projecting a walking continuum, as shown in Figure 5. On this montage of the eleven models, the project 'Crossed Eras' punctually exemplifies one of the products generated, both related to Project 1 and to Project 2 (Figure 6). The architecture projects produced by the *Crossed Eras* group also considered the concept of the crossed relationship of several time periods such as past and present, once this area is, especially, a Historical Area, protected by municipal law. This result is exemplified with an architecture project elaborated by the student Marina Araújo for a residence, which considering the restriction of available area to re-qualify it, takes as a metaphorical reference the concept of 'Aisle-house'. For that, she also used the principles of composition of the aesthetic movement *De Stijl,* and especially influenced by Piet Mondrian, with the use of geometrical vertical and horizontal lines, and pure colors, as shown in Figure 7, as follows.

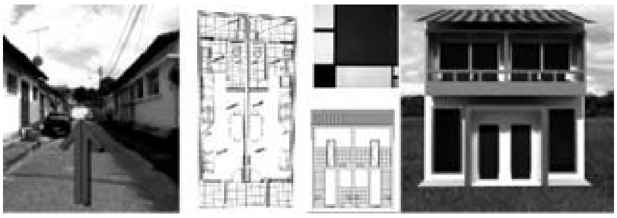

Fig. 7 "Aisle-house" in the Historical area in Várzea: aisle-street, blue print of the first floor, cut, Mondrian and façade in perspective. Source: Picture produced by students in Landscape Project 1, 2011.

The architecture building project, reveals an intersection of times, theories, knowledge and composition.

5. Conclusion

The Landscape Laboratory at UFPE, throughout more than fifteen years of research and teaching, had its discourse based on the understanding and the valuing of landscapes, strengthened over the last years, mostly, by the restoration of Burle Marx historical gardens and by the debates that followed this initiative. Having the Burle Marx gardens as a starting point, the main preoccupation of this Laboratory was always the quest for quality of life in the city, which can be provided by treating landscape.

This behavior approximates the Laboratory way of thinking to the international discourse for the quality of cities, which is supported in sustainability, conservation and social ethics. The Architecture and Urbanism course has this compromise, and the integration among subjects places the landscape as a tool to achieve this objective. In this sense, the perception of the landscape is strengthened for the students throughout the course, leading the acquiring of the city and giving meaning to architecture and urbanism.

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Connecting with the City: Strengthening the Urban-Rural Relationship in Amol, Iran

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Abstract: This paper looks at the relationship between the natural and human environment, and how aspects of this relationship influence people's attitudes towards life, their communication with natural factors, and the power of landscape. It poses a question on how to give more depth of understanding to people regarding their natural environment and its interdependent factors. It examines those perceptions in rural life that are weak in urban contexts and the patterns of interactions and communications that govern these perceptions. It also looks at the impact of seasons on these interactions, especially in relation to rural food production and the agricultural landscape. The aim of this paper is to examine the prevalence of urban life in the outskirts of rural villages and towns as a new experience for urban life, affecting urban living and urban people.

Keywords: process, oral tradition, experience, landscape, natural environment, human environment

1. Introduction

Agricultural landscapes - the farms and gardens - are an ancient part of human heritage. 'Shaped' landscapes are the result of human activity formed on the basis of working on the land. Among these farms, small communities - villages - have been formed whose lives and needs are directly in relation to and fulfilled by the surrounding farms. The life of these communities is dependent on seasonal activities and every one of them is indebted to the rich heritage of their ancestors.

Now the development of life has forced many people to live in buildings and man-made environments where the relationship between urbanites and their larger surrounding environment is weak, so much so that their daily needs are met in the same immediate environment, and their relationship with the surrounding natural environment is limited to recreation and to locations that are defined for that purpose. In fact, in choosing urban life, experiences and strong feelings of the natural environment are lacking, and the consequences have psychological significance. In addition to these problems, the lives of children who live in cities are quite remarkable. Children's relationship with the natural environment has been substituted by computer games or, at best, limited to a family outing to that environment.

This matter is clear in the differences between paintings done by urban children and those done by rural children (Figure 1). It shows that the dreams and wishes of urban children are heavily influenced by life in city. This finding is remarkable from a phenomenological point of view. It reinforces the need for strengthening the relationship between urban life and nature. The main question is how can we do this?

2. Data and methodology

We chose Amol for our case study. Amol is a northern city in Iran, located in the Mazandaran Province. According to a survey in 2005, its population, including its surrounding villages, is about 343,860, while 142,816 people live in villages. Around this city there are farms and gardens which meet the needs of the citizens. In addition, it also has forests and mountain ranges. In different seasons the surrounding farms and gardens have a variety of products that make for different landscapes throughout the year.

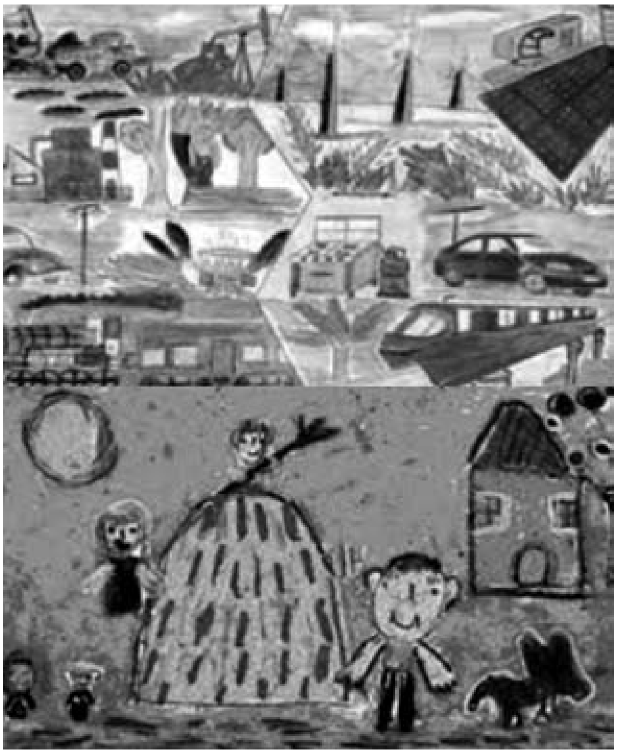
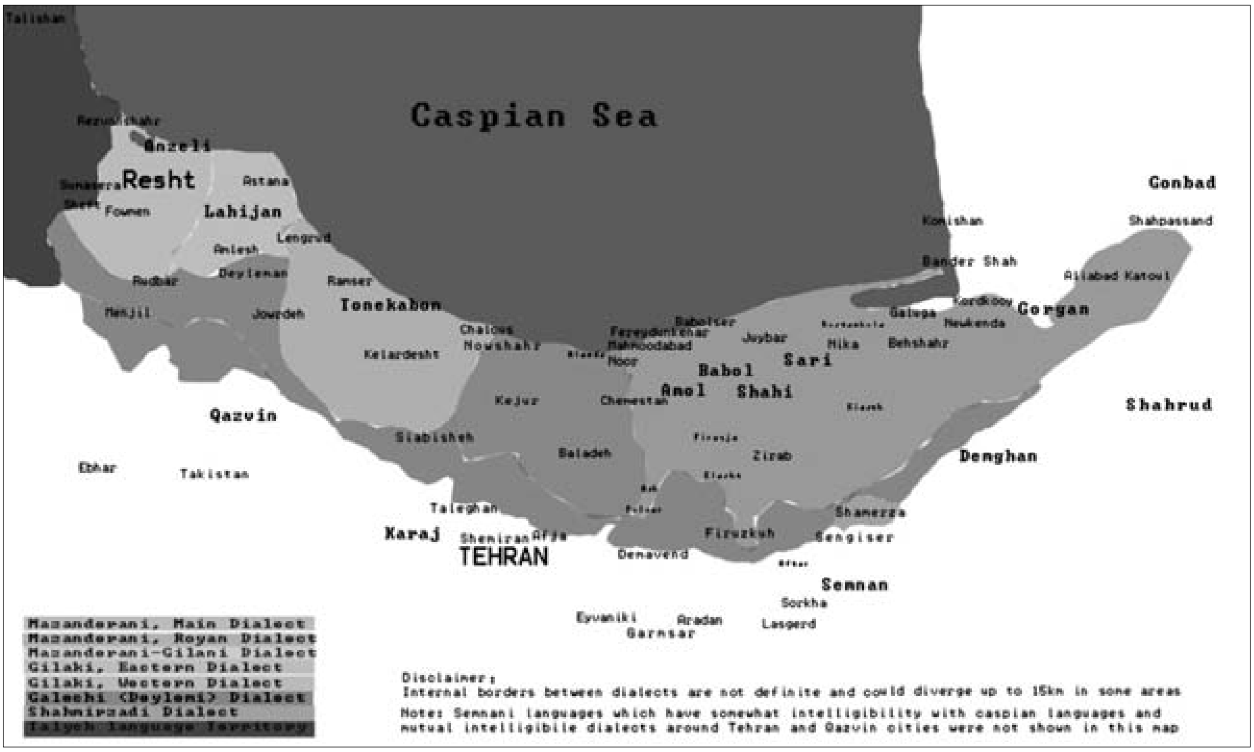


Fig. 1 Drawings by urban (top) and rural (bottom) children

Currently, production is on farms and orchards in the villages surrounding the cities and produce is brought to town for sale. The concern here is that, in different seasons, so much land is under cultivation (producing agricultural landscapes) that the people living in cities only buy products within those cities and are unaware of the production processes and its development, nor of the farms in which those products are cultivated. Another consideration is that in Iran there are different ethnicities, and each group of people have their own language, resulting in Iran's ethnic diversity. These tribes, their ancient languages as well as their noble vocabulary and their past, have been maintained, continuing from the rich heritage of their predecessors.

On the other hand, the language of these tribes is under the influence of the national language of Farsi which, in the past, has itself been under the influence of the Arabic language. For this reason, survival of these ethnic languages is threatened along with the loss of their verbal spirit.

The language of the Mazandaran Province is Tabari (near Persia). Most written legacy is in this language and therefore it has special importance among ethnic languages. This language and its vocabulary are being forgotten in cities. Currently, most of the families from earlier years teach Farsi language to their children. This is done particularly due to the lack of such teaching in schools, where teaching is in Persian and children do not have any opportunity to become familiar with their native language. Currently, the Mazandarani language is common in villages. Greater penetration of urban life into to rural life can help to maintain stability and identity of this language.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Rezvanshahr
Anzeli
Resht
Somaesera
Shaft
Fowmen
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Deylaman
Ramser
Tonekabon
Manjil
Jowrdeh
Chalous
Nowshahr
Kelardesht
Qazvin
Ebhar
Takistan
Kejur
Siabisheh
Baladeh
Taleghan
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Sari
Shahi
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Galuga
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Gorgan
Komishan
Bander Shah
Aliabad Katoul
Shahpassand
Gonbad
Shahrud
Zirab
Firuzkuh
Denavend
Shamerza
Sengiser
Denghan
Semnan
Sorkha
Lasgerd
Eyvaniki
Aradan
Garnsar
Mazanderani, Main Dialect
Mazanderani, Royan Dialect
Mazanderani-Gilani Dialect
Gilaki, Eastern Dialect
Gilaki, Western Dialect
Galeshi (Deylemi) Dialect
Shahmirzadi Dialect
Talysh language Territory

Disclaimer;
Internal borders between dialects are not definite and cowld diverge up to 15km in sone areas

Note: Semnani languages which have somewhat intelligibility with caspian languages and mutual intelligibile dialects around Tehran and Qazvin cities were not shown in this map

Fig 2 Location Map

In this province (Figure 2), due to geographical conditions, there is little distance between cities and villages. That is why everyday engagement between urban and rural areas is possible and easy. This paper investigates the influence of the urban life of Amol citizens on the nearby villages in the buying of everyday products (including vegetables, fruits and dairy) that are produced in the surrounding villages and the impact of this as a new activity for connecting with the city. In recent theories in landscape architecture (landscape urbanism, ecological urbanism) the development of urban life relies on a natural law of the area, of which its target is the combination of human environment with natural environment. The results of surveying high-level planning in Iran and a selected area found that planning for urban development in regards to preserving nature in everyday urban surroundings has not been done, and the expansion of buildings in the city is already so that all spaces other than streets are full of buildings, and in this development the aim is to sell all properties.

Therefore there is no space for city dwellers to connect with nature on a daily basis. People's familiarly with and relation to nature in daily life can, however, be brought into line with recent proposed theories in the field of landscape architecture, in ways that can provide a suitable and cheap solution for citizens in these situations. Amol's four seasons create different products that provide the food needs of the citizens throughout the year. There are studies which show this potential in the way that, in their everyday activities – in contrast to citizens travelling from urban to rural villages to buy their products – villagers go from village to town to sell their produce. In this process, children with parents also participate in this activity.

As a result there are special stations in different parts of the rural villages for transport services to take passengers to the towns. In these stations the information about the type of products under cultivation in farms and gardens can be presented to people, so they can choose their destination with regard to the products they need. People can pick fruits they need from gardens or farms or they can buy it from selling-stations in farms and gardens. In farms, there are pathways they can walk on so they can find their suitable products.

Such stations can also be considered in villages so that people can go back to their home after buying. In addition, with regard to the nature of this activity, publications and journals can raise the awareness of people in the field and of environmental issues and thus can have an educational role in this way.

In each of the rural areas, a type of product is particularly popular and villages have been classified according to these (Figure 3):

- Area C: land is devoted to the cultivation of rice (fruit orchards in this section are absent). Rice cultivation starts in all areas in spring and runs until late summer. The land is under cultivation of this product.

- Area B: in addition to rice cultivation, this area also includes cultivation of vegetables and citrus fruit gardens. Vegetables and citrus fruits are cultivated in autumn and winter; some kinds of fruit trees bear fruit in spring and summer.

- Area C: in terms of timing and product type, C is the same as the B, the difference being that it is denser with citrus orchards.

In this approach, citizens become more familiar with their surrounding landscape, tangible relationships with the farms and gardens and the general surroundings are established, and new relationships between urban and rural people arise. This is particularly socially significant and needs further study.

3. Conclusion

The most important lessons that need to be applied or given regard from this study are to be noted as follows:

- Activities that are undertaken solely for purchase could be converted to recreational and educational activities
- People become familiar with the surrounding natural environment and natural systems and establish close relations with natural factors
- It is important to understand the nature and process of the cycle of nature and seasonal changes in the travels of urban people from urban to rural areas.
- It is important to understand production landscapes and the close ties between citizens and manufacturing and production processes and product development efforts that take place by the villagers.
- The contribution to the stability of Mazandarani oral tradition using the relationship between citizens and villagers must be considered regarding the points mentioned.
- New activities for the children who go into the villages with their parents when buying products become, by this action, familiar with aspects of their environmental surroundings (around vistas, farms and gardens, animals and birds and sounds of nature, etc.) and new relations with villagers and their children are defined. This is important socially. Children involved in these activities, hearing the conversations between their parents and the villagers are more familiar with their ethnic language. In terms of educating children to learn their ethnic language and its cultural values this is very important.
- It is of interest to create the experience of 'walking' in the gardens and fields and of enjoying this experience since this is lacking in the city.

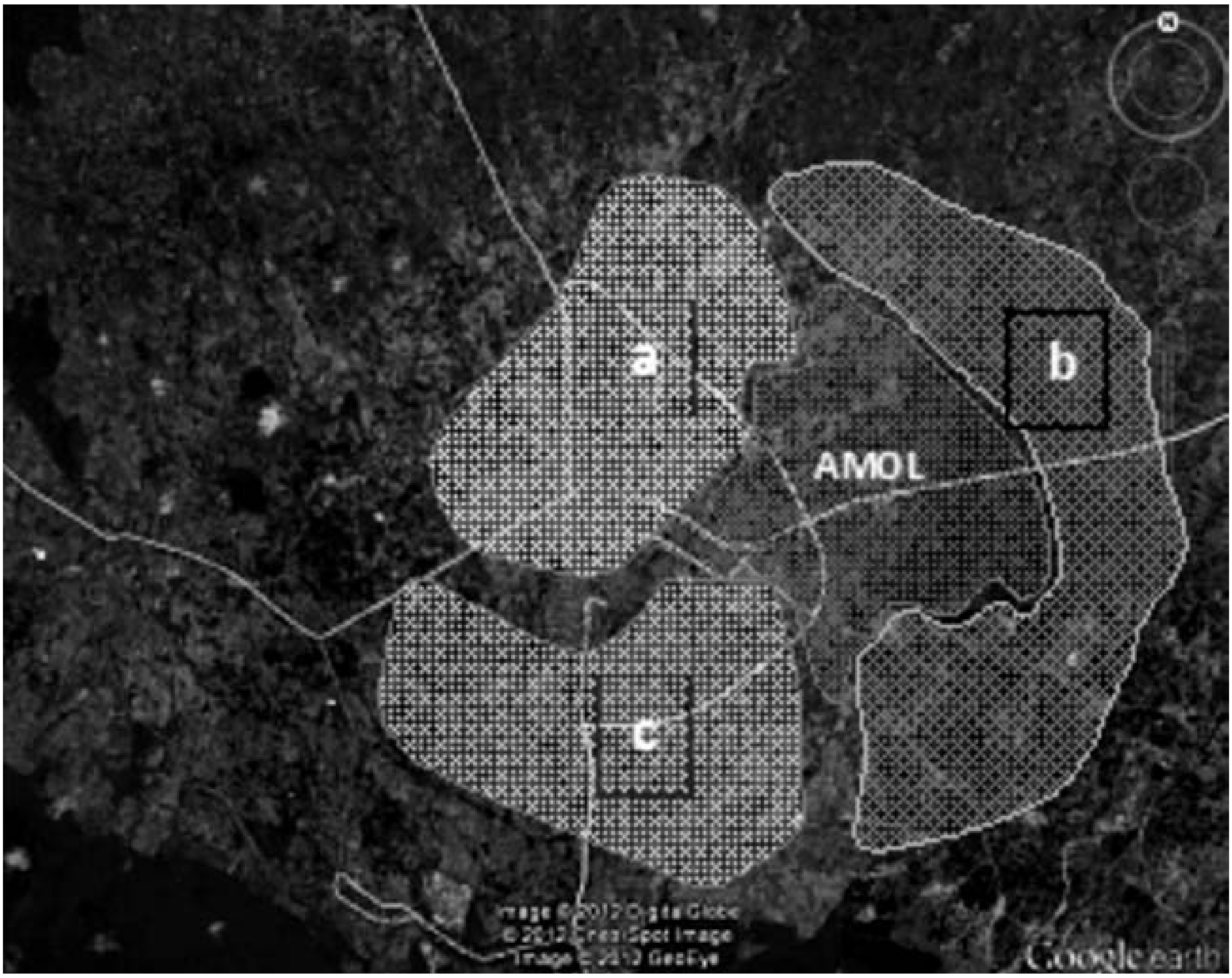

Fig 3 Product classifications map

In comparison to theories discussing the development of cities with regard to preserving natural factors and their combination with urban life, it should be noted that in cities where development policy is human-based and planning of city development does not consider preserving natural elements in its surroundings, then a solution should be looked for that is separate from development policy, where the life of urban people can interact with nature. In the solution that is presented in this article, the daily life of urban citizens *can* be combined with the surrounding nature. This phenomenon can be surveyed from different perspectives and can adopt the role of intellectual development, and learning and teaching about the natural environment. After surveying expressed problems and issues that are currently affecting Amol in terms of urban planning, it is clear that planning is not at a suitable level, and there are not enough new activities that connect people with nature. Injecting a new activity to the city which provides a human relationship with nature can improve the quality of urban life; here there are positive issues from the phenomenological, cultural, social and emotional perspectives.

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Process Of Community Development Based On Local Landscape In Amakusa Island, Japan

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Abstract: The Sakitsu district is a small fishing village where about 600 people live. It was chosen as an important cultural landscape by the national ministry in 2011, and listed a world heritage candidate of Japan. We have investigated since 2006 this area, applying an action research method from the viewpoint of the history of civil engineering and landscape. Furthermore, we have collaborated in community development initiatives so as to share the essential value of landscape with the inhabitants. In the 2011-12school year, we held workshops with students and parents of the only elementary school, since it closed at the end of March 2012. In analysing the social collaboration process in this community development project, it is clarified that at the base of sustainable collaboration in this community there is a common sense of local identity as symbolized by landscape.

Keywords: process, participation, community development, local identity, cultural landscape.

1. Introduction

The Sakitsu area in Kawaura-cho, Amakusa City, Kumamoto Prefecture, Japan, is the first fishery village to have been designated by the nation as an Important Cultural Asset (Landscape) on February 7, 2011. It is a component of the assets of the ‘Churches and Christian sites in Nagasaki’. The Imatomi area, a farming settlement that is firmly intertwined with Sakitsu by way of trade, traffic and the KakureKirishitan (underground Christian) culture, was added to the designation on September 19, 2012.

This publication is about the action research carried out by the residents and municipalities, along with the authors’ research group, on the practice of local community planning combined with participant observation based on the ‘Cultural Landscape of Sakitsu and Imatomi, Amakusa City’, where these fishery and farming settlements are combined in one designated area (Ohmori, Koguchi, Nishiyama 2003; Edani 2009; Nakanomaru, Ohmori 2010). The scope of this study is for a typical Japanese fishery settlement, where an aging society and depopulation are eminent problems, to improve its local power (social capital) in order to be able to manage sustainable development in this area. The purpose of this research is to form the place and method where various stakeholders carry out value-sharing through participation (Koga, Tanaka, Nagamura, Honda 2010). Since many values are shared beyond one generation, value expression programs with children were carried out, thus including the educational program in the community development (Kato, Yokouchi, Okada 2007). It is important to distinguish between ordinary and unordinary landscape peculiarities in order to discover their value in ordinary landscape.

2. Outline of the research area

2.1 History and Industry

Amakusa City is a municipality (Fig.1) made up of two cities and eight towns which were merged on March 27th, 2006, and a total of over 120 large and small islands centered around Amakusa Kamishima (Upper Island) and Shimoshima (Lower Island). It has a total area of 683km^2 and is surrounded by the Ariake, Yatsushiro, and East China Seas. The population at the time of consolidation was about 96,500 with 37,800 households; however, as of the September 1st, 2010, it had dropped to 89,000 and like many other provincial cities and settlements, an aging society, low birth rate and depopulation have been chronic problems.

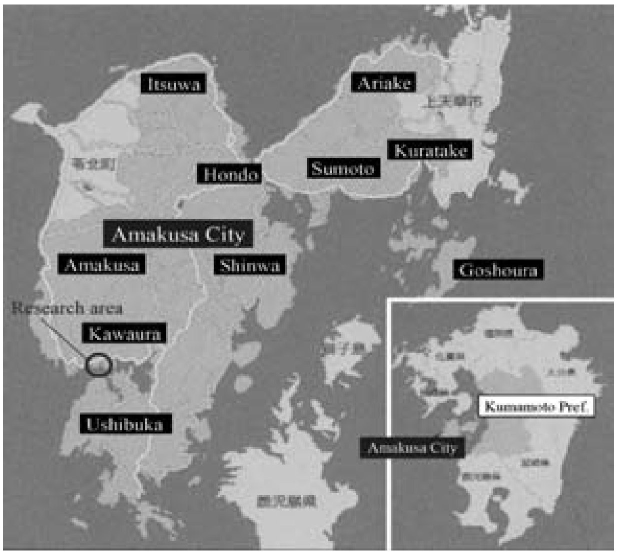


Fig.1 Location of Sakitsu-Imatomi

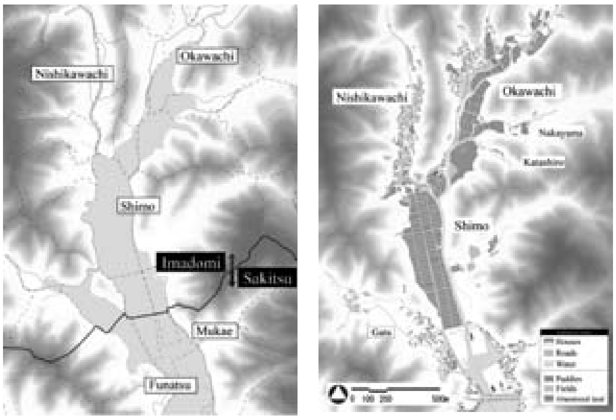
The Sakitsu-Imatomi area is situated on Amakusa Shimoshima (Lower Island) facing Yokaku Bay. The population of the Sakitsu area is 598 with 272 households, while the population of the Imatomi area is 423 with 203 households. The Sakitsu and Imatomi areas have long been associated with each other as fishery and farming villages, and traffic and trading are said to have been quite active. The Tomitsu Elementary School (established in 1875), where locals from Sakitsu and Imatomi with their combined population of 1,000 used to go, was closed at the end of the 2011 school year and integrated into Kawaura Elementary School (formerly Icchoda Elementary school).

The main business of Sakitsu is fisheries and that of Imatomi is farming, and from long ago there has been a culture of bartering between those settlements the products of the land and the sea called ‘Megoinae’. New western culture is presumed to have been brought with Christianity in 1566, and ‘Collegio’ were established to train priests in Amakusa at that time, with an estimated 23,000 believers on the island. Upon entering the Edo era (1603-1868), Christianity started to be suppressed and a rebellion by mainly Christian farmers broke out in the neighboring county of Shimabara in 1637 - the 'Amakusa-Shimabara Rebellion'. After the rebellion, Amakusa was ruled as *bakufu* land (a territory directly ruled by the *shogunate*) and restored, but the faith was secretly kept underground as '*KakureKirishitan*' all the while enduring severe suppression. The ban on Christianity was lifted at the beginning of the Meiji era (1873), and then in 1934 Father Halbout and the local people built the Sakitsu Cathedral together.

Entering the modern era, the main business remained as fisheries (Sakitsu) and farming (Imatomi). The coal mining industry prospered in the whole of Amakusa, including the Imatomi area, from around the time of the Russo-Japanese War (1904-05) to the Taisho era (1920's) and the shape of industry was greatly changed. In the early Showa era, the transport network was developed as motorcars spread and accordingly roads in the island were improved, and new sea routes increased. Sakitsu became a permanent bay very early on, and with the establishment of a fisherman's union and its designation as a fishing port, it flourished at the centre of the industry until the Second World War (1941). The local economy went into decline in the post-war period and people's livelihoods rapidly moved from the sea to inland with changes in the fishing industry and the closure of the Imatomi coal mine, proposals to close the Yokaku harbor and desalinate the bay, and the decrease in the haul and disuse of sea routes. On the other hand, national roads were improved.

2.2 Nature and Geography

The Sakitsu area is a fishery village which formed along an inlet that developed in Yokaku Bay. The topography consists of steep slopes sliding straight down to the sea and flat land is scarce, but the houses of the fishery settlement are concentrated on this limited flatland. The Imatomi settlement is situated to the north of Sakitsu, and much of it used to be a part of the inlet in Yokaku Bay. As shown in Fig.2, there was a history of marsh reclamation, called 'Gata,' in the middle of the Edo era and thus the infrastructure of a farming village was developed.


Nishikawachi
Okawachi
Shimo
Imadomi
Sakitsu
Mukae
Funatsu
Nishikawachi
Okawachi
Nakayama
Katashiro
Shimo
Gata
0 100 200 500m

about 1800 *about 2010*

Fig.2 Reclamation of the Imatomi area

3. Elements of the Important Cultural Asset (Landscape)

3.1 Cultural Landscape

According to the Law for the Protection of Cultural Properties, the Cultural Landscape is defined as 'Landscapes which have evolved together with the way of life and geo-cultural features of a region, and which are indispensable for understanding the lifestyle of the Japanese people'. The law lists the following requirements: a) history; b) natural environment; and, c) livelihood-business. The region's landscape formation mechanism that maintains these requirements is recognized as a cultural asset.

Cultural Landscape is the sixth category of Cultural Property in Japan, created in a partial revision of the Law for the Protection of Cultural Properties and elaborated together with the enforcement of the Landscape Act in 2004. Cultural landscape, in UNESCO's World Heritage, is regarded as the "continuous landscape of the organically evolved landscape: originally established by request or order of the society, economy, ruler or religious order, but which has developed to the present landscape in association with the natural environment. Landscape that relates to agriculture, forestry, fishery and industry such as 'Tanada' or terraced rice paddies; where present society recognizes the importance of the

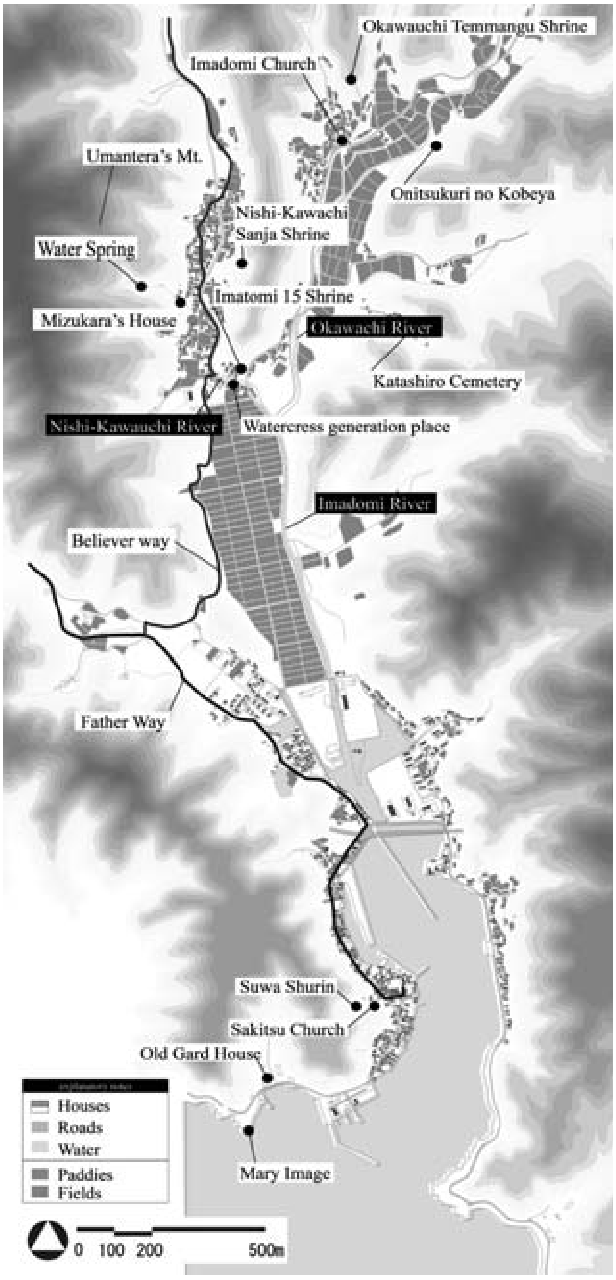

Okawauchi Temmangu Shrine
Imadomi Church
Umantera's Mt.
Onitsukuri no Kobeya
Nishi-Kawachi Sanja Shrine
Water Spring
Imatomi 15 Shrine
Mizukara's House
Okawachi River
Katashiro Cemetery
Nishi-Kawauchi River
Watercress generation place
Imadomi River
Believer way
Father Way
Suwa Shurin
Sakitsu Church
Old Gard House
Mary Image
Houses
Roads
Water
Paddies
Fields
0 100 200 500m

Fig.3 Landscape elements of Sakitsu-Imatomi

traditional life style and makes efforts towards its stimulation, and the evolution of the landscape is still in progress; at the same time, exhibiting evident physical traces that evolved transcending time" included in 'Cultural Heritage'. What this 'Continuous Landscape' means is nothing but the local residents working together with the administration and various stakeholders, paying respect to the living environment that their ancestors built up, all the while continuing their own livelihoods and businesses, and living in their environment in a sustainable way, and the town regional planning that protects those essential values. An especially important cultural landscape can be designated as an 'Important Cultural Landscape' by the national government, and by October 2012, 34 places have been designated as Important Cultural Landscapes nationwide. The landscape elements of the 'Cultural Landscape of Sakitsu and Imatomi, Amakusa City' that were chosen for this Important Cultural Landscape are shown in Fig.3.

3.2 Landscape elements of the Sakitsu area

The fishery village of Sakitsu has characteristic landscape elements called '*Kake*' and '*Touya*'. '*Kake*' is a pier which sticks out into the sea directly from the fishermen's houses which face Yokaku Bay, and '*Touya*' is a narrow alley under the overlapping eaves between houses and which is partially an indoor space. Both *Kake* and *Touya* are clever housing devices invented by fishermen living on limited flatland in an area which has steep slopes in the background and the sea immediately in front, and they became elements of the unique landscape as well as facilities.

1) *Kake*: *Kake* is a kind of pier made of bamboo and timber as shown in Photo. 1, and it sticks out into the sea directly from each site along the coastline. The *Kake* is presumed to have been built out into the open sea because neither gardens nor walls could be built within the dense settlement.

They were mainly used as workspaces for drying fishing tools and fish, and boarding and alighting from the boats. Presently, they are often used for drying the laundry as the fishing port has been improved and working space has become available to some extent. Windmill palm used to be the main material with which to make the pillars, and inhabitants would weave bamboo around it, however, as bamboo wears out in five years and windmill palms in 30, family and relatives would gather for renewal work each time. In the last 20 years, iron frames have increased and such gatherings to rebuild the *Kake* are rarely seen.

2)*Touya*: *Touya*, as shown in Photo. 2, is a narrow corridor about 80cm wide between houses where those houses are so closely built that their eaves are almost overlapping, and the families on either side share the land as a communal passageway. Not all such alleys are *Touya*, and the distinction of whether it is a *Touya* or not is made by the residents.

Touya also provide access to the *Kake*, and the space is commonly used for cleaning fishing tools and other work or even gathering for chats and exchanging information.

Photo. 1 Kake   Photo. 2 Touya

3.3 Landscape elements of the Imatomi area

The landscape of Imatomi is that of a farming village close to the *Satoyama* (area between mountain foothills and arable flat land) and is largely divided into two characteristic regions: the *satoyama* landscape of Nishikawachi and Okawachi with a characteristic valley-like topography called '*Sako*'; and Shimo, a landscape of rice paddies built on reclaimed marsh. As the Imatomi area is a deep mountainous village, there are many strong traces of *KakureKirishitan* culture left, and Photo. 3 is one example of a *KakureKirishitan* grave in the mountains. In addition, the rice paddy area of Okawachi shown in Photo. 4 has a large-scale irrigation network that is supplied from the R. Imatomi.

Photo. 3 KakureKirishitan grave

Photo. 4 Rice paddies of Okawachi

4. Community development in the Sakitsu-Imadomi area

4.1 Regional values and the protection of the cultural landscape

The National Important Cultural Landscape selection process is divided into three parts.

Stage 1) In the survey for the protection of cultural landscapes, it is important for the officials in charge of the municipality's cultural landscape (administration), in cooperation with experts in various fields such as geography, history, ecosystem, folk-study, and architecture and along with the local residents, to 'discover' the intrinsic values of the cultural landscape in terms of the history, natural environment, livelihoods and business that formed the natural and cultural climate of each region.

Stage 2) In the development of the cultural landscape protection plan, it is important to 'share' the essential values among a variety of local residents (stakeholders) and, while reconciling it with their daily lives, to thoroughly discuss until everybody is satisfied how to continue the mechanism of landscape formation that is unique to the region (methods and rules, and frameworks). Creating a landscape is never the purpose but rather the idea that the landscape represents the land while it only occurs as a result of living with the natural and cultural climate.

Stage 3) With regards to public works related to the cultural landscape, it is important to 'create' and 'protect' the landscape without losing its essential values, both at the designated area and its neighboring areas. This applies not only to the designated cultural landscape sites, but also to the social infrastructure and social systems that support people's living, suggesting the original form of public works to maintain the public spaces that become the stage.

In order to 'create value as a cultural landscape', the following steps toward value creation are explained to local residents, and their support is called on to protect the landscape formation mechanism unique to the site: a) Revise the region in light of the values, b) Organize systems and rules to share, protect and nurture the values, c) Impart those values, by the region as a whole, to those outside the region.

4.2 Significance of participation by all generations

In Amakusa City, we have been working since April 2008 with the members of the Department of World Heritage Inscription Promotion in the Cultural Division of the Board of Education on the protection of cultural landscapes in three areas: Tanazoko, Oe, and the Sakitsu area which was designated an Important Cultural Landscape (The Imatomi area was added in September 2012). With respect to the research on cultural landscape protection, we have been taking part as researchers specialized in landscape and civil engineering history, conducting surveys sympathetic to the historical environment: special interest landscapes, the landscape axis, landscape region, understanding activities and its evolution.

As for the development of the cultural landscape protection plan, we made an effort to 'share' the essential values of the cultural landscape with local residents that tend to only be shared between specialists and administrative officials, and sought a system to perpetuate it, in reconciliation with their daily life. Accordingly, along with members of the Amakusa City Board of Education, from the beginning we have been carrying out educational programs and research by walking through the cultural landscapes which are important sites for both cultural landscape protection and utilization, together with the local elementary school pupils and residents. This workshop (hereinafter: WS) is named the 'Good and NG of our Town' and there have been five sessions in four years since August 2008. Thanks to the co-operation of the local people, with each session they are proving more significant in cultural landscape protection regardless of the different generations.

In the WS, as one part of the research and education on cultural landscapes, we walk through the town with local elementary school pupils and residents and they look for desirable landscapes that they wish to protect for the future, or landscapes that are typical of the area. They photograph and note them as 'Good landscapes' while undesirable ones or those requiring improvements are noted as 'NG landscapes.' Then, they summarize the results on maps or wall newspapers in group work and present their findings. Participants vary from children alone, or with their parents or even with cousins who are home for a visit, and moreover it is a fun WS where the local people offer snacks and shaved ice desserts, and the children seem to enjoy it enough to ask us, 'When are you coming back to play again?' (Photo 5, 6).

In the beginning, our purpose with the WS was to make the children think about the 'protection of the landscape unique to the region' as a part of regional studies. However, in reality, our expectations expanded to the local people experiencing viewpoints different to usual, sharing unfettered honest impressions, and looking back on their own history by walking with the children. Furthermore, we wanted to offer the opportunity to those locals in their 30's and 40's, the children's parents' generation, to recognize the importance of protecting the cultural landscape, as they rarely have the chance to access such town planning activities. Our work in the future will be to make efforts to improve town planning, as enriched by such reflective comments, and design action plans, form organizations, and education relating to town planning.

Photo 5 In 'Imatomi's Good and NG.

Photo 6 In 'Sakitsu's Good and NG

4.3 Public works relating to the cultural landscape

The 'Cultural Landscape Improvement and Management Committeein Amakusa' (Photo 7) in the Sakitsu-Imatomi area can be said to be a leading project of the cultural landscape protection administration nationwide. This committee was established in October 2010 based on Article 5 of the Amakusa Cultural Landscape Protection Council Regulations in order to plan public works in the Important Cultural Landscape area and scheduled areas and to examine landscape protection and projects, as well as the construction methods employed.

Two spaces for collaboration have been put into practice even in this committee meeting. Firstly, as regards 'general administration' collaboration, several members attend the temporary committee such as officials from the relevant departments. Moreover, all sorts of departments associated with public works on different levels attend the committee meeting as observers. Secondly, an important role is played by the local residents who attend the meeting as temporary members of the committee at the 'self-governing' place of collaboration.

On the other hand, depopulation of the area and the aging of society continue. In order to make a framework, we conducted a 'WS to think about our school' (Photo 8) with the members of executive committee of the 'Commemorative Project for Closing of Tomitsu Elementary School'.

Photo 7 Committee meeting

Photo 8 Workshop in school's library

5. Conclusion

Each body's management techniques for promoting 'participation' and the two kinds of places for collaboration that will result from that will be important for cultural landscape protection in the future.

1) A place for "autonomy"

Town planning is promoted by collaboration among local residents, the administration, and associations (NPO, enterprises and experts, etc), and is a never-ending work of activities to improve the local environment. With regards to town planning practice, various problems exist such as the top-down style urban planning, unrealistic public space designs, and local communities weakened by low birth rates and an aging society. Areas working for cultural landscape protection are no exception.

However, the local areas tackling cultural landscape protection introduced in this essay are remarkable in terms of the foundation for self-government that began to be seen with the collaboration among three stakeholders – 'a local problem to be resolved by locals'.

2) A place for "synthesis"

Thus far, historical environment protection including cultural landscape can be broadly divided into those established under urban planning, landscape and cultural asset administrations. However, due to the harmful effects of the vertically segmented administrative system, a place for collaboration was rarely established between these departments, even in small municipalities.

But, according to the Landscape Act, at sites of cultural landscape protection in association with the Agriculture Promotion Act, Urban Planning Act and the Law for the Protection of Cultural Property, collaboration between the agencies of each department is required. In short, 'Synthesis' is sought using the landscape as momentum.

Cultural landscape protection in Japan at present is entering a stage of utilization. The essential values of the cultural landscape that had

Photo 9 Volunteer guides

Photo 10 Japanese drum practice in Tomitsu Lab.

only been shared within the local community so far have begun to spread to people outside and the relaying of information for that and methods of sharing are the next challenges. In order to continue protecting the values unique to the region, and to foster those values, the 'opening up of the region', while assuming self-governance as a base, is necessary.

Entering the fiscal year of 2012, the year the elementary school closed, two movements could be seen in the town activities in the Sakitsu-Imatomi area. One is that the members of 'SAINOTSU', a citizen's activity group, started a study group for volunteer guides and making efforts to attract new members. The 'Village Walking Tour' where the local people talk about their village in their own words has gained popularity (Photo 9) and is becoming the core of new community tourism.

The other is that our research laboratory, 'TomitsuLabo', rented with the co-operation of residents and the Amakusa City, has been established and has started operations. It has become a place for holding WSs, regional study sessions with pupils of the former Tomitsu Elementary School (Photo 10), relating all kinds of information, and contributing to a part of sustainable town planning by founding a base for cultural landscape protection study.

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Translating the Landscape

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Abstract: How can students be taught to 'read' the landscape as a source of creativity? Using the example of student work for a rural landscape in northern Denmark, this paper discusses landscape production as a process of translation. The landscape project is here essentially understood as spatial interventions aiming at unfolding inherent, place-specific development potential. Comprehending the landscape and dynamics of landscape change and formulating landscape projects thus becomes an integrated, creative process: a translation of an existing landscape into a possible future landscape. Based on actor-network theory the paper outlines, firstly, a conceptual framework and, secondly, an educational procedure for landscape translation.

Keywords: Landscape architecture education, strategic planning, creative landscape analysis, translation, actor-network theory

1. Introduction

Urban and regional planning deals increasingly with renewal and transformation of existing landscapes for strategic purposes. Planners, politicians and private stakeholders expect landscape projects to affect economic, social and environmental development beyond the specific project purpose and beyond the borders of a given transformation area.

Landscape projects are therefore more and more concerned with unfolding inherent, place-specific development potentials – and doing this across different scales: locally, regionally, and globally. As a consequence landscape architects increasingly ask what landscape projects can *do* rather than how they should look. The general idea is to steer urban or regional development in a desired direction through strategic physical and programmatic interventions (Braae and Tietjen 2011; Kühn 2010; Sieverts 2011). At the same time, long term urban development processes with many actors and an uncertain outcome require landscape projects to remain open to new interests and insights.

Strategic urban and regional planning confronts landscape architects – and ultimately landscape architecture education – with new methodological challenges. Landscape analysis becomes central to the design process in new ways: working alternately with analysis and project development the landscape architect simultaneously formulates local problems and relevant physical and programmatic interventions. In other words, comprehending the landscape and dynamics of landscape change and formulating landscape projects becomes an integrated and creative process. The 'creative' modifier is vital. Rather than a comprehensive analysis with regard to formulating 'correct' solutions, landscape analysis is here a creative act seeking to uncover and make local development possibilities probable.

How then can students be taught to 'read' the landscape as a source of creativity?

This paper draws on my teaching experiences from the Aarhus School of Architecture and the University of Copenhagen. Through the last 5-7 years these schools established new hybrid educations that combine landscape architecture with an urban and regional planning perspective.

Recognizing that teaching design solutions for predefined problems is no longer sufficient, the schools have a strong focus on developing new education methods for landscape projects in a strategic planning context. Obviously the teaching of adequate survey and mapping techniques plays an increasing role in landscape architecture education. However, even the most advanced mapping techniques do not necessarily lead to innovative ideas for landscape development. The step from inventory to intervention, i.e. the formulation of the design problem, therefore requires particular attention. How to teach this first and maybe most important step of the design process is the focus of this paper.

Using the example of student work for a rural landscape in North Jutland, Denmark, I discuss landscape production as a process of translation. Based on actor-network theory the paper outlines, firstly, a conceptual framework and, secondly, an educational procedure for creative landscape analysis.

2. Translation: conceptual framework

With actor-network theory (ANT) creative landscape analysis can be described as a translation of an existing landscape into a possible future landscape. Originally developed to describe technological innovation processes, the ANT-account is a method to describe how complex connections are being constructed for a certain purpose, e.g. the development of a product (Latour 2005). The method is equally applicable to all kinds of innovation processes; hereunder the development of strategic landscape projects.

According to ANT human actors (users, stakeholders, professionals, etc.) and non-human actors (infrastructure, soil, climate, natural processes, etc.) gather in interdependent, dynamic actor-networks due to their agency. Agency here does not designate an intentional activity, but the actor's capacity to affect other actors. It is crucial that an actor is defined by what it does to other actors in a given landscape. In a landscape project an 'actor' can therefore be any thing, idea or person having an effect on landscape development: from the topography of the landscape, over development plans, to important stakeholders.

ANT thus directs landscape architects' attention to the effects of interaction between human and non-human actors. It is the *relations* between physical structures and natural and socio-cultural processes and not the physical structures themselves we need to be interested in.

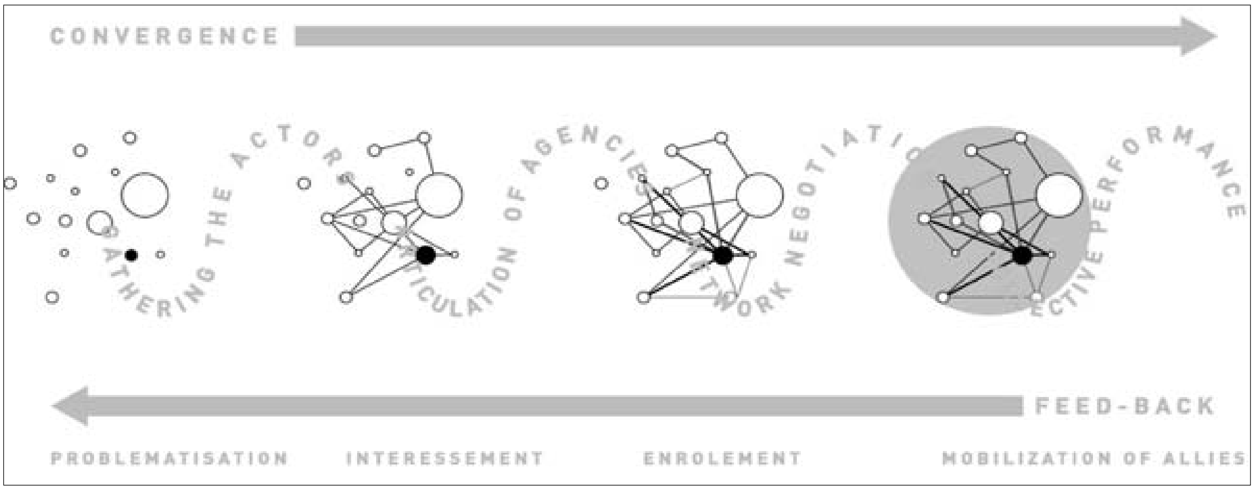

Fig. 1 Translation. The diagram illustrates a translation process from the formulation of a design problem and the identification of potentially affected actors (problematisation), over testing of development possibilities (interessement), to project design (enrolement) and eventually the moment where the envisioned project unfolds its effects through the landscape (mobilization of allies). What is decisive is a focus on possible relations between physical structures and natural and socio-cultural processes. (Source: Anne Tietjen (2011) with Henning Stüben after Michel Callon (1986)

Throughout the design process the effects of interaction are both studied and being translated into an innovated actor-network (Braae and Tietjen 2011). More precisely the 'identity of actors, the possibility of interaction and the margins of manoeuvre' are being negotiated and delimited (Callon 1986).

2.1 4 moments of translation

Based on his study of marine biologists' attempt to restock the St. Brieuc Bay, France, to produce more scallops, Michel Callon (1986) defined four decisive 'moments of translation': *problematisation, interessement, enrolement,* and *mobilization of allies* (fig.1). These four moments can equally be applied to a design process. Here the first decisive moment is the formulation of a design problem or, as Callon puts it, 'series of negotiable hypotheses' for landscape development.

These first design hypotheses function as the filtering lenses for both landscape analysis and project development. Actors who are potentially affected by the formulated design hypotheses are being identified and gathered. The more productive relationships between the so identified actors one can observe and describe the more valid one's hypotheses become. Inversely it can happen that one must reformulate or even reject a hypothesis because it proves impossible to demonstrate possibilities of interaction. Landscape architects' testing of development possibilities, e.g. in the form of scenarios or interpretative maps, corresponds to what Callon calls *interessement*. The so gathered actors are then *enrolled* into the preliminary actor-network of a design project. In the form of physical and programmatic interventions the project introduces new actors, creates new or further articulates existing relationships and connections. One can suggest that the more productive relationships between existing actors and design interventions the more probable the desired innovation effect of one's proposal becomes.

The final moment of *mobilization of allies* rarely happens in an academic context. It occurs when the realised project begins to unfold its effects through the landscape and all the gathered actors are made to act as one innovated actor-network.

2.2 Implications for teaching

Understanding creative landscape analysis as a translation process has several productive implications for teaching creative landscape analysis and, in particular, the formulation of a design problem.

2.2.1 Landscape as product and process

With ANT we can understand a landscape as the dynamic result of interactions taking place between different human and non-human actors in a given area.

As a consequence ANT also provides an alternative, relational understanding of context: a landscape relates to its surroundings due to the reach or extent of present actors' interaction – what Callon (1986) calls the 'margins of manoeuvre'. This process-based understanding of context makes it possible to study and develop a given area across different scales: locally, regionally, and globally.

2.2.2 Follow the actors!

Finally, ANT provides valuable advice for a design approach that focuses on what a landscape project can *do* for landscape development. Translation links landscape analysis with the formulation of a design proposal by articulating possible relationships between existing and future material conditions, ideas, and practices. According to ANT the key to creative landscape analysis is to follow the actors and carefully map their controversies with other actors, i.e. the differences, traces, and transformations they produce in interaction. Bruno Latour, one of the founders of ANT, calls these traceable effects of interaction the 'figuration of agencies' (Latour 2005).

This approach has the advantage to be transparent, i.e. one can retrace and discuss the observations, analyses and hypotheses on which a design proposal is based. In this way it becomes possible to share and further develop the action-oriented knowledge produced by one student together with teachers and other students – or, in professional planning practice, with the many actors in a planning process. It also becomes possible to integrate new interests or insights in a long-term planning process with an unknown result.

3. Translating Gårdbo Lake

A student project for a rural landscape in North Jutland, Denmark shall illustrate the development of a landscape project based on translation with particular focus on the initial design phase and the formulation of the design problem.

The Gårdbo Lake project is the MA thesis of two students in Landscape Architecture and Urbanism at the Aarhus School of Architecture. Kim Møller and Anne Ulrik (2007) set out with the general hypothesis that a unique cultural landscape could provide a development opportunity in a remote, rural region suffering from population decline, lack of work places and a growing vacant building stock. This hypothesis guided both landscape survey and analysis and the formulation of a place-specific design problem.

To begin with the students chose the drained and cultivated Gårdbo Lake area for two reasons: the drained and cultivated Gårdbo Lake area has a striking spiral landform and a characteristic field pattern with intact hedges and copses. At the same time it is situated in an especially problematic location, disconnected from the relatively prospering coastline and thus particularly affected by population decline.

In their landscape analysis Møller and Ulrik then focused on how the existing characteristic landscape structures had come into being, which processes had affected them over time, and which processes were likely to affect them at present and in the near future. The landscape analysis was thus structured around three approaches: first, a traditional survey of characteristic physical structures. Second, a diachronic analysis of how the existing physical structures had developed and changed over time in the interaction with natural and socio-cultural processes. Third, a synchronic analysis of present activities and uses in the area expressed new needs and interests, and existing plans and policies for landscape development.

The historical analysis made it possible to identify long term development tendencies and what physical structures they affected and how. The analysis of current spatial practices and discourses made it possible to identify present usages, development interests and needs in relation to existing physical structures.

Overall the analysis pointed to three distinct landscape structures ‘figuring’ from the effects of interaction between human and non-human actors: the drained lake bed, the cultivated lake shores and the ridge to the west of the lake (Figure 2). Over time each of these landscape structures had developed its own clearly recognizable aesthetic *vocabulary*.

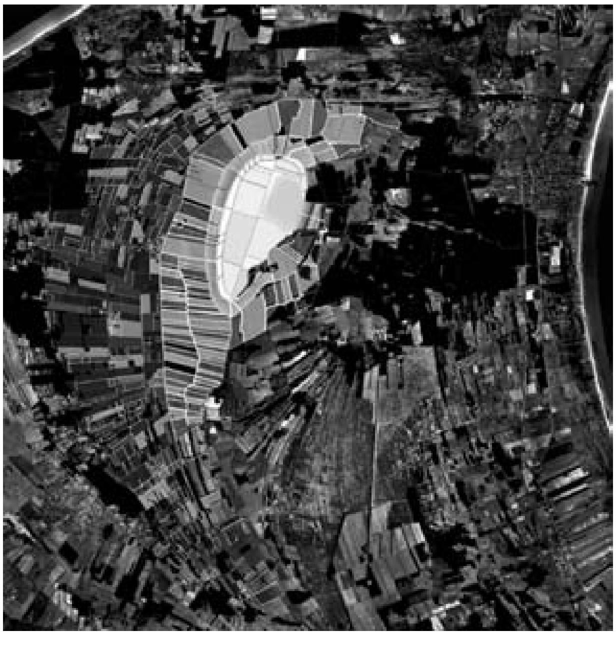

Fig. 2 The Gårdbo Lake area with the three distinct landscape structures: the lake bed, the surrounding lake shores and the ridge to the west of the lake. (Source: Kim Møller and Anne Ulrik 2007)

Furthermore, the analysis pointed to a number of present development tendencies and different, partly conflicting interests that potentially affected the three landscape structures. For example, the lake drainage system was under progressive erosion and required a costly renovation in the not too distant future. The owner of the lake bed area and the associated manor house wished to maintain agricultural production but also to invite tourists in the area to increase his income. The Danish Society for Nature Conservation on the other hand promoted a restoration of Gårdbo Lake to enhance biodiversity and local bird life. The European Water Framework Directive represented yet another interest, seeking for improved water quality through extensification of agricultural production. By problematizing these present development tendencies and conflicting interests Møller and Ulrik identified place-specific challenges and development opportunities that became the basis for formulating a place-specific design problem or brief for the Gårdbo Lake area. At the same time, they identified and delimited relevant areas for physical and programmatic intervention with regard to the formulated brief.

On this basis Møller and Ulrik developed a strategic landscape project for the larger lake area where new physical structures and programs will incrementally transform the existing landscape structures and uses.

Each intervention is thought to provide opportunities for further development. In this way the proposal is strategic because it seeks to affect landscape development over time while at the same time remaining open to new insights or interests that could emerge in the future (Figures 3 and 4).

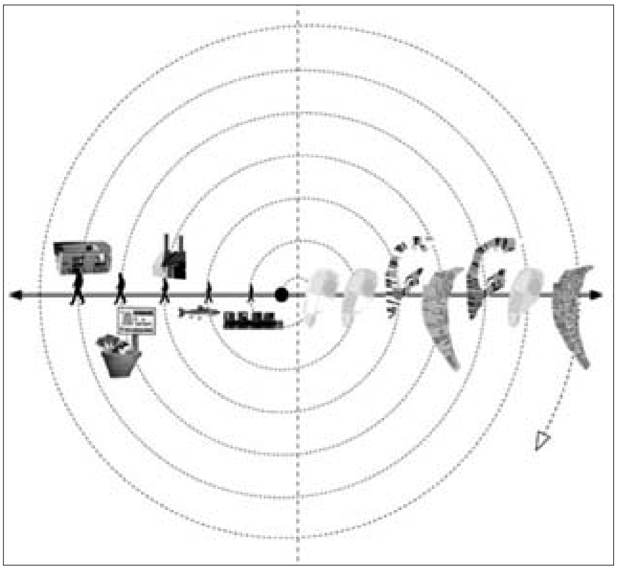

Fig. 3 Diagram showing the long-term strategic approach to the Gårdbo Lake area where new physical structures and new programs will incrementally transform the existing landscape structures and uses. (Source: Kim Møller and Anne Ulrik 2007)

In the first phase, the landscape project suggests the conversion of the drained lake bed into a planted lagoon and the improvement of accessibility to the area. To control the water level of the lagoon the existing drainage system is being reused. In this way biodiversity and bird life will be enhanced while agricultural production can continue unhindered on the lake shores. In addition, the planted lagoon is expected to attract hikers and bird lovers. Improved connections to the regional road and path system and especially to other tourist destinations will thus be able to enhance

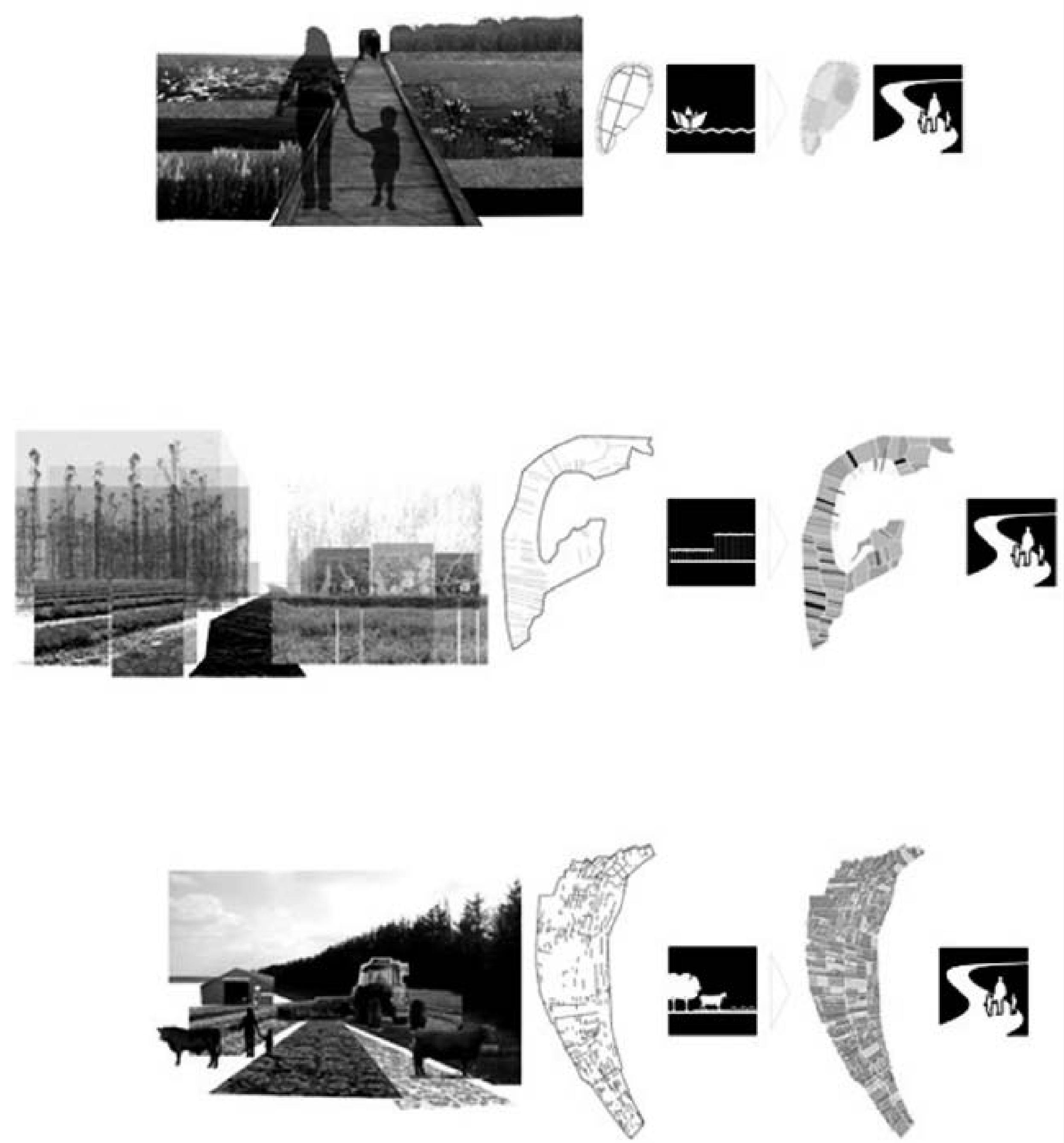

Fig. 4 Diagram showing the 3 phases of transformation. From the top: the conversion of the drained lake bed into a planted lagoon, the specialization of agricultural production on the lake shores into medical plants, and the development of agro-tourism on the ridge west of the lake. (Source: Kim Møller and Anne Ulrik 2007)

the integration of the inland with the beach resorts on the coast. In a second phase, a specialisation of agricultural production into medicinal plants could enable wellness tourism.

In a third phase, the ridge to the west of the lake with its impressive windbreak hedges and well-preserved field patterns could become attractive for agro-tourism.

Interestingly, the MA thesis was presented in the form of a storyboard, linking empirical observations to strategic considerations and spatial interventions. Rather than showing plans and drawings of the landscape project as a finished product, Møller and Ulrik chose to present analytical maps and drawings, strategic diagrams, text, and eye-level visualisations of imagined development scenarios.

Together these mixed media tell a story of possible landscape development over time and across different scales. At the same time this presentation form makes it possible to retrace the proposed design interventions to observations, analyses and hypotheses. In this way the strategic effects of the design proposal are made probable.

4. Translation: Educational procedure

What can we learn from the above for setting up teaching of creative landscape analysis?

4.1 Focus on problematisation

This paper suggests that creative landscape analysis can be compared to a technological innovation process. Here a research question or hypothesis guides the choice of survey and analysis methods, the collection of data and the development of innovative solutions. Formulating the design problem is therefore the first and maybe most important step of the design process. This means that the ability to formulate a relevant design problem needs to be trained.

Inspiration for a conceptual framework and method can be found in ANT and an understanding of creative landscape analysis as a translation of an existing into a possible future landscape. ANT provides us with a relational understanding of landscape and context as dynamic actor-networks of human and non-human actors. It also provides us with a relational understanding of the landscape project as a strategic intervention rather than a finished product.
The discussed student work demonstrates that studying the 'figuration of agencies', i.e. the effects of interaction between physical structures and natural and socio-cultural processes, can be a way to formulating a place-specific design problem.
The student work further suggests that unstable landscape structures – such as the eroding lake drainage system – combined with multiple conflicting interests can point to development challenges and opportunities and to relevant sites for physical and programmatic intervention.

4.2 Expanded range of analysis methods

Studying the 'figuration of agencies' requires a combined analysis of physical landscape characteristics, diachronic analysis of the development history of existing landscape structures and synchronic analysis of present spatial practices and discourses in a given area. This means that the range of survey and analysis methods needs to be expanded from methods for primarily visual analysis of landscape structures to methods for analysing dynamic landscape change over time and methods for analysing present spatial practices and discourses. This broadening of landscape analysis methods mirrors the convergence of the landscape architecture and the urban and regional planning profession.

4.3 New instruments of representation

Strategic urban and regional planning requires landscape projects that focus on what spatial interventions can *do*. Furthermore strategic planning processes with many actors and an uncertain outcome require landscape projects to remain open to new interests and insights. To communicate on the one hand the strategic potential of a landscape project and on the other hand remain open to new insights and interests requires new instruments of representation. A storyboard that links empirical observations to strategic considerations and spatial interventions could be one possibility. What is decisive is to make design decisions transparent and thus to make proposed design interventions retraceable.

4.4 New criteria for design quality

Ultimately, understanding creative landscape analysis as a process of translation provides us with new criteria for landscape design quality and thus for the assessment of student work. A good landscape project needs to demonstrate that it is likely to have a desired effect on landscape development. Further it needs to demonstrate that it is capable to incorporate new insights and interests. These new criteria do not devaluate aesthetic qualities. Rather they suggest the development of a new, more relational aesthetics that is concerned with how landscape architecture affects landscapes and is being affected by landscapes.

5. Conclusions

This paper proposes a theoretical and methodological framework for teaching creative landscape analysis on the basis of actor network theory (ANT). With ANT we can, firstly, conceive a given landscape as the dynamic result of interactions between both human and non-human actors. Secondly, we can understand and organize creative landscape analysis as an innovation process that translates an existing into a possible future landscape. Through the design process we are required to study the effects of interactions between human and non-human actors and translate them into an innovated actor-network. This can be done by articulating possible relationships between existing and future material conditions, ideas and practices. Initial teaching experiences based on a translation approach suggest that teaching of creative landscape analysis should be based on the following considerations: Firstly, a translation approach requires focusing especially on the formulation of a place-specific design problem. Secondly, translation requires expanding the range of landscape analysis methods to methods for studying dynamics of landscape change. Thirdly, translation requires new instruments of representation that make design decisions transparent and retraceable. Finally, translation raises new criteria for the assessment of student work. A good landscape project primarily needs to demonstrate that it is likely to have a desired effect on landscape development and, that it is capable to incorporate new insights and interests.

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An Introspective Reading for a Stratified Site

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Abstract: Time has a prevailing role in the stratified and urbanised landscape, accelerating the process of changes that the same landscape carries out in a summation of building fabrics of different ages. It is fundamental to interpret the physical-territorial, historical-cultural components of the transformation of the landscape in order to elaborate a coherent description of the identity of the place. To this end, the use of an operating system, capable of memorising, analysing and managing the geographic information of reference of the architectonic heritage, is an aid towards an awareness of the value of this heritage as a witness to the past. The intention of this contribution is to stimulate the understanding and use of a stratified landscape which is rich in evident signs that are introspectively preserved.

Keywords: City landscape, Stratification, Fragments, Signs, Survey, GIS, 3D Modellings.

1. Introduction (RitaValenti)

The formal perception of an anthropo-geographic landscape, made up of spatial and symbolic relationships, induces a complex reading that cannot focus solely on the material, spatial and tactile aspects, but should also concern the expression of the relationships of an associative and cultural kind. We should not forget that an urban space lacking its human component is a dead space; likewise, an inhabited city in which the active presence of citizens is absent is a place that tends to disappear and become impoverished of its values.

Thus *historical narration*, through a representation model visualizing the system of changes, that time carries out visibly but also introspectively, becomes the visualization of a process of which its reference is history, through the reconstruction of the evolutionary dynamics of the signs imprinted in the place.

It is precisely these of the latter reference, in a stratified landscape, that express the sense of time and emerge from the modifications consequent to catastrophic events (earthquakes, tsunami, hydrogeological risk), from the needs arising that are linked to economic and political factors, from the social hardships with respect to the permanent built environment, even if historically important, are considered unacceptable for a modernity tied to the contemporary. In truth, the contamination of forms and languages leads to a substantial impossibility to search for homogenous manifestations; consequently, the identity that we may find with the research underway lies in the ability to seize and conjugate the differences, highlighting the syntonies and pointing out the dissonances.

It follows that the coherent description of the identity characteristics of the place, albeit with a plurality of manifestations, happens with the aid of a reading of the physical-territorial and cultural components of the historical evolution of the city landscape. In this view, a complex and perceptively reasoned representation must also communicate the aesthetic sense that a community attributes to the place of belonging, seen as an added value, in relation to the symbolic significance of reference.

In such a way, the graphic syntheses adopted, in expressing all the morphologically evident or implicit variants, focus on the possible events that have contributed to determining the specificities of a place in relation " …à la vie simple des gens. Il guettent leur ville qui change. Qui echappe au contrôle vers de possibles modernités. Heureux, étonnés, inquiets." (Ciannella 2007)

2. Challenge Tackled (RitaValenti)

The detailed research, following a number of levels of understanding on a consolidated city context has over the years led to a cognitive approach that, being based on what by now we can undoubtedly define as traditional systems of an integrated survey, has gradually refined the objectives to pursue in relation to the particular features of the place: "[t]o excavate and enter into the unconscious of the place… and reveal its forgotten memories; its layers emerge from mythical depths, discovering the historical roots of the very reason to be. … The ruin is the object trouvé, acquires aesthetic values and museographic usages that go beyond its original purpose. The cultural attribute of patrimonial value is the value of antiquity enhanced by time, by rarity and sedimentation" (Pinto 2008)

The objective of the research work of this present memory consists mainly of the semantic reading of the multiplicity of signs, testimony of a stratified reality, of which its consistency is not necessarily material or tactilely perceptible.

I refer to *absent stratifications* of which their memory continues to live on through iconography, cartography or photography and that, though having marked the place indelibly, has been cancelled out by a collective desire, the expression of changed needs, not necessarily traceable to speculative facts or personal gain, but rather dictated by changing aesthetic demands. Yet I refer also to those *absent stratifications,* not because they no longer exist, but because they are not visible, and of which their memory resides in the signs traced on the paving of a public square.

This work also carefully observes the *stratifications of memory,* namely those symbolic signs that have been conserved as fragments and that 'introspectively' tell of a past otherwise lost, or the exclusive domain of a cultured usage that is concerned with reconstructing the history, through archival research and the study of cartography, but certainly not the *memory*.

It is as if the urban environment wished to conserve, in an unbridled fashion, the symbols of its culture at the very least, which are at times embedded in the ruins that survived demolition, and at other times preserved in the very places in which they were set originally before being demolished, almost as if to mark, in a submissive way, a presence otherwise found only in historic maps.

Our archive is the city: the reading of information that can be deduced from a thorough interpretation of all the signs, and also of

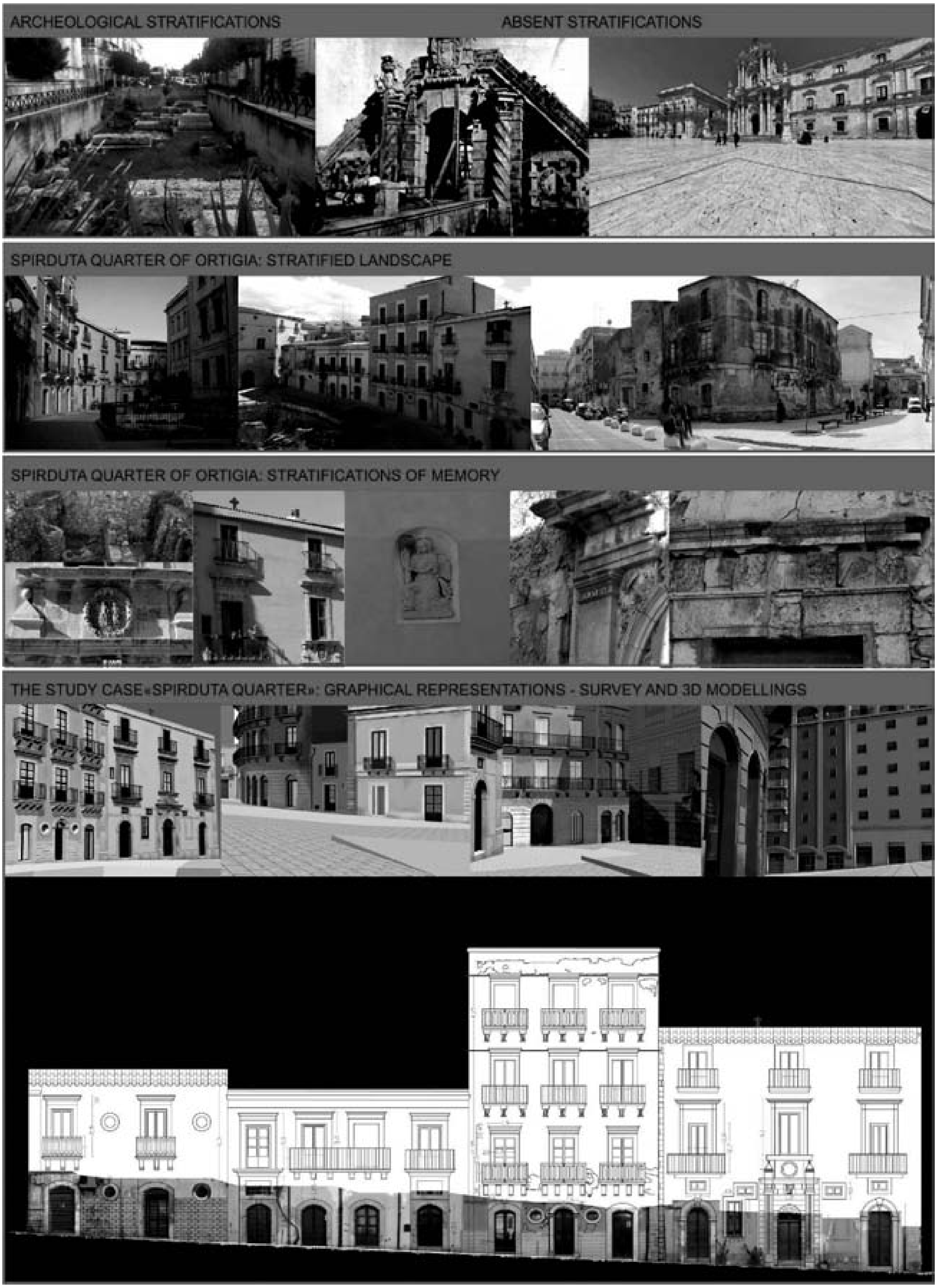
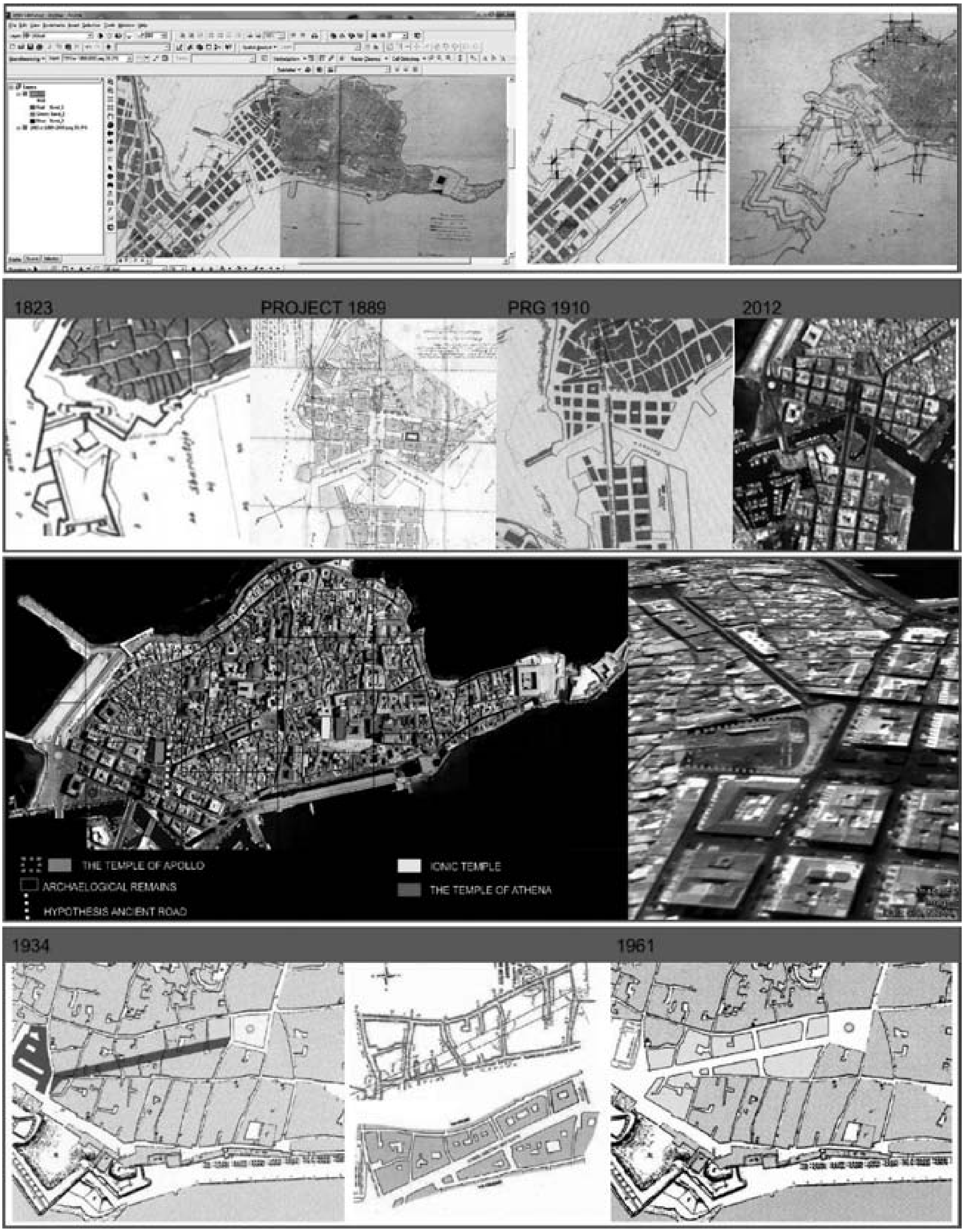

ARCHEOLOGICAL STRATIFICATIONS
ABSENT STRATIFICATIONS
SPIRDUTA QUARTER OF ORTIGIA: STRATIFIED LANDSCAPE
SPIRDUTA QUARTER OF ORTIGIA: STRATIFICATIONS OF MEMORY
THE STUDY CASE «SPIRDUTA QUARTER»: GRAPHICAL REPRESENTATIONS - SURVEY AND 3D MODELLINGS

Fig. 1, Stratified landscape: "Spirduta quarter of Ortigia"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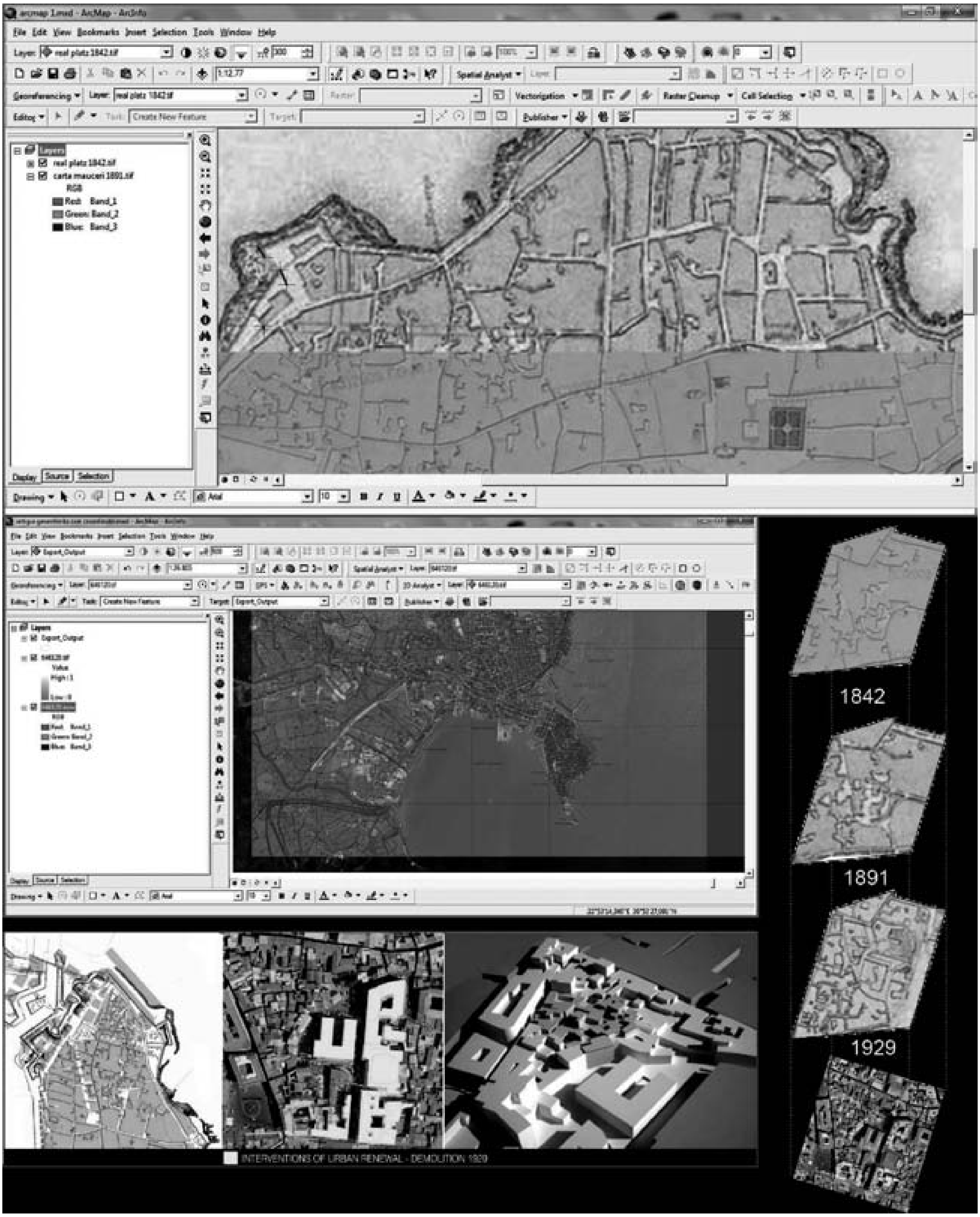
PROJECT 1889
PRG 1910
2012
THE TEMPLE OF APOLLO
ARCHAELOGICAL REMAINS
HYPOTHESIS ANCIENT ROAD
IONIC TEMPLE
THE TEMPLE OF ATHENA
1934
1961

Fig. 2, GIS application: the signs of the Ortigia stratifications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Value
High : 1
Low : 0
1842
1891
1929
INTERVENTIONS OF URBAN RENEWAL - DEMOLITION 1929

Fig. 3 GIS application: the cognitive process through historical maps of "Spirduta quarter"

those of which their attribution may only come about from a collective social memory, has the aim of being a substantial contribution to the conservation of *memory.*

This is by means of an analysis that carefully puts the pieces of the 'city palimpsest' together to counter any process of cancellation, deriving from the generative evolution of the city system, which leads towards the forgetting of elements belonging to our educational makeup.

The verification of the application is carried out on an urbanized stratified landscape of particular interest, the place of Ortigia, included in the 'Italian Unesco Sites' for its uniqueness. "Historic Syracuse offers a unique testimony to the development of Mediterranean civilization over three millennia", in which the narrative ensemble is explicated through signs of those whose reading allows seeing what has been brought to light materially, but also what time has removed and what memory safeguards.

3. Approach Applied (Giuseppa Maniscalco)

The *Crabnebula* Laboratory of Representation of the Special Educational Structure of Architecture of the University of Catania has for a long time been working towards elaborating new techniques of approach in order to examine the architectonic structures of historical centres.

In this sense, the research intends to facilitate the collection, analysis and management of considerable amounts of data related to the historical-architectonic heritage. All this is at the level of a systemic whole as well as its constituent parts.

With the use of an intelligent and suitable operating system – able to record, analyze and manage the geographic information referencing of the architectonic heritage - knowledge of the value of the assets as testimony of the past may be attained. One must therefore think in terms of thematic maps, and how from the compound production one may represent the overlapping of the stages of modification of our cities visually in which the signs of stratification have lent, over time, a symbolic meaning to the instituting of the needs of transformation.

By means of such representative maps of stratigraphic units – aimed at the general reconstruction of the site – one can highlight remarkable amounts of useful information for the historical understanding of a site or of single and specific architectonic structures.

The possibility of being able to carry out, within the Laboratory, 3D modelling further enables the implementation of a strategic virtual system that better manages to highlight and render a wide-ranging dossier of information.

The new technologies contribute considerably and effectively to reassembling the space and to know its stratification; in this sense, GIS, instruments of a fact-finding survey – ideal in the cartographic analysis of the territory and able to reveal the old fabric of the city – and with the aid of the database, allows recording of the spatial, descriptive and vectorial information that, interrogated with *Query*, enables the visualization of the information.

It is precisely the cartographic support, a measure of the landscape in reference to the historical-constructive knowledge of the site, that becomes fundamental in the insertion of the databank to be used in the GIS. Here, the value of cartographic representation - in this case constituted by the various historical maps – becomes the essential element for analysing the site.

The use of satellite images and historical maps in *.tiff* format represent the collection of basic information for the elaboration of layers.

What has constituted the foundation of the research is that by implementing the geographic coordinates referring to the images, these latter can be elaborated and superimposed with the aim of realizing, with a continuum of information, the monitoring of the historical transformation of the site.

The fact-finding process – with the intention of attaining increasingly detailed documentation and providing more exhaustive responses that may be valid for the survey at many levels for a given urban context - takes advantage, again within the Laboratory of Representation, of a procedure integrating three-dimensional architectonic models, as well as realistic photos, with different kinds of digital data in a GIS environment.

With the GIS, an initial approach of in-depth fact-finding can be achieved, aimed towards constantly pursued cultural understanding, with a view towards enhancing and conserving the site.

The computerised archives, conceived as a system of cards in a database, always updatable and accessible, constitute the methodology of the investigation to be used through the insertion of information collected and elaborated. The case study is the Spirduta quarter of Ortigia, precisely the urban strip comprised between Via dei Santi Coronati, Via dei Mergulensi and Via Montalto.

The application study, in the phase of georeferencing the maps, in *Arcgis*, represents a cognitive process of the historical evolution of the block under examination, highlighting an extraordinary wealth of fragments of the past integrated in the present day building fabric.

The complex historical stratifications that have taken place over time, have determined the integration of single material elements, of previous epochs, embodied in a medieval context; indeed the settlement of the Spirduta quarter appears with its rich and 'sensitive' form and is able to express, today, a historical-urban planning and complex architectonic dimension, interwoven and integrated.

The scientific reading on the local construction lexicon proves important in the context of the operations of study to be carried out in a site, allowing thus to formulate an opportune conservation proposal.

What emerges from the study is the dynamic character of transformation due to historical events and the evolution of the form of architectonic structures, following on in time and useful to satisfy human requirements.

4. Conclusion (Rita Valenti)

In this place, in which the most immediate sense of stratification is linked to the widespread presence of archaeological remains, of which the *memory* has dwindled over time and of which the city landscape has reappropriated in more recent ages as a result of excavations or liberation from buildings that had enveloped the structure, it is possible to report of work that, contrary to a conservation approach, has decided on cancelling the signs of a part of its own history (the knocking down of the city walls and the large gateway of the Viceré Ligne, the filling in of the canals built by Grunenbergh) thereby transforming them into *absences*.

The interventions of urban renewal-demolition, like the one implemented in the Spirduta quarter, have conserved, instead, not only entire pieces of the civil architecture, but also the symbols of those *absences* that before this 'reclamation' constituted the identity elements of the site. The presence of the cross on a rooftop in Via dei Mergulensi, the relief with an angel set in a facade of Ronco del Pozzo – almost as if to mark the demolished church of S. Maria degli Angeli - the ruin with architrave carved with the symbols of the confraternity of masons and the remains of the church of Santi Coronati, all represent the safekeeping of *memory*.

The survey with its cartographic elaborations and 3D rendering seeks to outline this historical dimension of the fact-finding investigation. With this reading of the city landscape of Ortigia, one enables the 'introspective' signs to emerge, which in the same measure as those more evident signs, represent the *desire* of history, by the widespread community, connected to the sedimenting of collective memory. Any intervention should not fail to take account of these micro-bonds that denote, with their presence, the deep sense attributed to them by the social component of the city that keeps the memory alive without the conflicts and contrasts arising from the interweaving of cultures.

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Living From The Landscape: Educating Academic Landscape Architects And Planners At Wageningen University

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Abstract: New planning and design curricula aim to better connect the worlds of planning and design, opening up new horizons for teaching and research. A good example of such a comprehensive curriculum is the MSc programme Landscape Architecture and Planning at Wageningen University in the Netherlands. Against the background of the concept of the 'knowledge triangle' this paper presents and discusses the programme objectives and intended learning outcomes, the structure of the programme and its teaching methods, and the assessment strategy of two courses: the Atelier Landscape Architecture and Planning, and the master thesis. A recent assessment rated the curriculum among the best in the world in terms of landscape architecture, while the addition of design components to planning was considered a unique Wageningen feature, distinguishing it from other programmes in the Netherlands. A major step forward is the introduction of a rubric that includes a description of the performance levels of design competences and artistic skills.

Keywords: Landscape architecture, spatial planning, MSc programme, curriculum, learning objectives, assessment strategy, rubric, ECLAS, the Netherlands.

1. Introduction

Although the relationship between planning and design is not without controversy (see for example the discussion in the Journal of Planning Education and Research, June 2011), several authors have recently explored how the one might benefit from the other (Van Dijk 2011; Van Assche *et al.* 2012). In particular, landscape architecture and landscape planning are highly related. According to the European Council of Landscape Architecture Schools (ECLAS), landscape architecture, as a field of professional activity and an academic discipline, is concerned with the shaping of landscapes at various scales. It involves landscape planning, design and management to create, enhance, maintain, and protect places so as to be functional, aesthetically pleasing, meaningful and sustainable and appropriate to diverse human needs and goals[1].

However, in spite of this broad definition of landscape architecture, the curricula of both landscape planning (or spatial planning / urban and regional planning) and landscape architecture used to be only loosely linked. New 'planning and design' curricula, such as the MSc programme Landscape Architecture and Planning at Wageningen University in the Netherlands, aim to better connect the worlds of planning and design, opening up new horizons for teaching and research (see for example de Jonge 2009). They can be seen as the result of a surge of mergers in the domain of environmental sciences, geography, landscape architecture and urban planning. Due to external and internal forces, reputed European schools are heading in the same direction, i.e. towards comprehensive landscape planning and design.

Planning and design curricula need to fulfil a wide range of demands. Landscape architecture not only draws from the natural sciences but from the social sciences and humanities as well. Landscape architects must not only integrate specialist knowledge from these disciplines, but also the interests of the public. For example, they need to understand the uncertainty that arises both from the environment and from the planning and design process itself (Abbott 2005), be aware of different forms of rationality (Allmendinger and Tewdwr-Jones 2002), and be able to tackle "wicked problems" (Rittel and Webber 1973). And, of course, they need to have a thorough knowledge of the landscape, both in the way it is formed and in the way it manifests itself to people. Planning and design curricula should address these aspects in order to equip future landscape architects and planners to find solutions to a broad range of spatial issues at a broad range of scales in their practical work.

In this paper we present our experiences at Wageningen University with the MSc programme Landscape Architecture and Planning. In particular we pay attention to the intended learning outcomes, studio learning, and assessment systems. We use as a foundation the document Critical Reflection 2011, Landscape Architecture and Planning (Philipsen *et al.* 2011) that was compiled as part of the reaccreditation assessment of the programme in spring 2012. Our point of departure is the so-called 'knowledge triangle'.

2. The Landscape Architecture and Planning Knowledge Triangle

The concept of the 'knowledge triangle' refers to interactions between research, education and innovation as the interdependent drivers of a knowledge-based society. This concept has gained a

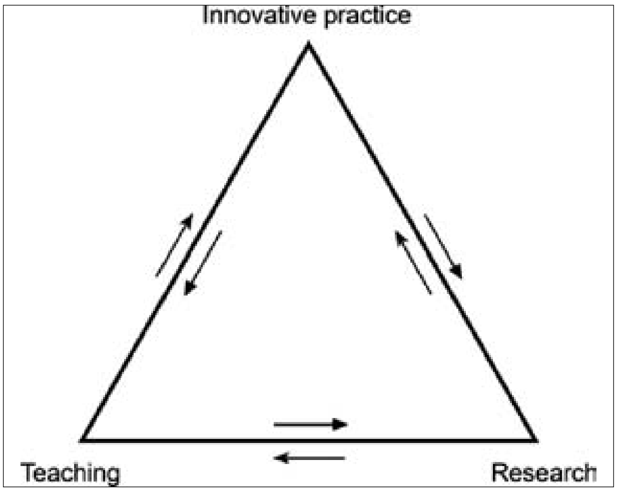

Fig. 1: The landscape architecture and planning knowledge triangle

strong foothold in European Union economic and higher education policies. These policies aim to strongly connect the three key drivers. This is expressed, for example, in the results of the conference The Knowledge Triangle: Shaping the Future of Europe, held in 2009 in Gothenburg, Sweden[2]. At this conference it was recommended that "European higher education institutions should play a central role in creating and disseminating knowledge valuable for society and business by linking education, research and innovation through collaboration with the wider community".

In general terms, the knowledge triangle can be described as follows (see Figure 1). The base of the triangle is formed by the connection between research and education, and both contribute to innovation, for example through practical application, at the top of the triangle. It should be emphasised that this image, static as it may seem, presupposes that under optimal conditions the connections between the three points of the triangle are highly dynamic. Teaching at universities, for example, should be research driven, and good teaching raises questions that form starting points for new research. Research driven teaching also gives students the ability to work as innovative practitioners or researchers. Innovative practitioners, in turn, provide valuable contributions to practice-oriented teaching and to gathering empirical data for answering research questions. In Figure 1 these connections are illustrated by the arrows.

Such a situation in the field of landscape architecture and planning would be ideal, but it does not yet exist, at least not in the field of landscape architecture. Teaching is still mainly practice-oriented and only to some extent research driven (Van den Brink and Bruns 2012; see also Brown and Corry 2011). Furthermore, in our experience, only a small but growing number of practitioners seem to be convinced that they would benefit from the results of scholarly research. At the same time, the potential area of research is wide. In a recent Science Policy Briefing (SPB) entitled Landscape in a Changing World – Bridging Divides, Integrating Disciplines, Serving Society, the European Science Foundation (ESF) and COST stated that several "grand challenges" facing our society, such as climate change, energy needs, health, food security and urbanisation, are embedded in landscape. The SPB calls for research that addresses these major "issues in the social and physical transformation of land, space and environment" (ESF/COST 2010: 1, 14).

These are issues that landscape architects and planners can make important contributions to. Their research partly overlaps with the broader area of landscape studies, which draws from fields such as hydrology, soil sciences, landscape ecology, geography and environmental psychology, to mention just a few. But through planning and design, landscape architecture and planning also reach beyond landscape studies and represent an academic field on their own. This should be reflected in study programmes through research driven teaching and vital relationships with innovative practice that address the 'grand landscape challenges' of our society.

3. Programme objectives and intended learning outcomes

Graduates of the MSc programme Landscape Architecture and Planning at Wageningen University have been educated to create and evaluate planning and design solutions and critically reflect on planning and design processes based on a thorough integrated landscape analysis. As strategic thinkers and innovators they will be employed as creative designers, visionary planners, advisors, consultants, policymakers, academic writers, knowledge workers or researchers in the field of landscape architecture and planning. They have the specific task of solving complex problems that require sound academic reflection and the integration of a broad spectrum of – mostly contested – ecological, socio-economic, cultural-geographical, political and institutional knowledge. The programme builds on knowledge, skills and understanding of planning and design, plus knowledge and understanding of the landscape acquired in a prior, relevant, bachelor's programme. Its aims can be summarized as follows:

1. Advanced and specialized knowledge: Students acquire advanced knowledge on theories, methodologies and professional practices of landscape architecture and planning;
2. Professional and academic skills: Students execute design, planning and/or research projects independently. In a multidisciplinary studio they also learn to carry out a design, planning and/or research assignment for an external client;
3. Independent, critical and reflective attitude: Students acquire and critically reflect on new and relevant knowledge and skills. They are also confronted with different scientific views (e.g. rational, collaborative, constructivist, etc.) and define a substantiated personal position amongst these views.
4. International orientation: Students are acquainted with international literature and case studies in Europe and abroad. Furthermore, they work together in classes and projects with fellow students from every corner of the world.

This is reflected in the intended learning outcomes that follow the basic structure of core competences suggested by ECLAS in its document Tuning Landscape Architecture Education in Europe (ECLAS 2010). Other relevant documents that were helpful in developing the learning outcomes are the Guidance Document for Recognition or Accreditation (2009) of the International Federation of Landscape Architects (IFLA), the Core Requirements for a high quality European Planning Education (1995) as agreed by the Association of European Schools of Planning (AESOP), and the Entry Requirements for the Architects Register following from the Dutch Architect Title Act (in the Netherlands landscape architecture is a registered title). The programme divides the domain-specific learning outcomes in two core categories:

- Knowledge, skills and understanding of planning and design;
- Knowledge and understanding of the nature of the landscape.

Furthermore it explicitly addresses general academic learning outcomes, divided into Science and research, and Academic skills and attitudes (see Appendix 1).

4. Structure of the curriculum and teaching methods

The programme is a two year curriculum of 120 credits. Twenty-four credits are reserved for the common part, 78 credits for the specialization (Landscape Architecture or Spatial Planning[3]) and 18 credits for free choice. It is a thesis oriented programme in which students are being prepared for their thesis by following theoretical and methodological courses and by a course on reflections on professional practices. Students are challenged to find their focus within the research field and apply their knowledge in their final thesis. The average annual enrolment is 60 students, 25-30% of them being international students.

The core of the programme consists of the Atelier Landscape Architecture and Planning and the master thesis. There are three supporting courses that are tailored to each specialization: an advanced theory course, a methodology course and a course that reflects on advances in world-wide professional practice. A Philosophy of Science for Landscape Architecture and Planning course offers a generic foundation for the theory courses. The curriculum has been designed so that incoming students from a range of study backgrounds can be absorbed successfully. The Modular Skills Training teaches skills that are necessary for graduates to function in jobs as academic professionals, such as scientific presentation skills, scientific writing skills, project planning and organization skills, consultancy skills, management and leadership skills. The student's skills are assessed at the start of the programme. Each student is advised by their study adviser to take two modules that are necessary to comply with the programme learning outcomes.

The advanced Atelier Landscape Architecture and Planning is based on pedagogical principles that are widely considered to be essential for planning and design study programmes (e.g. Kotval 2010; Balassiano 2011; Grant Long 2012; Senbel 2012). Amongst these principles are reflexive, experiential, and studio-based learning at a high level of complexity. Students are expected to undertake and complete a self-directed learning cycle.

In the Atelier, students work together in a multidisciplinary team to carry out a design research and planning/design project for a client. The project has a meta-subject that changes annually and forms the umbrella under which several more specified projects run integrally. An international field trip to an area that is comparable to the study area provides inspiration for the students' own planning and design work. The project is guided by a knowledge network of scientists from various disciplines at Wageningen University and other scientific institutions. The network inspires students by organizing seminars, supervising students during the entire project, and assessing the academic legitimacy of intermediate and final planning and design proposals. The planning and design projects are linked to international research initiatives and student exchange programmes on landscape architecture and planning. The performance of students is assessed both on a group and an individual basis. The atelier is a challenging course for students to show and improve their personal disciplinary competencies, but also to improve their skills in a group process. The atelier aims to trigger students to reflect on their personal functioning in a multidisciplinary team and the functioning of the team in relation to a client.

A peer review of the 2012 edition of the Atelier (Bruns 2012) concluded, among other things, that the complexity of the Atelier is high and sufficiently challenging to be offered as part of a master programme. Much content and process related knowledge is efficiently gained in a short period of time from different academic and professional fields. This success is largely due to (a) the excellent structuring, coordinating and managing of interdisciplinary studio teaching with strict time-keeping, (b) a well selected and prepared study area and study material, and (c) the real-world situation afforded by the commissioner. However, the review also concluded that the Atelier should consider developing a more balanced theoretical basis for all the fields of discipline involved. Additional challenges arise from the fact that students from different countries take part. To fully benefit from this trans-cultural setting it is important to better accommodate some of these differences (reading material, case References:, etc.). Finally, it was observed that all teachers involved have different knowledge and approaches to teaching, which was the cause of discussion and confusion among students. Such differences need to be clarified for the students.

The thesis concludes the specialization. In the thesis students have to demonstrate that they are able to conduct a research or a research-based planning or design project independently. The thesis is an individual project, but students are encouraged to connect their projects to a faculty or PhD research project. The thesis is supervised by at least one faculty member of a Wageningen University chair group. Students are often advised to choose a second supervisor from another relevant chair group in or outside the university. Students are encouraged to select their own thesis subject, fitting within one of the core research themes of the chair group(s). Supervision takes place during the whole thesis path, with moments of more intensive supervision depending on the process of the students' thesis project.

5. Assessment system

Under the supervision of an Examining Board, course coordinators develop assessment strategies for each course and define criteria for each assessment in the curriculum. Providing these criteria secures the reliability of each assessment. Transparency is guaranteed by offering the students a course guide including the assessment strategy and the assessment criteria at the start of the course. Two examples may explain this system in more detail.

The first example is the assessment strategy of the Atelier Landscape Architecture and Planning. The validity of this strategy is secured by a combination of four assessments (see Appendix 2):

- an oral presentation, poster and report in which a multidisciplinary group of students present a sound academic project proposal (assessed by a team of internal and external content supervisors);
- an oral presentation, poster and report in which the group of students present and evaluate alternative intermediate planning and design proposals on the basis of state of the art scientific knowledge (assessed by a team of internal and external content supervisors);
- an oral presentation, poster (only in case of a design) and report in which the individual students present an elaboration of one of the planning or design proposals, or an analysis that substantiates or reflects on a planning or design proposal (assessed by a content supervisor);
- an assessment of the personal functioning of a student in a multidisciplinary team and the functioning of the team in relation to the client through written self-assessments of students (assessed by a process coach), process observations (assessed by a process coach) and mutual student assessments (assessed by student team members).

The second example concerns the thesis assessment. To guarantee a reliable assessment of thesis work, chair groups of Wageningen University use a common thesis assessment form (see Appendix 3). The thesis work is assessed on research competence, thesis report, colloquium and examination. Chair groups are allowed to adjust the shares of the main criteria to their needs, although research competence and thesis report are expected to have a much higher weight (usually 50% and 40% respectively in case of a planning thesis; see below for landscape architecture) than the other two criteria (usually 5% each). To secure objectivity in grading, the chair groups use a common rubric. In general "[r]ubrics clarify the interdependent relationship of assessment and teaching and learning--the relationship of what students are expected to learn, how well they are learning it, and what can be done to further promote that learning". "While formats can vary, a rubric is essentially a matrix in which the learning outcomes (...) are listed down the side and the levels of performance across the top (...) with descriptions of the performance for each outcome at each level described in the cells of the matrix" (Wolf *et al*. 2008: 21; see also Andrade 2005).

For the last couple of years a rubric has been used to assess master theses at Wageningen University. For master theses in the field of landscape architecture, however, this rubric was not satisfactory because design competences and artistic skills were not included. A major step forward was made when the Examination Board recently adopted a proposal for an extended rubric that also describes the performance levels of these learning outcomes. The rubric for this item is included in Appendix 4 (the full rubric can be requested from the authors). Depending on the orientation of a thesis towards design or research, a different weight is assigned to these competences. This means that the weights may differ from 20-50% for research competence, 20-50% for thesis report, and 20-50% for design competence. This rubric should be considered as a first attempt to guarantee a reliable assessment of a landscape architecture master thesis. Although more experience will be needed to further test and develop the rubric, it has in the meantime proven itself to be a valuable and transparent instrument for thesis assessment.

6. Conclusion

The MSc Landscape Architecture and Planning at Wageningen University is a relatively new programme that developed from formerly independent curricula for landscape architecture, land use planning and rural engineering, and socio-spatial analysis, within the broader framework of environmental and social sciences. It is based on a shared perspective on the landscape as a common object of education and research. The programme is unique in the Netherlands because it offers an interesting combination of landscape architecture, landscape planning and scientific research. With a knowledge base in the life sciences, it is also clearly positioned among other master's programmes that have their roots in architecture, urbanism or the arts.

The programme attracts students with a creative aptitude and a broad academic interest. Graduates are recognised by employers for their ability to integrate knowledge from the social and natural sciences and to translate academic knowledge into visionary ideas for landscape transformation. Their capacity to look into spatial problems at national, regional and local scales at the same time and to switch easily between these scales in the act of planning and design is seen as a unique feature that even distinguishes them at an international level. Students perform excellently in international design competitions and graduates are appreciated as solid PhD researchers at universities in the Netherlands and abroad. The programme has an increasing international student intake, and students have an increasing international focus in internships and theses.

These strengths were clearly endorsed by the international Reaccreditation Committee which, in its recent report (Quality Assurance Netherlands Universities 2012) praised the quality of the courses and the course guides that are written for each course. It also observed that the programme obtained a good level of multidisciplinarity without lowering its quality or depth. The intended learning outcomes for the programme as a whole were considered satisfactory, but rather general. On the other hand, the intended learning outcomes for each course were considered very good to excellent. The Committee especially valued the rubric for the assessment of the master thesis. Critical remarks concerned, for example, the differences between the two specializations: Landscape Architecture and Spatial Planning. According to the Committee a better description of these differences, i.e. a better description of the objectives and profile of the Spatial Planning specialization, would be advantageous. In particular, the Committee rated the curriculum among the best in the world in terms of landscape architecture. The Spatial Planning specialization was considered satisfactory, and comparable with other Dutch Spatial Planning programmes. But the Committee concluded that the adding of design components to planning is a feature unique to Wageningen, distinguishing it from other programmes.

It can be concluded that the MSc programme Landscape Architecture and Planning offers a good example of a comprehensive planning and design programme. Nevertheless, it still needs further development, for which the results of the assessments provide valuable starting points.

Notes:

[1] For more information on ECLAS: http://www.eclas.org

[2] http://www.hsv.se/download/18.211928b51239dbb43167ffe1820/ConferenceConclusions.pdf, retrieved April 20, 2011.

[3] A third specialization, Socio-spatial Analysis, is not important in the context of this paper and therefore is not considered here.

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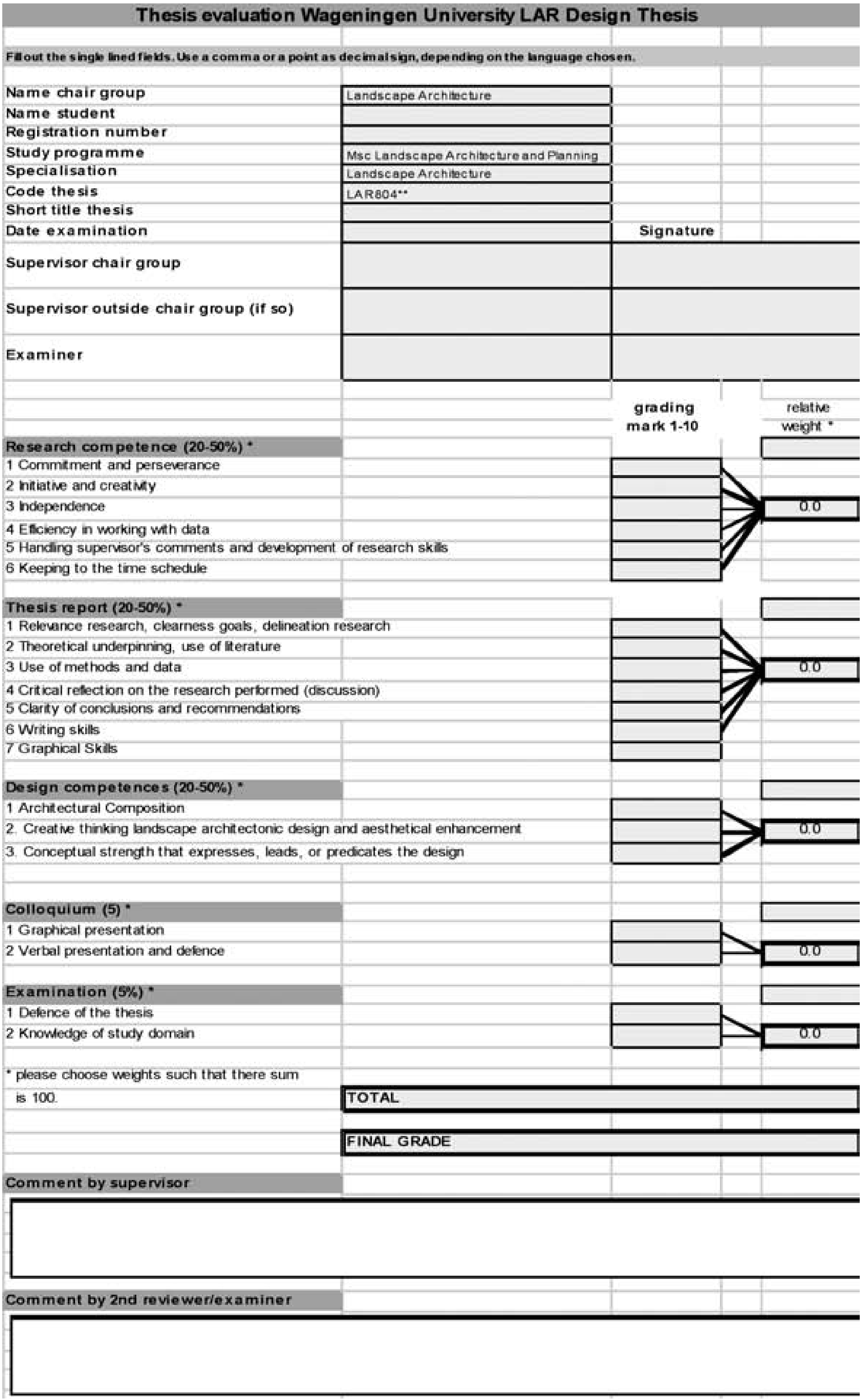
Appendix 1: Intended learning outcomes

Learning outcomes	**Core categories**	**After successful completion of the programme the graduate:**	
Domain-specific learning outcomes	Planning and design	1	is able to compare design and planning theories, concepts and approaches, can distinguish different traditions in design and planning and is able to place his or her own discipline in a multidisciplinary framework
		2	is able to develop scientifically legitimized designs and plans on interrelating spatial scales and with different temporal horizons and is able to evaluate the consequences of alternative choices.
		2a	for landscape architecture: is creative and effective in re-organising data and field research to synthesize a specific design problem and design potential and propose alternative consequences of landscape interventions with a compelling degree of detail
		2b	for landscape planning: can link current and future initiatives, projects and strategies that influence the spatial organization; either its use, management, design and lay-out from different stakeholder activities and perspectives
		3	is able to present scientific views, designs, plans and research to members of scientific and non-scientific communities both visually, orally and in text and is able to express him/herself in the English language
	Nature of the landscape	4	is able to carry out a critical and normative landscape analysis on interrelated scales (regional - local - site) or a socio-spatial analysis by interpreting multidimensional data with the use of consistent theoretical concepts in order to define a clear (potential) problem and judge about opportunities and limitations for design and planning
General academic learning outcomes	Science and research	5	is able to independently formulate and execute a scientifically based landscape research, planning research, design research or research-by-design
	Academic skills and attitudes	6	has an independent and critical attitude, is able to reason logically and distinguishes matters of primary and secondary importance
		7	is able to reflect on personal action and thinking, is able to reframe, extend and apply knowledge, has skills to learn contextually, has an open attitude to discussion and is conscious of ethical matters
		8	is able to plan his/her work processes independently and is honest, incorruptible, efficient, goal-directed, loyal and flexible
		9	is able to design and plan his/her own learning processes based on continuous reflection upon personal knowledge, skills, attitudes and performance

Appendix 2: Assessment strategy Atelier Landscape Architecture and Planning

	Assessment components			
	Presentation Poster and report Phase 1	Presentation Poster and report Phase 2	Presentation Poster and report Phase 3	Mutual assessment Group assessment Individual assessment paper
	12 credits			**6 credits**
	3 weeks	5 weeks including 1 week international excursion	4 weeks	8 weeks running parallel to Phase 1 + 2
Intended learning outcomes				
Derive the objectives and tasks of a planning or design project in interaction with a client and within a multi-disciplinary team of students	X			
Translate a vaguely formulated planning or design problem of a client into a sound academic project proposal which can be executed in a defined time frame	X	X	X	
Apply substantial international scientific knowledge and experience in practical planning and design research		X	X	
Develop logical, aesthetically appealing and original planning and design proposals on different levels		X	X	
Evaluate alternative intermediate planning and design proposals on the basis of state of the art scientific knowledge		X	X	
Present a final design that is clear, convincing and well-substantiated, using various digital techniques and poster layouts		X	X	
Reflect on his or her personal functioning in a multi-disciplinary team and the functioning of the team in relation to the client, both in an assessment interview and by writing an individual assessment paper				X
Contribution to final mark	12.5%	12.5%	50%	25%

Appendix 3: Thesis evaluation form



Thesis evaluation Wageningen University LAR Design Thesis

Fill out the single lined fields. Use a comma or a point as decimal sign, depending on the language chosen.

Name chair group	Landscape Architecture		
Name student			
Registration number			
Study programme	Msc Landscape Architecture and Planning		
Specialisation	Landscape Architecture		
Code thesis	LAR804**		
Short title thesis			
Date examination		**Signature**	
Supervisor chair group			
Supervisor outside chair group (if so)			
Examiner			
		grading mark 1-10	relative weight *
Research competence (20-50%) *			
1 Commitment and perseverance			
2 Initiative and creativity			
3 Independence			0.0
4 Efficiency in working with data			
5 Handling supervisor's comments and development of research skills			
6 Keeping to the time schedule			
Thesis report (20-50%) *			
1 Relevance research, clearness goals, delineation research			
2 Theoretical underpinning, use of literature			
3 Use of methods and data			0.0
4 Critical reflection on the research performed (discussion)			
5 Clarity of conclusions and recommendations			
6 Writing skills			
7 Graphical Skills			
Design competences (20-50%) *			
1 Architectural Composition			
2. Creative thinking landscape architectonic design and aesthetical enhancement			0.0
3. Conceptual strength that expresses, leads, or predicates the design			
Colloquium (5) *			
1 Graphical presentation			
2 Verbal presentation and defence			0.0
Examination (5%) *			
1 Defence of the thesis			
2 Knowledge of study domain			0.0
* please choose weights such that there sum is 100.	TOTAL		
	FINAL GRADE		
Comment by supervisor			
Comment by 2nd reviewer/examiner			

Appendix 4: Rubric MSc Thesis Landscape Architecture, Item Design Competences and Artistc Skills (approved by the Examining Board Environmental Sciences on November 15, 2011)

Item	**Mark for item**					
	2-3	**4-5**	**6**	**7**	**8**	**9-10**
Design Competences (20-50%) – Artistic Skills						
1. Architectural composition of the spatial organization and intentional shaping of parts into a specific relationship	Less than a routine design, unrelated to prototypes, badly executed in details and materials. Unaware of prototypes, at random spatial organization and unintentionally shaped.	A routine design within range of existing variables, unintentionally shaped but with certain spatial organization, predominantly weak in details and materials.	Routine design that can be directly related to existing design prototypes - sufficiently shaped architectonic composition but in some parts weak in material and details.	Routine design that can be related to existing design prototypes – well shaped architectonic composition with sufficient attention to materials and details.	Innovative design, non-routine design manipulating the existing range of variables but with new appearance. Excellently shaped architectural composition, with attention to materials and detail. Qualified as an entry for a design competition.	Creative design using new variables and beyond the existing range of prototypes and established 'state of the art'. Capacity to shift paradigms or to develop new prototypes. Excellently shaped architectural composition, with attention to materials and detail. Qualified as an entry for a design competition.
2. Creative thinking regarding landscape architectonic design and aesthetical enhancement	Creative thinking is absent, cannot identify the landscape architectonic problems and cannot generate possible spatial solutions. Has no understanding of the possibilities of adding extra aesthetic qualities.	Has difficulty in identifying and applying methods. Is not aware what the orthodox methods entail, has difficulty in solving landscape (architectonic) problems and is unaware of how to add extra quality.	Applies customary methods and focusses on standards, understands what the orthodox method entails, but is not yet able to apply this knowledge. Solves some of the problems and has some understanding of potentially enhancing the aesthetic quality of the place.	Considers different approaches and shows interest in alternatives. Attemps to find links to related aspects. Realizes that the problem might be solved in a generic way and that there may be alternatives, but does not provide additional aesthetic quality.	Lateral attitude tried different approaches and searched for alternatives, easily associates and sees links between related aspects. Seeks a generic approach, considers to abbandon the orthodox method and creating a better one. Solves problems and makes good efforts to provide additional aesthetic quality to the landscape.	Lateral attitude tried different approaches and actively tried out alternatives, applied associative thinking and makes use of links between related aspects, boldness abandoned generic approaches and orthodox methods and created a better one. Explicitly goes beyond problem solving and adds new aesthetic qualities to the landscape.
3. Conceptual strength that expresses, leads, or predicates the design	Conceptual idea(s) are absent. Poor understanding of the existence and use of conceptual ideas. Design therefore lacks internal and external coherence and does not respond to contextual factors neither in time, space nor scale.	Conceptual idea(s) are minimally identified. Some understanding of the use of conceptual ideas and how to derive at conceptual ideas. Design lacks coherence in major parts and inadequately responds to contextual factors in time, space and scale.	Conceptual idea(s) are sound but not always clearly translated into design principles. Design shows a basis for internal and external coherence, with flaws in some major parts. Spatial context is present, at least two levels scale are elaborated, but shows omissions. Time aspect is absent.	Conceptual idea(s) are sound and clearly stated, the ideas are rich and at large expressed in design principles. The concept is well explained, the design shows internal and external coherence in most parts. Spatial context is addressed and at least three levels of scale and some issues of change over time.	The conceptual ideas respond well to site and contextual factors, and are clearly expressed in design principles. They are well reflected in the design. As a result the design shows internal and external coherence through relevant levels of scale, frames of time, and spatial context.	The conceptual idea(s) respond well to site and contextual factors, and are clearly expressed in design principles. The design principles are excellently translated in the design, showing great internal and external coherence through relevant levels of scale, different frames of time and spatial context.

Some Thoughts on the Education and Training of Landscape Architects

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Abstract: As the education/training of landscape architects consists of both academic learning and professional practice, this paper focuses on the overall education and professional development of landscape architects. The paper focuses on the history and on-going development of landscape architecture education and training in Europe and internationally, and explores the diversity of curricula and the varied delivery of courses. An exploration of the various academic routes and professional development forms an important aspect of this paper. This paper also outlines the author's views on the design process and the fostering of creativity and imagination as part of the education of landscape architects. Such 'soft' skills are considered key aspects of the skills required of landscape architects. The use of creativity and imagination are skills which must be used in tandem with the more tangible skills of science, engineering and the arts, as a discipline, may ensure an aesthetic focus in the design and construction of public and private spaces. Transferring the ideas on paper into drawings and plans to allow the construction of our projects is a key aspect of our work.

Keywords: IFLA, EFLA, Education, Accreditation.

1. Introduction

1.1 History of IFLA and IFLA Europe

The International Federation of Landscape Architects was formed in 1948. Our sister organisation, the International Union of Architects (UIA), was formed in the same year. Prior to that there had been much discussion among professionals for the formation of an association at international level. In fact, this period immediately after World War II saw the formation of many international institutions such as UNESCO no doubt in response to a need to ensure co-operation of nations and their institutions at an international level..

It is not intended to present a full history of IFLA but merely to highlight the important events which led to the current organisation as it relates to education and training of landscape architects.

The European Foundation for Landscape Architecture (EFLA) was formed on the 1st of April 1989 in response to a perceived need to provide an umbrella group specific to the European context and may of course have also been stimulated by the development of the common market' within some countries of Europe. The original formation of EFLA involved 12 member states of the European Economic Community.

However, the existence of IFLA Central meant that some organisations had membership of both and thus the representation of the profession may have appeared somewhat fractured. IFLA and EFLA negotiated a merger of IFLA Central and EFLA, which continued to use its title EFLA. The acronym was maintained until 2012 and was changed to IFLA Europe at the general assembly in St. Petersburg in June 2012.

The work of IFLA is carried out for the most part by the voluntary efforts of its member organisations and individual national delegates and ordinary members. The executive roles, which include education, are also carried out on a voluntary basis. This paper thus relies on the results and the combined efforts of many past members of the executive of IFLA and of its countless volunteers who gave their time in order to develop the structures and projects of IFLA.

As the current incumbent Vice President of Education, I am thus carrying on the work of my predecessors and hopefully preparing the way for my successors. Indeed much of the current work (and that of the past and I expect in the future) is done by the members of the Education Committee and by the IFLA delegates and members of the national associations. This work is done in tandem with our colleagues in the academic world.

To use the old adage, I only see so far as I 'stand on the shoulders of giants'.[1]

2. IFLA, IFLA Europe and Education and Training of Landscape Architects.

2.1 History of Education in IFLA / EFLA (IFLA Europe)

IFLA:

In 1959 a contemporary report commented on the intense attention given by the council to promoting better education in landscape architecture. The education committee was set up in the following year under the Chairmanship of Prof. Hubert Owens. In 1960, the committee recommended the adoption by IFLA of the educational standards applied by the American Society of Landscape Architects, and that data concerning all schools should be collected.

In 1962 it was reported that the Education committee had received inadequate information concerning schools. By 1966, however, it was possible to submit a draft report to the Stuttgart Congress. This listed the establishments teaching landscape architecture to a professional level throughout the world. The final version of the document was published by IFLA in Portugal in 1968.

The 1970s was a period of rapid change in the status and development of landscape architecture education everywhere. In the UK, almost all of the programmes now available developed at that time. Reports on the status of education were published by the education committee during this time.

The support of education in landscape architecture in places where it had not previously existed formed a focus in the 1980's. For instance, a graduate masters programme was set up in 1984 at King Faisal University in Saudi Arabia including the development of the syllabus. In 1986 a conference of the Western region in Jamaica had been devoted to landscape architecture education in Latin America, while the Central region held a symposium in Malawi on 'Landscape Architecture Education and Training in Africa' in 1991. A further meeting was held in 1994 in Nairobi and in both cases careful recommendations for a two year graduate programme in landscape architecture were formulated and proposed.

IFLA Europe / EFLA:
In the original EFLA draft agreement of 1989 between the members, the role of landscape architects was defined along with the 'basic teaching subjects' and the qualifications necessary to work as a professional landscape architect within the common market. In the original formation of EFLA, the foundation was organised into two committees; 'the education committee and the practice committee. The objectives of the former are the collection of information on University structures and academic curricula for the training of landscape architects (with a view to recognition of their professional training), while the latter is primarily concerned with the rules and methods regulating professional practice within the EC countries'.

IFLA Europe (EFLA) has expanded to include members from the wider Council of Europe states and its work now requires an additional communications committee.

The archives of IFLA are currently being digitised so it is not possible to present a detailed account of the history of the Education Committee and its work. However, the following brief history is extracted from both IFLA and ECLAS publications:

1. 1919–1948: This period saw the development of courses in landscape architecture in a small number of countries, with one university in the country beginning to offer landscape architecture education. The pioneering phase ended in about 1948/9. In this period the first university courses were set up in a number of European countries.

2. 1949–1973: This period produced several new landscape architecture programmes in many countries in Europe. A period of significant growth in new degree programmes took place from 1949/50 until the early 1970s. This growth period was driven by the social needs of post-war reconstruction, together with a growing environmental concern. Again, a gradient is visible in the establishment of landscape architecture programmes between North-West Europe, where the discipline developed strongly, and the east and south of Europe, where fewer landscape architecture programmes were established.

3. 1974–1991: During this period, few new programmes were established, but existing programmes increased their numbers of staff members and students. During this time the interest of young people in choosing landscape architecture as their field increased significantly, and numbers of enrolled students increased, as did the scope and scale of landscape issues.

4. 1991–2003: During this time, new landscape architecture programmes were established, after the fall of the Iron Curtain. The fall of the Iron Curtain, in 1989, resulted in the (re)establishment of several new countries and beginning in 1991, several new university degree programmes were established. While most of these are located in East and South-East Europe, including the Baltic, former Yugoslavia, and Poland, some new programmes were also set up, for the first time, in former Western European countries, including in the Republic of Ireland, Austria, Italy, Spain and Iceland.

5. Current period, 2008 to 2012: The Bologna Process is taking effect. Currently, a second phase of consolidation may be observed, as schools are implementing policies of the Bologna Agreement and, since 2008, of the European Qualification Framework (EQF), of the Council of Europe and the European Union. Adding further momentum, and a special social quality, schools and departments of landscape architecture are encouraged to also implement policies of the European Landscape Convention.

For more detail of the history of landscape architecture education, please refer to "Rare Knowledge" report)2 and IFLA publications listed in the References:.

2.2. The Role of IFLA

On the fortieth anniversary of IFLA's foundation in 1987, Sir Geoffrey Jellicoe asked 'What has IFLA done for me?' and answered his own question with a robust 'A good deal more than you realise, my friend'. Elaborating on this he said that 'above all IFLA has a vital part to play in the world wide, science-dominated civilisation that has come upon us so suddenly'.

2.4. The Role of Landscape Architects

The role of Landscape Architects in this 'science-dominated civilisation' is key to the development of solutions to the challenges facing our planet and our civilisation. Our role requires that we are 'well rounded' in our education and that we are both generalists and specialists. The role of a landscape architect requires many skills in the Sciences, Engineering, Architecture, Sociology and the humanities. We must be aware of the physical solutions to the problems of our landscape, our planet and must be able to find creative and imaginative ways to achieve a positive outcome. This requires us to be aware of the scientific facts, the engineering possibilities and to be able to creatively and imaginatively combine them. It requires us to have the social skills to discuss and convince both our clients and society to accept our solutions and to have the management skills to physically manifest our projects.

2.5. Definition of Landscape Architect.

There are currently a number of definitions of 'landscape architect' and the role we serve.

The original definition of EFLA was updated in 1992. It reads as follows:

"The Landscape Architect plans and designs urban and rural landscapes in space and time, based on natural features and historic and cultural values. This employs aesthetic and functional management and scientific principles with appropriate use of techniques and natural and man made materials".

This definition has been developed in recent years and the following definition of the role of landscape architects is being developed as part of the joint IFLA Europe / ECLAS working group.

Landscape architects research, analyse and realise the potential of the landscape at all stages, scales and contexts of the development process including:

- landscape planning and policy development;
- feasibility studies;
- strategic vision, planning and review;
- master-planning and spatial design;
- detailed design;
- implementation;
- long-term maintenance and management.

The role of landscape architects is also referred to in the LE NOTRE Tuning Document as follows.

"Landscape architecture as a field of professional activity, and an academic discipline, is concerned with the shaping of landscapes at various scales. Core competences of landscape architecture centre on the process of intervention in landscapes to create new or revitalised places, by means of landscape planning, design and management, as well as by project implementation. Aims are to create, enhance, maintain and protect places so as to be functional, aesthetically pleasing, meaningful and sustainable and appropriate to diverse human needs and goals. Landscape architects must have a holistic knowledge and understanding of landscape in time and space, and the pressures and driving forces to which landscapes are subjected; they involve not only specialist knowledge from a wide range of disciplines, but also the interests of the public." (ECLAS - LE: NOTRE: Tuning Landscape Architecture Education in Europe, draft 27, 2010:7).

The International Labour Organisation (ILO) also has a definition of and explanation of the role of landscape architects. This was developed with input from IFLA.

'*Landscape architects plan and design landscapes and open spaces for projects such as parks, schools, institutions, roads and external areas for commercial, industrial and residential sites, and plan and monitor their construction, maintenance and rehabilitation*'[3]

The ILO lists the tasks required of landscape architects as follows. Tasks include:

- developing new or improved theories and methods and providing advice on policy related to landscape architecture;
- inspecting sites and consulting clients, management and other stakeholders to determine type, style and size of proposed buildings, parks, roads and other open spaces;
- compiling and analysing site and community data about geographical and ecological features, landforms, soils, vegetation, site hydrology, visual characteristics and human-made structures, to formulate land use and development recommendations, feasibility studies and environmental impact statements;
- preparing reports, strategic plans, site plans, working drawings, specifications and cost estimates for land development, showing location and details of proposals, including ground modelling, structures, vegetation and access;
- writing specifications and contract documents for use by builders and civil engineering contractors and calling tenders on behalf of clients;
- making necessary contacts to ensure feasibility of projects regarding style, cost, timing, and compliance with regulations;
- identifying and finding best solutions for problems regarding function and quality of exterior environments and making necessary designs, drawings and plans;
- monitoring construction or rehabilitation work to ensure compliance with specifications and quality standards;
- maintaining technical liaison and consultancy with other relevant specialists.

It is currently a key task of IFLA Europe to continue to develop these definitions and to combine them into one clear set of definitions and guidelines of the function and role of landscape architects. The ILO definition has been redrafted but requires to be formally adopted by the ILO.

There have been a number of different but related projects which have both defined the role (or roles) of landscape architects and the education and training required to fulfil these roles.

2.5. Education and Training

In discussing the education and training of landscape architects, we look at the overall education which includes both

- academic learning
- period of training and professional practice.

A distinction must be made between the academic learning at university or institute of higher education and the training leading to professional practice.

In ensuring that we fulfil our professional role, we require a wide ranging skill set. As with many professions, we achieve these skills by a combination of academic study and by learning through our actions and by working with our colleagues.

In recent years we have been compiling a comprehensive list of the range of courses of study leading to a professional degree in landscape architecture and an analysis of the current research shows both the diversity and the similarities in the curriculum and the delivery of courses.

2.5.1. The development of education guidelines

In the EFLA Declaration of 1989, Appendix B outlines the landscape architectural education required to prepare professionals for their role in society.

"The objective of landscape architecture education is to prepare professionals for this role in society.

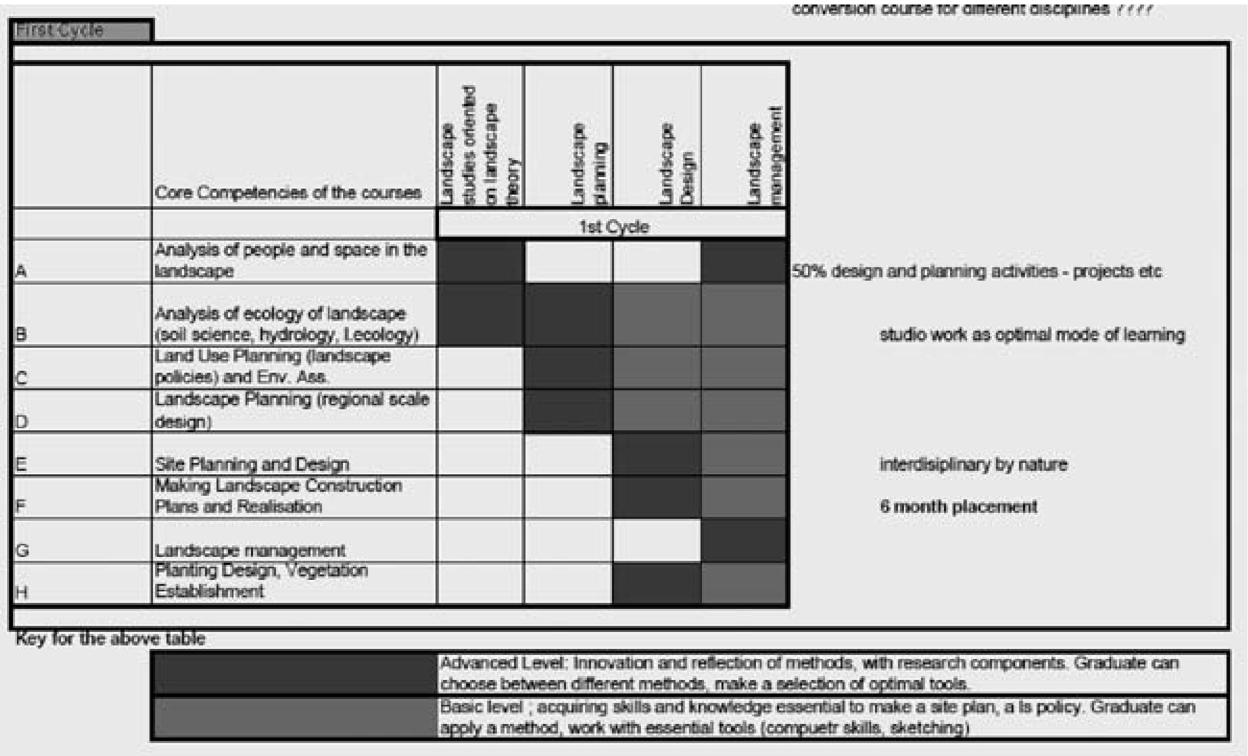
Landscape architects must have the ability to:

1. create and sustain landscapes that satisfy human and natural requirements;
2. identify and meet the needs of society in general and individual clients within the constraints imposed by economic, ecological and cultural factors, and technical feasibility.

Their work is the synthesis of their knowledge of:

1. the history and theories of landscapes and the related arts technologies and human and natural sciences, with their interrelationships;
2. the fine arts as an influence of the quality and aesthetics of landscape design;
3. ecology and the use of natural elements as a basis for landscape conservation, planning, design and management;
4. the architectural and engineering needs associated with landscapes;
5. the physical problems and technologies affecting the external environment;
6. the relationships between man and environment;

7. the preservation, conservation and restoration of historic landscapes;
8. the role of landscape architecture as part of the international, national, regional, local design and planning processes;
9. the methods of investigation, preparation of a brief for a landscape project and environmental assessments;
10. the communication skills and presentation techniques;
11. the industries, organisations, regulations and procedures involved in translating planning, design and management into landscape;
12. legislation relating to the environment and the practice of landscape architecture. 'The list of 12 points is still valid and the basis for the further development of the education guidelines by IFLA Europe / EFLA.



conversion course for different disciplines ????

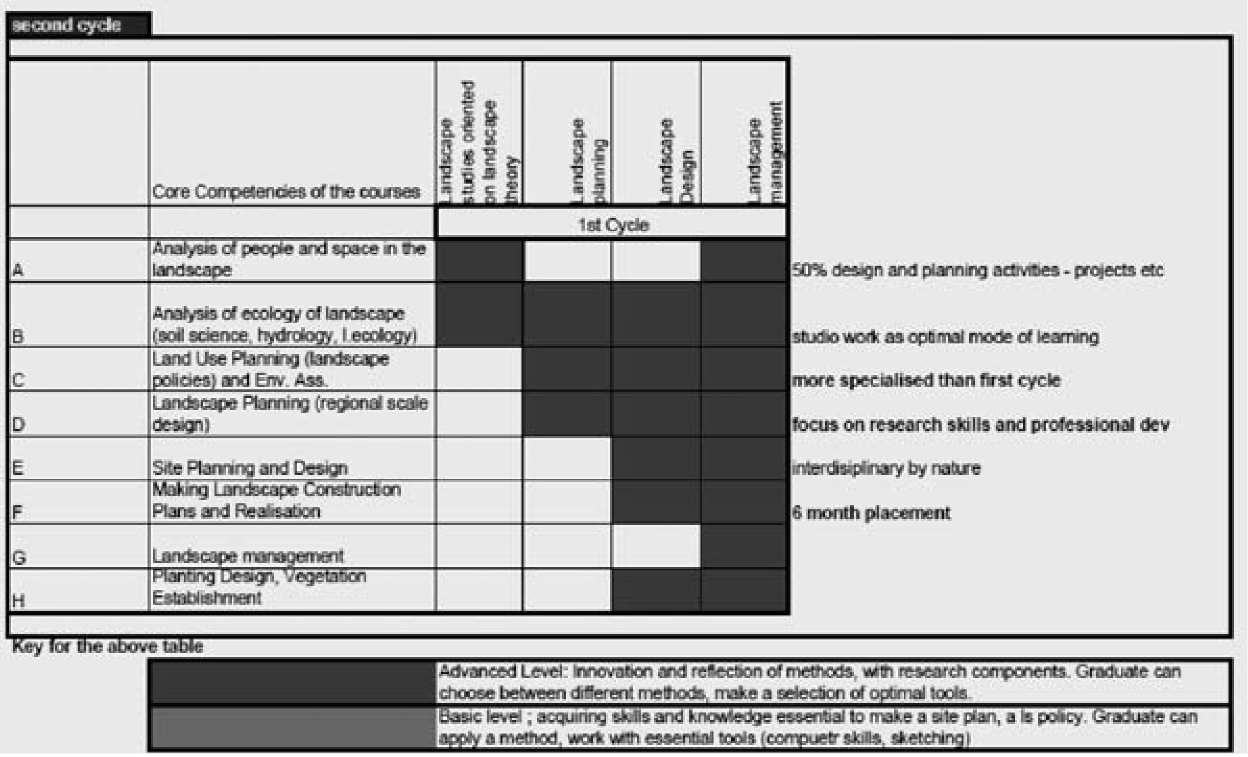
First Cycle

	Core Competencies of the courses	Landscape studies oriented on landscape theory	Landscape planning	Landscape Design	Landscape management	
		1st Cycle				
A	Analysis of people and space in the landscape	■			■	50% design and planning activities - projects etc
B	Analysis of ecology of landscape (soil science, hydrology, l.ecology)	■	■	▨	▨	studio work as optimal mode of learning
C	Land Use Planning (landscape policies) and Env. Ass.		■	▨	▨	
D	Landscape Planning (regional scale design)		■	▨	▨	
E	Site Planning and Design			■	▨	interdisiplinary by nature
F	Making Landscape Construction Plans and Realisation			■	▨	**6 month placement**
G	Landscape management				■	
H	Planting Design, Vegetation Establishment			■	▨	

Key for the above table

■	Advanced Level: Innovation and reflection of methods, with research components. Graduate can choose between different methods, make a selection of optimal tools.
▨	Basic level ; acquiring skills and knowledge essential to make a site plan, a ls policy. Graduate can apply a method, work with essential tools (compuetr skills, sketching)

Table 1. First Cycle.



second cycle

	Core Competencies of the courses	Landscape studies oriented on landscape theory	Landscape planning	Landscape Design	Landscape management	
		1st Cycle				
A	Analysis of people and space in the landscape	■			■	50% design and planning activities - projects etc
B	Analysis of ecology of landscape (soil science, hydrology, l.ecology)	■	■	■	■	studio work as optimal mode of learning
C	Land Use Planning (landscape policies) and Env. Ass.		■	■	■	**more specialised than first cycle**
D	Landscape Planning (regional scale design)		■	■	■	**focus on research skills and professional dev**
E	Site Planning and Design			■	■	interdisiplinary by nature
F	Making Landscape Construction Plans and Realisation			■	■	**6 month placement**
G	Landscape management				■	
H	Planting Design, Vegetation Establishment			■	■	

Key for the above table

■	Advanced Level: Innovation and reflection of methods, with research components. Graduate can choose between different methods, make a selection of optimal tools.
▨	Basic level ; acquiring skills and knowledge essential to make a site plan, a ls policy. Graduate can apply a method, work with essential tools (compuetr skills, sketching)

Table 2. Second Cycle.

2.5.2. The further development of Education Guidelines

We have also worked closely with our colleagues in ECLAS and both jointly and separately produced guidance on the course content and delivery. We continue to work with our colleagues in ECLAS to ensure the professional associations and the academic institutions work closely together to ensure that the quality of the academic courses in tandem with the further development of graduates leads to landscape architects who are both highly and appropriately qualified but also capable of developing and managing projects at all scales.

A central theme of research into landscape architectural education has been on the definition of core disciplines and advanced disciplines. The research undertaken by and publications of the 'Le NOTRE' project and other ECLAS publications have been a key component of this

The following tables are developed from the Le Notre 1. Advice note on Bachelors and Masters in Europe. Basic level shown in green is the acquiring of knowledge and skills to make plans. This basic level may be termed 'Technician level'.

Advanced level is shown in red. The advanced level requires the ability of innovation and reflection. The graduate should be able to differentiate between different methods and make selections of the optimal 'tools' based on the body of knowledge. The advanced level is that required of the full professional. Table 1 and 2 are currently being updated with latest Le Notre and EFLA research and publications and will be published later in 2013.

2.6. EFLA/ECLAS Working Group

At a meeting in Birmingham, England in February 2011, The EFLA/ECLAS working group discussed and drafted an outline of the contents of curricula which should be provided as part of landscape architectural courses. This is termed the Birmingham document.

2.6.1. Requirements for Landscape Architecture as discussed by the EFLA/ECLAS working group.

The activities of a landscape architect require that students have knowledge, understanding and abilities in:

1. Landscape Architectural Practice
- Considering the landscape as a cultural and natural concept, a physical and abstract entity, with economic and social value;
- Creating designs that satisfy aesthetic, policy and technical requirements in landscape architecture;
- Understanding of the relationships between people and their landscapes, and of the relationships between natural and cultural environments;
- Knowledge of urban and rural design, and the protection, planning and management of the landscape.

2. Theory and precedent:
- Generating and applying landscape architecture concepts, ideas and theory;
- Understanding history related to landscape and landscape architecture;
- Relation with/to the arts, humanities, technologies, sciences, others;

3. Technology:
- Knowledge of materials, physical properties and technologies;
- Knowledge of standards and legal procedures necessary to realise proposals.

4. Physical, ecological social, and cultural processes:
- An ability to engage with society and enhance perception of, awareness of and identification with landscape;
- Knowledge and understanding of the structure and development of spatial design and of abiotic, biotic and anthropogenic processes.

5. Sustainability:
- The necessary design skills to meet society's response to environmental change and the need for sustainable development.

6. Professional values and ethics:
- Understanding, developing and communicating the methods of research, investigation in the preparation of a brief for a landscape proposal;
- An understanding of the profession of landscape architecture and the role of the landscape architect in society;
- Ability to lead, coordinate and work in a multidisciplinary environment with related professions while respecting professional distinctions;
- Knowledge and understanding of the process of planning and design and its main phases of research and analysis, defining goals and programmes, project management;
- Ability to engage and lead processes of participation.

2.6.2. ECLAS Tuning Document

The 'Tuning Document' published by ECLAS/LE NOTRE is now being analysed by IFLA Europe in order to incorporate and assist the curriculum design of courses. This document is a key component of the further development of coherent guidance for the development of course curricula.

2.6.3. EU-Teach-1

We have also worked with colleagues in the EU-Teach 1 project which analysed the curriculum and delivery of courses and suggested ways of further developing the range and diversity of courses.

The EU Teach project was invaluable as it allowed a full and comprehensive review of the education requirements and a focused review of the curriculum required.

This document therefore updates the EFLA/ECLAS requirements.

The following *List of Relevant European Teaching Contents in the Studies of Landscape Architecture* has been worked out in the research project "Implementation of Relevant European Teaching Contents in the Studies of Landscape Architecture (EU-teach)", funded with the ERASMUS-Life Long Learning programme of the European Union and supervised by the Education, Audiovisual and Culture Executive Agency.

The partners of the consortium were the Corvinus University of Budapest (Budapesti Corvinus Egyetem), the University of Kassel, the University of Sheffield, the University of Applied Sciences Weihenstephan-Triesdorf, the European Council of Landscape Architecture Schools (ECLAS) and the European Federation of Landscape Architecture (EFLA).

Each of the partners has contributed special expertise to develop the list. EFLA and ECLAS have consulted their members. The "List of Relevant European Teaching Contents" has been agreed with the relevant partners but must be incorporated into the overall education guidance.

1 European basics (the legislative framework)
2 Theory and methodology in landscape architecture
3 Different fields of landscape architecture
3.1 Strategic landscape planning, design and management (including landscape impacts of infrastructural projects, management of cultural landscapes, protection and development of nature, species and visual landscape quality)
3.2 Open space planning and design
3.3 Conservation, development and management of historical parks and gardens
3.4 Landscape construction and materials
4 Participatory planning
5 Information technologies in landscape architecture
6 Professional practice of landscape architecture in Europe

A further analysis of the course content requires that the level of teaching for the bachelor and masters is refined to ensure core and advanced competencies are ensured. Core competencies are learned during the bachelor phase with advanced competencies being learned during the masters stage and/or during the professional practice period.

The concept of core and advanced competencies was introduced by the first LE NOTRE publications. The advisory note on bachelors and masters still remains a key document with the principles being robust.

The EU Teach developed lists designed to inform course curricula. The lists are not meant to be binding but to be used as a practical framework and a recommendation for teachers and students of landscape architecture. Its aim is to improve the dissemination of knowledge about landscape architecture in and for Europe. However, the project also lauded the diversity of course curricula.

The "List of Relevant European Teaching Contents" considers the work of landscape architects in individual fields. Concerning the individual fields and their definitions, "EU-teach" has oriented towards "The Tuning Project ECLAS - LE: NOTRE" (see "Tuning Landscape Architecture Education in Europe", draft document, 27 December 2010). The Tuning document has been an excellent basis ,has been discussed in detail and is - concerning its contents - accepted by a large number of experts. Due to the focus on "relevant European", the Tuning Document has been further developed and specified in the project "EU-teach".

Therefore the fields of work should not be considered as specific "subjects" within a curriculum. The contents of each field could be taught in other connections or combined, e.g. in project studies. Also the sequence of the fields of work is subordinated.

According to the project's orientation, only subject-specific, not generic competences are listed.

The list is extendible and can be enriched by further contents or can be used in excerpts.

The names of the fields of work and the allocation of contents to the fields differ between the universities within Europe, e.g. some contents of "landscape construction" (preparation and implementation of technical planning documents, see point 3.4) are included in "landscape contracts within professional practice" as the University of Sheffield pointed out. The question of the allocation of contents will also affect other European universities and should be specified subsequently, perhaps in a following project involving more European universities.

Landscapes are the result of natural and/or human factors. Landscape architecture is concerned with all types of landscapes: rural, peri-urban and urban as well as cultural landscapes and their aesthetic, environmental, social, functional and economical aspects. Landscape architects develop solutions for all scales: national, regional, local and site scales.

The EU Teach project provided some guidance on the core competencies and thus further developed the concepts of the Le Notre project.

Planning, design and management of landscapes are the core competences of landscape architects. They can be further differentiated into the following working fields:

- Strategic landscape planning, design and management are processes to find solutions for the conservation, development and management of landscapes, e.g. concepts/alternatives for landscapes, contributions for local and regional plans. Impacts of infrastructural projects and the management of cultural landscapes are also included (see point 3.1).
- Open space planning and design deal, for instance, with the planning and design of open space systems and nature development of parks, public areas and gardens. Close relations exist with town and spatial planning (see point 3.2).
- Conservation, development and management of historical parks and gardens includes the treatment of gardens and parks in the context of the historical and cultural circumstances that shaped them (see point 3.3)
- Landscape construction prepares and implements technical planning documents that are needed in order to realize designed projects (see point 3.4). Materials and construction techniques are included.

Competences in information technologies and participatory planning support the work in planning, design and management of landscapes.

2.7. Duration of studies:

There is much discussion among the IFLA members both globally and within Europe regarding the duration of studies. Rather than a time period, the concept of the European Credit Transfer System (ECTS) is used within the EU. This framework would be useful if adopted by the wider IFLA members but would require much discussion to ensure its adoption in a coherent manner.

The student workload for one ECTS (European Credit Transfer System) is equivalent to 30 contact hours and independent studies. In general it is considered that 60 ECTS is equivalent to a study period of one year or two semesters.

The first cycle programmes must be a minimum of 180 ECTS and up to 240 ECTS. Masters and postgraduate degrees must be 120 ECTS or in some cases 60 ECTS.

Conversion masters must be tailored to suit the particular competencies of the students being enrolled and this topic is one which requires further consideration and guidance both within Europe and within the IFLA membership internationally

In the discussions between IFLA Europe (EFLA) and ECLAS, the minimum duration of studies taking in the above areas in landscape architecture needs to be a sum of 240 credits given or a recognized equivalent by an academic university program in landscape architecture in order for the academic requirement for a later National or State Professional Recognition.

However, the situation in other jurisdictions must be dealt with by IFLA (international) and much discussion has taken place.

In the recent World Council of IFLA at Cape Town the following was passed as part of the IFLA/UNESCO Education Guidance.
“The balanced acquisition of knowledge and skills outlined above requires a long period of maturation. First professional degrees in landscape architecture may be offered at the undergraduate or the graduate levels. An undergraduate degree should not be less than four years of full-time studies in a university or an equivalent institution unless otherwise specified by accreditation organizations recognized by the profession. A graduate degree will normally require a minimum of two years of full time study or the equivalent on a part time basis. Entrance into graduate programmes will require an undergraduate university degree in landscape architecture, or other fields accepted by the institution. This diversity serves to accommodate local practice needs, research and/or specialization. Research degrees may also be offered at the PhD level’”

3. IFLA and Education

IFLA and IFLA Europe are primarily concerned with ensuring the organisation of national professional associations of landscape architects and the role of the Education Committees is to ensure that the education of landscape architects provides the graduate with the necessary skills to fulfil their role.
For that reason, the accreditation of courses is primarily focused on the course content and delivery.
Our accreditation procedure is based on the assessment of the course content and delivery by both

- the National Association of the jurisdiction in which the institution exists;
- the assessment by the Schools Recognition Panel (SRP) of IFLA Europe.

The SRP is composed of professional landscape architects. It includes those practising and those tutoring/teaching at universities and of course those doing both. We have been increasing the number of members of the SRP and endeavour to reflect the variety of members within the IFLA Europe region. We have been adding to the number of members of the SRP, ensuring they are representative of the regional variations and are thus able to have a varied cohort from which to ensure a coherent and fair assessment.
We have been further developing our accreditation procedures and are affiliate members of ENQA. We hope through this continued analysis and revision of our accreditation procedures to ensure that we ensure the curriculum and delivery of a course that is suitable for the development of skilled graduates who can fulfil challenging professional roles.

3.1. Analysis of the Curriculum

We are currently reviewing the results of EU Teach 1 along with the discussions of EFLA/ECLAS and the Tuning Document as published in October 2012. The EFLA/ECLAS working group must now ensure that all relevant documents are analysed and further developed to provide a coherent document outlining the course curriculum (core and advanced competencies), the learning environment and the delivery of the curriculum.

3.1.2. Delivery of the Curriculum

Along with the teaching and tutoring in the core disciplines, there is a need to provide students with the tools to advance their studies and to equip them with the means to investigate and develop projects at all scales and in various situations.

The setting or learning environment, both physical and academic, of the landscape architecture school is a key element in the overall delivery of the curriculum.

For this reason, there is an emphasis on ensuring that the delivery of the curriculum is not solely based on learning by lectures but by participation in studio work, projects and field work. There is an expectation that design and planning must be learned through an active learning environment and a ‘hands on ‘ approach.

3.1.3. The Body of Knowledge

Our role as designers requires us to use this learned knowledge and skills to provide the means to develop, construct and maintain such landscapes. This requires that we are proficient in both verbal and non verbal communication. I would suggest the most valuable non verbal communication is provided by the ability to sketch and draw our concepts and further develop such concept sketches into the means by which they are constructed.
Our sketches may be used as part of our dialogue with clients and/or with those we need to convince (including ourselves). Translating our sketches into construction stage drawings, specifications and managing contracts is a necessary element of our required skill set.

To draw a line on paper and be able to transfer this to a landscape, to build that which we can imagine, to describe and draw that which we design and to organise works to ensure a coherent project is delivered. In short the skills to design and build environments for humans at a human scale.

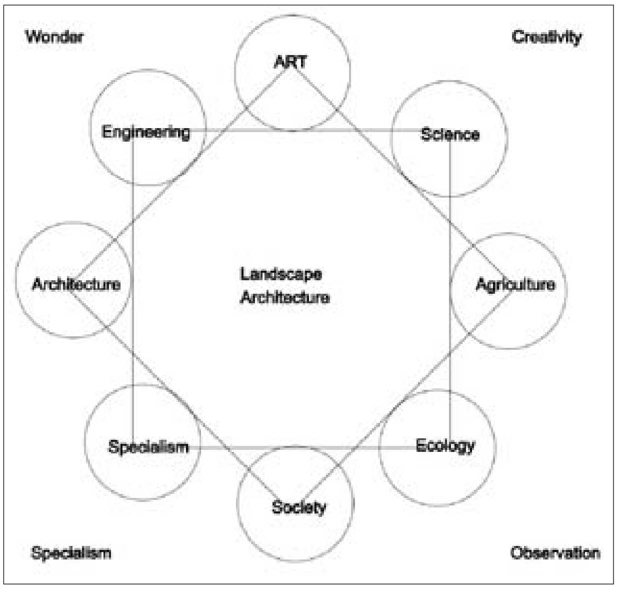


Figure 1. Landscape Architecture.. At the centre of interdisciplinary learning

In Figure 1 I have tried to develop a ‘map’ of the relationship between the various disciplines and bodies of knowledge to explain how the variety of landscape architectural courses draw on a wide range of knowledge from different disciplines. The diversity of courses is due to the distinct cultural or academic preference of the particular jurisdiction or individual school or group of schools. The spatial arrangement of the components is arbitrary and all relate to the study of Landscape Architecture. The diagram allocates equal weighting to subjects whereas the curricula and delivery of courses will draw in differing measures from the broad range of knowledge. The particular mix represents specialism or generality.

I might also explain that in devising this diagrammatic representation of the range of skills and bodies of knowledge that an early version using a Venn diagram, the overlapping circles showing interrelationships was not appropriate as some subjects may be omitted.

The omission of a particular body of knowledge is not a fault of any landscape architectural courses but a result of the particular focus of each landscape architectural 'school'.

There may be many components within a particular course of study or there may be a narrow focus. However, the narrow focus is carried out within the framework of the general core skills.

'The School of Architecture and Landscape upholds the notion that the profession of Landscape Architecture is many things and requires many skills, some of which will be developed to a higher level than others according to the individual interests and abilities of our graduates. It is therefore our intention that our students and our graduates will be offered and will offer a great diversity of experience, knowledge and ability.' (Thames. 1989 in EFLA Blue Book).

3.1.4. Achieving Professional Status

The requirements to become a professional landscape architect are currently being analysed within the IFLA Europe member associations. Currently the requirements include membership of a national association of landscape architects and such membership is generally dependant on successful graduation from a recognised course in landscape architecture and completion of a period of professional practice. Though not all national associations require a period of professional practice to be a full member, it is common for a period of professional practice to be required before a graduate may be considered a full professional. In countries which do not require this, the period of study is a minimum of five years with part of the study being spent in a practice environment.

We are also discussing these requirements with our colleagues within the wider IFLA membership and it is our expectation that this will lead to the development of a common education framework or common training framework. Within European Union (EU) countries and European Economic Area (EEA), this will assist with the recognition of the profession and enable increased mobility of professionals within the member states of the EU.

4. Conclusion

The education of landscape architects requires a coherent input from both academics and practising professionals. There is no single curriculum of landscape architecture but a broad spectrum of knowledge and skills which must be accessed and learned. The specific mix of knowledge and skills are a function of both the cultural environment and the emphasis of the school.

Mozart created beautiful music using the rigid rules of music with the tools of harmony, counterpoint being recorded as music notation. The creation of such beauty may occur without such tools but its recording and performance depend on it. For this reason we may still listen to and perform his wonderful creations.

'The true specialisation of the landscape architect is that he works, basically, with living elements, soil, water, trees and the effects of time. Like a scientist, he must respect life and natural processes. Like an artist he should be capable of visualising, developing, communicating and reviewing, with each project always in harmony with its environment. Like an engineer, seeing it through to completion on the ground.'(ESAJ, 1989).

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Notes:

[1] The origin of this adage is 12th century theologian and author John of Salisbury, who used a version of the phrase in a treatise on logic called Metalogicon, written in Latin in 1159.

[2] See: "Rare Knowledge" - from the Modernist Period of Landscape Architecture Education; summary of the Final Report to LE:NOTRE 2 Tuning Landscape Architecture Education in Europe, version 26, 9.

[3] http://www.ilo.org/public/english/bureau/stat/isco/docs/d3b.pdf

Implication Strategy and Practice for Scenic Area and Town Integration Development

A Case Study of Tong Jing Town in Chong Qing

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Abstract: Promoted by the western development strategy, western towns in China are blessed with unprecedented historical opportunity for development. Depending on resources, facing the market and strengthening diversity competition become the important development approach. Towns on the edge of scenic area desire to develop relying on scenic spot. However, there are conflict between development and protection and discrepancy of construction in scenic and town. The core contradiction goes to dualistic structure of scenic and town and uncoordinated development. On account of sustainable development, this paper proposes the concept of 'scenic area and town integration' and strategies below: (1) coordinating scenic towns planning, harmonizing division management; (2) conserving scenic resources, giving priority to landscape ecology; (3) allocating resources rationally, adjusting industrial structure; (4) optimizing spatial structure, improving landscape; (5) strengthening infrastructure construction, improving livelihood in scenic towns. In the end, this paper takes Tong Jing Town in Chong Qing as an example, constructing a development framework of 'scenic area and town integration' development based on space, landscape, tourism and estate.

Keywords: Landscape; sustainable development; scenic area; town; integration; strategy;

1. Posing of a problem

With the implementation of west development strategy as well as urban and rural coordination policy, China has increased investment on ecological environment protection, development and utilization of resources, and infrastructure construction in western region. Currently, western scenic area at all levels develops rapidly with an apparent trend of urbanization. Present problems mainly point to conflict between landscape resources conservation and exploitation, discrepancy of construction in scenic and town, and failing to maximize resources profit. The author considers that the core contradiction lies in the dualistic structure of scenic town and uncoordinated development, which is also the root reason of uncertain functional positioning and leads to the failure of making optimal allocation of resources, discrepancy of construction and low overall benefit.

2. Concept and connotation of 'scenic area and town integration'

2.1 Basic concept

"Landscape" means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors. Meanwhile,be confronted with many environmental problem and urban development , the concept of "Landscape" have expand from the special protection to ordinary .

Nowadays, Chinese special landscape scope is not as popular as regular ones according to Chinese traditional factor and realization. But the change is in the way from aspects of policies, projects and researches. In this paper, the case only is used for the expansion concept of "Landscape" example. "Scenic area and town" refer in particular to Scenic Spot and its boundary town. The traditional Chinese concept "landscape" richly means firstly the climate and environment and later refers to the Feng Jing ,which cause people's aesthetic emotion. The term emphasize landscape object ,which tends to aesthetics, at the same time, while at the same time emphasizing the particularity of the object, but it has certain differences from modern "landscape". Its essence embodies the interaction between human beings and nature. Now, the word "Feng Jing" widely applied in China landscape projects and has a certain development in the implied meaning .This paper discussed in the scenic spot is a proper noun, the scenery refers to landscape resources and emphasizes the objectivity of the scenery. According to Scenic Area Regulations in China, scenic area is defined as the area which is blessed with visual, cultural or scientific value and relatively concentrated natural and cultural landscape. As a place with beautiful scenery, it is able to provide zones for people to visit and carry out both scientific and cultural activities.

The other concept, "Towns on the edge of scenic area", defines the relationship between towns and scenic area. The distance between them is generally close, which contributes to convenient transportation and provides spatial linkage basis. "Integration" means the process of forming new integral with synergistic effect by combining parts. 'Scenic area and town integration' is to regard scenic area and towns on the edge of it as a whole part to do study, planning, construction and management to improve beneficial results.

2.2 Connotation of 'scenic area and town integration'

The core of 'scenic and town integration' is to change the thought of scenic area and town dualistic structure, and make a comprehensive study and overall planning to build a new monistic relationship which achieves interdependence, coordination and mutual benefit of scenic area and towns. In addition, it is expected to stimulate the integration of scenic area and towns involved with ecological environment, industrial economy, space landscape and social life, with the help of optimized allocation together with efficient utilization of resources and production factors, which is also capable to promote sustainable development of scenic area and town finally [1]. The target orientation of 'scenic area and town integration' goes to protecting and making good use of resource advantage in scenic area and towns on the edge of it, determining the function of town reasonable, positioning industry clearly, readjusting the industrial structure, and improving infrastructure construction, whose purpose is to build an integration development system with ecological security insurance, high-developed economy and high integration of three benefits. Scenic area and town integration includes aspects as follows: ecology and environment integration is the basis of coordinated development for scenic area and town, stresses protecting ecological balance and establishes disaster warning mechanism, realizing keeping sustainable development. Industry and economy integration is based on resources and is market-oriented while it reinforces industrial complementary between scenic area and town, and positions both equity and efficiency, achieving positive reaction and cycle for industries and markets. Space integration is the space projection of combination of industry economy integration and resources conditions, which is reflected in spatial association, landscape pattern, characteristic landscape cultivation, etc. Social and life integration is capable to adjust contradiction of various interest groups caused by sectional interests demands, constructs close benefit relationship, attaches importance to livelihood in scenic area and town, and protects environment while advancing infrastructure and creating employment opportunities to improve living conditions of local residents.

3. Development strategies of scenic area and town integration

3.1 Making overall planning of scenic area and town, coordinating division management

(1) Statutory planning needs to take the national *Urban and Rural Planning Law* as reference. The general planning points scenic area scope clearly, establishes rules of environment protection and space control, makes overall planning of infrastructure and public services in planning zones, and fixes a position on scenic area in scenic tourism planning. Furthermore, scenic area planning requires emphasizing coordinated development of all regions, making overall planning of town construction and development, providing space reservation for development of towns.

(2) Based on statutory planning, the research brings in tourism planning, concept planning, development planning and other non-statutory planning, taking advantage of flexibility to break administrative and industrial boundary, establishing relationship between scenic and town planning, to resolve conflicts appear in integration development.

(3) Integration of scenic and town relates to environment protection, tourism exploitation, urban construction, residents living, etc. Different groups, including associated government, scenic management, enthetic investors and local residents, should establish a unified management and coordination mechanism to promote construction development of scenic and towns.

3.2 Protecting scenic resources, giving priority to landscape ecology

(1) It is required to stress the basic principles of conservation priority and exploitation obeying protection, emphasize the protection of ecological and scenic resources in scenic area and towns. Moreover, defining the boundary of scenic town and scenic area scope, implementing hierarchical protection are also necessary [2].

(2) With capacity evaluation of scenic environment and tourism resources space, it is expected to control and regulate exploitation of scenic town and visitor numbers from space and time capacity aspects. Also, scenic construction projects should be strictly controlled while scenic resources should avoid being interfered and destructed from tourism service construction when building a town.

(3)It is necessary to respect natural ecosystem, reduce human disturbance and pay more attention to ecological technology application in scenic town construction. Besides, measures should be taken to increase the utilization rate of renewable resources and green material, reduce pollution and encourage green building and green transportation. That is able to keep sustainable development of scenic town construction.

3.3 Allocation resources rationally, readjusting industrial structure

(1) Public resource types of scenic town consist of ecological resources, landscape resources, tourism resources and land resources, etc. Emphasizing the public character of public resource while allocating and utilizing it appropriately is required to minimize the waste of ecological environment resources and maximize social welfare.

(2) Combined with removal of tourist service in scenic core area, supporting function of tourism service in towns on the edge of scenic area should be defined to achieve functional complementation of scenic area and towns. Furthermore, measures should be taken to guide town economy change from economy development model depending on primary industry to the model combining tourism service and agricultural industry, giving priority to sightseeing tour, leisure vocation and service industry development.

(3) Economic industry structure of scenic town is expected to be readjusted and optimized, while it is needed to combine agricultural development with resource conservation and landscape tourism, produce the linkage effect of agriculture and tourism industry, take ecological tourism and agricultural development as an opportunity, expand characteristic industry, and enhance the market competitiveness of agricultural products [3].

(4) Attention must be paid to augment tourism resources outside the scenic area. Besides, diversified tourism products are expected to be produced based on township resource background and historical culture resource to create township tourism industry and form a tourism industry chain together with scenic area. Also, as a result of expanding related industries, including recreation, vocation, recuperation, conference and landed property, industry integrated system can be built.

3.4 Optimizing spatial structure, improving landscape

(1) Based on the uniqueness of landform and the scarcity of land resources in scenic area, flexible layout of town site needs be built and space structure in scenic town should be optimized to enhance space efficiency in scenic town and mould characteristic space landscape of scenic and towns communication.

(2) Relying on natural resources, it is expected to explore cultural connotation, focus on tourism products development, environment facilities construction and space atmosphere creating, and strengthening the space connection of scenic area and towns, to build a multifunctional landscape corridor with integration of transportation, ecology, culture and economy.

(3) Since landscape is the material carrier under the combined action of nature and human, scenic town creating emphasizes protection and reasonable utilization of the original characteristic landscape resources (including landscape resources, historical culture resources, etc.). Meanwhile, excessive artificialization and commer-

cialization and urbanization, which may have impact on characteristic landscape, are required to be avoided.

(4) Scenic town landscape construction emphasizes cultivation of characteristic landscape resources, which is reflected in the respect of town landscape to scenic landscape and integrated environment. Moreover, due to positioning landscape development of scenic town clearly together with landscape elements extraction, town landscape (including urban public space, city complexion, etc.) can be successfully guided and controlled.

3.5 Strengthening infrastructure, improving livelihood in scenic town

(1) Measures should be taken to promote urban and rural coordination, strengthen regulation and management of rural residential area in scenic area, speed up infrastructure and public facilities construction, improve traffic convenience and residential living conditions, and form a social benign interaction development structure in scenic town.

(2) It is required to exploit the advantage of combining agricultural industry with tourism industry, readjust agricultural industry structure, energetically develop ecological tourism agriculture, and enhance agricultural profit added-value to promote the peasant incomes. Meanwhile, encouraging skill training, increasing employment rate, and guiding peasants transform to groups living on tourism management and service industry are expected.

(3) It is necessary to expand township residential employment channels, improve the proportion of tourism and service industry employment and raise the income of local residents.

4. Development project practice of 'scenic and town integration' in Tong Jing

4.1 General introduction to Tong Jing

Tong Jing, as a scenic area with long history development, is blessed with abundant natural and humanistic landscape and world-quality hot spring tourism resources, being an essential part of suburb tour circle in Chongqing metropolis area. Tong Jing Town adjoins with Tong Jing scenic area and the distance between them is only 1.2 kilometres. They have a close connection involved space while they are lack of industry development link, which leads to low regional overall efficiency and lag of town construction.

4.2 Development system construction of scenic and town integration

It is expected to break division management boundary and take Tong Jing tourist resort as space carrier embracing scenic town. In view of the four aspects including ecological environment, industry economy, space landscape and social life, aiming at constructing the most beautiful health spa town which is eco-friendly with prosperity of industry and economy, this paper proposes to construct an integration development planning which takes space, tourism, industry, landscape as the core (Figure 1) with the basis of landscape ecology priority principle.

4.2.1 Space background

'Space background' highlights protection and utilization of landscape resources, sums up space basic vectors which are the core resources to construct scenic town, including mountain, water, spring, forest, gorge, cave, village. Based on the restriction of natural terrain, the planning shows distinctive space environment, forming 'town – estuary - gorge – cave - valley 'in turn. In the first step, scenic area plays a high value on landscape resources protection, pointing out measures specifically, including tourism capacity control, hot spring resources recycling, environment-friendly transport facilities with low carbon, sustainable landscape facilities and techniques. Adapting to mountain terrain, town area produced organic layout (Figure 2), forming ecological nature space texture of landscape town, strengthening walking agreeable scale and diverse space tour experience.

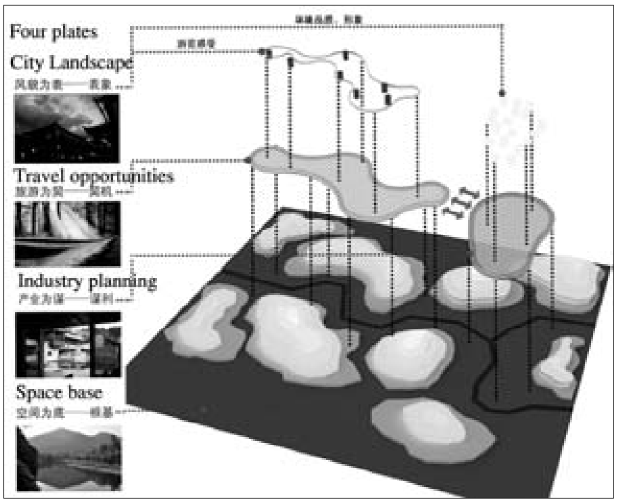

Figure 1 Core component of 'Scenic and town integration' development planning

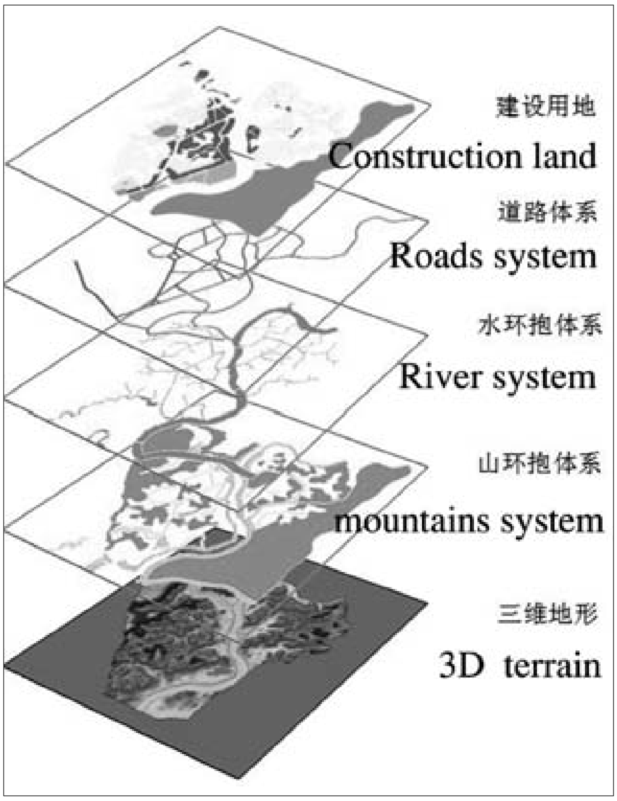

Figure 2: Landscape town space structure

4.2.2 Tourism opportunity

'Tourism opportunity' stresses taking tourism as industry leader, bringing in development opportunity to districts, organizing based on tourism activities law. The planning fully taps local tourism resources with the method of 'operating market with hot spring, constructing towns with landscape culture ', stimulating scenic area de-

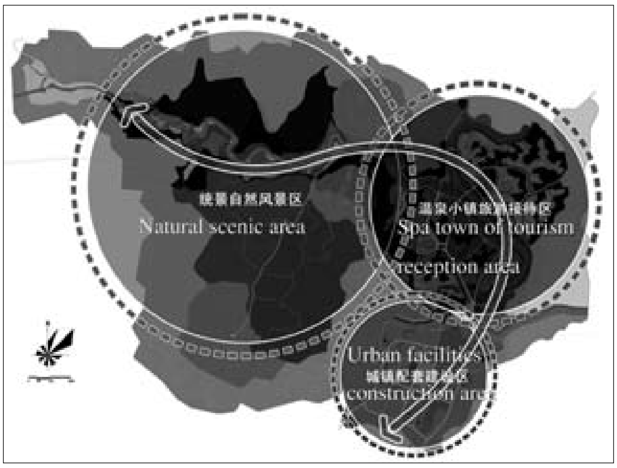

Figure 3 Overall land use function structure

velopment and getting noticed by promoting hot spring scenic area. Besides, with the help of hot spring town construction, the planning is able to build landscape leisure space. Furthermore, it riches tourism activities, enhancing regional estate development value with hot spring, town landscape and advanced tourism facilities. Meanwhile, it is expected to recoup investment to achieve tourism service industry feedback and promotion, and keep sustainable development of hot spring tourism in Tong Jing.

4.2.3 Industry strategy

'Industry strategy' underlines complementary industry and common development, developing scenic area and towns depending on industrial integration to bring benefit. Tong Jing industry takes landscape culture as characteristic to build a high-end tourist resort with integration of health spa, leisure vocation, theme entertainment, business conference, luxury living condition and agricultural view. Overall land use function structure divides urban space into three parts (Figure 3), taking tourist reception area in spa town as the centre, developing Tong Jing natural landscape area along Wentang River, and extending southward to develop town supporting construction area.

4.2.4 Landscape appearance

'Landscape appearance' strengthens conservation and cultivation of scenic town landscape characteristics, and building of overall image brand, aiming at improving competitiveness of town tourism culture. Combined with scenic town landscape background, the planning creates town landscape with regional architecture style. The overall layout of town area is made by sorting out original terrain firstly to construct a system surrounded by mountains and girdled by a river, which enables urban construction land to be embraced by mountains and rivers while road network structure is produced adapting to terrain, forming ecological and organic landscape town space. The general town landscape is built based on country architecture style in East Sichuan and mountain features to construct urban public space landscape.

4.3 Development summary of 'scenic and town integration' in Tong Jing

It is clear that the development planning of Tong Jing constructs a work model of 'scenic area and town integration' and explores an effective way to realize good social relationship, allocation structure improvement, rapid economy development and beautiful ecological environment, succeeding in reflecting the harmony of urban and rural area coordination and prosperity of scenic town.

5. Conclusions

The concept 'scenic area and town integration' and its practice strategy are proposed under the situation of disorder and development dislocation during the construction process of scenic area and towns on the edge of it. Related to ecological environment, industry economy, space landscape and social life, the core of 'scenic area and town integration' is to protect and utilize resources reasonably while maximizing the benefit of complementary industry and pursuing the harmony and unity of three benefits. Moreover, involved the development of western mountain area with abundant resources and fragile ecology, it is meaningful to create 'scenic area and town integration'. The only way to bring scenic area and towns on the edge of it into all-round and harmonious development is coordinating planning and management, and stimulating rational conservation and utilization of landscape natural resources.

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Research on Composite Corridor Construction in Mountain Cities Based on the Concept of Suture. The Case of Chongqing

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Abstract: Due to the impact of globalization and urbanization, mountain city landscapes in Western China are displaying characteristics of 'fragmentation and islanding' based on original diversification and fragility. From the perspective of landscape ecology, cultural ecology and city planning, this article puts forward the concept of 'suture' in relation to corridor fragmentation in city landscape construction. With a view to giving priority to structure and compound function, and acting according to circumstances, this article proposes an adaptive way of protecting, establishing and perfecting the composite corridor system with three layers in the case of Chongqing, attempting to build a mountain city landscape through sustainable development.

Keywords: sustainable development, city landscape, fragmentation, corridor, composite, suture.

1. Introduction: 'Fragmentation' and the urban cultural landscape

Since the middle of the twentieth century, as economic globalization and rapid urbanization spread across the globe, the urban ecological crisis has deepened. The general problems of developing a country's urban areas lie in unlimited urban expansion, the loss of a city's characteristics, and severe damage to the urban cultural landscape. On account of natural factors, many mountain cities in central and Western China are congenitally deficient in population density, land resources and environmental quality. At the same time, this shows the diversification and fragility involved in the city's landscape, and highlights the cultural landscape 'fragmentation, and islanding' phenomenon due to the impact of various external forces. As the product of human civilization, the urban landscape is the result of culture in the realm of urban space. It is the 'accumulation and superposition' over space and the dynamic extension over time in the process of constructing cities and in the interaction with the natural environment. The protection and utilization of the urban cultural landscape are important for constructing cities in global competition. The southwestern mountain area has diverse landforms and is crisscrossed by mountains and rivers. As a typical representative mountain city, Chongqing, a city with unique landscape terrain and features, as well as a humanistic temperament and a long history, is a unique urban cultural landscape. In addition, as a result of urban expansion and renovation, the urban landscape, urban ecology and cultural patterns all underwent a huge change while a new urban cultural landscape replaced the old. What needs to be considered is how to extend the urban context and upon what to base future development.

2. Corridors and the urban mountain cultural landscape

2.1 The traditional meaning of corridor

The original meaning of 'corridor' is an aisle, a linear space which is able to be passed through. In the case of Chongqing, the traditional main city of Chongqing is located in the Huaying Mountain Range at the intersection of the Changjiang River and the Jialing River, low-lying east west and north south. 'The bailey is constructed along mountains or rivers, high and deep, merely standing in the river is dangerous, which seems to be natural '[1]. Most of the buildings and the layout of the streets in the city are constructed with the change of different terrains, and there is the characteristic of 'high mountains and rough roads' related to the traffic in the city. Before modern times, the roads in Chongqing were mainly streets and lanes, while route organization was quite flexible, and ramps and stairways which were skewed with or perpendicular to contours became the main feature of the traffic landscape. Consequently, traffic corridors in traditional mountain cities are the only communication passages, but are also part of the cultural landscape with positive meanings. Therefore, viewing corridors as an aesthetic landscape design method has activated a real sense for those mountain cities with high elevation and diverse terrain.

2.2 The modern meaning of corridor

Since the 1960s, the concept of environmental protection has promoted the continuous improvement of landscape ecology and deepened the research of corridors. Scholars at home and abroad have broadened the corridor concept, translating it into composite function development from a single function. Corridor ecology, recreation and cultural functions have become the main

focus of attention while corridors are able to be widely involved in ecological protection, urban construction and historical preservation. As a result of different research backgrounds, the U.S.A and Europe have different research focuses. With a background in landscape science with apparent geographic features, European scholars focus on constructing ecological corridors while protecting the ecological and natural environment. American scholars emphasize the main planning aims of constructing corridors with the integration of recreational functions, historic culture conservation and heritage protection.[2] Compared to previous ones, these corridors have both basic transport functions and more comprehensive functions including ecological protection, recreation and cultural heritage conservation, forming corridors with the flow of material, information and energy. Due to the difference between planning backgrounds and aims, there are different focus points between ecological corridors, green corridors and heritage corridors. The ecological corridor stresses an ecological role, capable of maintaining biological diversity, depending on the network's structure formed by natural mountains, water and land. The green corridor emphasizes forming a linear or banded structure based on plants. The heritage corridor highlights the organic integration with historic culture conservation.

Table 1 - corridor type and adaptability analysis

Basic types of corridor	Basic function	Mountain city adaptability
Traffic corridor	Emphasize the traffic function of the linear space	City traditional trails, non-motorized vehicles
River drainage corridor	The composite linear space based on the natural river system	River systems and both sides of the protective green
Sight corridor	The visual similarities linear space	Opposite scenery, view borrowing, emphasizes the landscape visual guide
Biological corridor	Undertake large-scale flow of species between habitat patches	mainly the country and high-speed road
Ecological corridor	Stress to maintain the ecological functions of biodiversity	Mountains, rivers, wetlands
Green corridor	Emphasize the formation of linear or ribbon Landscape structure as the main on plant	City greenbelt
Heritage corridor	Mainly historical and cultural protection, taking into account the ecological, leisure, recreation	City historic preservation district and cultural landscape area with abundant resources
Recreation corridor	leisure, recreation, services	Stress accessibility and residential area contact

Because of its complex mountain terrain, long historical development and rapid urbanization pressure, urban mountain cultural landscapes reflect the comprehensive characteristics of the interconnection between nature and manual work. They also represent a multi-element and multi-dimensional copolymerization, and the coexistence of dispersal and fragmentation. Landscape 'fragmentation' is the most typical problem and urgently needs to be solved. Meanwhile, the function of the corridor includes not only basic traffic and contact aspects, but also the conveying of various forms of material, energy, and information. For the 'fragmentation' of urban cultural landscapes, the application of various corridors is of great adaptability. According to the analysis above, the author summarizes the possibility of applying various forms of corridors in mountain cities to explore composite corridor adaptability.

3. Adaptive application of the composite corridor

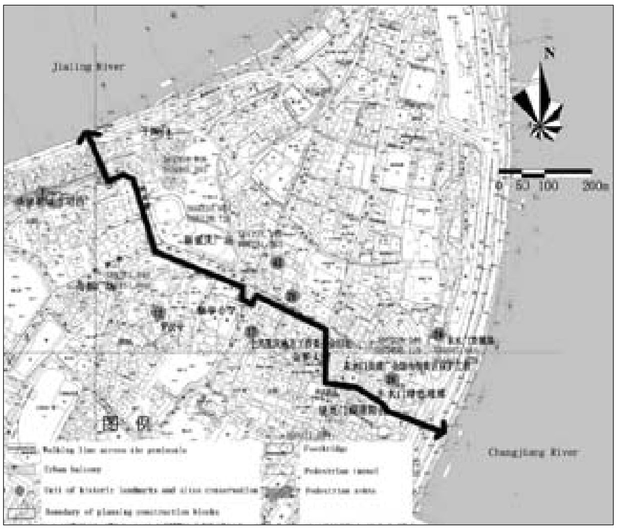
According to the complex characteristics of mountain city cultural landscapes, under the premise of explicitly adopting corridor 'fragmentation', patch suture measures should be firstly taken to ascertain the orientation of the corridor's functional requirements, avoiding the unreasonable design of corridor functions and structure. It is always difficult for single-function or single-type corridors to meet the realistic demand of urban development. The basic characteristics of mountain city composite corridors are as follows:

① Structure priority – based on the connection of space, emphasizing the improvement of connectivity and the construction of a corridor network system;

② Functional composition – based on pedestrian traffic and sight line material, strengthening the integration of leisure and recreation, ecological greening, historic preservation, and biological diversity.

③ Adaptation to local conditions – based on structure and function, emphasizing the accessibility and improvement of corridor efficiency while taking aesthetics and form into consideration.

Based on the complexity of city construction and combined with the city of Chongqing's cultural landscape characteristics, the author puts forward adaptive ways of protecting, constructing and perfecting the composite corridor with actual cases in three levels in order to ensure the sustainable development of the mountain city's cultural landscape.


Jialing River
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0 50 100 200m
Changjiang River
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Walking line across the peninsula
Urban balcony
Unit of historic landmarks and sites conservation
Boundary of planning construction blocks
Footbridge
Pedestrian tunnel
Pedestrian zone

Figure 1 Mountain city pedestrian path

3.1 Strengthening, protecting and utilizing existing corridors including streets and pedestrian paths, the river system, green ridges, etc.

In view of the above analysis of corridor types and characteristics, a river system, green ridges, streets and pedestrian paths are expected to be incorporated into the available city corridor in the first step. Different types of corridors, river systems, green ridges, streets and pedestrian paths are able to perform different functions in relation to traffic, ecology, landscape, greening, recreation, culture, etc. As the comprehensive reflection of human activity and the natural landscape, the urban cultural landscape has natural and humanistic attributes. River systems and green ridges in the mountain city can be included in the scope of the urban cultural landscape because it is the material basis of urban development and broadly impacted on by human activities in the city's long-term development process. Streets and pedestrian paths are a direct material result of humanity in the city.They form part of a typical urban cultural landscape and not only reflect the relationship between urban patterns, cities and nature, but also carry a variety of distinctive features of social life.Therefore, whether as a corridor carrier or as a cultural landscape itself, the protection of existing corridors such as river systems, green ridges, streets and pedestrian paths should be firstly strengthened, then made use of according to their specific conditions and functional orientation. Since mountain cities are always located in mountains with water, the urban landscape pattern brings about a unique cultural landscape.Taking the case of Chongqing Yuzhong peninsula, its typical spatial characteristics are surrounded by two rivers and hills. Therefore, protection and utilization of streets and pedestrian paths, river systems, and green ridges are particularly important. In *The City Image Design Scheme ofYuzhong Peninsula*, the designers grasp the elements of the city's space, taking pedestrian paths in the mountain city (Figure 1) and recreational waterfronts as space corridors and associating them with a multi-class urban cultural landscape, to create a positive place that portrays the city's image. In the planning of mountain city pedestrian paths, it firstly analyses the integration of existing resources (including traditional trails, infrastructure, gardens, monuments, etc.) to form a walking system with structural integrity by relying on renovation and expansion of existing pedestrian paths, integrating them into the landscape along with the cultural resources, linking the green corridor and urban balcony[3] with foot traffic of the upper and lower halves of the city. In this case, pedestrian paths in the mountain city are mainly used as transport corridors while partly functioning as heritage corridors.

3.2 Adaptation to local conditions, rational orientation and construction of composite corridors

Due to the restrictions of urban natural terrain and historical development, mountain city construction conditions have inherent limitations.They tend to be more complex in the core area of urban renewal. It is known from *The Protection Planning of Chongqing Government Sites in Southern Song Dynasty* that the sites have a long context and the resources of the urban cultural landscape are quite rich. A large number of city cultural landscapes with an 800-year history spread to nearly ten hectares of land. The land elevation difference is as high as over 100 meters. Furthermore, the surrounding land and construction conditions are extremely complex. Protection of relics and urban development has become a contradictory focus.

3.2.1 Planning issues

① The current situation should be analysed while planning goals need to be reasonably set – according to the basic situation of this area, including the historic context, abundant cultural landscape resources and complicated land usage.The heritage corridor, including the overall protection of historic relics, cultural displays and comprehensive utilization of sites, is expected to be constructed to strengthen the whole image of Chongqing, the city with historical and cultural heritage. Meanwhile, with history and culture as the medium, the green corridor can be built, creating a gorgeous urban environment. Moreover, by integrating the historical and modern factors during the urban development process, the organic connection of historical and cultural heritage protection and modern city development can be established to promote the coordinated development of regional urban functions and the urban spatial pattern.

② By integrating historical and landscape resources, through historical and cultural value assessment, cultural value assessment and social value assessment, the grades of protection zones can be determined comprehensively. Besides, cultural landscape links, as protection targets, should be selected rationally, and be regarded as the core driving force to promote regional value.

③ With rational orientation and determination of the corridor's function and type, original land usage can be readjusted around the core protection area, forming a core protection zone around the government sites in the Southern Song Dynasty and historical relic construction points. In addition, effective connections between the core protection areas can be established to produce a heritage corridor and a view corridor, protecting the heritage and displaying culture as well as promoting popular science education. Furthermore, transportation corridors and sight corridors are required to be sorted out with the organic integration of recreational needs and the reasonable organization of recreational corridors.

④ All types of corridor landscape resistances must be evaluated, such as land usage, land cadastre, architectural composition, vehicular traffic interruption, terrain altitude difference, etc. Meanwhile, accessibility and connectivity assessment must be done to define the optimum corridor route.

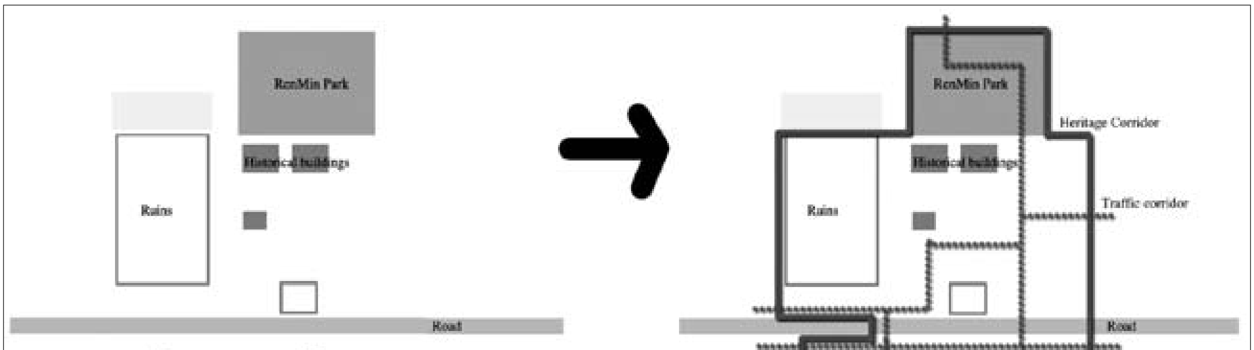

Figure 2 Case analysis of Southern Song Dynasty sites protection

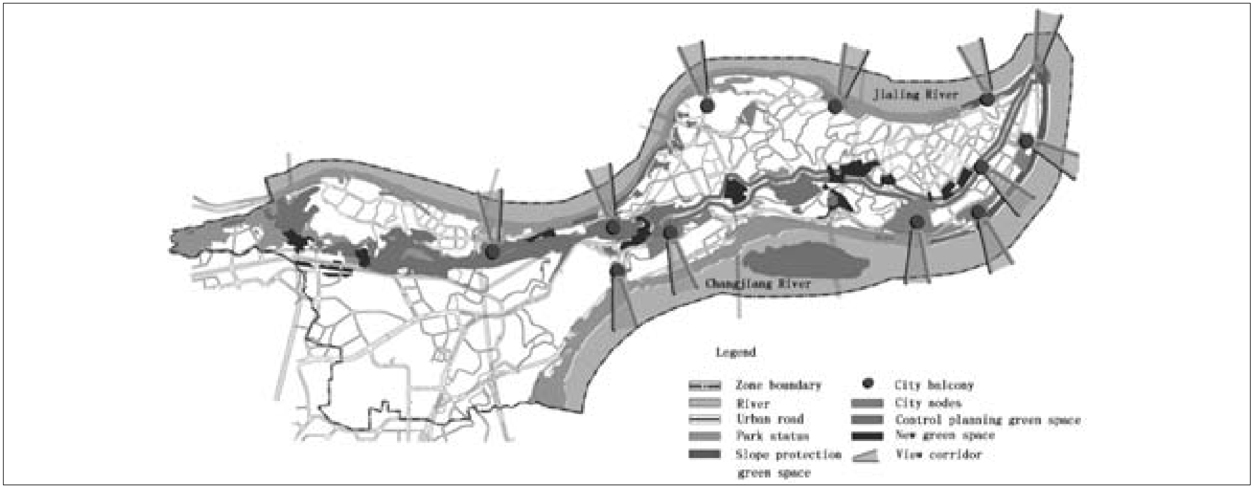

Figure 3 Forest engineering composite corridor analysis

⑤ It is possible to connect and construct corridors with the help of adopting the methods of changing land usage, land displacement, building overhead usage, composite usage and reconstruct the eco-cultural network relying on a comprehensive regional open space system.

3.2.2 Benefit evaluation

This planning, adopting a composite corridor construction model, creates the historical cultural atmosphere of Chongqing government sites in Southern Song Dynasty with the help of the protective exhibition of the sites and the formation of high-quality green open spaces, to improve environment quality of the city's zones with sites and to achieve public awareness and a sense of identity. This would also reflect the ecological, social and economic benefits. Meanwhile, the construction of a composite corridor strengthens the links between surrounding mountain parks, rivers and walking systems, which is conducive to producing a regional cultural-ecological network and overall efficiency of the urban cultural landscape.

3.3 Forming a cultural-ecological network based on composite corridor construction

In the protection and utilization of the urban cultural landscape, the combination of landscape ecology and systems theory should be based on connecting 'source' points the composite corridor construction in the area, and connect the dispersed areas to form an effective cultural and ecological network at the same time. Involving *Yuzhong District green infrastructure planning*[4] depends on an opportunity to improve and optimize the spatial structure of the various types of urban green spaces in the area as well as the existing green spaces and the demolition of dangerous building lots, so as to perfect the integrated green space structure in three aspects – ecological-environmental, cultural history and the city's image. Then a general idea of composite corridor construction is put forward at a macro level.

First of all, urban development should properly handle the relationship between development and protection, maintain the city's original natural landscape pattern, focus on the connection of ridge and waterfront areas in the city (Figure 4), strengthen the ecological and landscape functions of the green ridge corridors, and combine the two important river sight corridors as well as the surrounding historical and cultural landscape resources to form a composite corridor system.

4. Conclusion

Due to rapid urbanization, the mountain city's cultural landscape is displaying the new characteristics of "landscape fragmentation" based on diversification and fragility. To halt landscape fragmentation, this paper proposes constructing composite corridors on the existing theoretical basis. Firstly, this paper summarized the essential characteristics of composite corridors in mountain cities, such as structure priority, functional composition and adaptation to local conditions. Secondly, the paper provided some examples to illustrate the corridor's reconstruction. Three cases were mentioned: One is the "mountain city pedestrian path", which strengthens protection and utilization of existing corridors including streets and pedestrian paths, river systems, green ridges, etc. Another is "The Protection Planning of Chongqing Government Sites in Southern Song Dynasty", which shows how to establish the composite ecological corridor and how to reconstruct the eco-cultural network relying on comprehensive regional open space systems. The third is the "Yu Zhong District green infrastructure planning " which emphasizes the ecological environment, cultural history and the city's image integrally, and proposes the protection of the city's original natural landscape pattern from the perspective of the whole city, including the connection between mountains and waterfront green spaces and historical culture integration. In conclusion, the paper researches the protection and utilization of cultural landscapes in mountain cities in order to ensure sustainable development.

Notes:

[1] Zhou Yong, *The History of Chongqing,* Chongqing Press, 2002.

[2] *The City Image Design Scheme of Yuzhong Peninsula*, 2003.11， provided by Chongqing urban planning bureau

[3] *The City Image Design Scheme of Yuzhong Peninsula* totally extracts 10 design elements including green corridor and urban balcony.

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Landscape Change Following The Alqueva Dam Construction

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Abstract: European landscapes are changing due to the increased construction of renewable energy projects. One of them is the Alqueva dam in southern Portugal that created the biggest artificial lake of Western Europe. In this research recent landscape changes at the Alqueva dam watershed were analyzed. Future scenarios for 2025 and 2050 were predicted in terms of land use and landscape configuration. The multi-agent systems modelling of land use change was used as a tool that combines methods like multi-criteria evaluation and cellular automata. The landscape studied has a high potential to change related with the new lake (rural tourism and golf course development, intensification of irrigated farming and biomass production as bioenergy), as well as by climate change.

Keywords: Landscape change, simulation models, dam, lake, climate change, multi-agent model

1. Introduction

Characterized by dryness and immensity, the Alentejo Region, in southern of Portugal, reflects the predominance of non-irrigated agricultural areas and the affirmation of an agroforestry system of Quercus suber and Quercus ilex woodlands called "Montado". With the objective of improving the agricultural productivity, a dam was constructed which offered a large volume of water for irrigation. Thus, in a vast arid landscape, the largest artificial lake in Western Europe was created, extending for 83 kilometers and submerging 25,000 hectares, with a total capacity of 4150 million cubic meters (Ferreira and Panagopoulos 2010). Currently, the Alqueva landscape has been experiencing changes that are clearly embodied by the strategic guidelines of the Regional Plan for the Surroundings of the Alqueva Lake and Plan for the Alqueva and Pedrogão dams lakes, which are expressed in the recent cultivation of vegetables, olive groves and intensive vineyards, both using irrigation, along with the construction of small marinas, golf courses and the rehabilitation of abandoned buildings of old farms of Alentejo into tourist resorts. Therefore, the new water availability and the visual dimension of a large lake have triggered rapid changes in the landscape by means of irrigation and tourism development. On the other hand, it may in the future bring negative consequences not contemplated in the Environmental Impact Assessment Study, such as soil erosion, which could increase soil deposition at the dam's bottom and contribute to silting up the dam before its useful time. In this context, the analysis of the future Alqueva landscape by simulation of land use/cover changes (LUCC) is a complementary way to estimate the variation of the erosion risk according to the model of RUSLE (Renard *et al* 1996). The simulation of changes in LUCC enables the prediction of soil erosion, urging the decision making in order to protect the soil and to prevent a rapid silting up of the Alqueva dam and ensure the sustainability of one of the biggest public investments in Portugal. The objective of this research was to analyze recent landscape changes at the Alqueva dam watershed and predict future scenarios for 2025 and 2050 in terms of land use.

2 The Alqueva dam landscape

2.1 History of Alqueva dam

The prominence of Alqueva landscape came from the construction of the dam which begun in 1998, in an area near the town of Alqueva, southern Portugal, from which it derived its name. The historical context of this investment in Alentejo, as a way of reducing its poverty and unproductive character, dates back to periods long before the mere consideration of the Alqueva dam. In 1887, the Count of Olivares, Oliveira Martins, presented to Parliament the draft Law on Rural Development, which featured a Portugal divided by "the oblique Tejo River valley": "the populated country at north and unpopulated at south, the productive and the unproductive Portugal"; thus the first priority of the economy had to be the union of these two parts, giving to the deficient southern regions two things: "human and capital" (Sanches and Pedro 2006).

To counter the low agricultural productivity of Alentejo, there have been several successive reforms, mainly in the 19th and 20th century.

Most important amongst these was the extensive cultivation of wheat and other crops, undertaken by the Totalitarian Republic as a way to attenuate the notion of non-productivity that was associated with this region and its uncultivated fields. The Wheat Campaign had serious consequences for soil degradation, causing the abandonment of certain areas and increasing rural exodus in the Alentejo region (Jones 2009). If before the vast area occupied by the uncultivated fields was referenced as the main factor of the Alentejo's sub-development, in the fifties this notion changed to the consideration of non-irrigation as the major factor of the region's lack of productivity.

Thus, in 1957 the Department of Hydraulic Services prepared the Alentejo Irrigation Plan, whose point of promotion for the region was connected with the focus on irrigation of more than 170,000 hectares.

Among various alternatives considered, the choice was the area of Alqueva, which was the option with smallest impacts, namely the sinking of the Luz village (with about 700 inhabitants). In 1970, the first hydroelectric project of Alqueva was presented. In 1998, the construction of the Alqueva dam started and the filling began in 2002.

It was until 2010 that the water reached the maximum level at 152 meters, with a watershed that included the municipalities of Alandroal, Reguengos de Monsaraz, Portel, Mourão, Moura and Barrancos (Fig. 1).

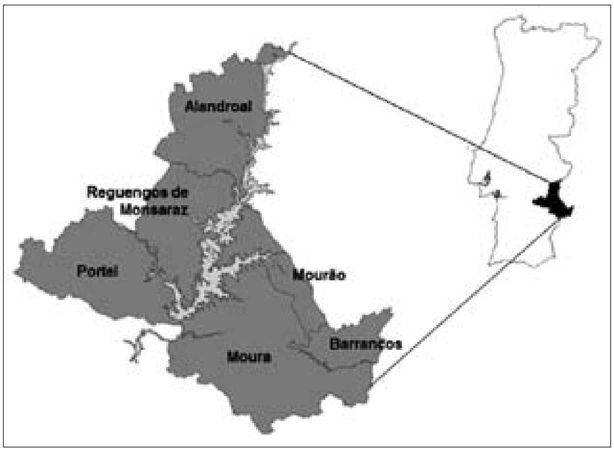


Fig. 1 Location of the Alqueva dam watershed and the surrounding Portuguese municipalities (1:2,700,000).

2.2 Biophysical Characterization

Located between Central and Lower Alentejo, the Alqueva dam and its surroundings are characterized by the Mediterranean amenity. According to Koppen's classification, the climate is Mediterranean, type Csa with continental influence, with very hot and dry summers, and mild winters. In the Guadiana watershed, which includes the reservoir of Alqueva, the weighted average annual rainfall is 561 millimeters (mm), measured in a 50 year period (Ferreira and Panagopoulos 2012). The average annual temperature is 16°C, with temperature values ranging between 9°C in winter (minimum temperature - January) and 24°C in summer (maximum temperature - July and August). The mean value of actual evapotranspiration varies between 500 and 600 mm.

The deep Guadiana valley was lost in the area of Alqueva due to the filling of the dam. The surroundings of the lake are characterized by smooth slopes which dominate the typical Alentejo plain, with the exception of Serra de Portel. Geologically, the sub-region of Central Alentejo is composed of rocks of the Pre-Cambrian and Paleozoic of several types: granites, gabbros, metamorphic limestone, shale and quartzitos. At pedological level, beyond thin soils, there are patches of acid brown soils, acid brown-reddish soil and Mediterranean red soils, as well as unwashed soils of reddish-brown clay and black clay (Sanches and Pedro 2006).

2.3 Socio-economic Characterization

The six municipalities surrounding Alqueva cover up to 3,013.2 km2. Population decline has marked this region since 1950. In the 60's Alentejo lost 130,000 inhabitants (20% of the population of 1950), motivated by the mechanization of agriculture, the use of insecticides and the selectivity of the soils (Gaspar 1993). The Central Alentejo is an area of negative natural growth, where the mortality rate has proved to be superior to the birth rate. Currently, the population loss continues with -9% during the last decade according to the 2011 Census (Panagopoulos and Barreira 2012).

2.4 Alqueva landscape and its prospects

Cancela d' Abreu *et al* (2004) defined the landscape of Alqueva lake surroundings (code n° 106) as a set of islands and peninsulas in an immense body of water surrounded by "a landscape dominated by holm oak woodlands and bushes, with significant differences in altitude (generally between 100 and 200 meters). Non-irrigated arable land, olive groves and other agricultural areas still have some presence, especially in the eastern part of the unit in the municipality of Mourão". The scenic quality of the lake is assignable, exacerbated by the contrast and antithesis of the presence of an immense mass of water in an environment distinctly arid.

It should be noted, though, that the historic Monsaraz village won prominence with the appearance of the dam, as did the building of the new Aldeia da Luz as a result of the submergence of the original one.

The study area embraces more than the mere and direct surroundings of the lake, integrating other landscape units that represent, mainly, the Alentejo plain, such as:

- 91 Caia, Juromenha Valley: mostly irrigated fields;
- 102 Fields of Alandroal e Terena;
- 105 Reguengos de Monsaraz: predominance of vineyards and olive groves;
- 107 Fields of Amareleja-Mourão: characterized by arable land, pastures, vineyards, olive groves and cork oak woodlands;
- 108 Fields of Viana-Alvito: the transition between oak woodlands, pastures and shrubs;
- 109 Serra de Portel: mountainous area with a maximum altitude of 420m, where there are cork oak, holm oak and mixed woodlands;
- 111 Lower Guadiana River Valley and its tributaries: related to the river valley south of Alqueva;
- 112 Moura and Serpa Olive Groves: with high intensification of olive groves and vineyards;
- 113 Barrancos - with steep slopes, poor and thin soils, where predominates the oak woodland.

3. Materials and methods

According with the previous analysis, the simulation of future land use change in Alqueva landscape will be based on the use Multiagent Systems of Land Use-Cover Change (MAS/LUCC) and Geographic Information Systems (GIS), oriented by the following methodology (Samora Arvela *et al* 2012):

- Construction of the transition matrix by a cellular LUCC model in Idrisi, using geographic data from the Corine Land Cover project (CLC). Knowing that the dam construction only started in 1998, it is only congruent to calculate and analyse the changes observed in CLC 2000 and CLC 2006, which reflects the dam's inductive dynamic of land use change. This step represents the calculation of land use change between and after the construction of the dam. The probabilities derived from this calculation allow the projection of LUCC into the future using Markov chains and Cellular automata model;
- Creation of suitability maps to be established by Multi-criteria Evaluation and Analytical Hierarchy Process, using constraints and

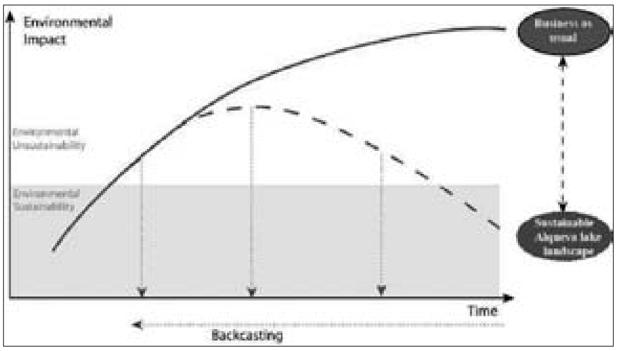

Environmental Impact
Business as usual
Environmental Unsustainability
Environmental Sustainability
Sustainable Alqueva lake landscape
Time
Backcasting

Fig. 2. Backcasting scenario building approach.

factors (digitized in GIS) and applying a combination of criteria and respective weights to define more suitable areas to change.

- The transition matrix and respective probabilities (2000-2006) will be used to build the trend scenarios, starting in 2006. On the other hand, its conjugation with the suitability maps will conduct the allocation of new land uses in backcasted future scenarios starting from 2006;
- The suitability images are ranked to apply to MOLA (Multi-Objective Land Allocation).

The challenge was to create a tool in order to predict the future land use change (scenarios) and to assess soil loss using the RUSLE model and then to backcast altering when necessary the harmful land use change decisions (Fig. 2).

4. Transition Matrix of Alqueva Land use change 2000-2006

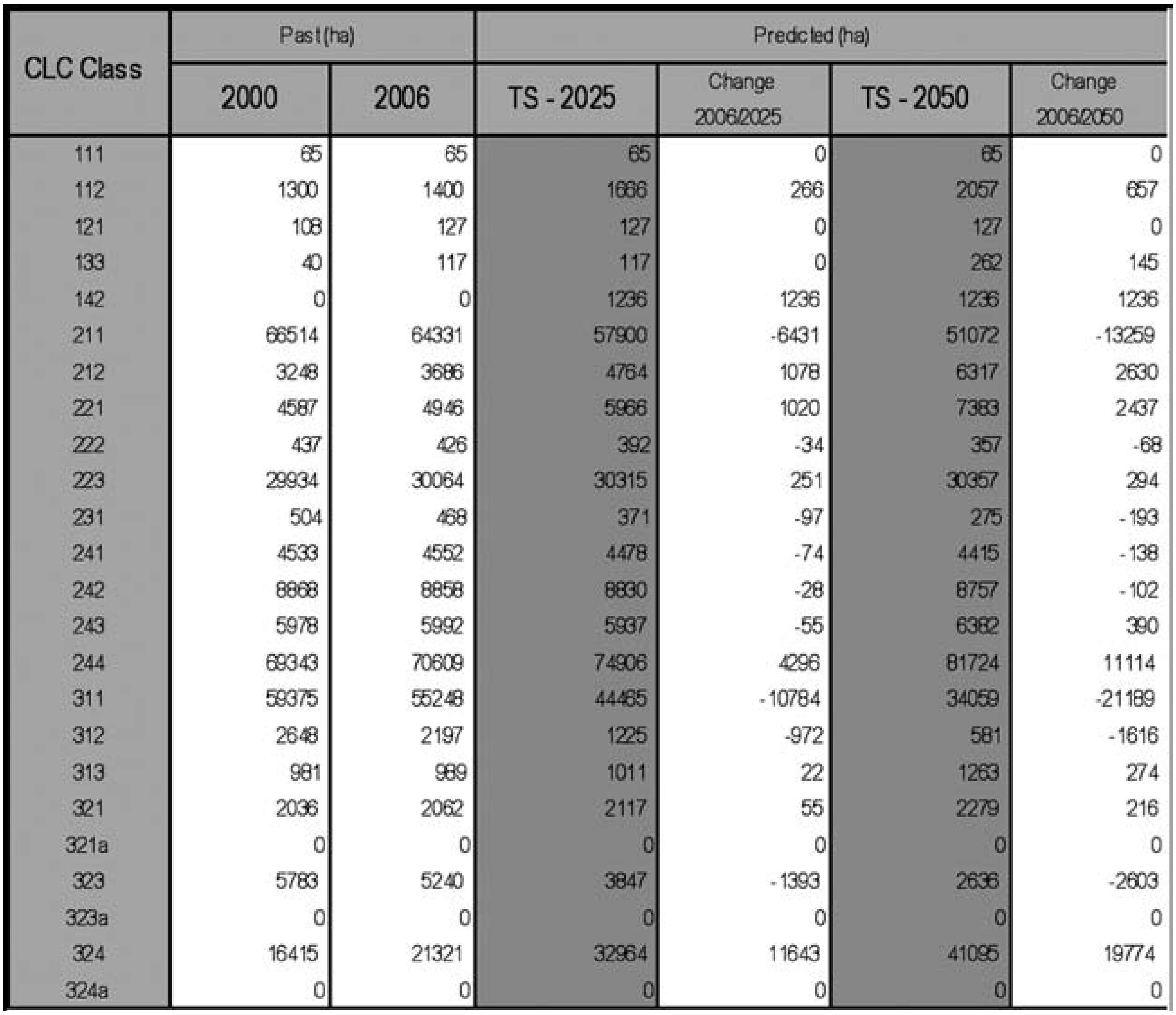
Between 2000 and 2006, the Alqueva landscape was characterized by the loss of consolidated forest (mainly the CLC class 311-Broadleaved forest (4,522.14 ha) and 211-Non-irrigated arable land (2,819.30 ha). The first change was to 324-Transitional woodland/shrub and 244-Agro-forestry areas (indication of a high decrease in forest tree cover).

The decrease of 211-Non-irrigated arable land areas resides in the abandonment of non-irrigated agriculture, contributing to the increase of other land uses: 1174.44 ha to 324-Transition woodland/shrub; demand of more profitable agricultural uses like 223 – Olive groves (513.97 ha) and 212 – Permanently irrigated land (410.56 ha).

Therefore, the surroundings of Alqueva lake have showed an important increase in the order of 6,000 ha of 324-Transitional woodland/shrub and 2,000 ha 244-Agro-forestry areas, achieved through deforestation and abandonment of non-irrigated agriculture. On other hand, the new water supply has clearly influenced more intensive use development like the addition of 212-Areas permanently irrigated land and 221-Vineyards.

5. Trend Scenarios (TS) of Alqueva landscape – 2025 and 2050

Based on the extrapolation of 2000-2006 transition matrix, the trend scenarios for 2025 and 2050 represent the projection of past trends by means of long continuation of the registered land use/cover change, not integrating the desire of taking into account any other prospective dynamic. So, in these two scenarios the main following aspects are expected to continue (table 1):



CLC Class	Past (ha)		Predicted (ha)			
	2000	2006	TS - 2025	Change 2006/2025	TS - 2050	Change 2006/2050
111	65	65	65	0	65	0
112	1300	1400	1666	266	2057	657
121	108	127	127	0	127	0
133	40	117	117	0	262	145
142	0	0	1236	1236	1236	1236
211	66514	64331	57900	-6431	51072	-13259
212	3248	3686	4764	1078	6317	2630
221	4587	4946	5966	1020	7383	2437
222	437	426	392	-34	357	-68
223	29934	30064	30315	251	30357	294
231	504	468	371	-97	275	-193
241	4533	4552	4478	-74	4415	-138
242	8868	8858	8830	-28	8757	-102
243	5978	5992	5937	-55	6382	390
244	69343	70609	74906	4296	81724	11114
311	59375	55248	44465	-10784	34059	-21189
312	2648	2197	1225	-972	581	-1616
313	981	989	1011	22	1263	274
321	2036	2062	2117	55	2279	216
321a	0	0	0	0	0	0
323	5783	5240	3847	-1393	2636	-2603
323a	0	0	0	0	0	0
324	16415	21321	32964	11643	41095	19774
324a	0	0	0	0	0	0

Table 1 Prediction of future land use area change for 2025 and 2050 (hectares).

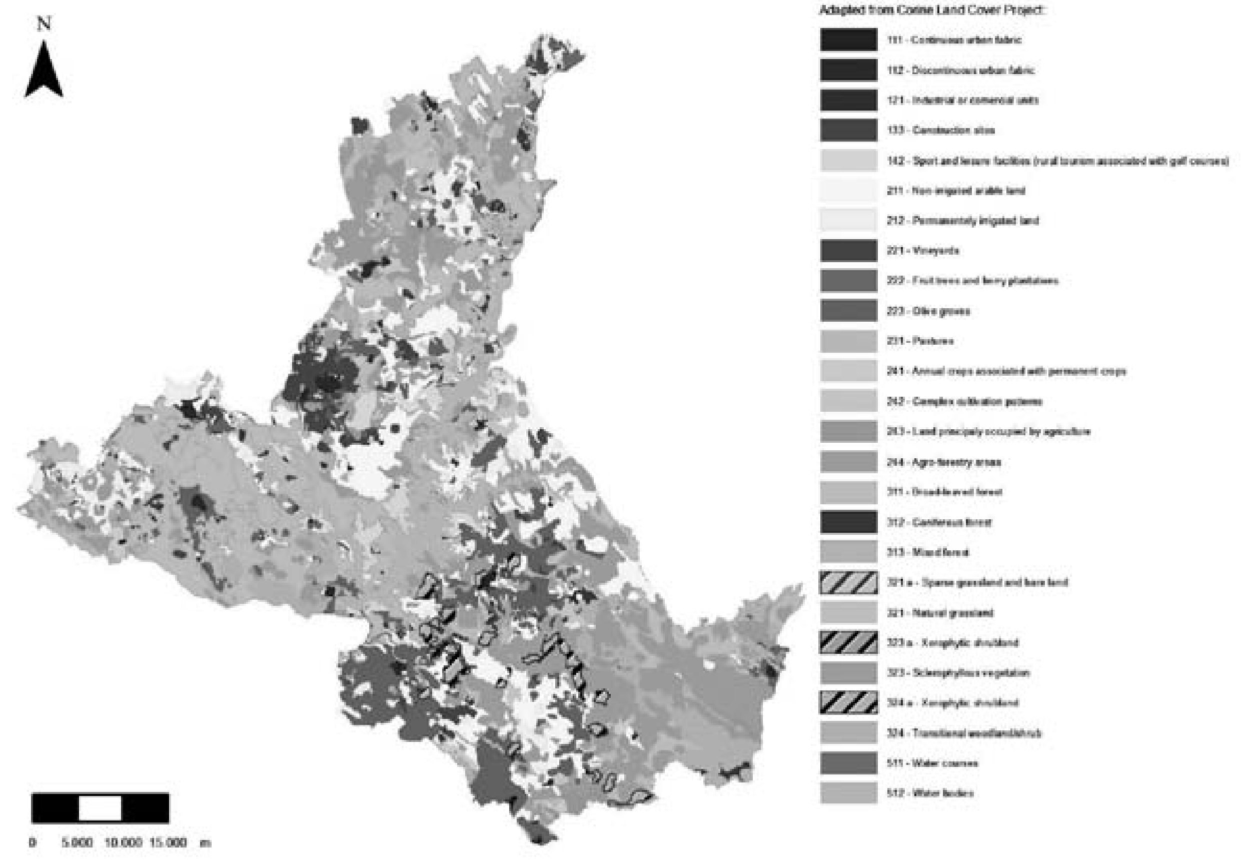

N
Adapted from Corine Land Cover Project:
111 - Continuous urban fabric
112 - Discontinuous urban fabric
121 - Industrial or comercial units
133 - Construction sites
142 - Sport and leisure facilities (rural tourism associated with golf courses)
211 - Non-irrigated arable land
212 - Permanently irrigated land
221 - Vineyards
222 - Fruit trees and berry plantations
223 - Olive groves
231 - Pastures
241 - Annual crops associated with permanent crops
242 - Complex cultivation patterns
243 - Land principaly occupied by agriculture
244 - Agro-forestry areas
311 - Broad-leaved forest
312 - Coniferous forest
313 - Mixed forest
321 a - Sparse grassland and bare land
321 - Natural grassland
323 a - Xerophytic shrubland
323 - Sclerophyllous vegetation
324 a - Xerophytic shrubland
324 - Transitional woodland/shrub
511 - Water courses
512 - Water bodies
0 5.000 10.000 15.000 m

Fig. 3. Backcasted scenario of land use change due to bioenergy production, intensification of agriculture, tourism developments and climate change for the year 2050 (1:850,000).

- Loss of forest cover (311-Broad-leaved forest and 312-Coniferous forest);
- Loss of area of 211-Non-irrigated arable land;
- Increase of 212-Permanently irrigated land;
- Increase of 221-Vineyards and 223-Olive groves.

It is impossible to predict the evolution of the 111-Continuous urban fabric at this territorial scale. On the other hand, the trend of increase of the class 112-Discontinuous urban fabric is a notorious element in the projected trend.

The starting point of the scenarios is 2006, but at that time there was no golf course resort. As so, in a new category (142 – Sport and leisure facilities), the conclusion of present (2012) golf projects under development was contemplated in TS 2025 and 2050: Parque Alqueva – Herdade do Roncão; Herdade dos Gagos e Xerez.

These (forecasted) scenarios are tools that make possible a comparison between the implications of LUCC from past trends and from other different futures (backcasted).

6. Backcasted Scenarios

Given the current socio-economic crisis and the consequent rise of uncertainty towards the future, it is not congruent to predict any prospective redirection for 2025, beside this trend itself. For longer periods (2050) the backcasted dynamics for the future land use change may be:

- Production of biomass for bioenergy;
- Intensification of agriculture by irrigation;
- Rural tourism and golf developments;
- Climate change.

The first scenario expresses the expectation of increase of forest area (311-Broad-leaved forest; 312-Coniferous forest; 313-Mixed forest) due to biomass production for bioenergy. Agriculture could also contribute to bioenergy, but its intensification is studied in the next scenario.

After running MOLA, the allocation of new forest land use and its quantification was made by the addition of a I1,5 * area of change observed between CLC2006-TS 2050I to the map of trend scenario for 2050 (TS 2050). This addition was done only for 311-Broad-leaved forest and 312-Coniferous forest; 313-Mixed forest.

The intensification of irrigation scenario expresses the expectation of increase of agricultural and potential irrigated areas (212-Permanently irrigated areas, 221 – Vineyards, 222 – Fruit trees and berry plantations and 223 – Olive groves), due its intensification, given the new availability of water supply.

The allocation of new intensive and irrigated agricultural land use and its quantification was made by the addition of a I1,5 * area of change observed in the CLC2006-TS 2050I to the map of trend scenario for 2050 (TS 2050). This addition was done only for 212-Permanently irrigated areas, 221 – Vineyards, 222 – Fruit trees and berry plantations and 223 – Olive groves.

The tourism development scenario expresses the expectation of increase of golf resorts (142 - Sport and leisure facilities) and tourist urban sprawl (112 – Discontinuous urban fabric).

The allocation of new areas of 142 - Sport and leisure facilities development was made by the addition of the areas of the other two projects of Parque Alqueva and all the tourist areas (supposed to be concluded or implemented until 2050), which integrates the following tourist golf projects: Herdade do Barrocal; Land Reserve – Herdade do Mercador; Fortaleza de Juromenha; Marina da Amieira; Guadiana Parque – Herdade das Ferrarias; Vila Lago Monsaraz – Golf and Nautic Resort – Herdade dos Gagos e Xerez. In the other case, the allocation by MOLA of increase of 112 – Discontinuous urban fabric by touristic development was done by the addition of 300 ha of that class.

For the last scenario of climate change the Regional Climate Model -HadCM3 was taken in consideration. According to the model, the precipitation and temperature prediction for south of Portugal (that includes the Alqueva landscape) is -17% and -26% for 2025 and 2050, respectively (Santos *et al* 2002).

At present, the Alqueva landscape is characterized by the biome of Temperate sclerophyll woodlands and shrublands (Santos *et al* 2002), where the predominance of low-density forests of evergreen sclerophyllous trees (with leaf anatomy adapted to mitigate the effects of summer drought) such as cork oak and holm oak is evident.

In the future, the transition of that biome to Temperate xerophytic shrubland (dominated mostly by the non-tree species, namely xerophytic shrubs) is expected (*ibid.*). The holm oak is expected to resist with strong resilience the future water deficit, continuing to exist in the typical woodlands. At the same, the decline of cork oak is predicted. The woodlands of the Alqueva surroundings are mostly composed by holm oak trees. This type of resilient forest cover is not supposed to change significantly for 2050. It is predicted that the CLC land use type 32: Shrub and herbaceous vegetation associations will be less resilient in critical areas. For 2050, the shrub areas in most of the arid areas (<400mm/year and average temperature >17°C) are predicted to change to: 321 - Natural grassland to 321a - Sparse grassland; 323 - Scelophyllous vegetation to 323a - Xerophytic vegetation; 324 - Transitional woodland to 324a - Xerophytic vegetation.

Land use maps were produced for all of the above described scenarios. The final map of land use changes that combines all the backcasted scenarios of land use change for the year 2050 can be seen in Figure 3.

6.1 Monitoring the risk of erosion due to land use change

The trend scenario for 2025 and 2050 presents a great loss of consolidated forest (311 and 312 classes, mostly) and a respective increase of less dense vegetation cover (324-Transitional woodland/shrub and 244-Agro-forestry areas, namely oak woodlands). An increase of soil erosion is expected since the RUSLE's factor C for the new land use is higher than the old one.

The trend transition of 211-Non-irrigated arable land to 221-Vineyards could also induce the increase of soil loss (higher value than 211). On the other hand, the backcasted scenario for 2050 gives information about prospective changes in the future that can influence soil erosion as the following aspects:

- Biomass production for bioenergy by the increase of consolidated cover;
- Intensification of agriculture and irrigation – induction of soil erosion (212, 221, 222 and 223 classes have high values of factor C);
- Rural tourism and golf course developments – since the golf courses have permanent vegetation cover, the increase of soil erosion risk is not expected after the construction phase;
- Climate change will decrease the shrubland density and will raise the soil erosion risk.

After the presentation of scenarios of land use change and to prevent the silting up of the dam by soil loss, the monitoring of the Alqueva landscape is crucial, based on the following indications:

- The structure of the landscape should be mapped in terms of land use for periods of 10 years to check any scenario change not contemplated at the present moment;
- Afforestation of a protection zone of 500m measured from the lake maximum level and of the most susceptible to erosion and climate change areas;
- Prohibition of vegetation control practices that may induce erosion on the 500m protection zone;
- Control of the increase of intensive agriculture areas, based on the evolution of water availability and the risk of erosion.

The analyzed Landscape Plans are expected to be reviewed in the future, but the objectives of irrigated agriculture and tourism intensification are expected to continue. Nevertheless, with the expectation of climate change impact, the Lanscape Planning agents have to be conscious and take actions to exhort landscape resilience.

7. Conclusion

The visioning and backcasting approach used in this study defines and evaluates alternative images of the future and "casts back" to the present. The present study was able to apply a reliable methodology for the analysis and simulation of the Alqueva landscape in the future, based on recent land use change. The construction of thematic scenarios enabled the exploitation of LUCC influence on soil erosion (using the RUSLE model), resulting from land use and landscape configuration change. The risk of erosion at the Alqueva dam watershed will rise if the changes continue without any intervention for site-specific land use planning. Therefore, the outcomes of this research study will provide valuable recommendations to local decision-makers, to land owners and to interested citizens. Backcasting may help the land use planners to prevent an accelerated silting up in the Alqueva dam lake and to safeguard the sustainability of the landscape.

This paper resulted from a Master Thesis in Landscape Architecture which combined the skills of critical and creative thinking, decision-making, problem-solving and planning with the use of appropriate technology. In the present paper, a case of education for sustainable development was presented which encompasses a vision of society that is not only ecologically sustainable but also one which is socially, economically and politically sustainable as well.

Acknowledgment

This research was financed by the Fundação para a Ciência e Tecnologia (FCT) research project PTDC/AAC-AMB/102173/2008 and the Centre of Spatial and Organization Dynamics (CIEO).

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Phytopathologous Manager: Professional Multidisciplinary Expertise for Landscape Plants

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Abstract: Diseases can affect the survival or aesthetic value of landscape plants. These plants are generally costly; therefore phytopathologous managers need to be conscious that preventive maintenance to control diseases or plant health care is less expensive than buying replacement plants. Phytopathologous managers have to pay attention to several important concepts regarding plant disease: susceptibility, resistance, latency, etc. This professional expertise involves a deep integration between one's own competences and other disciplines such as design, planning, management, and socio-economic issues. This paper discusses the importance of creating specific *curricula* within higher education programmes, based on the experiences of the degree courses in the fields of green areas and landscape management of the Department of Agricultural Sciences at the University of Bologna (Italy).

Keywords: phytopathologous manager, plant diseases, interdisciplinary competences, environmental analysis, education programmes, Bologna University degree

1. Introduction

Landscape plants represent a substantial investment in the aesthetic appearance of the home and commercial landscape. Plant diseases can affect the survival or aesthetic value of these plants, but, considering that landscape plants (especially if woody) are generally costly, and that preventive maintenance to control diseases, or plant health care, is less expensive than buying replacement plants, a new "professional expert" could be introduced, called "Phytopathologous Landscape Manager" (PLM) for an "intelligent disease management".

This professional expertise involves a deep integration between specific competences and other disciplines such as design, planning, management, and socio-economic issues. It is the PLM's task to examine the basic causes of "stress" to a plant and to suggest corrective measures that promote plant health, by utilizing all suitable techniques: botanical, chemical and cultural (fertilization, irrigation, resistant plant varieties, etc.). All information to prevent or reduce plants diseases, which can be maintained at tolerable levels, forms part of an integrated landscape disease management (Bianchi *et al* 2006). This interdisciplinary approach to landscape management is still under development.

2. Management strategy

At Bologna University (Italy), the degree course of "Verde ornamentale e Tutela del Paesaggio" prepares the students to become landscape planners or designers, to also consider this new professional role by intensive interdisciplinary work, as indicated in the "Design guidelines for an Italian landscape manager".

2.1 Understanding woody plant diseases

The causes of plant diseases in the landscape are often misunderstood. This is because pathogens are not easily visible, and because the diseases result from complex interactions between the landscape plants, the disease-causing pathogens, and the environment affecting the interactions.

In addition, most students do not easily recognize one pathogen from another and consider all "microbes" (fungus, bacteria, virus, phytoplasma) dangerous: if a plant has damage and there is an infective agent close to that damage, the student generally concludes that this agent is the causal organism. Actually, many agents do not cause severe economic but only aesthetic damage to woody (trees and shrubs) ornamental plants.

The PLM, for an effective woody ornamental pest management program, needs to be aware of several important concepts regarding plant diseases (Phytopathology) that are closely related to genetic, agronomic, and ecological, etc., disciplines.

2.1.1

Landscape plants differ in their disease susceptibility or resistance. Many nurseries label disease resistant cultivars for the customer's information.

The PLM can choose plants that are less susceptible to common pathogens. Furthermore, susceptibility of many landscape plants to disease can be altered by the growing conditions. Plants with low energy reserves due to drought, injuries, and poor nutrition may have little energy left to fight diseases (Desprez-Loustau *et al* 2006).

2.1.2

Maintaining a diversity of plants in the landscape and trying to include some plants native to the area, is an important issue: trees and shrubs can be combined to form a complex ecosystem.

2.1.3

Some diseases are not infective, such as iron deficiency chlorosis and tree decline, which can be caused by adverse growing conditions, such as soil nutrients, pH imbalance, construction injuries, soil compaction, air pollution, etc. (e.g., an excess of nitrogen promotes rapid growth and increases susceptibility).

2.1.4

Infectious diseases often exist unseen in a dormant form, waiting for the right conditions to occur before beginning an infection. Some pathogenous agents that cause diseases are almost always present, no matter how the landscape is managed (e.g., rose black spot or mahonia rust), while others can be kept out of the landscape by wise management (fire blight by *Erwinia amylovora*).

3. Landscape environment

Management of the environmental landscape can have a deep effect on whether or not a disease will occur, and how damaging it will be. In fact, of the three elements needed for disease development (susceptible host, virulent pathogen, and favourable environment), changing a disease-favourable environment is often overlooked as a disease control procedure (Desprez-Loustau *et al* 2006, Tubby and Webber 2010). A good plant-growing environment that is unfavourable for disease development should be created prior to planting. In general, rainy, foggy weather and poor drying conditions favour foliar diseases, and wet soils favour most root decay diseases. Almost any change of environmental conditions will alter the disease situation, sometimes for good, and sometimes for bad. However, even the environment of mature landscapes can be alterated to reduce diseases of landscape plants: e.g., the protection of plants from winter injury prevents woody cankers and leaf spot diseases.

Disease control - Biological control practice is the safest and most effective way to control diseases (such as resistant or tolerant cultivars), but biological methods are limited. There are good reasons why homeowners and PLMs prefer biological and cultural practices for landscape disease management. Reduced uses of chemical pesticides in urban landscapes have evident environmental, work safety, and public health values. Landscape diversity lends itself to custom tailoring of site specific disease control methods, which often favour biological and cultural techniques (Manel *et al* 2003). Some cultural practices provide broad-spectrum disease management.

Chemical control for diseases should be used only when strictly needed (a routine chemical application for disease control is necessary only when non-chemical control measures are inadequate and when the disease is a known threat to irreplaceable plants in the landscape). Fortunately, most diseases of landscape plants do not require annual or regular chemical applications.

4. Conclusion

A good strategy of integrated landscape disease management considers that many problems of woody plants result from poor growing practices and not from diseases. For example, girdling roots that develop due to planting too deeply or piling mulch high against the trunk are the result of poor growing practices.

The student of Bologna University who wants to become a PLM has to follow this simple scheme that gathers the main disease management practices:

Design guidelines for an Italian landscape manager
- 1st step: native plants are always a good choice
- 2nd step: look for disease-resistant varieties
- 3rd step: healthy plants
- 4th step: agronomical practices
- 5th step: monitoring

1st step: native plants are always a good choice

Fig. 1. Public garden created with plants well phytoclimatically and aesthetically integrated.

The creation of private or public green-spaces needs the use of species of the Mediterranean maquis (Fig. 1): autochthonous plants, represented by the evergreen sclerophylls, are those with the best establishment and development potential, since they are well phytoclimatically and aesthetically integrated and less vulnerable to diseases. Attempting to grow plants not suited to the Mediterranean climate or in poor growing sites will result in sick plants due to lack of knowledge or judgement (Plantegenest *et al* 2007). For example, the Common Crapemyrtle (*Lagerstroemia indica*) (native to China and Korea) is a very adaptable species and so a valuable landscape plant that can be used as a shrub or small tree (Fig. 2). As an asset to almost any landscape, the Crapemyrtle is a very beautiful species, often used in groups planted with ground cover. Care of the Crapemyrtle in the Landscape: this plant must be grown in full sun for satisfactory flowering and to reduce disease problems. While it will tolerate a wide range of soil conditions once established, the Crapemyrtle does not thrive in a very wet location. A few pests can be a problem for the Crapemyrtle. Diseases such as powdery mildew, black spot, tip blight, leaf spot, and root rot can affect this plant.

2nd step: look for disease-resistant varieties

Resistant cultivars can be used for: juniper tip bight; flowering crabapple scab, fire blight, cedar-apple rust and powdery mildew; horse chestnut leaf blotch; elm disease and hawthorn rust (Wennstrom and Eriksson 1997). Resistant species can be used to control verticillium wilt (Fig. 3) and other diseases (McDonald and Linde 2002) (Fig. 4 and 5).

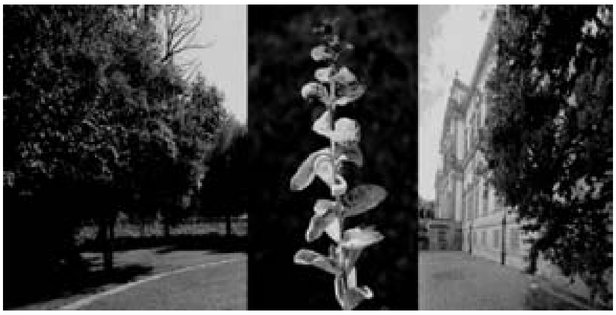

Fig. 2. Crapemyrtle is a very beautiful species, often used in groups under planted with a ground cover. Diseases, such as powdery mildew (middle), can affect this plant.

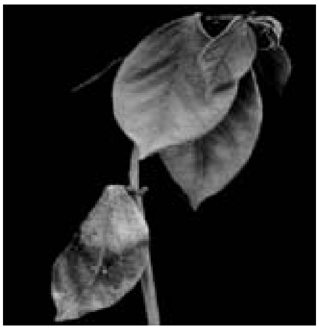

Fig. 3. Vascular wilts (Verticillium spp.) in Viburnum tinus: the first symptom is usually dieback of young twigs and branches. A black brown ring can usually be seen in the vascular tissue of dead twigs. Mature trees may "seal off" the infection and live for many years. Others may die quickly. The outcome is difficult to predict.

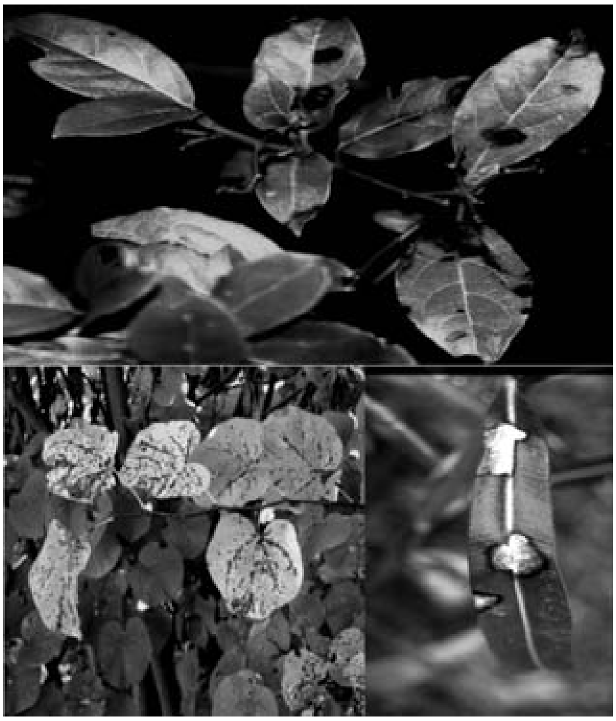

Fig. 4. Leaf spots, shoot blights, twig dieback and "anthracnose" in perennial woody plants can be caused by dozens of different fungi (top: V. tinus; bottom: Cercis siliquastrum and Nerium oleander).

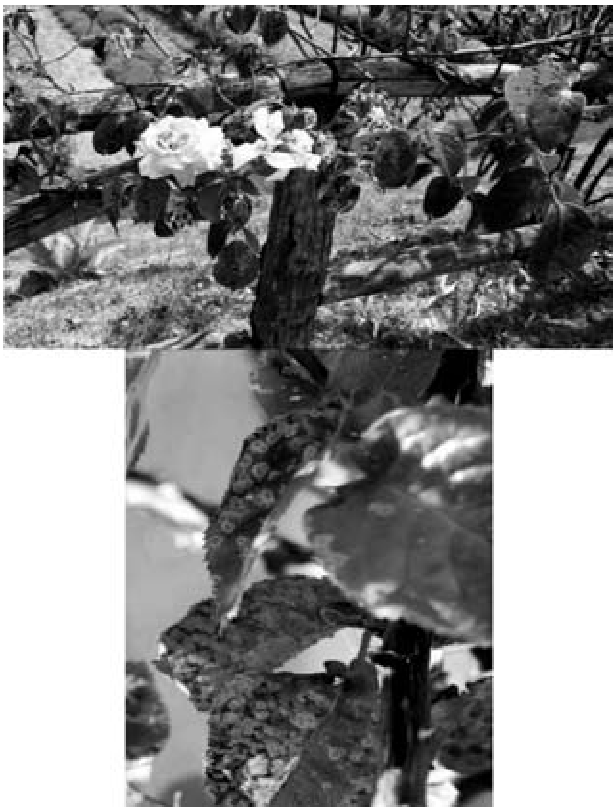

Fig. 5. Rust disease. The pathogen causes unsightly yellow, orange or brown spots on leaves, often accompanied by early leaf drop. Some need an alternate host to complete their life cycle each year (such as pear trellis rust on pear and juniper); others will continue to infect only one host species year after year, such as Rosa spp. Control consists on removing one host in the first case, plus raking and disposing of infected leaves. Resistant species should be used.

3rd step: healthy plants

The principle behind cultural controls is that a healthy plant can more likely withstand diseases than a plant that is under stress. In addition, before planting, insist on clean stock and use disease-free plants from a reputable nursery.

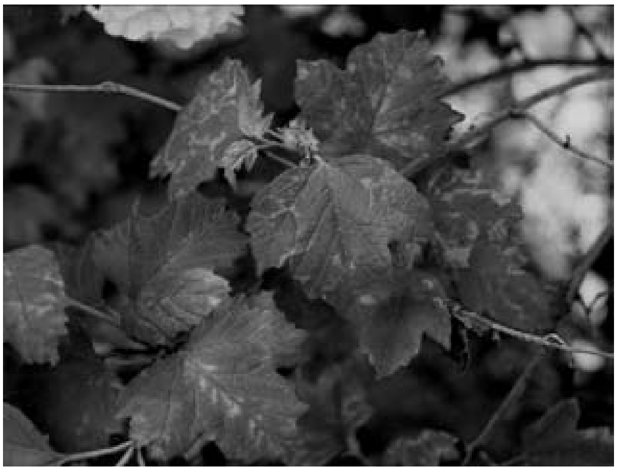

Fig. 6. Viburnum opulus (top) and V. tinus (bottom) infected by the alfalfa mosaic virus (AMV).

For example, many woody ornamentals are susceptible to virus diseases. These will not usually provoke any damage to the plant unless it is severely pruned or growing under stressful conditions. However, a stress episode can then lead to irreversible decline when combined with virus infection, and so, it is necessary to allow virus-free plants. The viruses usually spread to other species in the landscape by natural vectors (aphids, thrips, etc.). Some virus diseases, such as yellow mosaic on *V. tinus*, *V. opulus* (Fig. 6) or lavender (Fig. 7), are easily identified by the symptoms on the leaves. In other cases, the symptoms are more general and can resemble nutrient deficiencies (Parlevliet 2002**,** Plantegenest et al 2007). The Plant Diagnostic Lab of the University of Bologna is equipped to identify most specific viruses.

4th step: agronomical practices

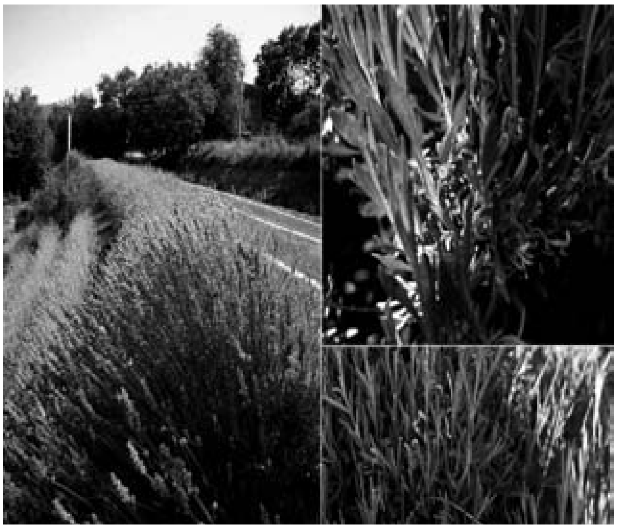

Fig. 7. Lavender infected by AMV, showing leaf deformations and yellow spot.

When planting, it is important to prepare the soil well and give the plants plenty of space to grow. Over-crowded plants become stressed trying to compete with neighbouring plants for light, nutrients and moisture and are more susceptible to disease, due to poor air circulation. In addition, make sure that all plants are watered deeply when needed (mulching will help reduce the need for watering and weeding); do not over-fertilize. Soil amendments such as compost, bone meal and manure applied in the growing season help to reduce the need for chemical fertilizers. In addition, avoid using planting sites that might be contaminated with pathogens and avoid adding contaminated compost or soil to the landscape; when replanting, avoid setting new trees and shrubs in the same area where the previously sick or dead plant once grew (Laine and Hanski 2006, Peters *et al* 2003, Otten and Gilligan 2006).

5th step: monitoring

Closely monitor all plants for any signs of disease problems caused by fungi, bacteria, nematodes, viruses and phytoplasmas. In addition, remove and destroy alternate host plants which may harbour the pathogen. As regards bacterial diseases, there are different common bacterial diseases on woody ornamentals (Fig. 9). *Erwinia* fire blight and *Pseudomonas* bacterial blight (also called bacterial canker) are the most important. Fire blight only attacks plants in the *Rosaceae* family, such as apple, pear, cotoneaster, and rose. Bacterial blight or canker attacks many species; lilac and all *Prunus* species such as flowering cherry are highly susceptible. Once twigs dry out, it is virtually impossible to isolate the bacteria in the diagnostic lab, even though the symptoms may be strongly suggestive of bacterial disease. Only fungicides containing copper will help control bacterial diseases, but these may cause spotting or burn of young shoots in spring if applied at higher rates or under slow drying conditions.

Fig. 8. When planting, it is important to prepare the soil well and give the plants plenty of space to grow.

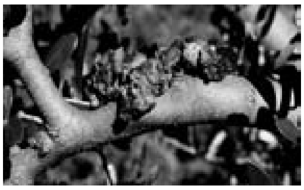

Fig. 9. ((left) As regards bacterial diseases, there are different common bacterial diseases on woody ornamentals Pseudomonas savanastoi frequently infects Olea aeropea, typical species of the Mediterranean maquis.

Fig. 10. (right) The garden of an important hospital near Imola (Bologna) where in 2012 the students of the degree "Verde ornamentale e Tutela del Paesaggio" worked to verify what they had learnt to become a Landscape Manager.

Benefits to university students from interdisciplinary work

The redevelopment of a green area, private or public, as well as of a historical garden, must be considered as an excellent opportunity for the student of Bologna University to verify what has been learnt by taking the degree course "Verde Ornamentale e Tutela del Paesaggio".

For this reason, in 2010 students tackled a practical "case" concerning an historical garden in "Palazzo ex-Porzi" in Imola (Bologna), abandoned, with original plants in a bad state of health and rich in wild plants, because it went untreated for several years. In order to give "a new look" to this private garden, the students carried out:

- Analysis of the area: site plan, exposition, microclimate, soil composition and census of all original and wild plants (herbaceous, shrubby and trees), indicating their botanical name, age and pathological status.
- Design and choice of plant species: the choice of plants to insert in the different project proposals was conditioned by various factors, starting from the economic and architectural. Among the original plants previously planted in the Garden, and according to agronomic and aesthetic parameters, the students selected the most decorative, well phytoclimatically and aesthetically integrated, less vulnerable to diseases and so potentially durable, according to steps indicated in the "Design guidelines for an Italian landscape manager". Similarly, in another practical experiment carried out in 2012, some students were involved in the redevelopment of a green area adjacent to an important hospital building near Imola (Fig. 10). Again, it was necessary to check accurately the vegetation present, before designing a "new" green area with plants having the best performances, even from a pathological point of view.

On the basis of these and other similar practical experiments of garden and landscape redevelopment and in order to better prepare the students of "Verde Ornamentale e Tutela del Paesaggio" to become landscape planners or designers, we believe it is important to organize a interdisciplinary workshop. This innovative training would involve more teachers of different disciplines (agronomy, botany, economy, plant pathology, architecture, landscape design, etc.) at specific times and collegial amalgamation is currently on the course of study and will soon become a reality. Only through complex and intensive interdisciplinary work can the student become a professional expert of green areas and landscape management.

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The Wonderful World of "Augmented Landscape"
New Challenges Ahead
in Educating Future Designers' Eyes With Digital Technologies

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Abstract: The way we see and sense landscapes relies upon the visualization media which shape images of the world in which we live. Digital technologies recently brought upon significant changes in both visual and mental experiences of landscape. But how do these images and devices *practically* change our vision of the environment? Based on material collected during recent teaching and research experiences in Geneva and Versailles, this article assesses their impact on perception schemes and knowledge involved in landscape and architectural design curricula. In an inter-disciplinary approach across cognitive sciences and humanities, the paper points to the challenges raised by visualization technologies in the education of future generations of designers. Promising to gradually bridge the gap between human vision and artificially-made 3D images, the notion of "augmented landscape" is suggested here as an operational metaphor, announcing a major shift in our visions and conceptions of landscape.

Keywords: Vision, Visual, Perception, Landscape, Representation, Augmented Reality, Augmented Landscape, GIS.

1. Introduction

The use of digital technologies in the landscape representation process has been spreading at a fast pace over the last decade. This generalization, however, hides relatively different types of uses. For the purpose of this paper, I will analyze three case studies based on recent experiences in teaching landscape representation. The cases cover three uses of technologies: for data acquisition and analysis, as a simulation tool and as a communication medium. These uses encompass representations making visible what is not ordinarily visible through senses, and others anticipating or simulating the future by making visible not-yet-created, not-yet-visible landscapes. Yet, all these representations share a common feature: they provide information about a site or landscape for which it is otherwise not possible to obtain. Technologies described here all "augment" site vision and perception with information our bare eyes cannot access. I suggest calling such new visual situations "augmented landscapes", referring to augmented reality[1] technologies as a metaphor. By opening new paths to visualizing reality, they bring new images to the designers' mind, and thereby contribute to shaping their imagination and visual experiences. To clarify what augmented reality is now and will become in the near future, let us consider the "Glass project" unveiled by Google in early 2013. To define it simply, Google Glass is a computer built into the frame of a pair of glasses[2]. It is a lens plugging a digital screen directly onto our eyes. Google Glass is augmented reality because it superimposes information relative to the environment, adding to the user's visual perception. Such devices will most probably make augmented reality part of our daily lives in the near future. And we already know what kind of images these glasses will project, as these are already displayed today on devices such as computer screens, tablets or smartphones. It is then not too early to investigate the impact these may have on the perception and representation of landscapes.

2. Three case studies

2.1. Images to simulate project alternatives

This case study analyzes the use of simulation technology as a tool in the mediation process between parties in a landscape project. The experiment was made possible by educational and research cooperation between Switzerland and France. Geographic Information Systems (GIS) and 3D modeling technologies are now widely used for designing, planning and communicating landscape projects. But their use as living labs during project mediation has seldom been attempted, which probably makes this case unique in Europe. In 2010, the ENSAM Engineering School opened a 3D simulation, virtual reality and augmented reality post-master program opened to architecture, engineering and landscape graduate students. The one-year course included a six-month training period in a professional environment. In charge of the urban part of the curriculum, I initiated a 3D GIS field study partnership with the State of Geneva Land Survey Department, hosting one of the most advanced systems in Europe for urban, environmental and landscape planning (SITG). Our cooperation ended up in the enrollment of one of our graduate students, who was assigned the mission of setting up a 3D simulation platform for a new dam project at Conflan on the Rhone River (see Fig. 1). This project is strategic in the Geneva context: today's electric power supply facilities will not meet future demand growth, while the dam project is not deemed acceptable from local inhabitants' and environmentalists' viewpoints[3].

The 3D modeling and simulation tool was deemed efficient enough for the Land Planning Department and the Power Supply Authority of Geneva to decide its use in the mediation process between habitants, associations, county representatives and other local authorities. Such consultations are common in the Swiss local democratic tradition: any project threatening to alter landscape has to be approved by the local population of the area potentially impacted. This led to the organization of "consultation days" in Geneva to debate the project and its various alternatives (see Fig. 2). The 3D tool was used to visualize project design options in real time during the discussions, to assess the visual impact of different planning choices. It also proved to be an effective tool for counterpart negotiation between parties. As project design and planning are on-going, spanning over several years, it is too early for any conclusion about the future of this platform in the political process. But the experiment brought enough feedback to evaluate the pros and cons of using

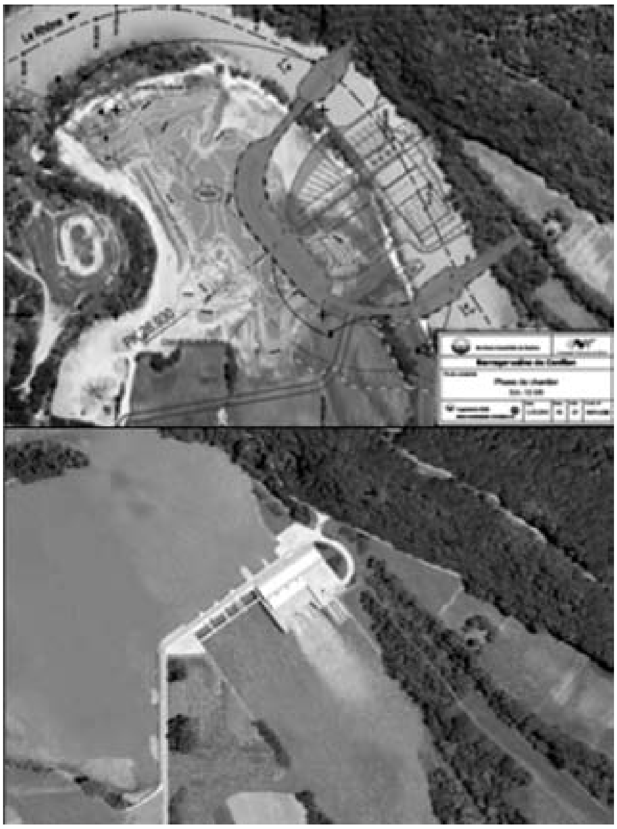

Fig. 1. Initial project plans superimposed on aerial view of the dam site at Conflan near Geneva (top). 3D simulation showing the impact of the water reservoir, dam and power plant (bottom). Courtesy of Laurent Niggeler, Service de la Mensuration Officielle, Département de l'Intérieur et de la Mobilité, Etat de Genève, 2011.

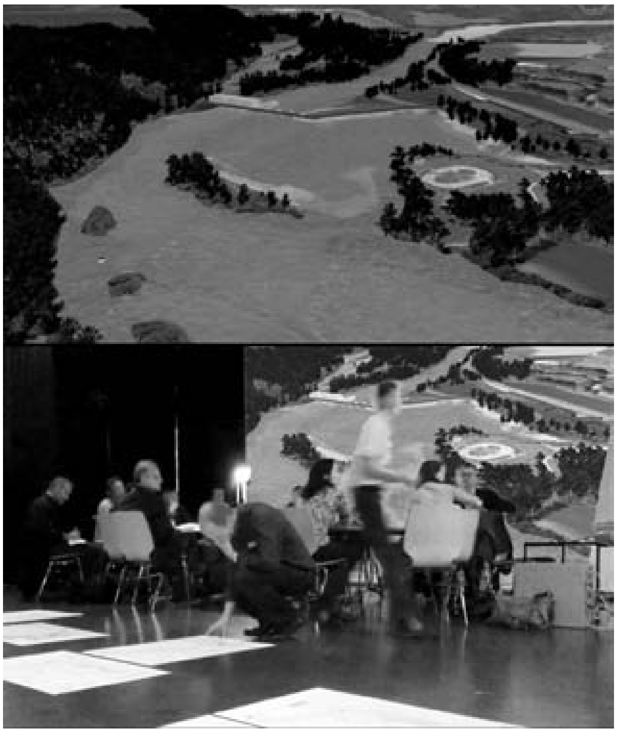

Fig. 2. During "consultation day" in Geneva: discussing project alternatives of the dam on the Rhône River. Real time 3D simulation appearing on computer screen is shown above, while paper plans lay on tables…and floor.

real time simulation data in landscape project planning. The case is also interesting for assessing educational and professional training in 3D technologies. I will analyze these points further below.

2.2. Images to communicate design concepts

The second story relates to the use of 3D images in Urban Studies courses at the Ecole Nationale Supérieure d'Architecture de Versailles in 2012. This case questions the relation between 3D design project images and the "real city" as perceived at street level. I chose to study the same city of Massy[4] in two different courses. This dual experience offered an opportunity to gather materials and compare mental and visual representations in different educational methods, which I will briefly introduce. The first course is a Lecture in Modern Urban History of "Grand Paris". In a didactic approach, we study recent and contemporary planning projects in selected areas, based on documents produced by the professionals who designed the projects. The second course is an Urban Renewal field study, focusing on social housing improvement plans. It includes field visits, interviews and workshops with inhabitants, social organizations and local authorities.

Over the past 80 years, Massy has grown from a small agricultural village to a large suburban area. It is well connected to the region through the metropolitan express network (RER), motorways and the high speed train line (TGV). Its fast growth has expanded the city beyond its original limits, with sprawling individual residence allotments and with social housing, low rent programs (HLM). These very large buildings (grands ensembles) were constructed after WWII according to the standards of the Charter of Athens. Recently, insecurity and other social problems attracted much attention there[5]. Today Massy's city structure is split in four different parts, separated from each other by wide railroads and highways. As many suburban cities, it suffers from a lack of central identity, and its landscapes do not offer a clearly legible image. In this context, architect Christian de Portzamparc was commissioned to develop a business area around a new high speed train station and communication hub. Portzamparc's design was bold and large scale, connecting Massy to other most active economic centers in the south and west of Paris, while attempting to stitch its different parts. His team produced 3D images of what Massy would possibly look like in 20 years from now (see fig. 3). Based on brilliant urban history and spatial analyses using satellite imagery, remote sensing, GIS technologies, the pictures are effective selling tools, with a cool, clear cut yet peaceful graphic touch.

Let us now look at the image of Massy as it emerges from the Urban Renewal course. In the field study, we gathered tens of interviews, hundreds of sketches, notes, photographs and comments, collected with an approach to survey close to Kevin Lynch's "Image of the City". While Portzamparc designed a large scale plan supposed to solve the city's problems *in theory*, the HLM buildings still arise as an insurmountable obstacle *in practice*. Our walks and street interviews did not convey the feeling of being in a place with a clear, peaceful and socially integrated urban atmosphere. In the 3D image, the reality of this situation is not visible. Yet in real city life, it is all but imaginary. In Massy people's eyes, the 20 year plan hardly conveys the image of a dream. Do inhabitants still believe in high-tech images?

The distance between artificially-made, top-down images and the perceived "image of the city" seems to create an unbridgeable gap between urban planning and social situations. These two categories of images do not speak the same language. Yet the same eyes of the same people look everyday at the same real places.

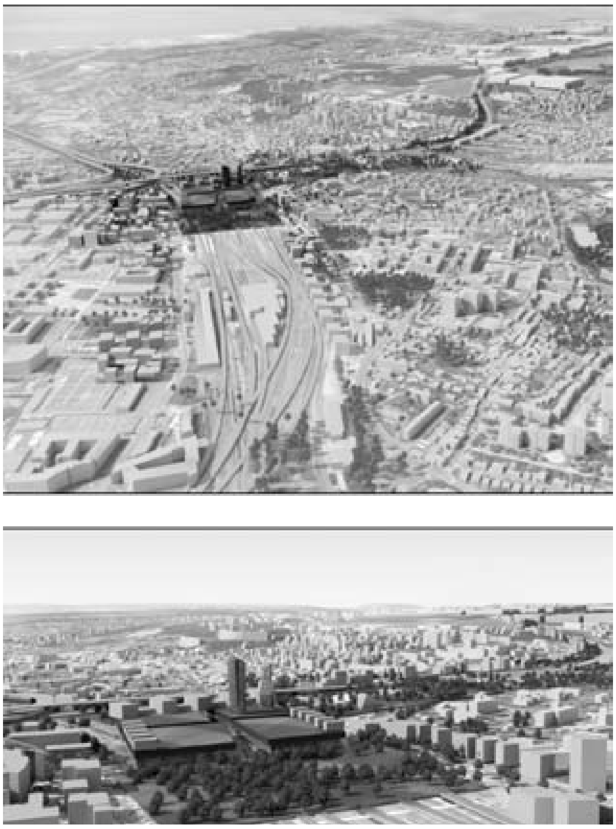

Fig. 3. Massy city center's new hub projected in 2030. Christian de Portzamparc, 3D conceptual design images for Le Grand Pari de l'agglomération Parisienne, Consultation Internationale, 2009.

2.3. Images to visualize soundscape

The last case is a representation workshop conducted in the *Master in Landscape Project Theory and Practice* (Théorie et Démarche du Projet de Paysage) at the Ecole Nationale Supérieure du Paysage at Versailles in 2012. The goal of the workshop was to guide students through the representation process, letting them confront different methods and media to the perception of landscape on site. The workshop started with a field visit. The exact location was not revealed beforehand, so that the experience could not be "polluted" by maps, photographs or Google Earth. The site chosen was the park of St. Cloud, set along the Seine River, in a highly urbanized suburb of Paris. Students were invited to form small groups, choose a topic and design their way through a representation process involving the combination of various visual media. As a guideline they were asked to experiment different modes of representation and assess the gap, or "stretch", between bodily experience (walking, observing the geographic situation, framing the landscape) and the process of representation. Most groups chose to work on the relations between photographs (both aerial and ground), maps, paintings, engravings, prints, sketches. They studied their respective contributions to understanding the topographic setting, the relation between the river, the park and the urban areas surrounding it, as well as the historical construction of the site. A group of three students, Marie Colin, Thibaud Lagache and Marta Mila Pascual, chose an innovative "perception to representation" approach. They felt the ambiance of the site was intrusively dominated by noise disturbance[6], creating a "sound barrier" they considered overwhelming in the landscape experience.

So they decided to capture measures of this sound barrier, and to represent it visually. Their project required the choice of a medium to process the data and communicate the results. The students chose to combine two media: they acquired a set of synchronous data measuring the sound level produced by noise disturbance while strolling along the river, and simultaneously a series of panoramic views shot from the same spots (fig. 4). But the most original aspect of their work was the idea of combining the two media to generate a visual record of the sensorial impact produced by the disturbance. By blurring the panoramic views according to the level of noise recorded, the image merges soundscape and landscape on one single medium (see fig. 5). This experiment shows that the process of representation can draw on the sensorial experience to produce specific digital images, thus creating a new medium to visualizing sensations. When it is creatively designed[7], the "perception-to-representation" process forms a continuum, carrying bodily impressions all the way onto the image.

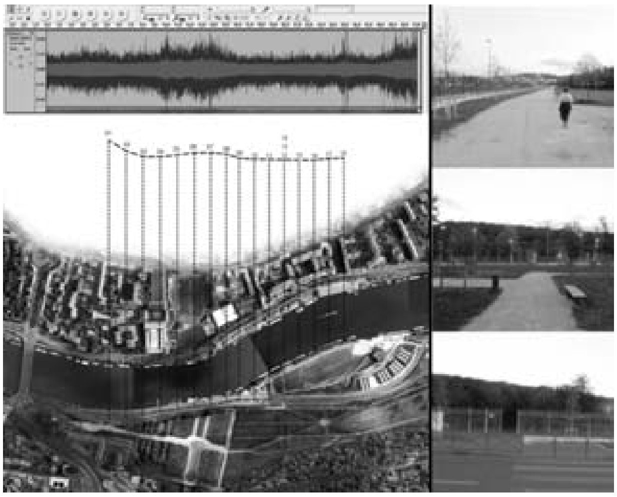

Fig. 4. Spots along the pathway for simultaneous sound recording and panoramic view captures (left). Animated sequential images captured along the walk highlighting the location of noise disturbance source in red (right), by M. Colin, T. Lagache and M. Mila Pascual (Ecole Nationale Supérieure du Paysage de Versailles).

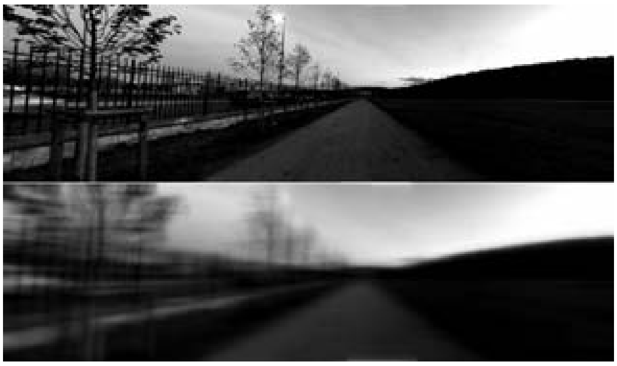

Fig. 5. Soundscape or landscape? Panoramic views blurred according to the level of noise recorded, by M. Colin, T. Lagache and M. Mila Pascual (Ecole Nationale Supérieure du Paysage de Versailles).

3. Learning from experiments

The three cases above illustrate the use of digital technologies in different stages of landscape representation: data acquisition and analysis, design simulation and communication. These experiments raise several questions which I will now discuss. How do digital images impact the landscape representation process involved? Are they likely to bring changes in the perception of landscape itself? How does the generalization of digital technologies in landscape education alter teaching methods?

3.1. Technologies and "Big Picture"

Whether we consider real time simulation of design alternatives in Geneva, design concept visualization at Massy or the "visual soundscape" at St. Cloud, all experiments enhanced computer capacities to "calculate" new landscape visibilities, otherwise impossible to think or even imagine. How are such "calculated visibilities" leading to gradual changes in the experience of landscape? One of the most obvious and well known properties of 3D images, for example, is their ability to provide non-physically accessible viewpoints to a landscape site. But digital landscape representations reach far beyond such basic possibilities, virtually encompassing an endlessly broadening spectrum of cognition fields. This paper is not the place to try to list these fields. Through the cases discussed here, my intent is rather to question the final promise of digital technologies to provide a complete and comprehensive representation of landscape. Such a promise relates to the idea of 1:1 scale digital copy of the world[8], and the social debates arising from it. In the field of landscape representation, I suggest to call this idea the "Big Picture" of the environment. Let us try to define and question the notion underlying it.

How does this notion relate to the concept of landscape management as a cross-disciplinary, transversal process, as promoted by the European Landscape Convention (ELC)? A transversal approach needs complete, multi-disciplinary models, but how to assess whether a landscape model is complete or incomplete? Adding more and more layers of information does not necessarily help to generate the Big Picture of a landscape site. More frequently, these stacks of layers lead to fragmented representations, conveying highly specialized and partial information. In the GIS world today, the only way out of the negative effects of technical partitioning is to pool data and tools. As in open data initiatives, sharing and pooling layers of data reflect the need for the cross-disciplinary, transversal notion of landscape promoted by the ECL. Such an initiative has been promoted by the State of Geneva for the past 20 years, with significant results. It is exactly what makes its SITG so successful[9]. This explains why it can provide the information background upon which the dam simulation and the mediation experiments were made possible, as it did for many other landscape, city planning or urban design projects. In this case, the resulting simulation image can help in the cross-disciplinary process because it integrates the relevant data and dimensions that parties need to evaluate the project.

A second question relates to how "close" any digital representation process can stay to the *real* experience of landscape. The "soundscape" representation designed by the students at Versailles, for example, was an interesting experiment of creating visual images of the sound recorded by a walker in the St. Cloud Park. Yet such experiments would be deceiving if they claimed to form complete and comprehensive representations of both sound environment and body motion during the ambulatory experience altogether. So let us never forget, as Merleau-Ponty insisted, that no representation can ever exhaust perceptive sensations. In other words, the notion of "Big Picture" is a reminder of landscape representation complexity and ambivalence. While digital technologies can help approaching a useful image of a site, as long as it is understood as a technical description, they should not attempt to substitute a picture to the bodily experience of landscape. An incomplete model of reality will never compose the basis for a comprehensive Big Picture.

3.2 Is this real landscape, map or 3D image?

In today's visual culture dominated by information technologies, it gets trickier each day to draw a clear borderline between different kinds of images. For example, we might ask of the source of a digital picture: is it analogical (as a photograph), or is it calculated (as a 3D model)? In an increasing number of situations, the answer will probably be both. We might ask of conceptual design pictures such as those of Massy: is this a GIS map, an aerial view or a 3D calculated image? The answer is: all at the same time! These moving borderlines generate confusion not only because they change habits in usual classification schemes. More importantly, they question the semantic dimension that can be expected from various digital representation media. They also question the reliability of information provided by the continuous flow of images dumped daily to our eyes by the internet and other media. In the landscape and urban planning professions, situation analysis, project design and development phases today rely on more and more complex digital data processing workflows. From data acquisition at the survey stage, all the way to the communication picture at the end, these workflows influence a deep evolution of iconographic styles in landscape representation. Any representation process is necessarily strongly influenced by the tools used to make visual media, encompassing the formation of mental images of a site as well. Fast changing photogrammetric, laser or photomodeling data acquisition techniques are likely to make the usual distinctions and boundaries between maps, plans and perspectives obsolete in the near future. This evolution creates confusion in the meaning of many images. For example, the use of large scale 3D images to communicate planning concepts, usually shown on maps, creates undesirable *illusions of scales*, as the Massy pictures or many other examples of Grand Paris planning consultancies clearly show. Such a growing confusion will soon call for a complete redefinition of the visual codes through which these images communicate a picture of reality. In educating landscape or architectural designers, it calls for an "ecology of images", as Ernst Gombrich expressed it nicely about print images.

3.3 Guidelines for an "ecology of images"

From the cases described in this article, some lessons may be useful to remember in other teaching situations involving images. A first one is the need to monitor the flow of images. The power of images has a huge impact on perception, and this reality should be more often questioned in curricula. In both the Versailles and Geneva cases, the experiments were set up in such a way that this power could be monitored and the flows of images used by participants in an appropriate way towards the goals pursued. The point I mean to stress here is not that we should keep away from digital media at all. It is in fact quite the opposite: by placing them in a timely manner in curricula, students are much more likely to make a relevant use of their potential. The general philosophy deriving from this article is that it is necessary to place people ahead of technology and media, and not behind.

These hints suppose that teachers master the use of digital technologies. And there is a definite difficulty in managing technology teaching and training. In most schools today, it has obviously become harder for teaching, technical and administrative staffs to keep up with the fast moving environment of digital technologies. A pragmatic attitude to their use in the classroom will help. We are all in a transition period, and it seems that we must, at the same time keep up with the technological race (students often know the latest programs better than teachers), keep some distance to it and think over its impact before implementation. As we educate future designers all the way through the professional practice, these tensions are stressed even more in landscape education, where tools are not mature yet, even among the most advanced professional studios, while the use of CAD and GIS in architecture and urban planning has become mainstream over the past five years.

Another point relates to the importance of field experience. I think it is necessary to schedule field practice as the first and foremost step in approaching a site. This seems probably obvious for a landscape school having a long tradition, but yet there is no harm in repeating it again. But it is not the case in many architectural school curricula in France today. It is useful to refer here to an article by François Arnault, Yann Nussaume and Catherine Szanto titled "Teaching environmental issues in an architectural design studio"[10]. Its authors faced similar questions in teaching environmental issues in architectural design. In particular, I fully agree with the conclusion calling for a longer exposure of students to the same site over the school years. Architecture and urban design education should consider site immersion before starting drawing or image processing as an alternative worth exploring. In any case, students should be trained in educational situations where field experience and the use of digital images are placed in relation with each other. I am aware of the impact such a conclusion might have on didactics and pedagogic construction of curricula. I believe however that the need for longer and deeper field practice is likely to increase in the future.

Digital images and technologies are likely to be placed at the heart of the creative process of future designers, even more than they are already today. According to the way we use them in education, computer technologies can either soften or reinforce boundaries between landscape disciplines. So a last guideline should be to build interdisciplinary bridges. Students learn more when they face different experiences, having to cope with fields they are not familiar with, for example in joint-programs involving several schools. Computer representations can help building a common, shared language of reference between landscape disciplines.

4. Conclusion

4.1. Towards augmented landscapes

Most of the technologies described here contribute to the implementation of augmented realities in the digital devices commonly used. What will the resulting "augmented landscapes" look like in the future? A reasonable answer should be: we do not know. Yet, digital images are becoming part of our visual experience every day. They suggest a world in which we insensitively switch back and forth between actual and augmented landscapes, anywhere, at any time. The possibility of seeing a 3D landscape or soundscape simulation projected through a pair of Google Glasses is not science fiction. It will become part of our visual experience soon, within months. On the path towards a fully visible world, which Google Earth has started unveiling, there are some potentially undesirable issues. One of them is to build barriers between reality and our representation of it.

This issue should concern the role which we expect architectural and landscape professionals will play in the design process of the future. How will they manage to read, evaluate, process and assess the growing flow of visual data available? Will they have enough time to do that or will they just run data processing applications and click the buttons, in what could look like a CALD (Computer Automated Landscape Design) process? Underlying this debate about the use of technologies, another question remains: what place will be left to designers' imagination and intuition beyond the digital screen? Imagination and intuition are among human qualities which can blossom only during the intervals between mental and visual experiences. Augmented realities will probably reduce these intervals so drastically that a major shift in our visual culture is likely to follow. There is no need to fear too much about such an anthropological shift however: it already occurred several times in human history.

4.2. Descartes' wonderful lenses

Following the birth of modern science, optical devices revolutionized land surveying, among many other human activities, including science, landscaping or painting, to name just a few. The following sentences opening the *Dioptrics*, a book written by Descartes in 1637, could well be as relevant in present times of massive digital device circulation as they were in the 17th century. Did these *wonderful lenses* also improve mankind's sensory capabilities to detect the subtle tones and multiple shades of a landscape? In other words, did this "much greater and more perfect knowledge of nature", allowed by new visual technologies, bring along more acuity in mankind's vision of its environment?

"The conduct of our lives depends on senses, among which that of sight is the most universal and noble, there is no doubt that inventions augmenting its power are most useful. It is difficult to find any that augments more than these *wonderful lenses* ('ces merveilleuses lunettes') [...], taking our view far beyond what our fathers ever imagined, they open the way to a much greater and more perfect knowledge of nature than they have had".
René Descartes (1637), *Dioptrics*, I-1, Paris

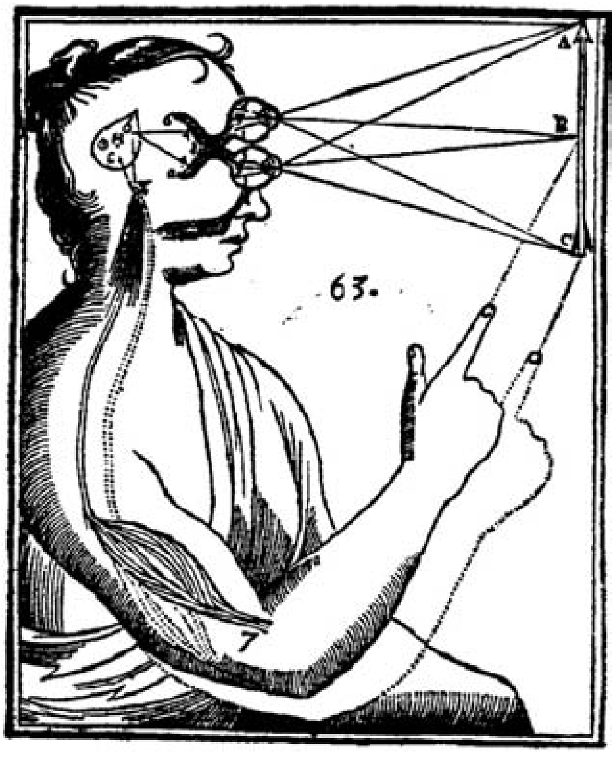

Fig.6. Drawing from L'Homme by René Descartes, original print by Charles Angot, Paris, 1664.

The wonderful lenses inaugurated a major shift in human vision and perception schemes. The way people saw and painted landscapes in the 17th century was decisively altered by a series of "sight augmenting" devices such as telescopes, microscopes, theodolites and a myriad of other optical instruments. Galileo's famous phrases after discovering the moon's surface through the telescope had announced this change earlier in the century. Digital technologies and media nowadays contribute to change our visual culture, in the way we look at landscapes and the way we move in and around them. Between 17th and 21st centuries however, scientism and positivism have ceased to be the unsurpassable horizon of progress for a growing part of society. Landscape has emerged not only as a scientific object but as an interaction between man and nature. These are reasons why augmenting technologies should be questioned. They cannot stay ignored and should be considered seriously in landscape and architectural education. It is a big challenge, because today new technological devices are not assessed or even discussed before they get implemented and placed in our hands and eyes. Shall we be able to take up the challenge? Whether or not we will ever reach, or even approach a "much greater and more perfect knowledge of nature" with these tools is yet another question.

Notes:

[1] Broadly defined, augmented reality is the superimposition of computer-generated data to the eye vision or to an image of the real environment.

[2] To read more about augmented reality glasses: http://en.wikipedia.org/wiki/Project_Glass

[3] For more information: http://www.conflan.net/.

[4] Massy is located 15 kilometers south of Paris.

[5] These problems led the government to fund a National Urban Renewal Agency (ANRU) from 2006, in an attempt to improve their condition.

[6] The disturbance is generated by the heavy automotive traffic on the highway along the river bank that splits the main park lawn in two separate parts (See fig. 4).

[7] Students' achievement is further valued by the short duration of the workshop (12 hours) in which they had to complete their work.

[8] Idea in progress in the past 15 years with virtual globes such as Google Earth. For a genealogy, review and impact of virtual reality technologies on visual experience, see Coulais (2011).

[9] Système d'Information du Territoire Genevois (SITG) has over 500 layers available from tens of different institutions (http://ge.ch/geoportail/geodat/).

[10] Many thanks to Catherine Szanto for bringing this article to my attention.

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Agronomics in a Landscape Perspective.

The Experience of the Ornamental Plants and Landscape Protection Degree Programme of the University of Bologna.

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Abstract: In Italy, higher education courses aimed at the specific training of landscape designers have only recently been set up. Their challenge is to calibrate well-balanced curricula covering the fields of architecture, environmental sciences, spatial studies, and agronomics. As regards the degree programmes which have come to life in the Faculties of Agriculture, the goal is to integrate urban and rural agronomic design and the landscape perspective, with inputs from the fields of open spaces design and spatial planning. Accounting for ten years of activity, we present the experience of the "Ornamental plants and Landscape Protection" degree programme of the Faculty of Agriculture of the University of Bologna, with reference to specific design laboratories and interdisciplinary learning activities which involved public spaces and institutions.

Keywords: degree programmes, interdisciplinary education, green areas and landscape, University of Bologna, department of agricultural sciences, landscape designer, open space.

1. Introduction

The paper aims at contributing to the discussion about the role of the departments and educational institutions that - in a period of deep changes driven by the reform of the higher education system in the various Italian universities - have inherited the tradition of the Faculties of Agriculture for what concerns the promotion of education programmes in the field of landscape design. In particular, we present the specific experience of the first level degree course *Ornamental plants and landscape protection* (OPLP) of the University of Bologna. These frameworks represent the context for a discussion about the relationships between creativity and technical-scientific studies related to the well-established traditions of the agricultural sciences.

In Italy, higher education courses aimed at the specific training of landscape designers have only recently been set up. They have developed mainly within Architecture and Agriculture faculties, or rather from collaborations between different faculties, trying to combine in one education programme disciplines which traditionally belonged to the fields of architecture, spatial planning, and agricultural sciences, and attracting, in the case of second level degree courses, architects, engineers and agronomists. Therefore, various education programmes with different content articulation and form have become available. They share some common elements, and are characterized by other specific points, related to the expertise and traditions of each institution (Tassinari, 2010). In the former Faculties of Architecture we can find various first level degree courses in the fields of urban, landscape and environmental planning, and master courses whose goals deal with landscape issues. In the former Faculties of Agriculture some first and second level degree courses and courses with curricula focusing on landscape are available.

Given the topicality of these issues, and the need for a discussion about previous and ongoing experiences and possible changes and improvements, education in the fields related to landscape design was the specific subject of the conference "Green and landscape in higher education. Experiences and observations of the faculties of Agriculture" which was held in Imola, Italy, last February 2011. That conference was promoted and organized by OPLP under the aegis of various local and national institutions and associations. This picture of the education system in the landscape fields is also related to the peculiar condition of landscape-related professions in Italy beyond the academic context. They have not yet been properly codified both at the institutional and cultural level, and in some cases are still not completely understood/perceived/assimilated by possible clients (public and private bodies, private individuals). This happens mainly for what concerns the landscape project (design of open spaces, garden design, landscape restoration of degraded areas, infrastructure design, etc.), rather than landscape planning. Practitioners who work in these fields, according to the specific contexts and design themes, in most cases are still those traditionally established: architects, urban planners, experts in agronomy and forest-related sciences, engineers (Dall'Ara, 2012). These professional figures have often been refining and specializing their own expertise by gaining field experience, or rather by means of postgraduate courses (often abroad), self training efforts, or various specific life-long learning education programmes, offered by universities or other institutions.

In many cases these figures, mostly for what concerns complex and articulated projects, work profitably together in an interdisciplinary way. However, the discussion about transdisciplinary professional experts specifically trained to demonstrate capabilities in synthesisation also in minor projects is still topical and open. Despite their smallest articulation and spatial extension, we should acknowledge the same level of importance in regards to these project applications, which deserve the same attention for what concerns quality and potential overall results at the landscape scale. Moreover, these experts should be able to interact and work as a link between the various specialized professionals in teamwork.

Another aspect that has to be considered when analyzing the relationships between agronomic sciences and landscape in the context of education and profession issues is in relation to landscaping. Unlike other countries, rarely in Italy can the public sector and most of all smallest bodies, permanently have at their disposal all the necessary expertises, that is to say their staff rarely includes all the technicians with suitable specific professional skills: designers, planning and works supervisors, gardeners. Gardens and parks are therefore often designed, developed and maintained without the necessary multidisciplinary knowhow, thus having poor aesthetic, social, environmental and landscape potentials. This leads to chronic cultural shortcomings in relation to the interpretation of the garden as an *art*, and to a lack of a tradition capable of valuing gardens as part of urban and non urban architecture, which calls for specific agronomic skills. The importance of approaching the agronomic studies in a landscape perspective also descends from the well-known role that agriculture plays in landscape modelling and management, and, in addition, the role landscape plays in the challenges of agriculture. It is well known that agriculture produces goods and services, such as ecosystem services and permanent management of a considerable part of the cultural heritage. At the same time, landscape, with its material and immaterial values, and cultural and natural elements, plays a crucial role in defining a new development model: landscape represents an authentic production factor. Improving integration of infrastructures is not enough to achieve an effective landscape enhancement: we need to work considering the deepest level on which agriculture shapes the countryside, in the light of the deep changes in the farming systems driven by the evolution of production needs.

2. Challenge tackled

No doubt one of the main challenges for the design of education programmes in the landscape design field is that of providing students with necessary tools and knowledge to develop both a scientific knowhow and creative skills. As it is well known, the creation of landscapes falls within the specific goals of the European Landscape Convention. Creativity, unlike fantasy (which is completely free) and invention (which is strictly aimed at a practical use), "covers all aspects of a problem, not limiting to image ... , function ..., but also addressing psychological, social, economic, and human issues. We can refer design to an object, a symbol, an environment, a new education, a design method aimed at fulfilling collective needs, etc." (English translation by the authors of Munari, 1977). Intuition and creativity play on the overall cultural and experience baggage. Knowledge and awareness about scientific and technical issues thus play a key role in the design invention. At the same time, those aspects substantiate the landscape project, verify it in the detail and in-depth study phases, and support it in the realization stage, to allow the minimum differences possible between conception and realization.

To achieve this awareness, preparation and know-how, with reference to education programmes, also in consideration of the guidelines elaborated by associations, networks and programs such as EFLA/IFLA, ECLAS/Le-Notre, Atlas/UNISCAPE, key points and fundamental requirements are:

- the need to design an education programme based on a proper balance between specialization and multidisciplinary training, to ensure a as broad knowledge of and aptitude for interdisciplinarity;
- the need to provide knowledge and skills and to teach languages that enable graduates to relate with other professionals in the fields of architecture, agricultural sciences, natural sciences, geography, humanities and social sciences, economy, etc..;
- the need for graduates to have tools, knowledge and skills that enable them to position themselves effectively (in terms of opportunities for further study or work) in an international context where, despite the professional roles already codified and the programmes certified by some of the above-mentioned associations in the context of landscape studies, many stakeholders see the need to take stock of the experience of the "landscape expert" figure in Europe, and of the coexistence of this practitioner with others more specialized figures, and to start a process of European harmonization and accreditation, given the incompleteness of an homogeneous international reference framework about the degree courses relating to the design and management of green areas, open spaces and landscape. This is also because of the different traditions of the various disciplines in the various countries.

As regards the degree programmes which have come to life in the Italian Faculties of Agriculture, the goal is to integrate urban and rural agronomic design and the landscape perspective, with inputs from the fields of open spaces design and spatial planning. Accounting for ten years of activity, we present here the experience of OPLP, also with reference to specific design laboratories and interdisciplinary learning activities which involved public spaces and institutions.

3. Approach applied

OPLP, the only degree course in this field in the Emilia-Romagna Region, and one of the few in the national context activated within departments of agricultural and agri-environment sciences, celebrated the tenth anniversary in 2012. Moreover, the term 'landscape' appears explicitly in the denomination of various disciplines also within other degree and master courses of the Department of Agricultural Sciences of our University, which has added to more consolidated teaching fields in the contexts of spatial and landscape projects, and related to the following key-words: agricultural land-mosaic, land-use/land-cover, natural and cultivated resources, settlement and infrastructure patterns, earth/air/water ecosystems, landscape knowledge, conservation and sustainable design.

OPLP aims to form an expert technician of green spaces and landscape, a professional who can work in ornamental plants production, as well as in the design of green areas, from the phases of composition and choice of plants, up to those of construction, management and maintenance, both in urban and extra-urban areas.

The multi-disciplinary training based on a suitable integration of knowledge in biology, botany, ecology, plant protection, agronomics, and landscape fields, and theoretical-practical skills about design, economics, and management enables the technician to work on small areas and at the landscape scale - analysis, planning, design, renovation, restoration, implementation, evaluation and management of parks and gardens, public and private green furniture, green areas related to roads, highways, and infrastructures in general, sport and golf fields, residential green, technical lawns, areas of natural and environmental interest, and ecological and environmental systems. The course aims to form a professional ability to work independently, demonstrating capabilities in synthesisation based on his/her own specific skills, and at the same time demonstrating an aptitude for working in a team with other professionals, thanks to his/her disciplinary tools which link the agronomist and the landscape designer figures.

The interdisciplinary approach and integration of theoretical knowledge and practical skills in OPLP have also been developed through several laboratories and practical workshops. These have been supervised by various teachers of different disciplines, in collaboration with organizations and private companies, both in classroom and by means of practical on-site experiences such as the implementation of projects and exhibitions, and through seminars covering the topics of green, landscape, environment, and health, organized by various professors of OPLP and other degree courses in collaboration with institutions and companies.

In particular, the 2009-2010 academic year "Park and Garden Design" laboratory focused on the specific subject of the design of ephemeral garden – a design issue which combines, in a peculiar way, art, design, and landscaping techniques. Moreover, this subject represents a topical issue in the international context as well, given the increasing number of garden festivals and enhancement of spaces through temporary green installations. Several students of Architecture, who included this teaching in the free choices course units of their curriculum, joined the students of OPLP for this workshop. This allowed the creation of mixed working groups, and therefore to experience an interdisciplinary teamwork.

Professors and students worked out the design of two temporary installations within city's events and public open spaces of high symbolic value for social life. The following installations were developed and implemented under the auspices of the Municipality, in collaboration with foundations, cultural associations and local private companies:

- *Paesaggio Conviviale*/Convivial Landscape, developed in the main city square, reopened to townspeople during the Christmas period after restoration works, within a programme of social and cultural events;
- *Voyage ... Feuillage*, developed in light of 'Naturalmente Imola' (Imola Naturally), the town Spring festival traditionally held in the Mineral Waters public park.

Paesaggio Conviviale is a temporary winter garden created by conceiving the square as a place where townspeople can meet, from the tradition of perceiving Christmas as an intimate and shared family experience, enjoyed sitting around a table. Convivio, in fact, means a feast. Thus, this garden takes the form of a table around which people can have a rest, sit, and meet. This table is laid for a banquet, with wild plants of hill and river landscapes of Imola, exhibited in the heart of the city. The garden draws attention to their natural value and beauty of forms and colours of their branches, leaves, flowers and fruits.

Voyage ... Feuillage is an installation whose title is a play on words that captures the essence of reflection. It suggests us not to stop and close in a local dimension, but, on the contrary, to open to the world and be able to explore it in its manifold aspects. Even men, like plants, may be inhabitants of the world. The installation is therefore an invitation to travel and know nature, and at the same time an occasion to feel elsewhere while staying in a familiar place, in the spring context of the Mineral Waters historic public park. In the past, an interest in botany and a curiosity of collectors have led to the creation of botanical gardens and growth of international exhibitions. Still nowadays, plants keep on travelling from one country to another. Hence the ideas of travel and suitcase, the latter meant as a container used to store plant species from several European countries (souvenirs) through a reinterpretation of the meanings and forms of the botanical garden (locus mnemonicus).

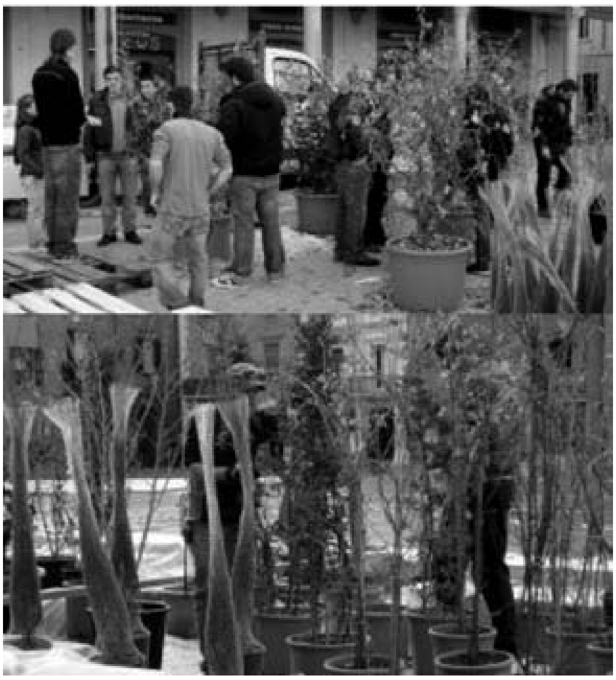

Fig. 1. Paesaggio Conviviale/Convivial Landscape: work in progress [photographs by Enrica Dall'Ara, 2009]

Moreover, an important experience was represented by the development of degree theses focusing on the restoration of historic gardens, such as the courtyard of a sixteenth century building in Garibaldi, Imola. With the aim to propose an interdisciplinary work method suitable to serve as a link between various teachings and

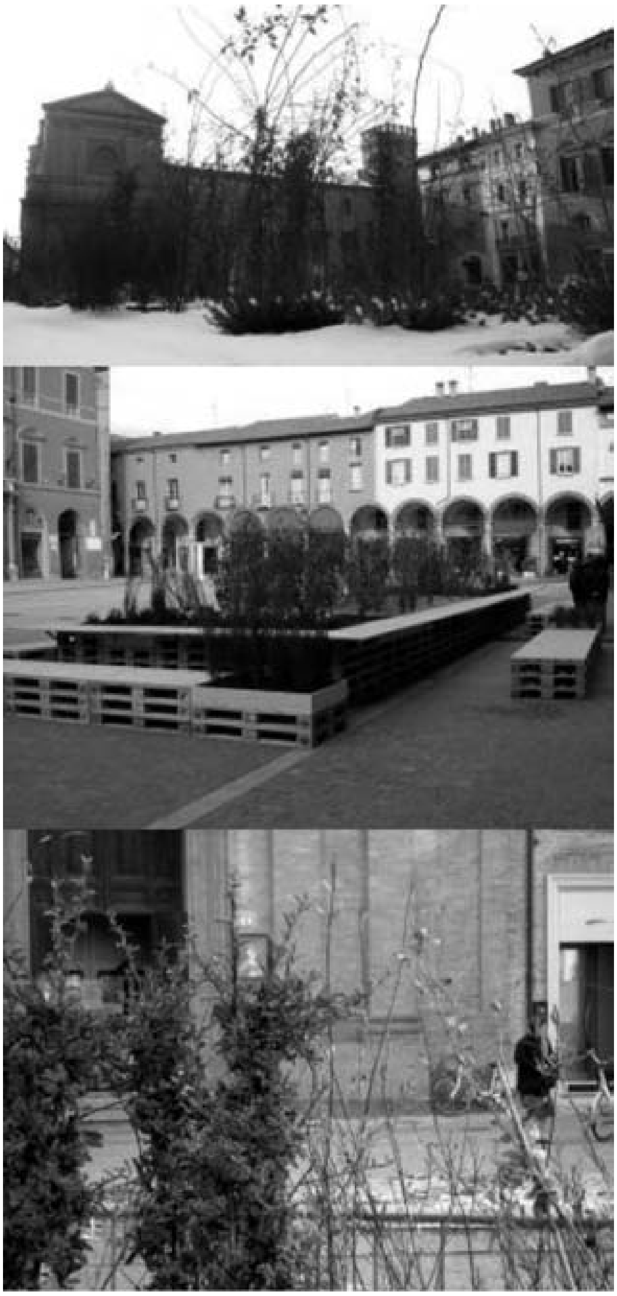

Fig. 2. Paesaggio Conviviale/Convivial Landscape: realized project [photographs by Enrica Dall'Ara and Daniele Torreggiani, 2009]

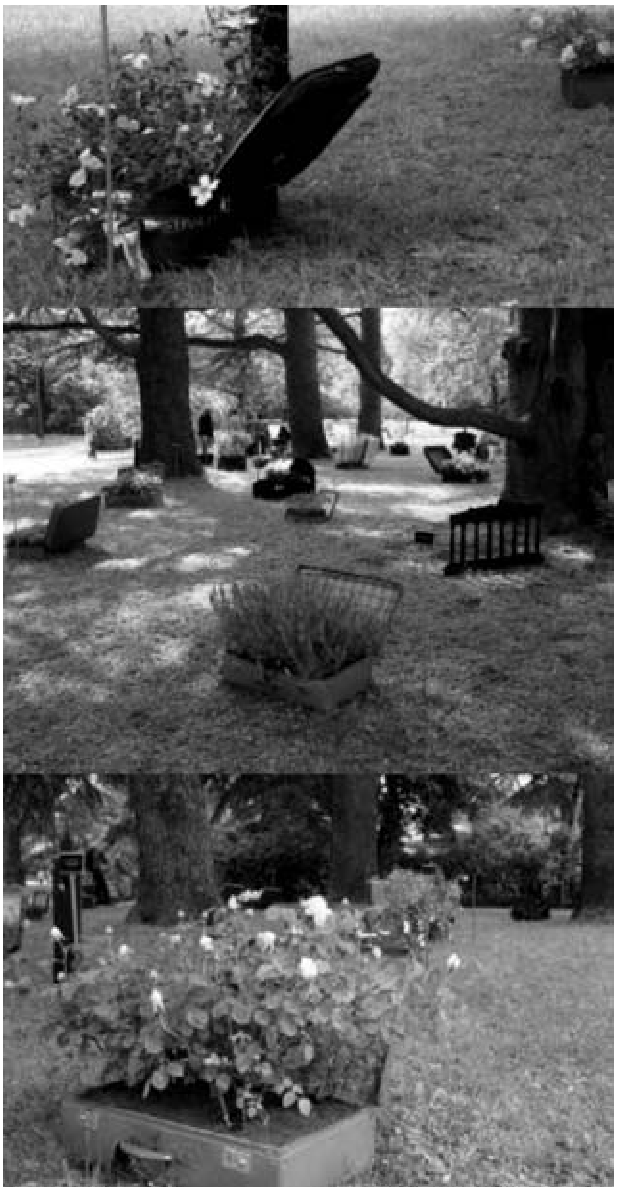

Fig. 3. Voyage ... Feuillage [photographs by Enrica Dall'Ara, 2010]

specific workshops of the degree course, survey and diagnosis activities (botany, plant pathology, land survey) have been developed within the laboratories over the various years of the study plan, as well as analysis (historical, stylistic, compositional/architectural) and planning activities. In this way, each stage of analysis and work was aimed at an explicit design goal, thus representing a module, a tessera in the overall path, which has represented a reference framework to control the effectiveness of the education work.

Moreover, in the "History of Gardens and Landscape" course unit (first year), the workshop "Talking with History" (academic year 2009-2010) was aimed to integrate the theoretical studies with contents propaedeutic to gain design skills: starting from reading and interpretation of classical texts with descriptions of gardens (e.g. from the Odyssey by Homer, the garden of Alcinous and the garden of Calypso, from the poem of Daphnis and Chloe by Longo Sophist, the garden of Lamone), the students learned herbaria of the mentioned species, with dried samples or illustrations, and have developed a proposal for a composition/revision of the garden, through plastic models. The goal is to educate the imagination and develop the ability to translate (under the supervision of professors in the various fields) a literary narrative and a description of a set of components and relations, into a space, an architecture, through knowledge covering botany, historical and cultural characters, as well as by learning representation techniques, or through the expression of a fantasy that is based on the analysis. These activities led to the organization of the exhibition "Sacred Forests and Gardens of Fertility", within the exposition "Edible Gardens", organized by OPLP within the town events programme "Bacchanal 2011", which combines food and wine culture, in an enlarged perspective involving art and nature. These experiences (laboratory and participation in public life) are also important as they lead students to deal with the various phases of the project, from the ideation to technical in-depth studies and execution, which essentially means to experiment success and failure of their project proposals (that is, to practice their projects and experience them as a practice). In order to further encourage the debate among students, and between students and the professional associations and local authorities, some of the mentioned initiatives and other design activities have been the subject of competitions, that also resulted in public presentations, evaluations, and exhibitions, useful for the students so as to see the meaning of their work in a broader perspective than the simple goal of passing the exams.

4. Conclusions

While several students continue to choose specialisation courses on landscape design as post-graduate courses that further develop and integrate previous education programmes in the fields of architecture, agricultural sciences, engineering, environmental and natural sciences, and so forth, first level degree courses like OPLP are becoming more and more an established reality, as they offer the opportunity to undertake from the beginning of the university studies a specific curriculum, which in turn can be completed, developed and integrated with further experiences. This project is based on the importance attributed to the interdisciplinary integration from the early stages of the course structure diagram, at a more ductile and flexible stage of students' assimilation, learning and meditation processes.

The educational experimentations described above, which have somehow arisen from a peculiar need for opening the agronomic disciplines to a creative project, already considered and expressed in the calibration of the curriculum, have been further developed enhancing and validating the most effective opportunities of relationships and intersections among the various disciplines and with the outside world. By demonstrating their feasibility and positive outcomes, such experimentations have broadened the meaning of the course contents of each subject, and confirmed the importance, the profitableness, and the interest of students and professors in permanent interdisciplinary laboratories as an integral part and synthesis moment within the educational curricula.

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How to Engage Students for a Responsible and Creative Landscaping: Methodological and Technical Issues

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Abstract: It is recognised that education and training are essential to making a career as a landscaping expert. Teaching bodies are therefore called upon to improve their curricula in order to deliver graduates and masters fully equipped to provide high level expertise and professional support. Modern landscape teaching needs to boost students' self-engagement and creativity. Our article starts from the strengthening of the transdisciplinary approach which allows students a more open-minded approach to landscape. In our view a hard team-working environment, experienced through real planning case studies, improves problem solving abilities and knowledge sharing during the learning process. To make it more effective students are prompted to face real design examples, also by enjoying suitable user-friendly geo-information tools. Our experience indicates students' productivity has become more effective and their self-initiative to integrate course materials also has improved. In the following pages our reference framework, underpinned by a number of examples taken by our work at the Polytechnic University of Marche (Italy), will be shortly depicted.

Keywords: Responsible landscaping, Creative landscaping, GIS and Volunteered Information, Constructivist Teaching

1. Introduction

Landscape training and education are promoted through a number of international actions to strengthen knowledge and raise awareness on landscape values across Europe (e.g. Bogers *et al* 2007). To continue with the implementation of European Landscape Convention (ELC), it is paramount that education bodies start a process of deep inner-revision of their training methods and contents. In particular, they should ask themselves whether their offer of landscaping courses is really shaping future scientists and practitioners with due scientific-cultural knowledge, as recalled by the Convention itself (Art. 6 paragraph B "Training and education"). Whereas current requests for landscape experts (scholars and practitioners) with more in depth knowledge of the holistic approach and who are able to thrive in hard team-working environments, our first goal has been to set-up our courses in a logically progressing trans-disciplinary fashion. A first thought in this direction in the Italian context of higher-education (i.e. agriculture engineering, rural planning, GIS, etc.) has also been recently advocated by Marcheggiani *et al* (2012).

Bearing in mind the need to raise the active involvement of students by updating the quality of the teaching offer, the aim of the present work is to broaden the discourse on methodological and teaching aspects. To put this in practice we are improving students self-engagement in integrated landscaping design works deployed along with suitable case studies. Our emphasis is on a more and more sound and creative planning of rural settings. These reflections are based on the experience we gained from a decade of teaching activity at the Department of Agriculture, Food and Environmental Sciences (D3A) of the Polytechnic University of Marche in Ancona (Italy).

2. Challenges Tackled

A first challenge concerns the definition of a suitable methodological approach to planning and design. In the Italian context this is particularly ticklish for both research and teaching aspects (Rinaudo 2011). The lack of an Italian school of physical Geography led us to a number of divergent schools of landscape still coexisting due to historical and cultural reasons. Their uncommunicative inspiring thoughts divide each other referring in some cases to the humanistic vision, while others focus more on the bio-physical context. The most effective and inspiring ideal would be that of an open common framework where the debate and the contributions from a broad group of disciplines would represent the methodological base of reference. A meaningful idea of landscape, able to embed not only biophysical characteristics, but also mental, cultural, economic, social, and other aspects, in order to become the main reference for an integrated planning (Antrop 2004).

To this end, it would be of importance to put the emphasis on the nuances of the interfaces between society's needs and the availability of resources. In few words, on the interface between man and nature. A more in-depth insight on the meanings behind the "sense of place" is not any less important to a meaningful and effective landscape design and to its effective management (Farina 2010). A right cultural approach is paramount to avoid sectoral planning actions, implemented in automatic way only considering what has been enacted by rule, disregarding of the reality of places. We should therefore refer to an "ethical protocol", which does not exist in practice today, widely agreed among scholars, decision-makers, practitioners, and the populations living the places.

Such an agreement would represent a step further, from the traditional concept of sustainability, along a shared pathway to an in-depth knowledge on the landscape. This new multi-faceted concept should be acknowledged through effective participatory processes (Pimbert *et al* 1997) involving: experts and non-experts, insider and outsider, scientific and empirical knowledge, tradition and innovation. This would raise the awareness of human beings, the major driver of change, of the delicate relationship between man and nature. It would open to new models of governance which consider landscape as a whole; a holistic entity where natural and anthropogenic processes embed each other fine-tuning the ecological, economic and socio-cultural dynamics (Selman 2006). In practice, once we refer to a real case, whether valued outstanding or trivial, the identification of "sustainable" goals should be found through a sound trade-off between our "ambition" to be able to read the place and its potentialities. This should emerge through an iterative process, as shown in Fig. 1. The baseline concept inspiring the framework comes from a modification of an original purpose of Prof. Hubert Gulinck at the KU Leuven University (Marcheggiani *et al* 2010), and highlights the search for a steady balance among the number of aspects featuring the multi-faceted concept of landscape planning.

First of all, we make the core statement that any landscape policy, research or project should yield three types of outputs: improved understanding of the landscape, increased gaining from the landscape, and enhanced expression of projects in the landscape. This refers to the Goals Triangle which accommodates well the divergent ambitions that are projected into landscape by stakeholders.

The Diagnostic Triangle embeds the paradigms and the tools to analyse a concrete landscape unit in the fashion of the terms: functions, structures and values.

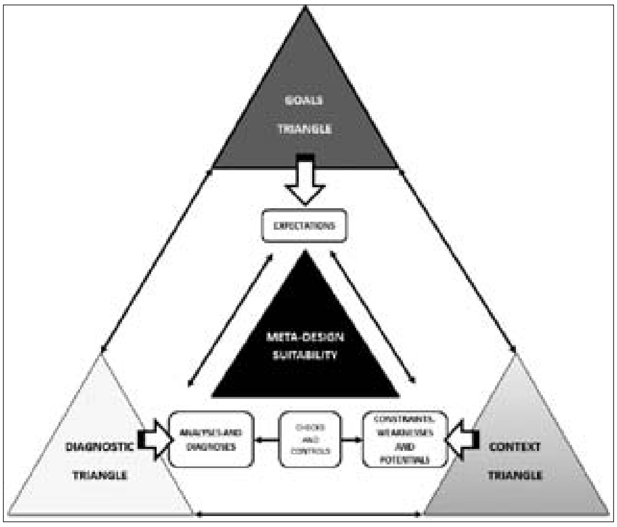

Fig. 1. The iterative analytical frame represents our baseline model to account our "ambitions" to read, understand and project landscapes whether valued outstanding or everyday trivial landscapes.

The Context Triangle helps to frame the analysis and the prognosis of each specific landscape unit in its wider physical, political and cultural context.

The fine-tuning among all the aspects utterly underlined by the interlaced triangles enables to get a close compatibility of planning and management aspects (Prognosis Triangle).

On the other hand, a second challenge concerns the pedagogical aspects of teaching methods. In particular: how to rise a broad and straightforward involvement of students, taking into account the last two decades of learning theories evolution? Learning is a natural process by which individuals pursue meaningful goals. It is active and intentional; something each person approaches in a unique way. A process of discovery and construction of meanings through self-experience, filtered through the perceptions, the thoughts and the feelings of learners (McCombs *et al* 1997). The continuity of constructive experiences plays a pivotal role in learning (Dewey 2004). It keeps learners in a positive relationship with the context and generates a progressive adaptation of subjects to the knowledge flux. A clear statement of purposes inspiring the experiences should be acknowledged during the course to allow subjects to build a personal learning in a proper way (Dewey 2004).

By and large the planning and the management of landscape can be, in substance, assimilated to the research of sustainable goals based upon the characteristics of landscape. Thus the teaching of landscape planning should be meant as an "active process". This is accomplished by giving importance to the students' work not only as pure manual design, but also as an action inspired by specific principles and by a proper scientific knowledge. Nonetheless, "ethical purpose" includes meaningful aspects to be addressed in the respect of the new concept of multi-dimensional sustainability as a main goal of landscape planning discovered through a proper students' training.

As a consequence, the teacher is not only responsible for a top-down delivering of contents (transmission of contents according to curricula), but also for the whole design of teaching. That puts him on the top of an interactive and communicative process of coordination through which the quality of knowledge transfer to students depends also on their involvement, and on their acknowledgment of project goals (Quartapelle 1999). During teaching, the teacher, as "expert member" of a hermeneutic community, teams up with students to build the interpretive process during which all members, as cognitive subjects promote the construction of knowledge (*ibid*).

Therefore the teacher becomes responsible for providing experiences and disciplinary structures suitable to stimulate the students' curiosity. To do so he is hereby responsible for fine-tuning the courses, according to their duration, progression, and the resilience of each specific learning group, the "zone of proximal development" of Vygotsky (1976).

To implement a teaching method adherent to the principles of constructivist teaching (Nigris 2007), passive approaches are therefore to be avoided whilst enhancing the active ones: brainstorming, team work and discussion.

Brainstorming allows students to freely express their ideas and to start a shared debate. That allows the teacher to evidence the nodes around which the cognitive process can be reconstructed.

Teamwork, born during the eighties in the British environment, is based on the principles of cooperative learning. Such an approach allows students to experience the benefits of mutual cooperation between students culturally distant from each other. Besides, cooperative learning enables us to recognize the value of collective resources, and to become aware that the success or the failure of an individual depends on the success or failure of the group. Group discussion facilitates the construction of cognitive processes and is self-critical through the restructuring of the previously acquired knowledge. The use of active methodologies is particularly important for the training of scholars and practitioners who operate in landscape planning and design. It is therefore unthinkable that a single planner could utterly manage a whole integrated landscaping process. On the other hand, he should operate within a meaningful trans-disciplinary and holistic team. We are in times of transition, and not only new ways of teaching are needed.

Technological aspects also deserve adaptive changes. Bearing in mind GIS are an essential item of the toolbox of today's landscaping expert, a considerable amount of teaching time have to be invested to transfer GIS basics and software interfaces functionalities. This is done at the expenses of what would be rather better dedicated to teach sound paradigmatic and design approaches. Conversely, through more user-friendly approaches to facilitate access to geospatial information. This engages students' involvement while also improving the overall quality of landscape planning offer. Thanks to recent advances in geospatial technologies, we are testing methods to overcome the technological limits of students which do not have a proper GIS literacy. To do so, instead of branded software (e.g. MapInfo, ArcGIS, Idrisi), or open-source solutions (e.g. QGIS, Grass), students have been introduced to the use of web solutions (i.e. Google Earth, Bing, etc.) and to fully take advantage from what we call today Volunteered Geo-Information (VGI) to annotate and manage geo-information and to perform their design purposes. The added value of VGI in educational activities have been broadly discussed by scientific communities (see, among others: Goodchild 2007; Marcheggiani *et al* 2011). Unlike other countries the Italian background of Geomatics in nothing but homogeneous. Daily, we are faced with a disconcerting gap between the needs to deliver fully equipped graduates and masters, and several constraints (i.e. policies, expenditure limitations, etc.) which do not allow a sufficient predisposition of students, often prompted to start courses where GIS would be a main tool without having had a proper preparatory courses. Our attempt to mitigate the impact of such an issue has been that of pushing students to use more intuitive-fashion environments and user-friendly tools (i.e. Google Earth) to deliver their works. The scope was to reduce the considerable amount of time needed to teach the specificities of GIS software's interfaces. Whilst not a formal GIS software, we consider GE as an effective tool to support students' work in landscape design. As any other commercial or free open source solution, GE allows to draw spatial features (polylines and polygons) as well as to manage landmarks and raster imageries. Moreover, it offers a wide range of volunteered information fully available online. Spatial information can therefore be swapped among users by e-mails, making the classwork more appealing and encouraging open communication among groups. Limitations in terms of relational database management may be smoothed by converting GE's specific format Keyhole Markup Language (kml) to the Shape-file format. After a short training students have shown to be able to manage spatial information for their purposes.

3. Field-testing an innovative educational project

To stimulate student's curiosity enhancing their participation, we have built-up a set of teaching stages utterly compliant with the aforementioned general settings and goals (see section 2). To do that, for the course of "Integrated management of rural landscape" (masters degree) at the Polytechnic University of Marche, we have diverged from the traditional course's methodology. Our traditional lecturing method has been integrated with more interactive materials, along with a holistic approach deployed according to the base framework shown in Figure 1. This way, students are pushed to tackle real case studies in a deep team-working environment from the early stages up to the final work. The latter to be individually presented in speech-sessions held at the end of each training stage.

Referring to the framework at Figure 1, a short description of a design work dedicated to the Nature Reserve of the Abbey of Fiastra (MC), in central Italy, is shown as follow:

- students formed groups of 4-5 persons. To avoid misbehaviours each component was personally responsible of a specific design step. At the end of training each component had to explain in detail his personal contribution to the overall project. The field survey had started the iterative process of understanding and reading of the studied landscape. During the excursion students have collected information and have requested the point of view of local stakeholders to set-up the general problems and to accommodate their understandings (Goals Triangle). This is of key importance once back to the project, and each group has to express in the form of design purposes the gains they expect as final outcomes in close relation to the general context (Expectations box). To do so students went through an in depth description of three main aspects: the physical context, the rules and the laws currently in force for land management and stewardship in the area, and the nuances of the social environment at the local scale (Context Triangle). This way students could consider a wide set of characteristics for each of the specific landscape aspects which have been of importance in making up their mind-set on the main key issues and on the most important challenges their design was about to tackle (constraints, weaknesses and potentials box).
- The analytical and diagnostic (Diagnostic Triangle and Analyses and Diagnoses box) steps have been performed referring to both qualitative and quantitative approaches. Among others SWOT analysis is an effective way to make student find their way with qualitative tools. The SWOT analysis was performed during brainstorming sessions. On the other hand, the spatial information which has been collected has served as a reference base for the calculation of a set of quantitative descriptors (topological and geometrical landscape metrics). As usual, students have been introduced to classic techniques of spatial analysis such as: moving windows and transects.
- This has allowed students to express their own ability to grasp the nuances featuring the places; apprising spatial and immaterial characters, potentialities and weaknesses of studied places. The constant teachers' reminders for a stronger multidisciplinary approach allowed students to keep their minds open to a more holistic perspective. This prepared them to subsequent participative stages (check and controls box) where their planning ideas have been discussed with the representatives of local stakeholders (i.e. the institution in charge for the Natural Reserve of Fiastra).
- In this specific study case, the key theme was the multifunctional refurbishment of local rural heritage, mainly farmhouses, still outstand-

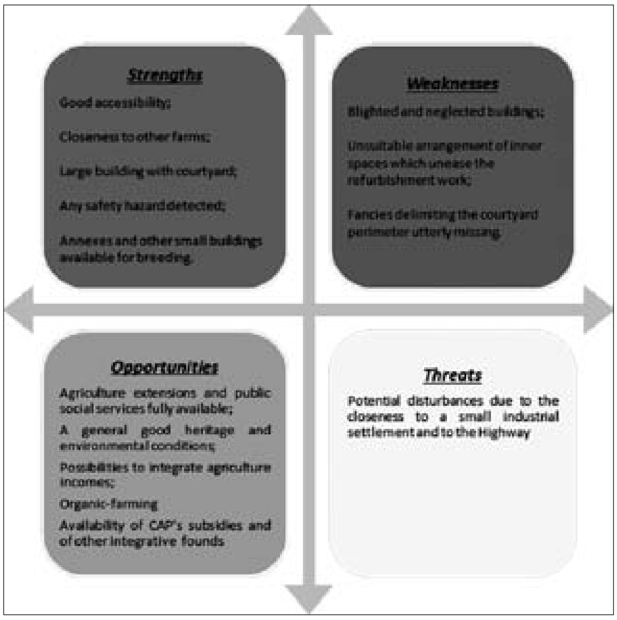
Strengths
Good accessibility;
Closeness to other farms;
Large building with courtyard;
Any safety hazard detected;
Annexes and other small buildings available for breeding.
Weaknesses
Blighted and neglected buildings;
Unsuitable arrangement of inner spaces which unease the refurbishment work;
Fancies delimiting the courtyard perimeter utterly missing.
Opportunities
Agriculture extensions and public social services fully available;
A general good heritage and environmental conditions;
Possibilities to integrate agriculture incomes;
Organic-farming
Availability of CAP's subsidies and of other integrative founds
Threats
Potential disturbances due to the closeness to a small industrial settlement and to the Highway

Fig. 2. Results from qualitative assessment: strengths and weaknesses for the abandoned rural farm building named "Casa Carolina" built at the end of XIX century. In this case the purpose focused on the potential refurbishment of the building for social agriculture purposes in favour of people with mental or physical diseases.

ingly symbolic of the setting. Students have therefore devoted part of the analyses to the characterisation of the historical, architectural as well as daily rural life aspects. Buildings whose importance deemed worthy of being classified as outstanding landmarks have been surveyed. A short insight on SWOT analysis results is shown in Figure 2.

- Results from the above steps have been used to test the degree of overall compatibility of all the design's alternatives (Meta-design suitability Triangle). This has been important to improve the overall sustainability and resilience of planned actions and to ease its management during the time being. The final design products have been presented and discussed with the presence of local stakeholders and authorities during a workshop.

Before concluding, an important reminder is due on technological aspects. As mentioned in section 2, several limitations hamper a suitable technological level (i.e. GIS and Remote Sensing) of the students who begin landscape planning courses. Considering these issues, a survey to explore students' opinion has been conducted at the end of the training. An online anonymous questionnaire has been given to Bachelor's Degree or Master students, whose results have highlighted a number of urgent challenges. In particular, our students at large (over the 68%) had never been in touch with basic GIS theory before attending landscaping courses. Most of them (about 78%) consider GIS too hard to be effectively used to deploy the final project-work (only 4% expresses no difficulty). No one has been able to give a correct definition of GIS, indicating the need for preparatory courses in the first stage of Bachelor training. On the other hand, a lot of them (84%) are used to access web-based geo-information systems such as: Google Earth® (87%), or Bing® (10%). This has made our purpose to manage spatial information through user-friendly alternative solutions a good trade-off.

4. Discussion and Conclusions

In the introduction we raise the question of whether current higher-education training helps to provide future scientists and professionals fully equipped to operate according to the principles of the ELC. Are teaching bodies ready and updated to the challenge? Referring to the Italian background of Agriculture faculties our experience indicates that innovative teaching helps to clear the hurdle. In particular, "constructivist teaching" appeals student's attention, by triggering their curiosity. It allows for an improved awareness on the importance of landscape in today's spatial planning background. This believe has also been corroborated by the results of a survey we have promoted at the end of courses to apprise students' opinion. From the technological point of view, distributed GIS looks promising; but is internet the answer? In previous works (Marcheggiani *et al* 2010, 2011) we already question whether Google Earth would be a proper GIS. Our experiment indicates the burden due to mere technical issues declined of 30-40%. That allows for considerable savings in terms of time which can better be spent to improve the design and planning debate that should form the actual backbone of the trainings. At large students showed a more proactive originality by proposing projects centred on the potential of local resources, being at the same time able to account for the expectations expressed by the stakeholders and end-users. In few words, this new teaching approach has shown to significantly improve:

a) a wider mindset to landscaping, this latter meant as holistic, multi-disciplinary and multi-functional;

b) the ability to "read" the landscapes through a number of quantitative (objective) and qualitative (subjective) frameworks and tools;

c) the integration of different points of view of all active insiders as well as of stakeholders: administrators and policy makers, practitioners and the local population;

d) the sharing of ideas also involving experts from other disciplines;

e) the participatory phases of landscape planning and designing, taking advantage of landscape's potentialities while at the same time respecting the expectations of people living there;

f) the use of geographical information. In this case user-friendly technologies (VGI) ease a wide-ranging knowledge of landscape characters.

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In Pursuit Of Synergy – Integrating Disciplinary Perspectives On The Concept Of Scale In Landscape Science

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Abstract: The spatial dimensions of many social, economic and environmental challenges facing 21st century societies can be addressed through the idea of landscape. The European Landscape Convention views landscape as representing not simply the environment, but the world 'as perceived by people'. As a concept, landscape is increasingly understood as uniting the physical, mental, natural and cultural dimensions of human existence. Recent developments in landscape science advocate the need for integrative research perspectives. However, drawing together collective insights from across the sciences presents a range of conceptual and methodological issues. The question of scale as it pertains to different scientific realms is a key example of this kind of challenge. This paper seeks to synthesise scalar issues among multiple perspectives, with a view to understanding the theoretical implications for how landscape is conceptualised and thus produced through academic and policy discourses.

Keywords: scale; landscape; integrative research; disciplinary perspectives; synergy; European Landscape Convention; landscape governance.

1. Introduction

In the course of its development, the idea of landscape has been embraced by many disciplines and used to frame scientific, political and professional discourses. As a theoretical tool, the concept is steeped in ambiguity and complexity, with hundreds of nuances surrounding the term. Debates about landscape do not simply rest on what landscape is, but also on what landscape does – how it is produced and how it works in social practice. Contemporary approaches to landscape research are underpinned by diverse philosophical assumptions about appropriate forms of explanation, chosen treatments of time, space, scale, and the type of relationships that are thought important. This range of perspectives raises significant questions about developing more overarching approaches to researching the state of landscape, and contributing to knowledge that serves to protect it as a finite resource and enhance it as an integral part of the human lived experience. Recent developments in the evolution of landscape science emphasise the need to enhance integrative approaches between the natural, human and applied sciences. However, the achievement of 'a common ground', is restricted by under-developed theory and methods shared between disciplines. For many, 'scale' is a fundamental conceptual challenge in the sciences, critical to progress in understanding and ameliorating human-environment interactions. This paper seeks to contribute to a more nuanced understanding of the importance of the concept of scale in the training and education of landscape science and in determining the outcome of landscape governance processes.

2. Why focus on scale?

There has been a growing awareness within both academic and political communities that the problems and challenges facing our landscapes require greater understanding of how they function and change, as well as their meanings and values. Due to its complex nature, the phenomenon of landscape encompasses many scales and levels. Furthermore, in a world of globalised media and trade, people inhabit multiple landscapes simultaneously. Oles and Hammarlund (2011) discuss how the neighbourhood, the region, and the nation are all 'landscapes' that have the ability to shape people's identities. However, many scholars have indicated how this multiplicity creates difficulties in distinguishing between the binaries of 'local' and 'global', 'insider' and 'outsider' (see for example, Olwig, 2007; Howard, 2007; Harvey, 2000, Leitner et al. 2002). The difference between insider and outsider perspectives is identified as central to analyses of local global relations embedded in the landscape (see Olwig, 2007; Howard, 2007). According to Olwig (2007:215), institutions involved in the preservation of landscapes deemed to be of worldwide value, measure landscapes on a global scale, a perspective which he describes as favouring "the expert's mode of perception over that of the insider". Primdahl (2007) also raises questions concerning how landscape planning and policy mediate between landscape functions at the local scale; with decisions made at distant scales (e.g. European or International). In a study of changing agricultural landscapes in Europe, Primdahl (2007) claims that the agenda of globalisation has resulted in the threatening of the heritage of ordinary local landscapes, which he claims has in turn created the basis for the sustainability agenda promoted by the ELC.

The concept of scale presents a fundamental challenge to both academics and practitioners and this is evidenced within the interlinked activities of a) the implementation of landscape policy (as highlighted above) and the broad practice of landscape governance; and b) the production of 'integrative' approaches to landscape research. Advances towards integrative research perspectives necessarily involve collective insights from across the natural, social and applied sciences. It is evident that landscape research encompasses a diversity of competing or differing conceptions of landscape (Muir, 1999), each accompanied by its own methodological implications (Duncan & Duncan, 2010). Nevertheless, as issues of environmental and landscape change often include questions that cannot satisfactorily be addressed by a single discipline, this requires not only cooperation between disciplines but also knowledge exchange across academic knowledge systems (Tress et al., 2009). A growing number of researchers, for example Antrop (2000; 2005), Opdam et al. (2002), Tress et al. (2007; 2009) and Wu and Hobbs (2002), have discussed the need for integrative research (i.e. interdisciplinary or transdisciplinary approaches) to capture the wider dimensions of landscape change, and to understand how change in one area can have an impact on others. Nevertheless, undertaking an integrative research project presents a significant challenge to many researchers, due to what Tress et al. (2007) summarise as: interpersonal and organisational barriers; time demands and external barriers; academic traditions and epistemological barriers. Consequently, the barriers to achieving shared conceptual and methodological frameworks to drive such integrative approaches are often reflective of fundamental ontological and epistemological differences. The 'question of scale' as it pertains to different scientific realms is a key example of this kind of challenge to integrative approaches.

Consequently, the multi-scalar nature of the social, environmental and economic challenges embedded in landscape demand that landscape researchers and policy makers address these key issues of scale in their methodologies and analyses. Although policy and academia are often conceived of as two distinct cultures with differing and frequently conflicting agendas, it is seen as essential that strong linkages exist between the world of academics and practitioners to ensure that academic research is of pragmatic relevance and policy development is informed by robust academic work and rigour (Conrad et al., 2011). In this regard, education and training in landscape science must focus on the importance of 'scale' as a) a foundational concept in the progression of 'integrative' landscape research and b) as a core determinant of the outcome of landscape governance processes (evidently in addition to geographical context).

3. Synthesising disciplinary perspectives on scale

3.1 Methodology

This research emanates from a review of literature undertaken by Higgins et al. (2012). This review paper sought to explore the interpretation and application of the concept of scale in integrative landscape research in order to better comprehend the tensions and the points of convergence within and across certain disciplines, and to contribute to a clearer understanding of how integrative research might be developed. In order to do so, it unpacked 'the question of scale' from the three disciplinary perspectives of ecology/landscape ecology, geography and spatial planning. These three disciplines were chosen as they are identified in the literature as representative of the key disciplines contributing to academic landscape research (see Conrad et al., 2011 – for a review of the key trends in landscape research). The literature review commenced with the identification of research that has endeavoured to synthesise scalar issues in interdisciplinary contexts. This process was then extended by focusing on the selected disciplines of ecology/landscape ecology, geography and spatial planning. Once the literature was identified, the content was analysed. This was based on a comparative analysis of points of difference and commonality on scale, within and between the selected disciplines, focusing on five priority 'forms' of content. The five areas targeted included: interdisciplinary research; discipline-specific research; conceptual/theoretical discussion; methodological discussion/application; and policy issues (for further details see Higgins et al. 2012: 139).

By focusing solely on the three selected disciplines, this review paper evidently does not represent a complete overview of how 'scale' is currently conceptualised in landscape science. However, it is argued that it provides a useful template which may be readily extended to include other relevant disciplines. It has in essence proved a useful exercise in attempting to synthesise and advance understandings of the various disciplinary perspectives on scale within academic landscape research. What follows constitutes the main findings of this review.

4. Conceptualising scale in landscape science

The concept of scale has come to be viewed as central to understanding a variety of political, socio-cultural, economic and environmental phenomena (Herod and Wright, 2002; Sheppard and McMaster, 2004). A surfeit of competing definitions, uses and theories of scale are recognised in the literature, while common understandings of what the concept of scale means and how to use it continue to remain elusive. This constitutes a barrier to integrative landscape research, as the successful application of scientific knowledge requires good communication and reciprocity in understanding (see Antrop, 2001). Gibson et al. (2000) aim to address this challenge by presenting definitions of key terms related to the concept of scale. They define 'scale' as "the spatial, temporal, quantitative, or analytical dimensions used to measure and study any phenomenon" and "levels" as units of analysis that are located at different points on a scale (Gibson et al. 2000: 218). To date, a limited number of scholars have endeavoured to synthesise multiple research perspectives on scale (see for example, Gibson et al., 2000; Sheppard and McMaster, 2004; Sayre, 2005; Cash et al., 2006; Manson, 2008; Ruddell and Wentz, 2009; Sayre, 2009). According to Ruddell and Wentz (2009: 683), acknowledging the various ways of understanding scale is desirable for two reasons: a) to clarify similarities and differences among perspectives, and b) the identification of commonalities increases the potential for integration.

Scale has come to be viewed as more than a methodological issue, with the core debate centring on whether scale is an epistemological or an ontological category. Sayre (2009: 98) contends that scale cannot be understood as either ontological or epistemological, as scale has both ontological and epistemological moments and "understanding these as moments of a dialectic underscores the manifold relationality embedded in scale". Manson (2008: 776) argues for an "epistemological scale continuum" that arranges scale perspectives from the realist contention anchored in the ontological premise that there is a single shared reality and that reality is readily accessible to objective observers. To the constructionist ontological claim that while there may be a reality, in epistemological terms, knowledge about this reality is socially mediated and manipulated. Manson describes how the relative absence of explicit human decision making, makes physical systems more amenable to realist perspectives on scale. Whilst in contrast, social constructionism is more suitably applied to the "messy human research enterprise" (Manson, 2008: 786). He proposes that "we must strike a balance between accepting seemingly apparent scales of observation and explanation and recognizing their purposeful construction for social, economic and political ends" (ibid.). In attempting to strike this balance what becomes apparent is that in the analysis of human-environment systems there is no single correct 'scale' of study.

It is evident that scale presents a significant conceptual challenge across all the sciences. The question of scale has and continues to inspire a range of responses from diverse disciplinary perspectives. However, the relationship between pattern and process is of great interest to all sciences, and scale is an integral part of this relationship. Broadly speaking, the natural science disciplines explicitly acknowledge 'scale' in their research activities and have a long trajectory of doing so. Both ecologists and physical geographers have found that the consideration of scale problems is fundamental to the identification of patterns and their explanation (Gibson et al. 2000), with strong correlations existing between ecological scale and scale as employed by physical geographers (Sheppard and McMaster, 2004). In contrast, researchers from the social sciences have only recently begun to fully realise the significance of the concept to their analysis. Increasing global environmental and landscape change and the dominance of humans within this process, has resulted in researchers from both the natural and social sciences addressing broader spatial scales of analysis and integrating the study of human-environment interactions. Consequently, emphasis now falls on processes and their interactions, and on quantitative and qualitative scaling effects. While no interaction between ecology and human geography on the subject of scale seems obvious, Sayre (2005) proposes that as ecological scales are no less produced than geographical scales, this should enable both disciplines to help each other theorise and study processes that are simultaneously natural and social, thus resolving some of the confusion about scale.

However, with reference to his "epistemological scale continuum" Manson (2008: 785) contends that while there are distinct differences in scalar concepts between disciplines (i.e. ecology versus human geography) and between sub-disciplines (i.e. human versus physical geography), the epistemological indeterminacy of scale makes it risky to assume that a given scale perspective is automatically applicable to a given research question, particularly if it relates to a complex human-environment system. He warns against assuming that scale perspectives naturally map onto specific disciplines or the systems they study in terms of being 'environmental' versus 'human'. Manson (2008) suggests that the lessons of the 'continuum' relate to a) the inherent value of a range of views on scale, b) the utility of realist and hierarchical scales, c) the need for constructionist interventions in human-environment systems and d) the role of complex scale in supporting and reconciling differing scale perspectives. From a management perspective, Cash et al. (2006) claim that human-environment systems that more consciously address scale issues and the dynamic linkages across levels are more successful at assessing problems and finding solutions that are more politically and ecologically sustainable. They claim that the opposite poles of top-down and bottom-up approaches are inadequate in providing both socially robust information and viable management solutions. And in place, they propose a middle path that addresses the complexities of multiple scales and multiple levels – whether the model is one of institutional interplay, co-management boundary/bridging organisations or an integration of all there (Cash et al., 2006).

As a concept, landscape has both natural and social dimensions and is increasingly understood as uniting the physical, mental, natural and cultural dimensions of human existence. This idea is evident in the ELC definition of landscape (Council of Europe, 2000 – Article 1) and in the conceptualising of landscape in social and political processes, to the extent that 'landscape' has come to be identified as a mainstream concern within the domain of territorial development. The ELC presents a broad definition of landscape, referring to a spatial scale above the agri-environmental policy units of the field/farm, the environmental designations of international, European or national significance or the bounded geographical dimensions of local/national planning policies and strategies. It considers the European landscape as a common heritage which transgresses boundaries whether national, administrative or property. Nevertheless, there are challenges regarding its implementation, which relate specifically to the multi-scale, fluid and contested nature of landscape and the scalar complexities of the process of landscape governance. The study of socio-political processes, which are invisible to the eye but are manifested in the landscape, may be greatly aided by the application of what Sayre (2009) and Howitt (1998) term 'scale as relation', one facet of the conceptual framework offered by 'scale'. According to Olwig (2007a: 215) the real challenge of the ELC lies in the disjuncture between the local and regional on the one hand, and the global on the other. This is also a particularly relevant consideration to the proposed establishment of a World Landscape Convention. It is perhaps to this end that the conceptual framework offered by 'scale', is crucial to progressing our understanding of global environmental and landscape change, and the amelioration of human-environment interactions.

5. Conclusion

The multi-scalar nature of the phenomenon of landscape presents significant challenges in undertaking integrative research. However, the concept of scale also offers a means of simultaneously analysing the phenomenon of landscape from multiple perspectives. Scale has at once methodological, epistemological and ontological dimensions. According to Manson (2008: 776), the "epistemological scale continuum" establishes that no single definition of scale is sufficient for human-environment systems. While no 'common' definition of scale may be possible, common understandings are achievable and advantageous to the progress of global environmental research. Furthermore, in order to ensure that 'scale' does not exist as a barrier to integrative landscape analysis, researchers must acknowledge the multiple ways of understanding and using the concept and move towards what Sayre (2009: 105) proposes as "an integrated conceptual framework. Similarly, Vogt et al. (2002) identify scale as a common integrating tool, which can be used to link the social and natural sciences. They argue that researchers and (resource) managers must begin to conceive their questions in terms of scale, in order to determine the most appropriate scale(s) to address the issue(s) in question.

In an increasingly globalised and virtual world landscape scientists and practitioners alike, are tasked with developing new ways of planning, protecting and managing future landscapes. Part of this transition involves using the resources of imagination to continuously re-think and re-create what we determine to be the foundations of 'sustainable' landscapes. In the globalised world of the 21st century the phenomenon of landscape is characterised by a looser epistemology about space. Landscape may be conceptualised as a point of convergence or conversely as a point of tension (see Wylie, 2007), where a multiplicity of spatialities and temporalities interact. This complexity presents major challenges to the implementation of the European Landscape Convention, and particularly its clauses on democracy and local governance. Oles and Hammarlund (2011) highlight a major challenge of the ELC as the arbitration of local needs and global goals. They assert that the achievement of 'landscape democracy' as espoused by the ELC, requires that we must first engage in the local realities of particular places, with their own histories, traditions and social actors (Oles and Hammarlund, 2011). In addition, Abram (2011) proposes that in the arena of planning, questions of who the public is, and what is good for it, are not as easily answerable as first imagined. The complexity of the public as a concept is further compounded by forces of globalisation i.e. our simultaneous inhabitation of multiple landscapes and the linked challenge of distinguishing between 'insiders' and 'outsiders' in sites of contest.

Integrating the social and natural sciences necessitates improving our understanding of how these foundational concepts are perceived by each discipline. The landscape phenomenon in its fullest sense presents a fertile medium through which to interrogate the conceptual binaries of (for example) - local: global, space: place; time: space; nature: culture; insider: outsider. In landscape science, the concept of scale provides a lens through which we can focus our attention on understanding dimensions of space and time. However, to focus solely on the relationship between space and scale is an overly restrictive theoretical approach (i.e. scalar regions and notions of place), as we must also direct our attention to what space actually is and to how researchers should also use space to unpack and pluralise what 'time' entails. Duncan and Duncan (2010: 244) propose that the idea of landscape is most useful if one sharpens and narrows its analytical and critical focus. The achievement of this may be greatly aided by the use of scale as a 'tool' in the research design process. In this sense, 'scale' is central to all research perspectives involved in the complex multi-scalar phenomenon of landscape.

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Management Problems in Residential Areas: Example of Latvia

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Absract: This paper presents the analysis of the residential environment public open spaces in the residential area that was designed and constructed in the second half of the 20th centrury Consequently, based on previous research on the aesthetic quality and the photographic method, in the process of research, multiple residential environment public open spaces in the cities of Latvia were explored. The research established that the residents of the territory are not involved in the arrangement of the open space, that there are problems with the aesthetic quality and the location of the residential areas in the industrial areas, and the open space of the residential environment performs other functions than originally intended – that is it integrates buildings of public service nature. The type of the present housing and the disorganized physical borders place additional load on the residential area open space. All the aspects listed in this article severely affect the management issues of these areas. Therefore it was established that the present situation in the cities of Latvia is rather similar. The aim of this paper is to analyse the causes of the issues established in the research that presently affect the development of these areas.

Keywords: public open spaces, residential areas, management problems, aesthetic quality.

1 Introduction

Since time immemorial, the territories around the Baltic Sea have attracted considerable interest related to economic activities, such as trade and transport, as well as tourism and recreation. Never before had this interest reached the present level, yet here were processes and preservation of the existing nature values and urban landscape features. Increasingly more people live in towns and cities but the rapidly developing economic situation dictates its own rules (Liepa-Zemeša, 2008). One of the base units of the urban structure is its residential areas; therefore, a great attention is paid to the development and housing improvement in these territories in the urban development strategic and operative planning documents. The residential area is a populated environment of an appropriate size which has its own maintenance, identity, and character that follows its type of housing, physical borders and the sense of community between the landscape and the residents (Treija *et al* 2003). A readily accessible public open space is a centre of public activities that may affect the everyday life of people and development of the entire neighbourhood. The public open space is beyond the control of individuals; it is an element linking the private living spaces of inhabitants and it is used for different functional and symbolic purposes. Public open spaces of the living environment are an essential component of a home, 'an extension' of the personal living space outside, visually illustrated in *Fig. 1, 2*. It is an environment where everyone expands their understanding of a home, through daily activities, transferring it from their flats to public open spaces. As the inhabitants are actively using these spaces, they' 'are appropriating' this physical space and this feeling of intimacy that allows people to identify this place as their own, giving a sense of identity. Gradually people are trying to seize control over it – whether through legal actions or active utilisation or a controlled access for 'strangers', attempting to transform public open spaces into public/private spaces. There is a close relationship between the character of the built-up area and human lifestyle, since the surrounding environment largely determines the processes of human life. In many cities large-scale housing estates, originally aimed at creation of a green public open space, are the precailing type of residential construction (Treija *et al* 2010), visually illustrated in *Fig. 3*.

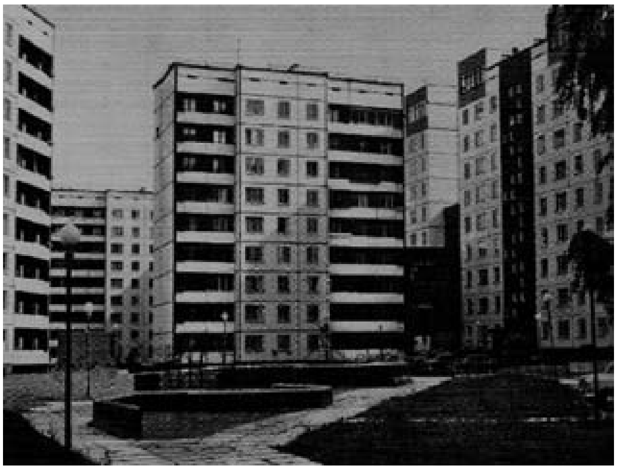

Fig. 1. Residential courtyard of Mezciems, Riga in the second half of the 20th century (Страутманис et al 1987).

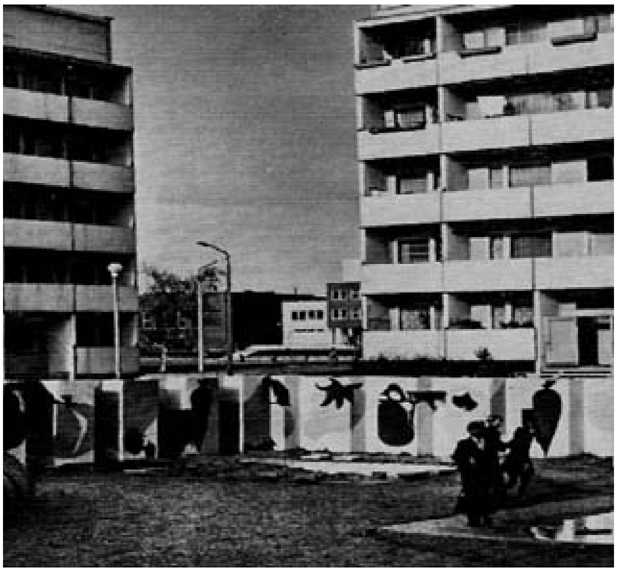

Fig. 2. The courtyard of Liepaja with the public outdoor territory improvement elements in the second half of the 20th century (Страутманис et al 1987).

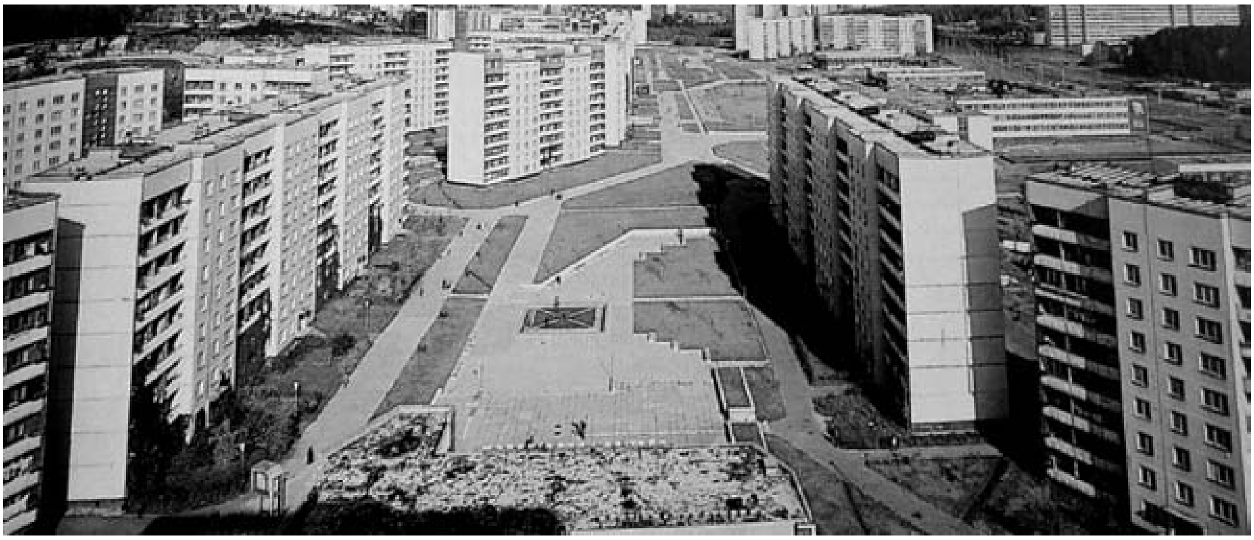

Fig. 3. Central pedestrian street in the residential area of Mezciems, Riga. Lejnieks (1989).

Urban fabric is made over centuries and it is made by various societies. It is created not only to satisfy practical needs, but also public and aesthetical requirements (Liepa-Zemeša, 2010). Although the majority of large-scale housing estates in Europe were built after 1960, the idea of large-scale development finds roots in the second half of the 19th century when mass industrialization resulted in mass urbanization. In many parts of Europe, blocks of residential buildings provided dwellings fast and in large quantities. Very often these residential areas were of poor quality, with unhealthy environments (Treija *et al,* 2010). This impressive constructing process in the post-war Soviet period disrupted the historical planning principles and the urban scale. Rapidly deteriorating, this appartment market causes social, economic and technical problems, as well as issues that concern their maintenance (Asaris *et al* 1996, Briņķis *et al* 2001). In most cases, landscape elements and greeneries planned in the original projects were not arranged, and open spaces were not regularly tended and improved, leading to their degredation. As a result, they have created an image of a neglected, unsafe, unappealing environment which, today, is often treated simply as an unused potential of the territory (Treija *et al,* 2013), as visually illustrated in *Fig. 4* and *Fig 5*.

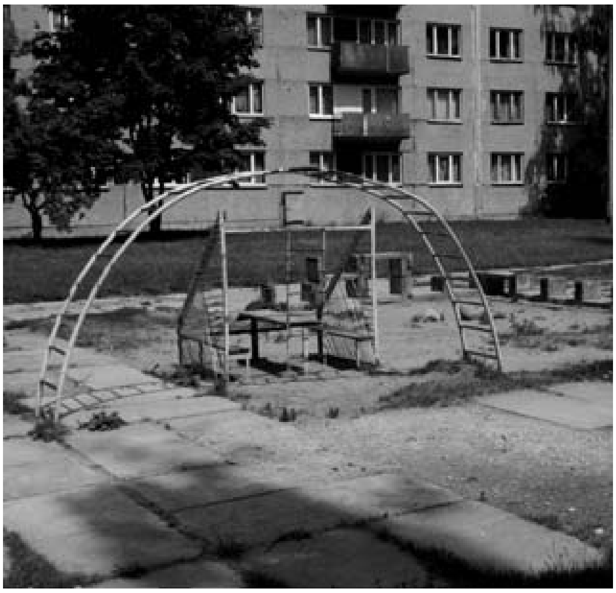

Fig. 4. Innaproprate management process of the residential environment open space, Jekabpils (photo by author, 2011).

2. Urban construction development processes in the public open space context

Local town building plans and building regulations are the early town planning tools. Town planning regulation was started to solve fire security, sanitation, military protection, street regulation order, reduction of building constructive parameters and other collective civic problems. Spatial planning most rapidly developed in large urban centres, especially in Riga City. The earliest normative acts in the territory of Latvia which indirectly regulated spatial planning were building regulations adopted by city local governors. For instance in Riga such rules exists since 1293 - they were adopted after a destructive fire in the city. Riga building regulations organized the chaotic construction and fostered transition from yard construction to perimeter construction with brick and gable type buildings inside the defensive city wall (Kūle, 2007). In the forming process of each element of the urban environment's hierarchy it

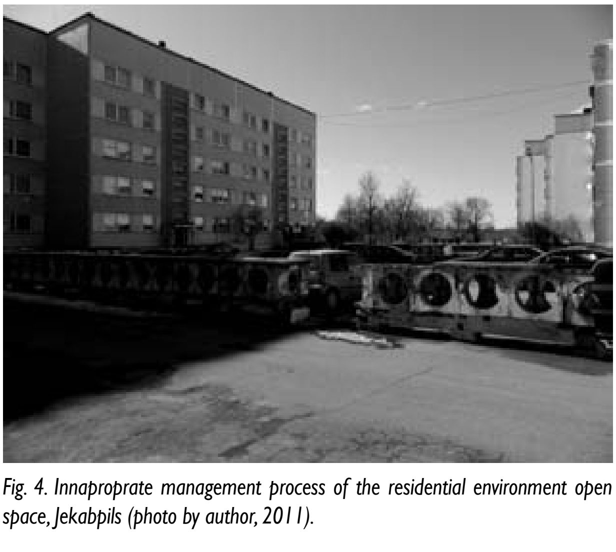

Fig. 4. Innaproprate management process of the residential environment open space, Jekabpils (photo by author, 2011).

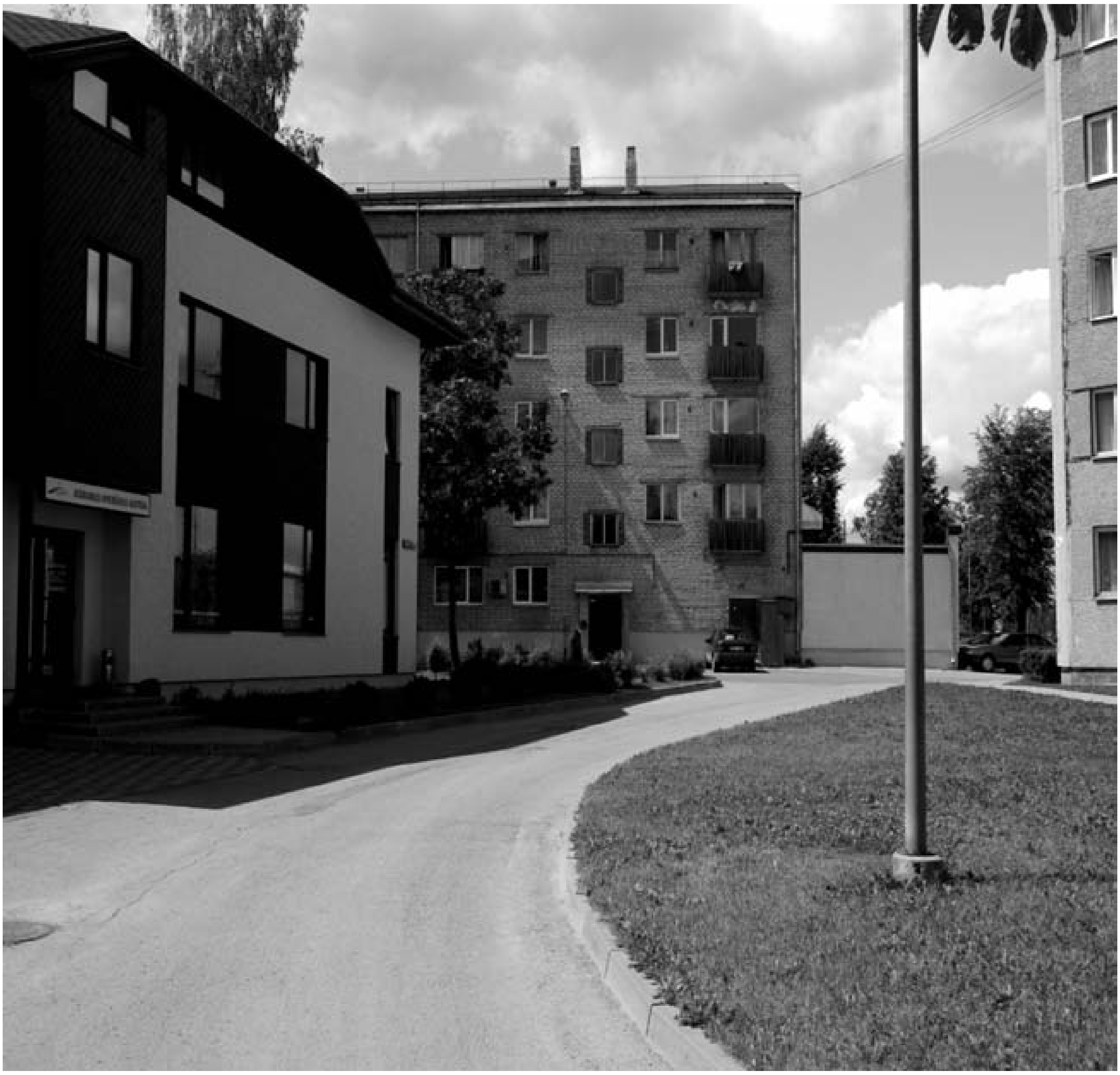

Fig. 6. Residential area with public service buildings in the residential open space, Aizkraukle (photo by author, 2011).

must be taken into account that success of each design starts with healthy success between two elements: the shape in the question of its context. Any spatial formation whether it is a city, a separate building or an architectonically sculptural ensemble, is visually conjoined in an inseparable unit with the spatial surrounding that encompasses it. Viewing what it means to locate a building in accordance to basic principles it simply means that the placement of each building has a positive effect on the surroundings. It completes the surrounding, protects its structure, makes it deeper, makes it better, creating strong centres in and adjacent to it. If this were to be done, each new building would be a good neighbour. Instead of causing damage,as many buildings do today, and instead of quiet isolation, each new building should fit in its context, making large areas more complete and increasing their image (Liepa-Zemeša, 2010).

Among other urban planning principles, a requirement was set to ensure high hygienic and insolation standards, which is a complicated and somtimes even infeasible task in the cities. The idea of the Garden City spread to several other European countries, until in the 1920-30s, owing to economic and political conditions, if found more radical expression. The International Congress of Modern Architecture (Congres International d'Architecture Moderne, CIAM) organised several international congresses that had the most direct impact on large-scale construction. In 1930, at the third CIAM Congress it was postulated that the old and dirty city should be replaced with a new and healthy one. The new city "will not be created for an observer, pleasant sights or a dilettantish tourist, but for the prosperity of people who live, work and relax in this city". At this congress, Le Corbusier presented his famous concept of a radial city as a universal solution to the housing problems in Europe. Le Corbusier proposed a new urban construction principle – multi-storey apartment buildings located within a green nature area, freely accesible for fresh air and sunlight (Treija *et al,* 2010). Urban design is a discipline that deals with different issues to achieve visual targets and clarity of conformity to form the integrity of the city's three-dimensional composition and to create positive and pleasant organization of elements of the urban environment (Liepa-Zemeša, 2010).

According to the architect G.Melbergs, who had designed several large-scale housing estates in Riga: the layout scheme of housing estates, which originated in England, derived from the situation when construction was quite extensive, with the height not exceeding four floors and where all everyday processes actually took place in one horizontal level. The underlying principle of this system allowed children to reach educational establishments; schools and playgrounds, without parents' assistance and without a need to use transport and cross the streets. Besides, all their movements could be observed through the apartment's window." The architect also stated that the organization of the built-up area was substantially affected by the requirement to ensure optimal microclimate and sanitary conditions, as well as to arrange public open spaces right next to the dwellings for recreational needs (Treija *et al,* 2010). There were binding building regulations issued in other cities of Latvia as well; they regulated building location lines, their height, the width of the walls and building materials. In the years of 1863-1865 Daugavpils city prepared the Master Plan that, similarly to Riga, had legally binding functional and spatial zoning of buildings. In the middle of the 19th century there were general plans for the largest towns of Latvia prepared – for Jelgava, Liepaja, Ventspils, Rezekne, Ludza and others. For instance, since 1880, within the borders of towns in Cesis and Kuldiga, all the buildings had to be constructed of fire resistant materials. Cities and towns, mostly their central parts, received centralized water supplies and sewerage, street arrangement, town lighting and public transport during this period Kūle (2007). In 1936, *Building Regulations for Dense Settlement Sites* were adopted by the central government and these regulations refer to towns and villages that did not adopt their own building regulations by the local government. For instance, there was requirement that land subdivision cannot be in plots smaller than 1000 m^2. Although in existing land plots, if they were smaller than 1000 m^{2,} it was possible to build up the land if the plots were bordering publicly used streets or plazas, or connected with at least three metre wide roads maintained by the land plot's owner.

There were also regulations on the height of the buildings, the distances between buildings and for gardens. In addition, there was the requirement that each land plot in towns and villages should be fenced and requirements on which type of fences were permitted were in these Cabinet regulations. Particular attention was paid to the sanitary conditions, water management and fire security. The Cabinet of Ministers' national policy of 1936 included the policy aims for spatial planning - "in preparing building and expansion spatial plans and developing towns, the work has to: a) replace old ugly buildings with beautiful, but also cost-effective new buildings, b) create better sanitary hygienic conditions, c) improve transport streets, roads and pavements, and d) construct market places with all possible utilities (easy access, buildings, shelters, etc.)" (Iekšlietu Ministrija, 1938).

After proclamation of the Republic of Latvia there was a Town Building Office established in 1925 to ensure the development of the modern metropolis, Riga. It was lead by a town planner and architect, A.Lamze (1889-1945). Already in 1924 elaboration of the Riga General Plan had started. Additionally A.Lamze elaborated the Master plan of Great Riga Construction, taking into the account vast areas of Riga City land properties outside its administrative territory, which would allow development of Riga as a Garden City with low store residential houses with the total number of inhabitants up to one and a half million. This plan was rejected as unrealistic and there were also objections from the society. In turn, in the Riga City Master Plan of 1969, which was prepared in cooperation with the planning institutes of Moscow and Leningrad, there was a focus on large (it was planned 100-150 000 inhabitants in each district) residential districts with industrially produced high raised multi-apartments buildings located in the complexly planned areas to have, in each industrial zone, a residential area and recreation area. It was planned to locate these new residential districts outside the central part of city, utilizing vacant or sparsely inhabited areas. On a lower scale, such prefabricated residential building districts appeared in almost all Latvian towns and in some rural places (close to military sites or mineral resources). In the 1970s the regional planning was fostered – in 1976 the Latvian SSR Regional Planning Scheme for the period 1976-2000 esd prepared with the objective to develop a single system of the settlement sites in the frame of eight economic regions with the centres in Riga, Liepaja, Daugavpils, and also in Ventspils, Rezekne, Valmiera, Jekabpils and Gulbene. The Regional Planning Scheme dealt with spatial development problems including the economic (rational use of resources), social (optimal work, living, recreation conditions in all settlement sites despite its size), architectonic planning design (development regarding environment, landscape and transport taking into the account territorial capacity of cities) and ecological (pollution, concentration capacity) aspects Kūle (2007).

After joining Latvia to the territory of the Soviet Union the transformation to the planned economics took place, the immovable property was nationalised, and the entrepreneurship was under control. There were two types of properties in the USSR: 1) socialistic (all people) including property of trade unions and other public organizations and 2) the properties of cooperatives and collective farms. In 1978, in the Constitution of Latvian SSR, it was stated that the private property includes personal belongings, comfort and household things, residential building and savings from the work. Citizens could also utilize land plots which were given for the subsidiary farms (also for keeping domestic animals), fruit and vegetable gardens and individual construction of housing, but this land could not be used against public benefit. The spatial development was influenced by the Soviet principle to foster and strengthen the uniformity of the society with the disappearance of different society classes, differences between town and country, mental and physical work, and the approximation of national differences.

The declared rights for work, social protection, health, education, socialistic culture achievements and duties of citizens to protect nature and maintain ideologically sorted cultural heritage were included in the objectives and tasks of the spatial development plans and some of them were partially implemented. Soviet spatial planning was brought under planned economic conditions. It was determined by the planning norms and normative acts of USSR. The significant role played by defensive zones (shelterbelts) determined distances for different needs.

Both provision of services and design of territories were regulated by planning norms which were based on the number of inhabitants as well as the preconditions of industrial building norms. In accordance with detailed centrally approved building regulations, the master plans of all towns and largest villages were elaborated and regularly updated. Also different regional plans and economic sectoral development schemes were prepared based on the unified Soviet regulations and norms (Kūle, 2007). As a result of denationalisation and privatisation processes (1992-2005), the original spatial composition of the districts was disarranged, thus creating a legal basis for new construction in the public open spaces of large-scale housing estates, visually ilustrated in *Fig. 6*. The economic growth between 2001 and 2007 increased the demand for housing in Riga. It is estimated that over five years about 50 residential building with more than 1000 apartments have been built in the public open spaces of large-scale housing estates. Following the protests of inhabtinats of surrounding buildings, in 2006 the Riga City Council imposed a moratorium on construction in inner courtyards. The moratorium refers to approximately 1700 plots of land in inner courtyards - almost five per cent of the total area of the city. In December 2009, due to changes in Riga's Building Regulations, a moratorium on building in courtyards was canceled (Treija *et al* 2010).

3. The public open space of the residential area today

From today's point of view, spatial plans of the Soviet period and their proposals for zoning, transport, planning and infrastructure have to be corrected as they did not take account of the ownership structure and public opinion. Often the implementation of these sometimes quite detailed plans was weak. The plan was accessible only for official use by managers and listed specialists and not for the public. All the cartographic materials were secret because of the military reasons. Because of these reasons the cartographic material for planning needs was misconstrued with purpose. If information regarding plans was published, it was general and schematic with no scale. Despite spatial planning traditions, the current spatial planning system developed after independency in 1991. Retaining some elements from the soviet planning practice and renewing several elements from the pre-soviet period, the current planning system in Latvia is mainly based on the application of the foreign experience in concordance with the constitutional system of Latvia (Kūle, 2007).

The Nordic countries have been working for years on the policy in order to establish a successful dialogue with the public during the urban planning process. Not only experience of large cities counts here but also of smaller ones where town planners emphasise the importance of involvement of the public in planning processes. The possible motivating factors could be: application of modern technologies, making the urban planning process more creative, establishment of information environment that would be attractive to young people, larger possibilities for involvement of the public, curtailing the bureaucratic time-limits, attracting investors. Urban planning is not only science and art, but also economics and politics. Therefore in order to ensure succession, it is necessary to develop strict guidelines for the development of the spatial structure of the city. The development in the territories that are important in the urban scenery and are key elements of the public open space, as well as in those where large-scale development is planned, should be carried out according to the plan accepted by all interested parties Liepa-Zemeša (2008).

Nowadays it is difficult to find inhabited localities that fully satisfy their users' aesthetical requirements. It is much easier to find built-up areas that were built before 1950s. Most studies about landscapes view historical cities, old farmer regions, primitive or virgin territories. Apparently, inhabited localities that have no planning or old districts are visually more attractive than newly projected city parts. There are many individual objects that are built nowadays and can be characterized as aesthetically qualitative, but there are no cities with visually qualitative, completed space. Many urban complexes are not in harmony with their surroundings because of their location, planning and design. Until society had identified problems connected to aesthetics of the urban environment, planning of the urban design was viewed as a task, which can be implemented in itself, directing planning into a more abstract sphere, including economic, social and environmental conditions. In recent years, it has caused counter-reactions in many countries and solutions, based on characteristics of aesthetical quality of the environment for urban improvement are being sought. Aesthetical quality of the city consists of a combination of mind and the environment. To achieve it, two major components – changing urban form and changing mental conceptions – must be taken into account. Any inhabited locality has its own physical structure and symbolic identity, which may be weak, but urban landscapes is what often forms the city's uniqueness.

Therefore great importance is given to the creation of aesthetical quality of the urban environment. The city has to be flexible in relation to the perception habits of the users and the changes of function and meaning (Liepa-Zemeša, 2010). In this situation, the work of architects and town planners is very important as it makes development factors understandable and leads to their realization, outlining the urban policy for decision making at the political level. One of the preconditions for development of good urban development projects is a successful dialogue between population and town planners. It is one of the aspects of democratic society that is very important, both in the countries that have been in stable democracies for years and have been working at strategic planning for involvement of the public into the planning processes, and also in the countries that, comparatively not so long ago, have started developing the urban planning policy for development of these procedures (Liepa-Zemeša, 2008).

4. Conclusion

As a result, based on the research findings, one of the main causes of the established issues in the impressive building process in the post-war Soviet period which disrupted the historical planning principles and has irreversibly affected both the urban scale, and the public open space in the residential areas. Consequently, the main aspects to be considered in the further development of these territories are as follows:

1) to actively involve residents in improving public open space of the living environment,
2) to inform residents of the planned development and reconstruction processes, considering the people's wishes and opinions;
3) to change the functions of the public service buildings, which are now integrated in the living outdoor space;
4) to seek appropriate solutions for the housing type in the process of planning, qualitatively synthesising it in the landscape area;
5) to arrange the physical borders of the land of the living environment in public open spaces;
6) to hire qualified help in the management processes that, by studying the current situation, would be able to provide solutions to the aesthetic quality issues;
7) to transform the industrial sites outside the area or the living environment, or reconstruct these areas for residential buildings.

Acknowledgements

Publication and disamination of research results has been made due to the funding of the ERAF Project "Promotion of scientific activities of LLU", Contract Nr. 2010/0198/2DP/2.1.1.2.0/10/APIA/VIAA/020

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What Is The Comfort Aspect In A Sidewalk Landscape?

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Abstract: The comfort aspect is one of the most important parts in city planning. Our subjective analysis of human preference for city landscape concentrated on road sidewalks shows that the greenery alongside the sidewalk significantly affects our feelings of comfort. As objective analyses of the stress relaxation effect of sidewalk landscapes, a relaxation rate during a presentation of controlled streetscape pictures after stress load was assessed by physiological parameters of blood pressure, skin temperature and brain blood flow in addition to a psychological indicator. After showing streetscape pictures with roadside trees the blood pressure shows a higher rate decrease in the relaxation period than after showing pictures without them. Since a critical decrease of oxygenized hemoglobin level in a prefrontal area of brain was shown by near infrared spectroscopy, this method might be used to monitor the relaxation level of brain. The effect of the other factors will be discussed.

Keywords: comfortable landscape, near infrared spectroscopy; physiological parameter; psychological analysis; roadside tree, sidewalk landscape, stress relaxation

1. Introduction

With the drastic improvement of people's living standards, the landscape has attracted extensive attention worldwide. Many countries have already established laws related to landscape. For example, in Japan, there has been the Landscape Act since 2004 to preserve and maintain landscape. On the other hand, because of the traffic jams in urban streets and the pursuit of a healthy life, more and more city dwellers prefer walking on occasion. Consequently, as an essential part of the walking environment, sidewalk landscaping is increasing in importance.

Thus it is necessary to study the effect of landscape factors on the amenity of human emotion that makes a comfortable sidewalk landscape. A vast amount of research with subjective data has been compiled to evaluate streetscapes. For sidewalk landscape evaluation, the stress relaxing objective data is also important. However few attempts have been made to survey the stress relaxing effect of sidewalk landscape by physiological-psychological analyses based on objective data.

On the other hand, a great amount of research with physiological-psychological experiments on various analysis of human emotion in many areas has been done. And we also already performed a physiological-psychological experiment for the river landscape evaluation. Muto *et al* (2010) of our research group compared psychological and behavioural indicators for the evaluation of river landscapes. Subjective evaluation and reaction time in consideration of the scene evaluation process were compared. Test subjects were asked to rate the attractability of the images. Affective evaluation was influenced by the garbage factor more so than by other factors. Then participants were asked to discriminate between color and gray-scale images in order to measure reaction time. Reaction times after being presented with images that included low naturalness and low accessibility factors were significantly longer than those of when the other images were presented. These results suggested that factors involved in a scene evaluation differed between controlled and automatic processing. For the physiological analysis, the stress-relaxing effect of river landscapes was analysed by various physiological parameters such as blood pressure, interval of heartbeat, skin temperature and secretory immunoglobulin A in saliva (sIgA) in addition to POMS (profile of mood states) as a psychological relaxing indicator. A stress relaxing effect of CG images of high and low naturalness was followed by a stress loading period and compared. For a stress load, a stroop test in which participants were requested to answer the true-false question of a color name displayed in a monitor in various color was employed. The naturalness of the scene was controlled by a river-terrace covered with and without green grass and pieces of trash in the river. It is shown that there are significant differences between picture sets with high and low naturalness in alterations of four physiological parameters except the heartbeat interval. The stress relaxing effect of naturalness is clearly shown by this experimental design. These results show the usefulness of physiological analysis in landscape elements affecting human emotions. In the aspect of sidewalk landscape evaluation, we found that the quality of the pavement had a significant impact on the comfort of our feelings. The width of the sidewalk as well as the presence of shops were also affecting factors on sidewalk landscape identification through the analysis of subjective preference with the classification and regression trees method (CART) (Yang *et al* 2012a). Also with the analysis of the same data using a Multivariate Adaptive Regression Splines method (MARS), we have shown that the feeling of comfort trends tends to be stronger with an increase in the amount of roadside trees (Yang *et al* 2012b).

In this study, we focused on the physiological- psychological analysis of the effect of the greenery and quality of the pavement as factors affecting human comfort through the stress relaxing experiment based on our previous research (Muto *et al* 2011). As the physiological parameters, we introduced brain blood flow measured by a new experimental method of Near- Infrared Spectroscopy (NIRS) in addition to blood pressure and skin temperature. NIRS is a non-invasive optical technology that relies on the relative transparency of biological tissues to near infrared light (700-900 nm) to determine tissue oxygenation by blood flow. Oxy- and deoxy-hemoglobin have a distinct absorption spectrum in the near infrared range. By monitoring absorption at wavelengths where specific to oxy- and deoxy-hemoglobin, it is possible to determine the concentrations of oxy- and deoxy-hemoglobin, in addition to total hemoglobin in the brain (Villringer *et al* 1993). This new method also becomes part of the field of landscape investigation. Miyazaki *et al* (2011) conducted experiments on the correlation between physiological action and trees (vision and olfactory) and claimed that one can evaluate personal emotional status by physiological indicators such as brain blood flow and blood pressure.

2. Experimental Methods

2.1 Experiment I

To study human preference for landscape of sidewalks, we performed subjective and objective analysis mainly targeted at the effect of roadside trees.

Test subjects of this experiment were 26 university students (12 men and 14 women, aged 20-24) in total. CG pictures were painted by Photoshop CS v.8.0.1 (Adobe). Two groups of eight pictures with and without roadside trees were prepared. Each picture of the group was controlled by the other factors; that is the presence of roadside buildings or signboards and width of sidewalk (*Fig. 1*).

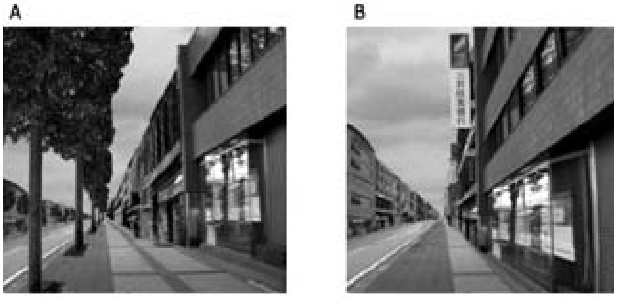


Fig. 1. CG pictures of sidewalk landscape. A). A streetscape with roadside trees and a wide sidewalk without signboards and high buildings. B). A streetscape without trees, with signboards and high buildings, and a narrow sidewalk.

As a subjective analysis, we employed a five-grade evaluation method to each CG picture. The test subject was asked to evaluate 16 CG pictures by a five-grade according to their own preference level.

For an objective analysis, psychological and physiological factors affecting the stress-relaxation were assessed through the experiment designed as follows (*Fig.* 2). In the experiment, an experimental session consisting of a stress-loading period of 10 minutes and a relaxing period of five minutes was repeated three times between two resting periods of more than 10 minutes each. During the stress-loading period, a task of calculation or stroop test was continuously presented on a computer monitor. Then CG pictures of sidewalk landscapes with or without roadside trees were presented in the relaxing period. One experiment with CG pictures either with or without roadside trees followed by the second experiment using another set of pictures with an interval period of more than 60 minutes.

Each test subject was examined with both experiments. When half of the test subjects were examined by pictures with roadside trees in the relaxing period at first, pictures without trees were presented to the other subjects at first to counterbalance the sequential effect.

Psychological data was obtained by a POMS test to evaluate the stress level of a subject. Physiological parameters of systonic and diastolic blood pressure on the upper arm by a continuous sphygmomanometer (Jentow CS), skin temperature of finger by a thermo-logger (Hioki 13633) and the concentration of oxy-heamoglobin (Oxy-Hb) of prefrontal area of brain by a 2-channel NIRS system (DynaSense PocketNIRS) were monitored. Each physiological parameter was continuously recorded throughout the experiment, while a POMS test was applied in the resting periods before and after the experimental sessions.

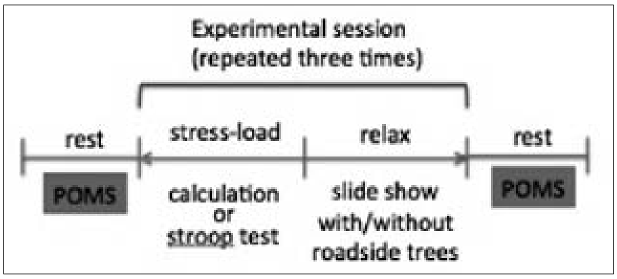


Fig. 2. Experimental design. Three times repeated experimental session is set between two resting periods. POMS test was performed during the resting period. Physiological parameters were monitored throughout the experiment. One experiment with CG pictures either with or without roadside trees was followed by another experiment.

2.3 Experiment II

Referring to Experiment I, a new experiment focusing on the greenery including roadside trees and the quality of the pavement was planned.

While CG pictures are used in the stress-relaxing period in Experiment I for their controllability in each element, photos of real streetscapes are adopted in this experiment to avoid the unnaturalness of pictures in addition to CG images.

123 photos of sidewalk landscape of various places in Japan and China were selected by a criteria listed below.

1. The end point of the sidewalk must be in the horizontal center and between a one-third to two-third position in the longitudinal direction of each photo.
2. The image must be straight.
3. The image must be flat but not sloping.

The green occupancy ratio of the planting of tree, bush and grass were calculated for each selected photo by Photoshop Cs v.8.0.1 (Adobe) (*Fig. 3*).

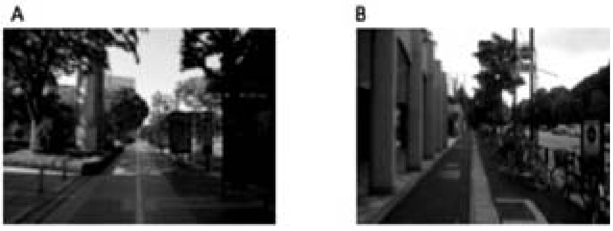


Fig. 3. Photos of a real streetscape. A). A photo with the green occupancy ratio of 27.7%. B). A photo with the green occupancy ratio of 12.8%.

A series of 146 CG pictures of the presence and absence of roadside trees and high and low quality of pavement were newly prepared by Photoshop CS6 (Adobe) to analyse their stress/relaxing effect. In this experiment, flowering dogwood (*Cornus florida*) and plane trees (*Platanus* sp.) were used as the roadside tree species and the occupancy ratio of trees was fixed to 30% in each picture. Pictures were controlled using the of presence/absence of roadside trees (flowering dogwood and plane trees) and quality of pavement with various roadside buildings and the background element on the opposite side of the street, so as to increase the variation of images. Typical combinations of CG images are shown in *Fig. 4*.

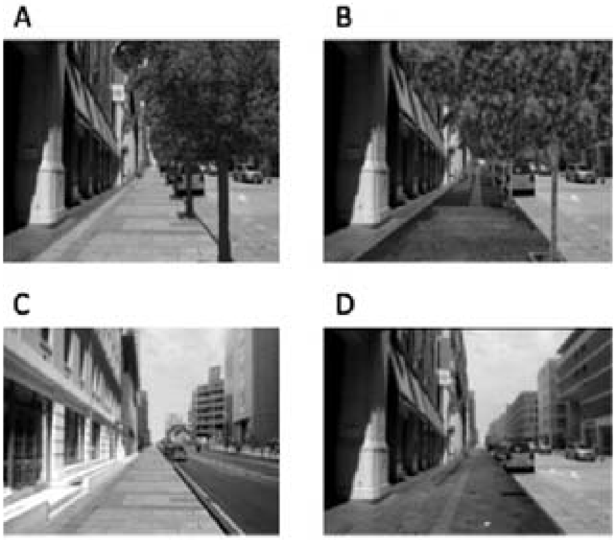


Fig. 4. CG pictures of streetscape in Experiment II. A). Sidewalk landscape with roadside trees (flowering dogwood) and good pavement. B). With trees (plane trees) and bad pavement. C). Without trees and good pavement. D). Without trees and bad pavement.

Test subjects were 30 university students (15 men and 15 women, aged 20-24). Using a subjective analysis of streetscape preference, the test subject was required to classify 131 pictures of 123 real streetscape photos and eight CG images into three grades of comfort: good, average and poor at first. Then in the second step, the subject was asked to classify the 'good' group and 'poor' group into two groups each according to their own preference. Finally five groups of pictures scoring from five to one in the descending order of streetscape comfort were obtained (*Fig. 5*). Since this two-step method is much easier in selection than usual one-step selection into five-grades, one can expect to obtain more intuitive results by this light participatory method.

While the evaluation score tended to concentrate on point three of the 'average', possibly by a cultural tendency typical to Japanese, we selected photos of streetscapes with high or low comfort by the following method. For the ith photo, we set pi equal to the percentage at point four and above for test subjects in the five-grade evaluation and qi equal to the percentage at two and below. Set $\Delta A_i = p_i - q_i$ and if $\Delta A_i \geq 0$ indicates that the comfort level of this streetscape is high, otherwise the comfort level is low.

According to a value of ΔA_i, 123 photos were sorted in order from the lowest to the highest. The cumulative percentage was calculated with the formula u (%)= n/123 * 100, in which 'n' stands for the order number of the sorted photos in the list and the constant 123 stands for the number of all photos. The photo of 'u' value less than 20 % is categorized as poor streetscape. Meanwhile, the photo of 'u' value larger than 80% is classified as good streetscape.

The experiment for objective analyses of psychological and physiological parameters is in preparation at this moment. The experimental design is as in Experiment I (*Fig. 2*). Experimental sessions are set between two resting periods of 10 minutes or more. One experimental session consists of stress-loading periods of 10 minutes and relaxing periods of five minutes and the session is repeated three times sequentially in an experiment.

In the stress-loading period, a stroop test is adopted to load a stress and a series of CG pictures of streetscape are shown in the relaxing period in addition to the calculation task. In a stroop test, the task is presented in Japanese with Japanese words of three kinds of notation (kanji, hiragana and katakana), in Roman letters and in English, increasing the variation to avoid the tedium of the test subject (*Fig. 6*). In the relaxation period following the stress-loading period, photos of real streetscape or CG images are presented sequentially on the monitor.

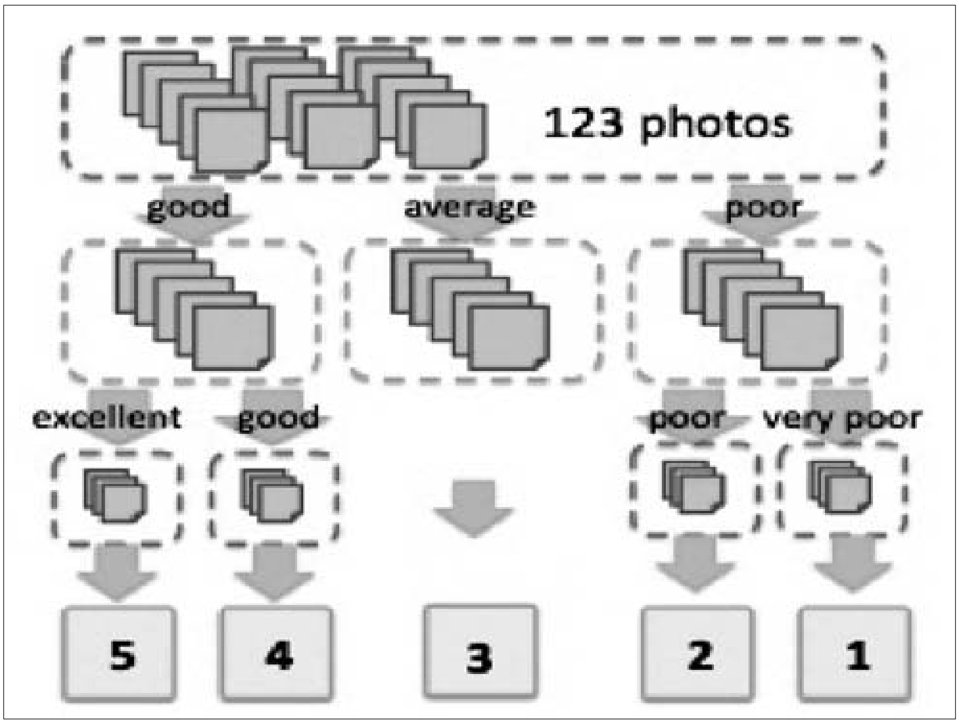


Fig. 5. Two-step method to divide 123 streetscape photos into 5 grades. Two-step selection is far easier for test subject than usual one-step five-grade selection. Obtaining a more intuitive emotional response is enabled by this method

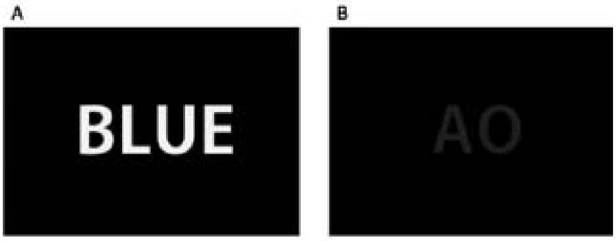


Fig. 6. Pictures for the stroop test. A). The word "BLUE" in yellow color (false). B). The word "AO" (blue in Japanese in Roman letters) in blue color (true).

For the experiment using CG images, test subjects are examined about their response to streetscapes with and without roadside trees and to the quality of pavements Meanwhile for the real streetscape photo experiment, their response to the photos of the highest and lowest evaluation score of the subjective analysis was examined.

The psychological stress level will be evaluated through the POMS test during the resting periods before and after experimental sessions. Physiological parameters, blood pressure, skin temperature of finger and Oxy-Hb concentration in the blood of prefrontal area in the brain will be monitored throughout the experiment.

3. Results and discussion

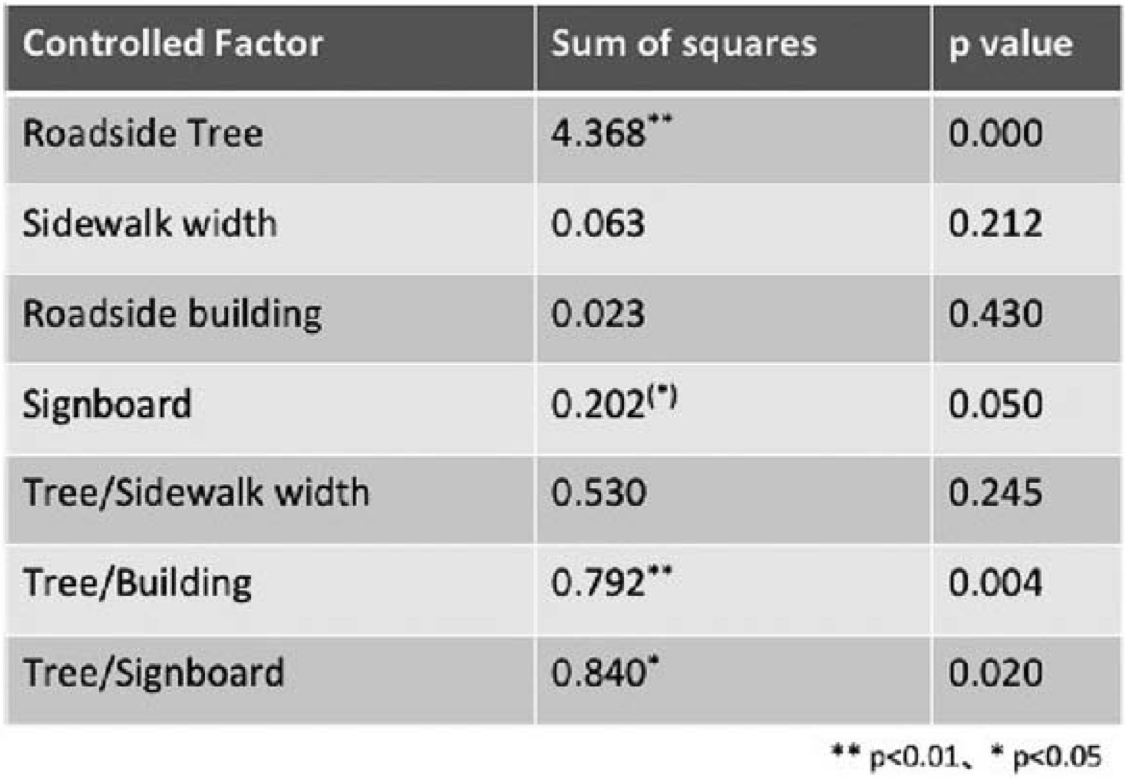
3.1 Experiment I

The result of an objective analysis of a five-grade evaluation test of 16 CG pictures is given in *Table 1*.

It appeared clear that the most affecting factor on the preference was roadside trees by ANOVA analysis with p value of 0. While signboard presence had a little effect with p-value under 5 %, other factors such as width of sidewalk and roadside buildings showed no contribution to preference by themselves. Reciprocal actions between buildings or signboards and trees affected the feeling of preference with p value less than 5%. Other combinations had little effect on the preference of sidewalk landscape.

The result of the POMS test before and after the experiment was highly valuable depending on the test subject. Although there was no definite tendency of the change in stress level throughout the experiment of stress-loading by calculation task, the stress level of test subjects was increased throughout the experiment with the stroop test regardless of the presence of roadside trees. The design of the experiment might affect the psychological aspect of test subjects because they were forced to watch the same kind of pictures on the computer monitor for a long time.

Decreases in systolic and diastolic brood pressures from the start point to the end point of the picture presenting relaxation period of the second session in the experiment with the stroop test are presented in *Fig. 7*. Diastolic brood pressure was decreased (p=0.046) and systolic brood pressure also showed a decreasing trend with p value of 0.056 when roadside trees were present by a Wilcoxon test. The cardiovascular system had relaxed when the pictures with roadside trees were presented. Since the second session was set in the midst of the experiment, it might reflect the physiological state of test subjects.



Controlled Factor	Sum of squares	p value
Roadside Tree	4.368**	0.000
Sidewalk width	0.063	0.212
Roadside building	0.023	0.430
Signboard	0.202(*)	0.050
Tree/Sidewalk width	0.530	0.245
Tree/Building	0.792**	0.004
Tree/Signboard	0.840*	0.020

** p<0.01、* p<0.05

Table 1. Factors affecting objective preference of sidewalk streetscape

An example of hemoglobin (Hb) concentration shift in brain blood of the prefrontal area is presented in *Fig. 9*. The concentration of Oxy-Hb indicating the activity of the brain showed a steep fall and was followed by a gradual decrease in the relaxing period presenting the pictures of sidewalk landscape from the stress-loading period of calculation task.

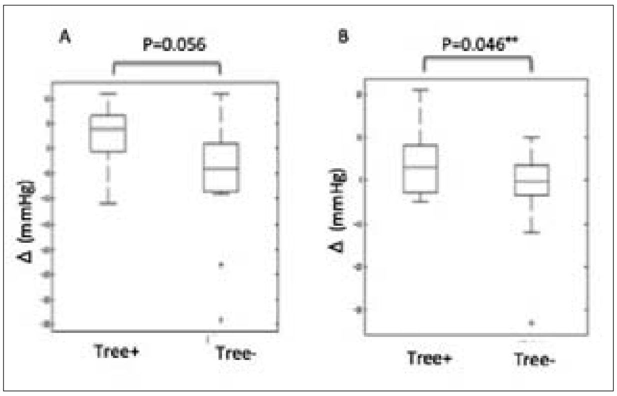


Fig. 7. Change in blood pressure at the second experimental session. A). Decrease in systolic blood pressure during the relaxation periods. Pictures with trees may affect more than those without trees. B). Decrease in diastolic blood pressure during the relaxation period. Roadside trees show significant effect of a decline in brood pressure..

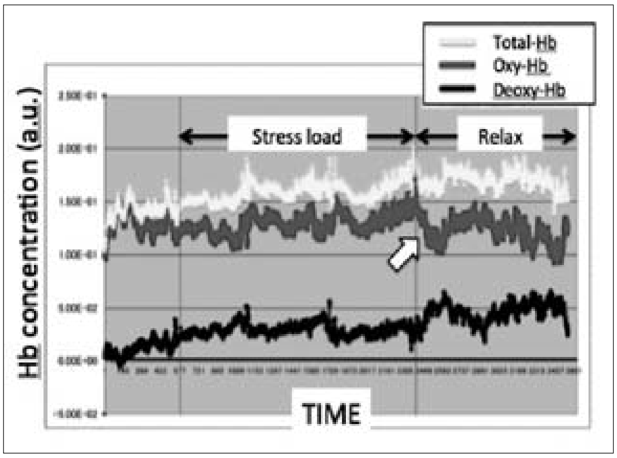


Fig. 8. An example of hemoglobin (Hb) concentration change in brain blood of the prefrontal area. Oxy-Hb concentration decreased in the relaxing period after stress-loading period of calculation task (arrow).

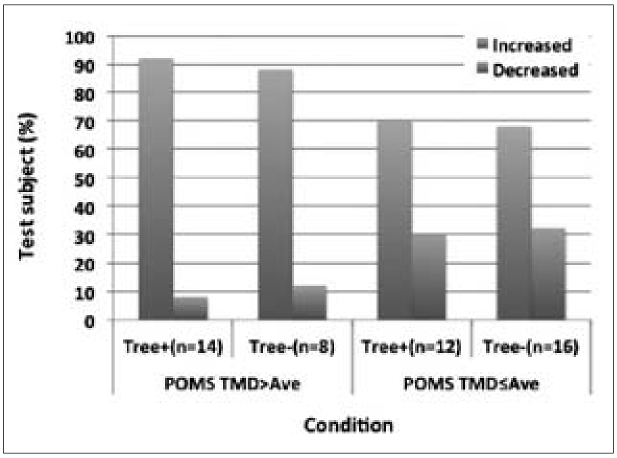


Fig. 9. Transition in Oxy-Hb during the relaxation periods. The Oxy-Hb concentration of brain decreased through the experiment in more subjects of low TMD score of POMS than those of high TMD group.

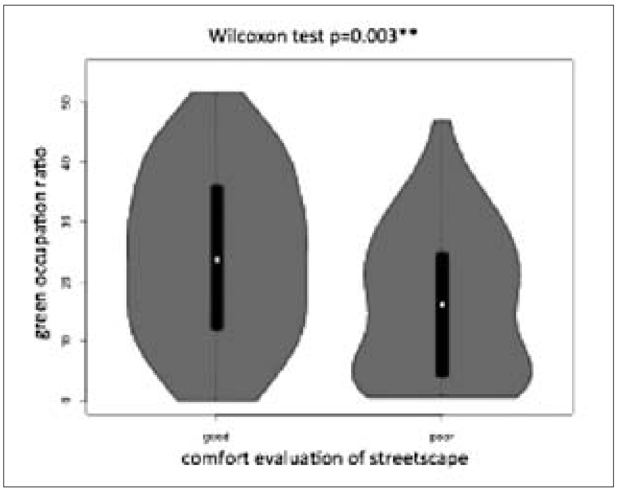


Fig. 10. Correlation of green occupation ratio and comfort evaluation of streetscape.

Although there was no correlation in the POMS test between the existence of roadside trees and the relaxation of stress levels, there appeared a difference in the activity of brain between groups of test subjects with a higher and a lower TMD (total mood disturbance) score. More test subjects whose TMD score were under the average level showed a significant decrease in Oxy-Hb concentration of the prefrontal area of brain than those in the high TMD score group (*Fig. 9*). From this result, one can consider that the brain of the test subject who felt psychologically better through the experiment might relax with streetscape pictures. But in this case, this relaxation has no correlation with the presence of roadside trees. It may be considered that the stress-loading task made test subjects tired and the pictures presented in the stress relaxing period became a new stimulus that affected activity of their brain regardless of presence or absence of roadside trees.

3.2 Experiment II

With the five-grade evaluation data and the green occupancy ratio of each photo, the pattern of variance according to the green occupancy ratio in the pictures of good streetscape and poor streetscape group is presented in *Fig. 10*. Pictures of good and poor groups evaluated by 'u' values show different patterns according to their green occupancy ratio against the frequency of included test subjects to each group by a Wilcoxon test with p value of 0.003 (*Fig. 10*). It is suggested that the green occupancy ratio affects the preference of streetscape to some extent. Although the pictures with poor quality showed a tendency of low green occupancy ratio, the pictures with the highest green occupancy ratio are not always given the highest evaluation score in the preference.

4. Conclusion

From these results of two experiments, the preference pattern of humans is becoming clear. Thus the sidewalk landscape with roadside trees and streetscapes with high green occupancy ratio may have an effect on our relaxation from stress both in subjective and objective aspects.

The on-going experiment will give the results of advancing our understandings of 'What is the comfort sidewalk'.

Acknowledgement

We express our gratitude to Ms. A. Mori, Mr. T. Tscuchiya and Mr. R. Kanno for their contribution to this study. We also thank to Dr.

M. Ishida and Dr. M. Nagai of Yamanashi Institute of Environmental Studies for their kind help and suggestions.

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The Historic Urban Landscape (HUL) as a New Approach to the Conservation of Historic Cities

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Abstract: This paper illustrates a new inter- and intra-disciplinary tool for conservation, planning and management of Cultural landscapes with complex urban and historic characters. Starting from a multidisciplinary study involving some historic cities (which includes the history of the city, cartography, urbanism, history of art, architecture, economy and sociology), the research aims to provide answers to the needs for modernization and investment in historic cities without compromising their historical character and identity. The paper defines a new methodological approach (which is based on the study both of the significance of cities and of their "common resources"), regulating the possibility of conservation/development of historic urban landscapes so that they do not lose their specific qualities and historical significance, in line with the European Landscape Convention and, in particular, the Draft Action Plan of the 2011 UNESCO Recommendation on Historic Urban Landscape.

Keywords: conservation, development, management, Historic Urban Landscapes, historic cities, resource, values

1. The concept of HUL

The concept of Historic Urban Landscape (HUL) has its origins in the problems of controlling development in the surroundings of historic buildings or historic urban areas, recognized for their outstanding universal value (OUV).

One could mention the examples of Cologne Cathedral and the Historic Centre of Vienna, where high-rise development either outside or within the Buffer Zone threatened the OUV of the inscribed properties, i.e. the justification of the sites as World Heritage. Consequently, in 2005, UNESCO collaborated with the City of Vienna to discuss the issue (UNESCO 2005). In this context emerged the notion of HUL, which found its definition in the International Recommendation on HUL adopted by the UNESCO in 2011.

The concept of HUL is extremely wide, and shows how the UNESCO has come to consider the historic city and urban landscape as a dynamic entity – and no longer a static one – where development and conservation are supposed to supplement each other in a joint process which should provide appropriate tools and management plans. The definition of HUL extends the meaning to incorporate land use patterns, spatial organization, social and cultural values, visual relationships, topography and soils, vegetation, and all the elements of technical infrastructure. It also includes the intangible dimension of heritage and the concepts of *cultural diversity and identity* (UNESCO 2011). Urban heritage constitutes in fact a key resource in enhancing the liveability of urban areas and sustaining productivity in a changing global environment. As the future of humanity hinges on an effective management of resources, conservation becomes a strategy to achieve balanced urban growth and quality of life.

HUL is defined to better tackle the contemporary socio-economic transformations that do not respect the authenticity and integrity of historic cities and their landscape. It provides general principles that acknowledge the continuous change in functional use and social structure as part of the city tradition, and suggests policies and strategies for proper planning processes with an active participation of the communities and groups of people involved in it. The notion of HUL is not necessarily new, because the concepts characterising it can be found in old European theories, in international documents and in old General Plans, i.e. the Plans of Assisi and Urbino, that have represented the privileged places of experimentation, verification and investigation. What is new is the changed perception and the immense potential of this concept: the possibility of treating urban areas not as static objects of admiration but as living spaces for sustainable communities.

2. Approaches to HUL, planning and management tools

While the notion of HUL has emerged from the World Heritage context, it is considered applicable to any heritage context and surrounding. In fact, the question in HUL refers to the 'historic urban landscape approach', which aims at preserving the *quality* of the human environment and the *sense* of the place.

This is the same spirit that underlies the European Landscape Convention, which promotes landscape conservation and planning in the respect of people's cultures, both in an objective as well as subjective dimension (Council of Europe 2000).

A vital matter of the Convention is also that of the role of landscape as "foundation of identity" (Art. 5), meant not only as the cultural asset of a nation, but also as a heritage shared by local communities.

The same Convention, in its Preamble, states that the safeguard should not be reserved only to the areas of outstanding beauty, but should be extended to *ordinary life landscapes* and even to degraded areas.

The *whole territory* is a warehouse of resources to be managed and organized, and it has its own heritage of environmental *qualities* and settled *historic values*.

In the same way, in Art. 11, the Recommendation on HUL, in fact, states: "The historic urban landscape approach aims at preserving the quality of the human environment, enhancing the productive and sustainable use of urban spaces while recognizing their dynamic character, and promoting social and functional diversity. It integrates the goals of urban heritage conservation and those of social and economic development" (Art. 11).

The scope of HUL is to propose a new approach for planning and management of urbanised territories, so as to have some control over the continuity and change in the protected and the non-protected areas, either within the urbanised territories or in their rural or natural surroundings, with respect for the *identity* and *significance* of the place and of people's *culture*.

"Urban landscape" can be seen as the built-anthropic territory, which is characterized by on-going processes. Its management requires an accurate understanding of the causes and dynamics of development. As far as the Historic Urban Landscape is concerned, this can be seen as the recognition of specified qualities in historically perceived urban territories or sites, where the change can range from static to dynamic.

Historic Urban Landscapes are affected by a large array of new pressures, such as urbanization and globalization, which provide economic, social and cultural opportunities able to enhance the quality of life on the one hand, while on the other the unmanaged changes in urban density and growth can undermine the sense of place, the integrity of urban fabric and the identity of communities.

The definition of the HUL provides a framework for general principles that acknowledge continuous change in functions, uses and social structures as part of urban tradition, and it offers policies and strategies for proper planning processes involving a dynamic participation of communities and groups of people.

The HUL approach aims at managing the development of historic cities to contribute to the well-being of communities and to the conservation of historic urban areas and their cultural heritage while ensuring economic and social diversity and residential functions.

Historic Urban Landscapes often refer to relatively large territories. Consequently, there will be need for a number of different planning and management instruments. HUL may contain protected historic buildings, urban or rural conservation areas, as well as protected natural environments. There can also be important vistas and panoramas which refer to areas beyond the administrative competence of a community.

The definition and implementation of HUL would be mainly based on the existing and/or newly created planning and management instruments.

HUL would not be just another master plan, but rather it should offer a general policy reference for safeguarding and integrated development policies and strategies. Information management and an effective monitoring system of the decision-making processes at all levels are crucial. The creation of safeguarding measures, land-use planning and management, which could be carried out within the frameworks of existing instruments, are all important. The recognition of HUL will most probably require some additional information and management measures, which should be taken care of, and the results integrated into the relevant instruments.

Consequently, we can suppose that once HUL is recognised, it will become an overall management framework. In the end, a wide education and awareness of the conservation of heritage are fundamental.

The fact that historic cities are living cities calls for an active participation of the local population, for whom these spaces hold special significance. It is also clear that historic areas are essentially entities that go through continual processes of transformations, and multidisciplinary actions should be undertaken to check these changes.

The fundamental task of HUL - together with its conservation and management - is to maintain and restore the spirit and character of cities perceived in relation to their resources, sense of identity and collective memory embodied in the structural permanencies.

The study of the past history of cities, of their transformations throughout time, of their past and present critical aspects in management systems, as well as of their resources, is necessary to understand how it is possible to manage transformations in historic urban landscape, in the respect of the conservation of the qualities and significances of the cities themselves.

The fundamental goal of the approach to HUL is the extension of the concept of "conservation", insofar as the object of HUL is to guarantee the proper conservation/safeguarding of historic urban areas that are an integral part of the overall urban landscape as it has evolved over time (the city as a "whole").

This is why the aim of conservation within the concept of HUL is to put more attention on the environmentally sustainable management and controlled development of areas forming the context/setting for the significant historic areas, with the objective of preserving the meaning of the entire historic city, and not just the historic centre, which is often sufficiently protected by town planning instruments, but which often "suffers" uncontrolled development of the areas adjacent to it, resulting in negative effects that are mirrored on areas containing the "heart" of the whole city's meaning.

3. A methodological approach to the conservation/development of HUL

The approach to HUL is related to the possibility of conservation/development of historic urban landscapes so that they do not lose the *qualities* and the *historical significance* of the place, in line with the European Landscape Convention and, in particular, the Draft Action Plan of the 2011 UNESCO Recommendation on HUL. It mainly develops the aspects connected with planning, considering that the approach proposed by the UNESCO is mainly a new strategy for urban conservation which is above all managerial in nature.

The proposed methodological approach is based on the study both of the *significance* of cities and of their *qualities* and *common resources*. In this way, this approach should provide a general framework. It can be used as a reference model for monitoring and management of continuity and change in historic urban areas and their surroundings.

The proposed model would also be the base for the development of further models, especially through its capacity for continual evolution and particularly by integrating innovations in the management of urban areas. It constitutes the first start point for the control of the aspects related to the conservation and development of historic urban landscapes.

The approach is based on the essential points of the UNESCO Recommendation Draft Action Plan, which summarises a possible "model" for the development of the approach to HUL, but which also looks to bridge some of the individuated "gaps" in the actual UNESCO document, proposing a possible general method to study the historic territories and cities, aimed at identifying their quality and defining rules for their active management.

The UNESCO model points out the need to undertake comprehensive surveys and the mapping of the city resources, to reach consensus with stakeholders, to assess the vulnerability of the city resources, to integrate urban heritage values and their vulnerability status into a wider framework of city development, to prioritize action for conservation and development and to establish appropriate partnerships and local-management frameworks.

The proposed methodological approach to manage HUL is a multidisciplinary study that includes diverse disciplines, i.e. Conservation theories, Architecture, History of art, Urbanism, Sociology, Economy and Culture, Evaluation systems.

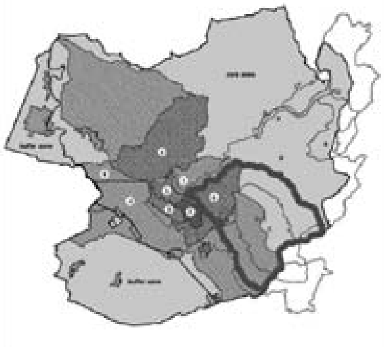
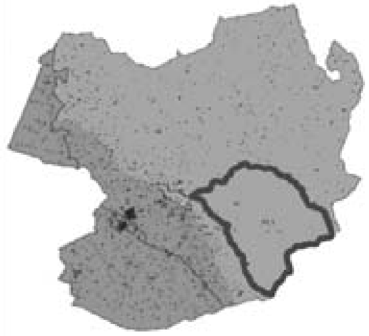
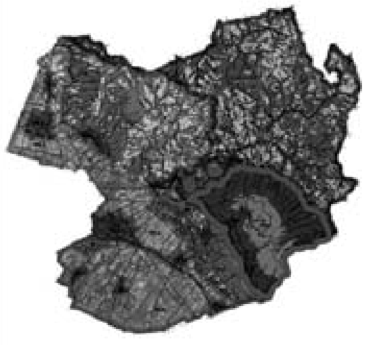
AREA P1.1	**INTENSITY OF THE RESOURCES**
	WORLD HERITAGE LIST The Area P1.1 is included in the "Core zone" of the UNESCO site. 0 1 2 3 4 5
	**PROTECTED AREAS** The Area P1.1 is included in the following protected areas: 8 - La fruizione del M.Subasio (partly) 9 - M.Subasio's Park (partly) APSp Grandi Panorami (partly) SIC (Sites of community interest): C IT 5210027 (Monte Subasio) partly D IT 5210030 (Fosso dell'Eremo delle Carceri) partly Landscape bond by Italian D.Lgs. 42/2004 (entirely) 0 1 2 3 4
	**HISTORICAL/CULTURAL RESOURCES** The Area P1.1 has high identity. The system of buildings is rarefied and it includes small castles. The human presence from the Middle Age is represented both by the Benedectian Abbazey of San Benedetto and the Eremi system, which are linked with the city. 0 1 2 3 4 Importance of the resource: high Possibility of change: no change
	**LANDSCAPE RESOURCES** The Area P1.1 has very high geobotanic importance and it is an integral part of the image of the territory. 0 1 2 3 4 5 Importance of the resource: very high Possibility of change: negligible change

Fig. 1. Assisi: analysis of the intensity/vulnerability of resources in homogeneous areas (drawing by the author)

It includes a preliminary study of the significance of the cities: their history and development of the urban shape with the application of "Digital Humanities" and the study of cultural heritage.
Here, the analysis of ancient maps, cartography and historical iconography is essential in order to understand the city's significance, and to define exactly what the resources are and why they are important. Another key element is the study and analysis of the past and present city protection tools, which, as a general rule, describe

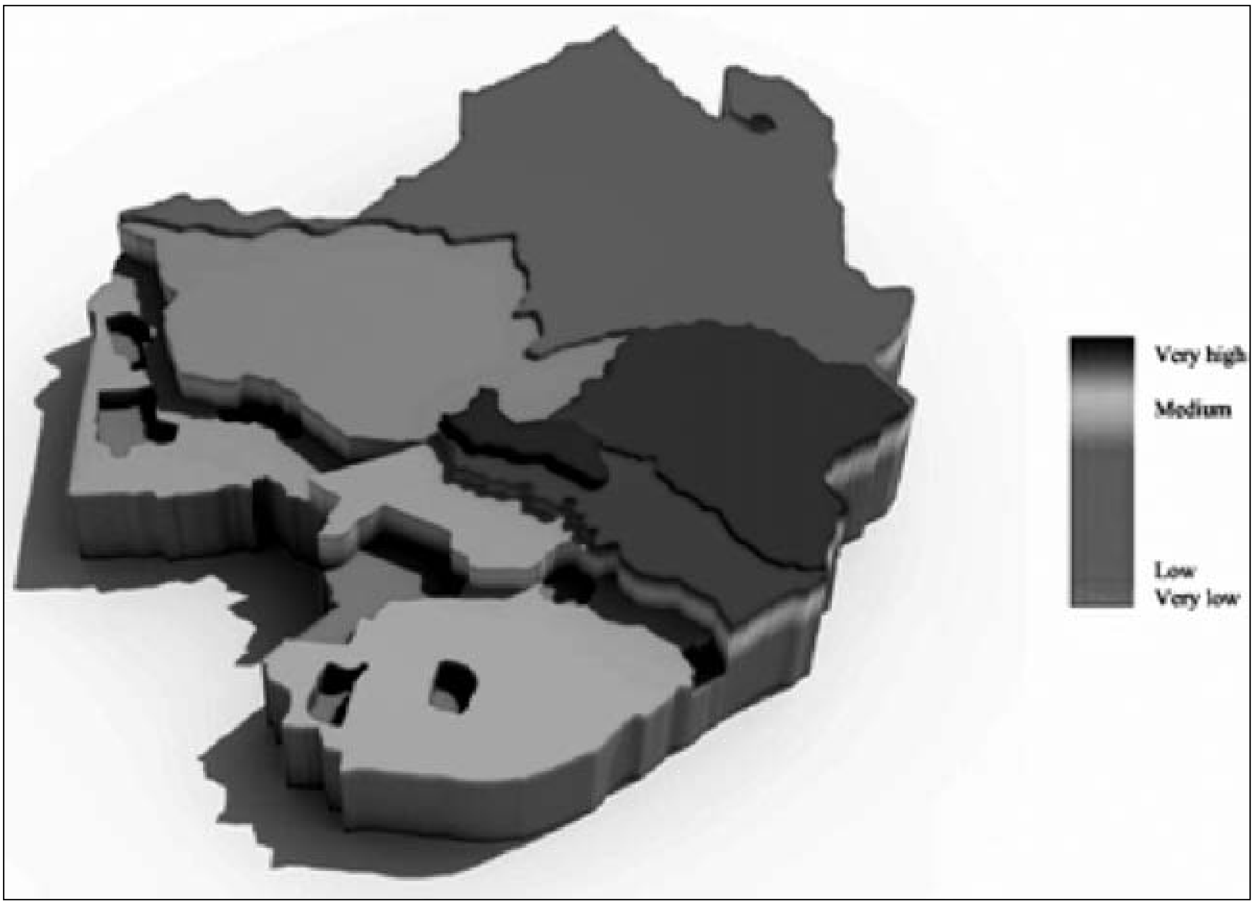


Fig. 2. Assisi: intensity of the resources-3D model (drawing by the author)

the current conditions in greater or lesser detail and regulate future transformations.

The study of the international doctrine relative to the conservation of historic areas and landscapes, the study of conservation theories and the history of town planning, and, finally, the UNESCO Recommendation on HUL and its Action Plan, have resulted in the analysis of the HUL of the three important medium-sized historic Italian cities as reference (Assisi, Urbino and Ferrara). These cities are equipped with exemplary town planning instruments drawn up in previous years and, therefore, particularly useful in terms of finalising a new methodology in line with the UNESCO Recommendation, and in the consequent drafting of a methodological approach for the planning and management of HUL.

The approach aims to identify the resources of HUL, their importance, their vulnerability and their possibility of change within the whole of the historic city, with a view to overall balancing the development and conservation parameters throughout the territory (Fig. 1).

In this sense, the approach to the management of HUL aims to construct a "map of intensity" and a "map of vulnerability" of the different parts of the territory concerned, taking into account the previous analyses. The aim is to identify the areas where resources "are of greater weight" with respect to the areas where they are of lesser weight. In this way, it is possible to identify the most vulnerable areas and contribute to planning the city's sustainable development in the future (Fig. 2).

The aim is to search for a future development scenario that would take into account the quality of the place, and the importance and vulnerability of the different parts of the territory, in order to create a City Conservation/City Development strategy that preserves the significance of the HUL.

The enlargement of the approach to HUL should consider other aspects connected to the managerial, economic and sociological scope of the subject. This includes, in particular, those linked to the need to consider the approach to Historic Urban Landscape in an extremely vast viewpoint, where HUL is not seen as a new town plan, but rather as a general management tool. This new tool should integrate the other planning, management and control tools already existing. This requires the involvement of the entities in charge of managing the territory, of the public and private stakeholders, of the public administrations and, above all, of the population, which must be informed, educated and involved.

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Achieving Sustainable Urban Environments. Techniques Versus Vision and Craftsmanship

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Abstract: Sustainability is an overused term, which translates in so many different ways that the fundamental meaning is often lost and diluted in a great variety of interpretation. In landscape design proposals it is frequently confined to the use of generic techniques. These 'sustainability stickers' consisting of well-researched landscape features such as green roofs, rain gardens and wild flower meadows are repetitively used in students' projects. They are often applied without much consideration to the site context and without original thinking or experiments. This box-ticking approach is reassuring but demonstrates a superficial understanding of the challenges related to the creation of environments resilient to future changes. By focusing on sustainable urban environments, this paper argues that, by contrast, a vision drawn from philosophical and sociological principles provides a more ambitious and imaginative approach to design. Looking at models and approaches that provide stimulating leads to explore unchartered territories and experiment with ideas is necessary to determine well informed appropriate strategies and site specific design proposals.

Keywords: sustainability, urban, environments, techniques, vision, scale, rootedness, exposure, craft

1. Introduction

This paper draws from the experience of teaching sustainable urban environments principles, for the past 12 years, to landscape architecture students in the Department of Landscape at the University of Sheffield in the UK. It attempts to move from the accepted general and transferable technical solutions developed in the past two decades to more holistic and imaginative approaches to tackle the challenging task of creating sustainable urban environments.

The first section attempts to clarify specific issues related to understanding sustainability and sustainable urban environments. It explores the complexity of introducing a concept and terms that are subject to so many interpretations, and which have only fairly recently entered mainstream landscape teaching.

The generic definition introduced in 1987 by the Brundtland report (World Commission on Environment and Development, 1987) might be useful to set some thinking parameters to the conception process, but it is far from providing leads and guidance on how to apply these principles to design. The second part therefore examines, in greater detail, the various and more specific translations of the underpinning principles in the creation of future urban environments through the different professional interpretations and the scale of interventions. It questions the novelty of the concept referring to previous ideas and approaches to urban developments. The tendency for students to focus solely on transferable, general, and well- accepted techniques is examined in order to illustrate the limited scope of some design interventions and the lack of understanding of the need to apply more imaginative approaches to achieve progress in the conception of future sustainable urban environments.

This is followed by an attempt to address the shortcomings of a technical approach to sustainable proposals by presenting an ideological approach. This is based on vision and stimulating leads that are underpinned by philosophical or professional stand points and summarized through the following key words: rootedness, exposure, the stranger and the craftsman. These conceptual leads are described and analysed in a view to explore unchartered territories and experiment with ideas to move students away from the generic, overused 'sustainability stickers' and encourage imaginative thinking for meaningful and site-specific proposals.

2. Understanding Sustainability and Sustainable Development

In the past two decades sustainability has moved from being a specialist term related to professionals concerned with future developments to a common term used extensively in the media. Its origin can be traced back to the Bruntland Commission established in 1983 by the United Nations following the 1972 Conference on the Human Environment in Stockholm and the 1980 World Conservation Strategy of the International Union for the Conservation of Nature, stressing the dangers and threats to our environment related to global industrialization and economic growth.

The definition of sustainable development in the paper "Our Common Future" summarizing the commission's findings and recommendations is now widely accepted as a classic reference: "sustainable development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs" (World Commission on Environment and Development, 1987). It is not surprising that this definition is very generic and can be subject to multiple interpretations. It was not responding to specific problems but more so to the global concern about ecological and environmental damage, which increased after the Second World War by the dominant politics of globalised economic growth and free markets (Redclift, 2003). These key concepts of meeting people's needs as well as taking into consideration the long term implications of developments are relevant to the teaching of sustainable approaches for urban development. Nevertheless they are too vague to provide meaningful guidance for future landscape architects. In order to consider the various needs, the general concept of sustainability is organized under the three main categories: economic, environmental and social. This is useful for students to grasp the holistic nature of what sustainable developments might achieve, but it still remains rather opaque in view of conceiving and proposing new design proposals.

The proliferation of new definitions and the overuse of sustainability-related words have affected the credibility of the concept and there is an urgent need to clarify the term in relation to specific criteria and contextual information. The lack of evidence and accountability of measures adopted and applied in the last two decades and the dominant focus on economic indicators have prevented radical changes in our attitude towards our living environments and in our progress in addressing the causes of problems. There is a pressing need, especially in education, to reclaim the sustainability concept as argued in general terms by Johnston et al (2007). At present the wide array of interpretations and the ambiguities of this elusive topic makes it difficult to address it effectively as part of a landscape architecture curriculum. One can argue that the essence behind the original idea of sustainability, i.e. responding to people's needs and not compromising future resources, is inherent to landscape design practice, especially in urban environments. Therefore the use of the terminology might be irrelevant in the design profession as 'unsustainability' is not, and never should be an option. Fundamentally however, the term is useful in introducing the necessity not to take the ecosystems of our living environment for granted and assume that it they adapt indefinitely to our actions and needs. This is critical, especially more recently as the rate of changes related to human impact has accelerated. For this reason it is important to look at fundamental and specific interpretations related to the various aspects of the build environment including landscape planning and design.

3. Sustainability Framework in Landscape Architecture

The multidisciplinary nature of professions related to the build environment might be one of the hindrances to fully embracing the possibilities of achieving a holistic approach to urban development. Landscape architecture students in particular are dealing with a wide range of issues touching on different aspects of urban development with different scales of interventions, from policies to master planning, and to detailed design. Examples of sustainability definitions in the UK context can be found in Table 1, organised from the most general to more detailed application.

At the policy level the ambiguity and lack of tangible success criteria of the term sustainability is most critical. Sustainability is now part of the politically correct jargon and must be incorporated in most documents.

This complies with global concerns related to the future of the planet, but the vagueness and lack of intellectual substance of the wording used does not provide any possibility to monitor achievement (Table 1). This approach enables politicians to remain mostly unaccountable for any lack of achievement and does not interfere with the growth and free market mentality of our modern society (Luke, 2005).

Table 1: Examples of definitions and principles of sustainability and sustainable development

Definition/principles	Reference
"Improving the quality of life while living within the earth's carrying capacity".	World Conservation Union, UN Environment Programme and the World Wide Fund for Nature, 1991
'The government therefore supports the principle of sustainable development. This means living on the earth's income rather than eroding its capital. It means keeping the consumption of renewable natural resources within the limits of their replenishment. It means handing down to successive generations not only man-made wealth (such as buildings, roads and railways) but also natural wealth, such as clean and adequate water supplies, good arable land, a wealth of wild life and ample forest.'	Department of Environment (DoE), 1994. Sustainable Development:The UK Strategy
"development that improves the long-term social and ecological health of cities and towns."	Wheeler, Stephen (1998). Planning Sustainable and Livable Cities. Routledge, London.
– Healthy and productive life in harmony with nature – Equity – Environmental protection – Eradicating poverty – Global partnership – Participation in decision making process for all – Open international economic system – Internationalisation of environmental costs – Warfare /peace – Human rights	Earth Summit; Agenda 21 UNICED 1992
•Increasing Local Self Sufficiency – consider each development as a mini eco-system – reduce resource inputs and pollution outputs – encourage diversity and mixed uses •Satisfying Human Needs – social stability and choice – economic well-being – access to facilities •Building robustness and adaptability – keeping options open both now and for the future	Barton H, Davis G, Guise R, 1995 Sustainable Settlements; A Guide for Planners, Designers and Developers

Sustainability agendas such as Agenda 21 (1992) have been commonly adopted by local authorities and are fully embedded in planning policy documents. In the UK, most local authorities produced a Local Agenda 21 (LA21) at the beginning of the 21st Century. These go into greater detail in regards to sustainability issues that need to be considered, but they remain vague and transferable, using generic approaches presented in various orders and not related to the local specificity (Table 2). It is therefore not surprising that they have had little effect on local policies (Sharp and Connelly, 2000). Sustainability appraisal checklists (Barton et al, 1995) and other more specific landscape orientated lists of sustainability principles, such as Environmental Impact Assessment, provide a useful methodological framework for students to analyse specific environments. However they often focus on conservation and protection rather than creation. The students can use such list as a control mechanism, but the aspects covered have a wide remit including biodiversity, sustainable transport and social equity, leaving once again a considerable scope for interpretation rather than tangible evidence of achievement.

Table 2: Example of Local Agenda 21 visions in England and Scotland

Local Agenda 21 Vision for a Sustainable Woking, Surrey, England www.woking.gov.uk (accessed 08.11.12)	The Thirteen Themes of Sustainability, Angus, Scotland www.angus.gov.uk/sustainability/pdfs/SustainableAngus.pdf (accessed 08.11.*12)*
The Woking Local Agenda 21 Initiative developed the following vision for a sustainable Woking in the 21st Century as a result of discussions and a special visioning seminar with a wide range of representatives of the local community:	The following Action Plan outlines the activities that the Council, its partners, and the citizens of Angus (through consultation) have indicated that the following are of priority under each of the Local Agenda 21 themes.
1. A strong sense of community with responsibility to each other and the environment at the local and global level; 2. A healthy environment with clean air, water and soil and high water quality with no avoidable light and noise pollution; 3. A variety of local businesses, appropriate to the area, to provide local needs and high levels of employment. Provision for flexible working hours and use of communication technology to reduce the need to travel; 4. Adequate, acceptable, well designed housing for all ages for both rented and privately owned accommodation; 5. Community facilities for all ages - shops, schools, sports, leisure, welfare and health - available at the local level; 6. Fair opportunities for education, jobs, culture, recreation, leisure for all sections of the community; 7. Access to information and decision making processes available to all members of the public; 8. People feel secure from crime and persecution; 9. A comprehensive choice of transport systems and access so road vehicles do not dominate and it is safe to walk and cycle; 10. Resources e.g. energy, water and all types of materials, are used efficiently, waste is minimised and materials recycled; 11. A valued and protected natural environment with wide biodiversity and variety of landscape in the countryside with areas of public access. An appreciation of green spaces within built-up areas and features of heritage, culture and architectural importance.	1. Resources are used efficiently and waste is minimized by closing cycles. 2. Pollution is limited to levels which natural systems can cope with and without damage. 3. The diversity of nature is valued and protected. 4. Where possible, local needs are met locally. 5. Everyone has access to good food, water, shelter, and fuel at reasonable cost. 6. Everyone has the opportunity to undertake satisfying work in a diverse economy. The value of unpaid work is recognised, whilst payments for work are fair and fairly distributed. 7. People's good health is protected by creating safe, clean, pleasant environments and health services, which emphasize prevention of illness as well as proper care for the sick. 8. Access to facilities, services, goods and other people is not achieved at the expense of the environment or limited to those with cars. 9. People live without fear of personal violence from crime or persecution because of their personal beliefs, race, gender, or sexuality. 10. Everyone has access to the skills, knowledge and information needed to enable them to play a full part in society. 11. All sections of the community are empowered to participate in decision-making. 12. Opportunities for culture, leisure, and recreation are readily available to all. 13. Places, spaces, and objects combine meaning and beauty with utility. Settlements are 'human' in scale and form. Diversity and local distinctiveness are valued and protected.

Moving to the next scale of interventions, the landscape architecture student can be introduced to strategic approaches such as green or blue infrastructure, re-naturalisation and integrated water management. However the fundamental principles behind these strategies of re-connecting with nature as a healing process (McHarg, 1998) or restoring nature for the future (Adam, 2003) are often ignored. Holistic approaches are often neglected or ignored in the design process, and focus on more detailed techniques, which might be referred to as 'sustainability stickers'. This is particularly well illustrated in undertaking a survey of terms used in the master plans submitted by landscape students for their final projects. The most common terms used are swales, green roofs, meadows, and rain gardens (Fig. 1). These are put forward as some of the most important elements of the proposed design. They are used as transferable features with no attempt to put forward specific design related to the geographical location, type of development, site characteristics and cultural heritage (Fig. 2). These technical in-

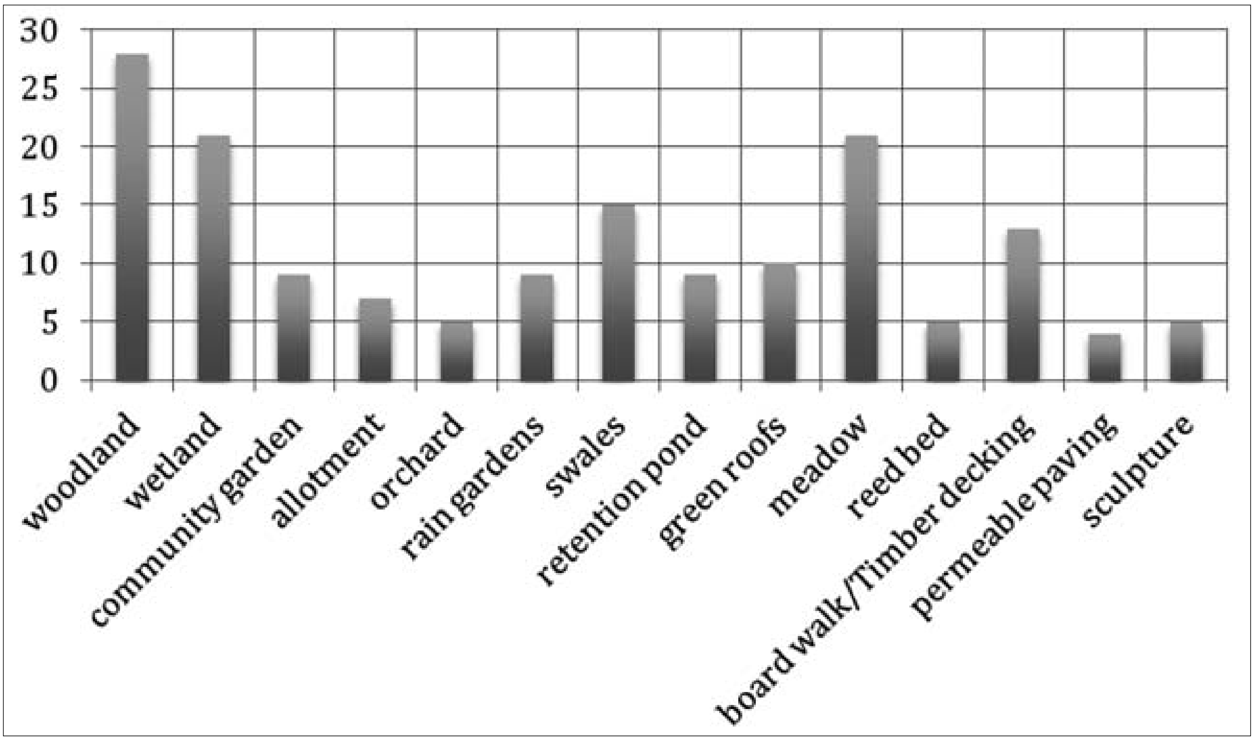

Fig. 1 Terminologies used in keys for master plans submitted as final landscape design projects

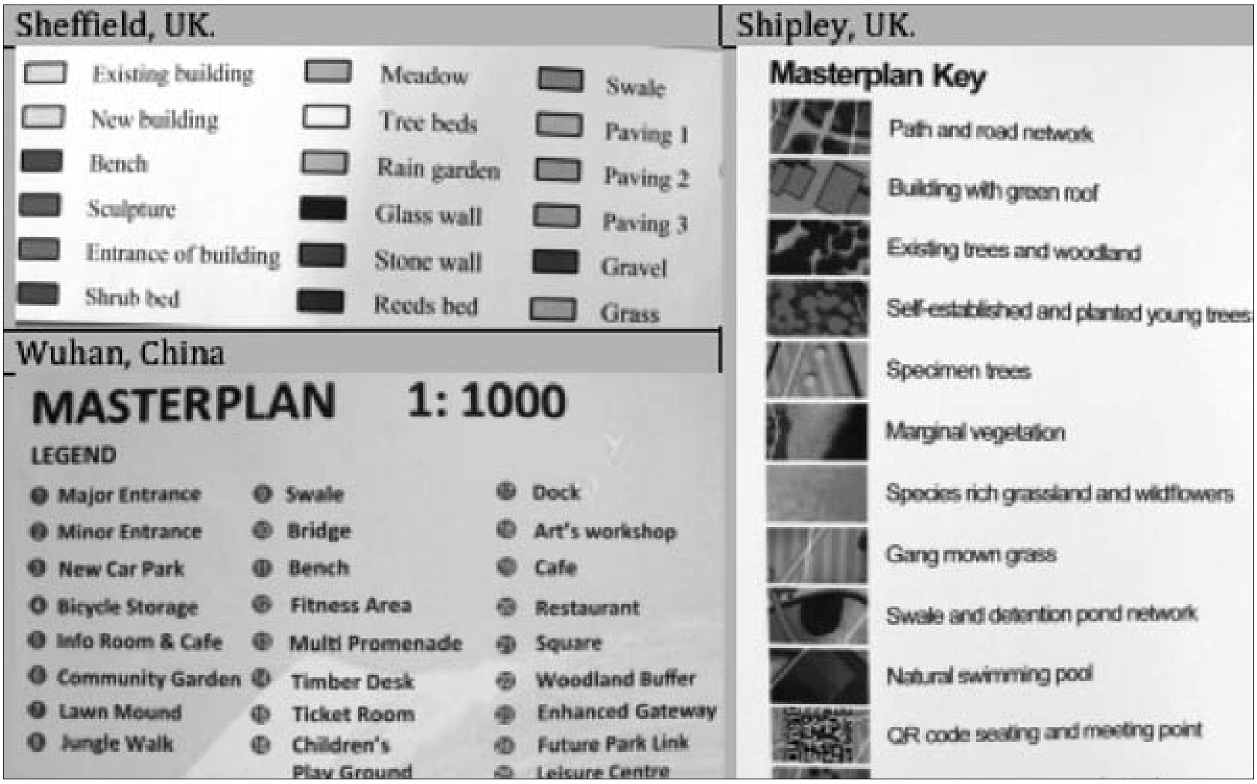
Sheffield, UK.
Existing building
New building
Bench
Sculpture
Entrance of building
Shrub bed
Meadow
Tree beds
Rain garden
Glass wall
Stone wall
Reeds bed
Swale
Paving 1
Paving 2
Paving 3
Gravel
Grass
Shipley, UK.
Masterplan Key
Path and road network
Building with green roof
Existing trees and woodland
Self-established and planted young trees
Specimen trees
Marginal vegetation
Species rich grassland and wildflowers
Gang mown grass
Swale and detention pond network
Natural swimming pool
QR code seating and meeting point
Wuhan, China
MASTERPLAN 1: 1000
LEGEND
Major Entrance
Minor Entrance
New Car Park
Bicycle Storage
Info Room & Cafe
Community Garden
Lawn Mound
Jungle Walk
Swale
Bridge
Bench
Fitness Area
Multi Promenade
Timber Desk
Ticket Room
Children's Play Ground
Dock
Art's workshop
Cafe
Restaurant
Square
Woodland Buffer
Enhanced Gateway
Future Park Link
Leisure Centre

Fig. 2 Master Plan Keys

terventions are important and part of the palette at the disposition of landscape architects to address some of the issues related to sustainable development, but they do not create spaces. So they need to be considered in the wider context of the design process. Choosing from a catalogue of technical solutions available, currently popular, and to be applied everywhere and anywhere is not enough to fully address the sustainability agenda. This tick-box approach, without questioning the pertinence and performance of their choices, is simplistic and unimaginative and does not enable them to fully engage with the challenge and complexity of conceiving future developments that are adaptive, resilient, and promote environmental and social vitality.

4. Sustainable Design: an ideological approach

The powerful concept of sustainability put forward more than two decades ago and described by some at the time as 'a revolutionary goal involving fundamental changes and societal transformation (Singh, 1989: 224), needs to be revisited in design education to develop original conceptual ideas and visions for future urban environments. The techniques favoured at the moment by students in landscape architecture will not be sufficient to address the radical changes facing our living environments, especially in urban areas. The landscape researcher Paul Selman (2008, 2012) has engaged in the debate of the meaning of sustainability in landscape and developed an interesting theory of 're-connecting' with the landscape, but this is more related to policies than practical design processes. In the same vein, the sociologist Richard Sennett argues that 'sustainable suggests living more at one with nature' (2009:.12) referring to Heidegger's idea, at the end of his life, of the ideal dwelling being a hut in the Black Forest (Heidegger, 1971). He further explains sustainability as 'establishing equilibrium between ourselves and the resources of the earth – an image of balance and reconciliation' (2009: 13). However Sennett himself is conscious that a more practical approach is needed to move from concept to project. The dichotomy between thinkers and doers needs to be breached. Incentives, methodologies and stimulus needs to be found to engage students in a more intellectual and less technical approach to sustainability. Texts of the 1960s and 1970s reacting to the radical, often inhuman interventions in the build environments are resurrected to provide theoretical underpinning to promote more human and harmonious design approaches. In the urban context, this includes Jacobs (1961) Death and Life of Great American Cities, Gehl (1980) Life Between Buildings and Alexander (1977) A Pattern language, but the emphasis at the time was mainly on the preservation of existing successful environments confronted with the rise of car dominated urban spaces. Lucien Kroll, well known for his reactionary design calling on chaos, vernacular References: and stylistic juxtaposition to embrace the diversity and conflictual nature of urban environments, has applied a more holistic approach to sustainable design, trying to breach the divides between physical and psychological, cultural and technical issues and resisting the sustainability stickers approach (Blundell Jones, 2012). This type of challenging and original design approach might be the way forward to stimulate a radical shift in design and promote more imaginative solutions to the modern challenges facing our living environments. Stimulating leads exploring unchartered territories and experimenting with ideas are needed to find appropriate and site-specific solutions with adaptive and resilient capacity, as well as promoting environmental and social vitality. This section therefore attempts to put forward some conceptual ideas, which might provide intellectual stimuli to initiate the design decision making process. These are summarized and their relevance argued under specific key words: rootedness, exposure, the stranger and the craftsman. These principles are either related to approaches and attitude towards the site and sustainability issues or towards the role of the designer. The choice of using key words and principles has proven successful in previous publications aimed at professionals to develop design concepts. This includes Lynch's Image of the City (1960) and Bentley et al' s Responsive Environments (1985). It does not pretend to be an exhaustive list, but the beginning of thought processes and experiments based on experience and responding to the nature of design, trying to reconcile idealism, functionality and common sense, as suggested by Geddes (1913: II): "Idealism and matter of fact are thus not sundered, but inseparable, as our daily steps are guided by ideals of directions, themselves unreachably beyond the stars, yet indispensable to getting anywhere, save indeed downwards."

4.1 Rootedness

Exploring analogies between natural processes, human life and man-made environments seems highly appropriate, while reflecting upon minimizing the impact of human interventions on the natural resources of our planet (Hough, 1995). The ideas of rootedness could provide a lead to explore the foundations of sustainable living including a better understanding of what constitutes the key characteristics of a place otherwise referred to as 'genius loci' (Lynch, 1960) but also a better understanding of the potential symbiosis between people and their living environment. Simone Weil wrote about rootedness at a time when the political situation was forcing people to be derooted as they fled Europe and Nazism (Weil, 1971:.43). She then argued that 'to be rooted is perhaps the most important and least recognized need of the human soul […] it is necessary for him [the human] to draw well-nigh the whole of his moral, intellectual and spiritual life by way of the environment of which he forms a natural part.' Her emphasis on community and the need for people to be rooted culturally and spiritually to their environment, to the past and to expectations for the future seem highly appropriate in relation to thinking about sustainable living environments. In practice this could translate into a greater understanding of places, re-connection with the history and formation of landscapes, as argued by Selman (2012), enabling planners and designers to have a better understanding of the complexity and uniqueness of places in contrast with global design solutions and techniques. This might call for greater consideration to vernacular practices, which are embedded in the unique characteristics of places in relation to key considerations such as social cohesion, ecology, and microclimate. At the detailed level this translates through the choice of material and techniques appropriate to the specific conditions of the site.

4.2 Exposure

One of the difficulties in teaching and addressing the concept of sustainability is its invisibility. The immateriality of topical issues such as pollution including CO_2 emissions, water, energy consumption and waste production is not conducive to the realization of the critical importance of the problems and the need for radical changes in our approach to design. The ecological footprint concept (Wackernagel and Rees, 1996) has gone some way in providing a more visual and tangible representation of human impact on the environment. Publications in this field provide accessible and powerful visuals, which have educational values (Fig. 3). However

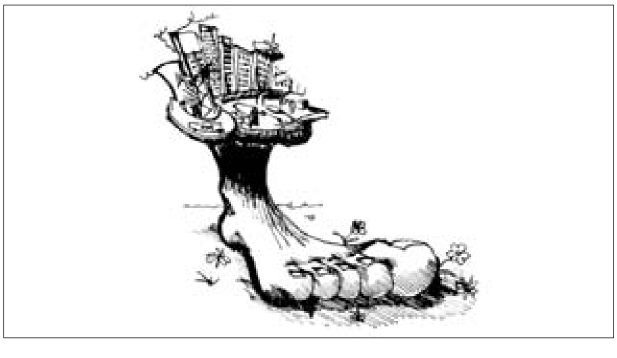

Fig 3: Ecological Footprint representing the physical area required to sustain resource consumption and waste created by people (re-drawn by author based on Phil Testernale illustration)

this remains a theoretical exercise, identifying and exposing consequences, but not offering design applications. Natural disasters are also visual indicators of the issues we are confronted with and raise the profile of sustainability issues each time they occur, especially in rich developed countries. Yet there is a need to explore how to expose these issues in a more controlled, less dramatic manner in our living environment and daily life.

In practice this can be illustrated through the example of urban rivers. On one hand they are considered an asset in relation to visual amenity and leisure activities, but they also pose a threat to the living environment through destructive periodical flooding (Fig.4). Floods have become an important consideration in the landscape planning and design process, but are often resolved through engineered controlling solutions trying to negate the natural phenomenon.

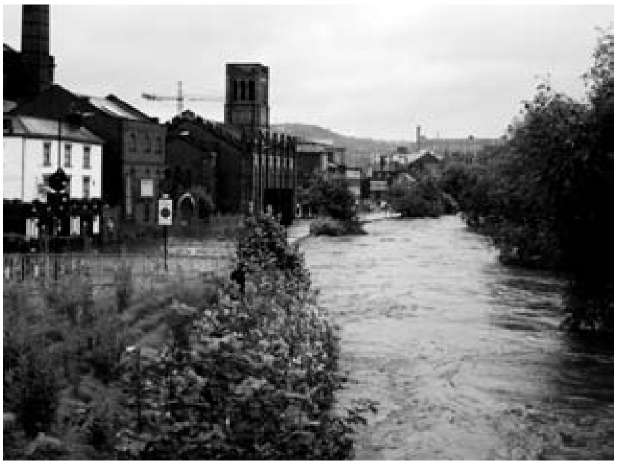

Fig 4: The floods in 2007 in the Wicker Riverside area, Sheffield

A more imaginative approach would be to positively embrace the risk of flooding as an opportunity for innovative design, allowing water to invade the urban space with the creation of urban flood plains (Fig.5). The integrated water management approaches including permeable surfaces, green roofs and sustainable urban drainage are part of the water-sensitive urban design strategy (Donofrio, 2009).

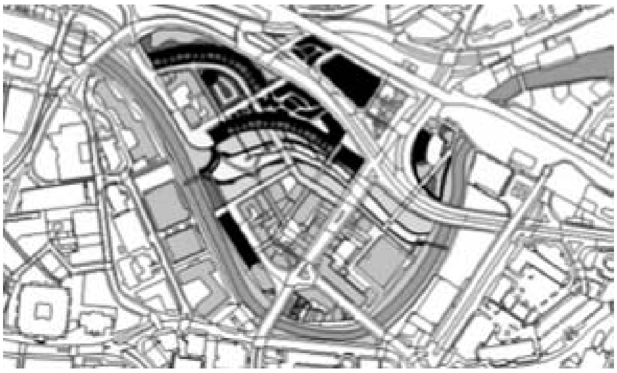

Fig. 5 Proposed Flood Channel for the Wicker Riverside area, Sheffield, URSULA Research Project

However the main objective of these techniques is to make water disappear rather than celebrating the importance of this natural element; a more imaginative approach would be to create spaces where natural phenomenon are in harmony with the build environment.

4.3 The Stranger

A planner or designer often assumes the role of stranger within a community and towards a client. The stranger is near but detached. Simmel refers to him as 'no owner of soil – soil not only in point in space, at least in an ideal point to societal environment' (Simmel, 1950: 403). This detachment enables him to be freer within certain constraints. He is mobile and not committed to cultural traditions and established behavior, providing him with a more objective view of a particular situation. Both mobility and objectivity provide a certain freedom to survey and assess situations with less prejudices and pre-conceived ideas of the right and wrong. Adopting such an attitude would enable a more comprehensive overview of the complexity of sustainability, an ability to think outside the box and move beyond what cannot be anymore. This intellectual attempt to put ourselves in 'exile' from commonly accepted practices and approaches might stimulate the need to embrace implied future dramatic changes in our living environments. Similarly Sennett argues that if we want to fully comprehend the difficult and painful task of adapting to new environmental conditions then we need to imagine ourselves in the position of immigrants, who must adapt innovatively to places where they do not naturally and culturally belong, in order to come to peace with our living environment (Sennett, 2009).

However the idea of exile, if stimulating in thinking about future imaginative solutions, cannot be considered in isolation and needs to be related to the rootedness approach mentioned above, as there would be a danger to propose environments that alienate the existing communities by ignoring cultural heritage and destroying well-established social interactions and networks. Radically original and innovative concepts can also be misinterpreted. Le Corbusier's proposal of the 'Ville Radieuse' or 'Radiant City' with its subtitle 'Soleil, Espace et Verdure' (Sun, Space and Greenery) is unquestionably a departure from the norm and existing standard, looking towards 'modernity' emphasizing the need for fresh air, outdoor activities, and large open spaces in cities (Le Corbusier, 1967). In practice this translated mainly in high-rise developments with little consideration to human scale and experiences. When applied globally and at a large scale like in China, it has created highly unsustainable environments with negative social and environmental consequences (Fig. 6). On the other hand the radical concept of Ebenezer Howard's 'Garden City' has proven to be adaptive and resilient to environmental, social and economical changes and is often put forward as a successful sustainable living environments (1902). Ironi-

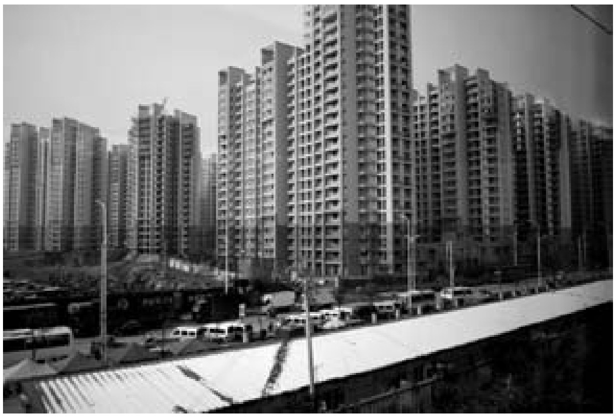

Fig 6 New developments in Shanghai, China (with permission from Jan Woudstra)

cally this radical reaction to overcrowded, rapidly growing cities and unhygienic environments of the industrial revolution era has initiated the rise of sub-urban living, which is deemed unsustainable. These potential conflicts between ideal and reality could also be addressed by assuming the 'stranger' position, as he is different and brings new cultural diversity, but at the same time must be integrated in the society where he lives.

4.4 The Craftsman

Craft in this instance is considered as a symbiosis between art and technology promoting the consideration of the dialectic between theory and practice. Craftsmanship implies long-term commitment to develop skills and practices, as well as sharing and transmitting the experience acquired. Sennett refers to 'environmental craft', implying 'more radical self critique' (2009:13) rather than just applying techniques more respectful of the natural environment and resources. Considering design as a craft might be an opportunity to bridge the unproductive and negatively perceived gap between science and the arts (Snow, 1959), but it also addresses other gaps between doers, thinkers, makers and users. A more open-minded approach based on the craft of experience, practice and experiment should facilitate more imaginative, stimulating processes based on convincing evidence.

In practice this could translate into a catalogue of good practice and examples, as well as sets of objective and rational guiding standards. These would depend on well-practiced skills, including anticipation and revision, to be implemented. Existing pragmatic approaches, such as typological and morphological methodologies, could provide a framework to support this approach to design. Referring once again to urban river landscapes, this approach was applied to provide planning strategies and methods for river space design by Prominski in *River, Space, Design* (2012). This publication contains a project catalogue providing evidence and experience, as well as a design catalogue listing the various types of riverside, their morphologies and performances (Fig.7). The experienced craftsman designer will be able to use these tools and methods to experiment with possible scenarios in relation to specific constraints and objectives including flood protection, ecological and amenity values. This will inform the process of generating meaningful proposals and making places for specific urban river sites.

5. Conclusion

There will always be tensions between the thinkers and the doers, but in order to raise to the challenge of building living environments for the future we need to explore ways to enthuse the thinkers into engaging with practical application of theoretical ideas, and vice versa, the doers need to be better versed and interested into underpinning practice by principles and theoretical approaches. In order to achieve living environments adaptive and resilient to unpredictable changes and unknowns, as well as providing environmental and social vitality, which we argued in this paper as inherent characteristics to successfully achieve sustainable developments, we need to bridge the gaps between professions and specialism. Design needs to become an opportunity to further and underpin research where creativity and practice are linked. In education these links should be easier to facilitate as students do not have the same economical and political constraints as practitioners. Design education needs to move away from its tendency to promote products and fashion, mimicking what is in demand. It should provide an opportunity to developed enquiring minds through the exploration of philosophical principles and 'savoir faire'. The ideas suggested in the last section under the headings: rootedness, exposure, the stranger and the craftsman are an attempt to move in that direction by provoking discussions and interrogations to stimulate design processes and decisions. Design processes will always entail a certain level of subjectivity, but if it is underpinned by evidence and a sound intellectual reflective process, as well as the reassurance of high quality craftsmanship, it is likely to respond more effectively to the modern challenges facing the build environment professions.

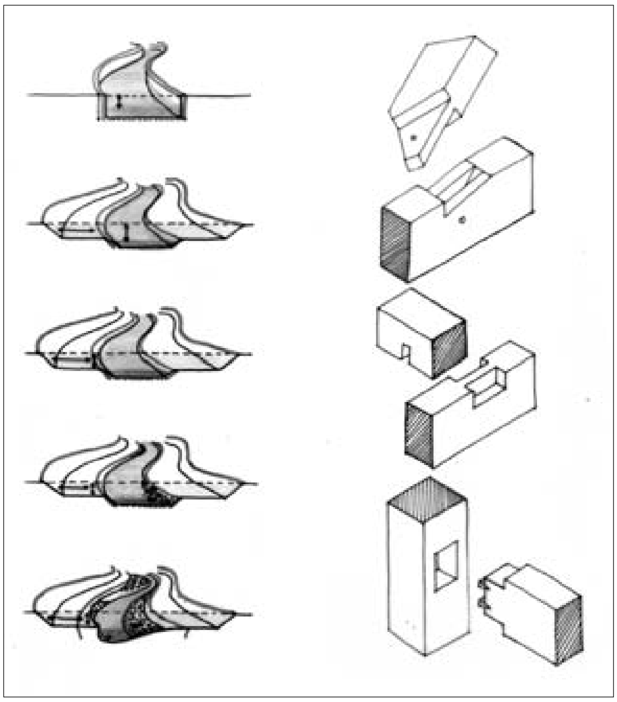

Fig 7: Typologies of river profiles providing design guidance comparable to types of carpentry joints.

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Experience With Nature Versus Digital Geo-Media?

Empirical Study About Education for Sustainable Development Exemplified by Geography Teaching in Secondary Schools in Lower Saxony (Germany). First Results

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Abstract: Geography lessons at school play an important part in teaching this knowledge to the next generation. However, pupils spend increasingly more of their leisure time in front of computers instead of outdoors. Education for sustainable development must position respond to this. This paper presents the first results of an empirical study on the meaning and relevance of experience with nature, digital geo-media and sustainability for pupils. The survey involved 1200 students of the fifth and ninth class. As consequences of this research the geography curricula both at school and at university are getting re-organized.

Keywords: education for sustainable development, geography teaching, nature experience, digital geo-media, Lower Saxony

1. Introduction

The years 2004-2015 have been declared by the UN as the World Decade for education for sustainable development. Education for sustainable development is understood less as a new subject and more so as a field of action. This highlights its interdisciplinary focus. Sustainability is specifically mentioned in many curricula already, but so far lacks information on the implementation of sustainability in the school (De Haan 2007a: 4). The educational goal of education for sustainable development is to create individual awareness and behaviour change, to allow the students to participate actively in the implementation of local sustainable development processes (participation thought) and to uncover unsustainable developments (Hauenschild and Bolscho 2009: 43, De Haan 2007a: 4).

An important competence is the design competence to be acquired by the students in this regard. In general competencies describe abilities or skills to solve problems and related actions. Design competence describes the ability to apply the acquired knowledge about sustainability and to identify unsustainable developments. From present analyses and future studies, conclusions about environmental, economic and social developments have to be taken in their interdependence.

These can then inform decisions and assist in achieving sustainable development. (De Haan 2007b: 12). According to Schockemöhle (2009: 20) there is no universal definition of "education for sustainable development", as the term "sustainable development" is not interpreted consistently.

Two contradictory trends stamp the everyday life of students during the last years: On the one hand the number of excursions in the schools and the visit of extracurricular learning locations are falling. The direct natural experience together with the 'experience' of landscapes has therefore no big value. On the other hand more youngsters are increasingly spending their spare time in virtual sceneries, with more and more time being spent at the computer. It is necessary that these trends be quantified by the presented study. As a result of the analysis of the causes, measures must be suggested to increase the sensitivity of students to the landscape and sustainable behaviour.

2. School geography in the context of education for sustainable development

The principle of sustainable development is nothing new. Johan Amos Comenius (1592-1670) demanded to include nature in the classroom both content-wise and as a model for education. Here, the subject of geography, with its holistic view of the human-nature relationship is capable of finding solutions to environmental, economic and social problems (Riess 2010: 99, Bahr 2007: 11).

In the German "Geography Education Standards" it is clear that geography is essential on the basis of this combination of natural and social scientific thought in education for sustainable development in particular (DGfG 2006: 7).

In Lower Saxony's curriculum for geography in secondary schools, sustainability is integrated into the competence of "assessment and evaluation": "This area of expertise is used to evaluate space-related behaviour and particularly undesirable developments justified under the principle of sustainability and to close the gap between awareness and sustainable behaviour (KC 2008: 13).

Furthermore education for sustainable development implies cooperation between school subjects and thus cross-disciplinary learning units.

The required competence development, especially in the interdisciplinary area is possible only when the school opens to the outside. Output orientation is thus possible. Original encounters and collaborations with external partners must be involved in the school life.

3. Experience with nature versus internet

Childhood has changed greatly in the last decade in the areas of family, leisure activities, media and education. Pupils make less primary experiences and instead spend much time at the computer. This makes them increasingly alienated from nature. This is accompanied by a decreasing interest in nature-related topics as well as lower environmental awareness. Even the concept of experiences with nature seems completely absurd to youngsters (nature deficit disorder). (Padberg 2010: 67, Schell *et al* 2009: 88, Hennig 2005: 54)

The accessible space for young people is less, since surfaces are built up and thus cannot be used (Montag & Schmitt 2002: 5). Contact with siblings as playmat**e**s reduces because the one-child families grow. On the other hand, they have contact with adults (Padberg 2010: 67). One reason for the alienation from nature is the displacement effect: children are increasingly turning to computers and new media. This binds time, so less time remains to experience nature. Moreover, the complex reality can only be ascertainable by original encounters, that means by direct contact with the objects conceived and experiences up close. (Bögeholz 1999: 47)

To recognize their own potential for change the topics must be connected to the student's lives and to everyday situations and experiences. Thus, the new findings provide a relevant basis upon which to make sustainable decisions. Original encounters, however, are still an exception in normal school life (Schockemöhle 2009: 9).

3.1 Importance of the media and original encounter in geography teaching

Representatives of the education of sustainable development demand that, with the new field of action, new methods get into the schools and consequently lessons go beyond the mere material mediation in the form of 'inert knowledge'. Examples include the following: role playing, future workshops, uses of new media, moderation techniques, and so forth. New media can particularly be supportive in the procurement of environmental knowledge (Riess 2010: 116).

Teaching and learning have to focus on the active, participating students and allow the teachers to be observers. Only in this way can the acquisition of design expertise be possible (Schockemöhle 2009:4 9, Montag and Schmitt 2002: 9).

Bohl (2000) illustrates, for example, that in everyday teaching up to 80% is classroom teaching. To implement the requirements of education for sustainable development, the teachers thus need a larger repertoire of methods (Schockemöhle 2009: 49).

In this context Hauenschild and Bolscho (2009: 8) state that education for sustainable development plays little role in the training of students and teachers little, and is therefore mostly unknown.

In Agenda 21 there is a hint that education for sustainable development is not only positioned in the formal (school, university), but also in the non-formal sector (family, leisure, media) and should therefore be practised in both areas (Lucker and Kölsch 2009: 15).

3.2 Places of learning outside the classroom

Learning in environmental education outside the classroom has a long tradition. Essential for the learning process is the experience of nature with all of the senses. Nevertheless, the original encounter is still an exception, and traditional learning methods are still dominant in the classroom. The importance of learning outside school is evident through the quality requirements for schools of the Lower Saxony Ministry of Education, which calls for an opening of the schools and collaborations with external partners (Schockemöhle 2009: 50). Learning sites outside the classroom combine formal and informal learning, as they are used by both school groups and families in their spare time. The idea to include outside places in teaching can be traced back to the time of the progressive education and is built on the ideas of Pestalozzi, Dewey and others (Lucker and Kölsch 2009: 15). Advantages in comparison to teaching in schools include actively-acquired knowledge and experience through problem orientation, natural encounters (learning with all senses, a variety of approaches), naturalistic and holistic learning experiences. Learning in school is accused of amassing inert knowledge without any practical use. Therefore, it makes sense to combine this knowledge with an active, self-directed learning in nature and environmental centres (Lucker and Kölsch 2009).

3.3 Digital media

The new media gain compared to traditional media is increasing in importance. Iozzi (1989) already showed that media generally influences environmental awareness of children positively. Similar studies of environmental consciousness research confirmed that the media is the main information source of environmental problems. However, there is no evidence of increased environmental awareness and behaviour (Bögeholz 1999: 46). The effect of media on the environmental behaviour has not yet been examined enough. It is possible that media-based nature experiences (e.g. through vision of nature-related TV), awaken interests in nature and conservation (Lude 2001: 201).

Digital media is becoming more and more important in the private and professional level. Therefore children should already learn in school how to deal with it properly. Padberg (2010: 78) identifies two key benefits of internet use for teaching: first, it provides substantive resources that can be accessed continuously, and second, it can improve learning by increasing motivation and cooperative forms of learning. Moderately frequent computer and internet use in the classroom have a positive effect on learning. An overuse on the other hand has a negative impact, as other forms of education are no longer used. Obermaier (2005: 69) presented that only about 10% of the geography teachers use the internet at all in the classroom. How often that happens remains unmentioned. Advantages of internet use in geography lessons include that students use it anyway in their free time and deal with it. Thus, it has a motivating force because it is naturalistic and trains the independence of students. Media competence is one of the main key competences that prepare students for their future careers. Thereby, many geographical issues can be 'brought' into the classroom. For example, in regards to GIS (Geographic Information Systems) current data can be used (Padberg 2010: 110, Groene 2004: 13).

Other ways to integrate new media into the geography lessons include to look at other people's lifestyles or to take virtual field trips. Simultaneously, the use of the English language can be practised. However, there are also negative aspects that must be considered, e.g. decreasing communication between the students working at the computers, setting of learning steps, and so forth.

Schockemöhle (2009: 51) gives the suggestion that the objectives of education for sustainable development can be optimally achieved through a continuous change between media and original encounter. Thus, a variety of media use and local learning promotes the interest of the students the most.

4. Objectives of the Study

The above statements can be summarized as follows:

For the students, there is a time competition between natural and digital media experience. Today many of them spend much of their free time in front of computers.

Education for sustainable development is a key qualification.

It is found in more and more curricula.

Environmental and nature experiences are an important precondition to be able to teach education in sustainable development.

New media engages students and can therefore contribute to the acquisition of competence of education for sustainable development. The qualitative contribution of environmental and natural experience on non-school establishments and geo-media for education in sustainable development is still unknown.

As a consequence it is possible to produce a 'voltage triangle': education for sustainable development – experience with nature/environment – internet use.

Then there are the central questions of the study:

How important are environmental and nature experiences, geomedia (virtual worlds) and education for sustainable development for students?

Are there age-specific and gender-specific differences?

Is the cultural background of the students relevant?

This has neither been qualitatively nor quantitatively analysed.

5. Research design

These questions can be examined most reasonably with the help of questionnaires as a quantitative research method. There is a cooperation agreement between schools in Hildesheim and the University of Hildesheim.

The study was done in three types of schools: 'Hauptschule' = secondary general school (lowest level), 'Realschule' = intermediate secondary school and 'Gesamtschule' = comprehensive school. All these schools in Hildesheim have pledged their support. Thus, a representative result could be achieved. In order to detect age differences, both fifth and ninth classes were surveyed. The student questionnaire refers to the recreational and environmental awareness and promotes the use of different methods in the classroom. Education for sustainable development is about personal settings queried indirectly on environmental issues. The cultural background is determined in the language spoken at home and the country of origin.

The sample consists of a total of 1206 students. At the time of the research, 614 students were in the fifth class (49.8% female and 50.2% male) and 592 in the ninth class (47.8% female and 52.2% male). The response rate was 85%. Comparing the distribution of students between the school types in the fifth classes there was a majority in the comprehensive school (44.3%), followed by the intermediate secondary school (40.2%) and the secondary general school (15.5%). In the ninth class, mostly intermediate secondary school students were surveyed (58.1%), followed by the comprehensive school students (23.5%) and secondary general school students (18.4%). The average of the age distribution in the fifth class (n = 450) was 11.1 and in the ninth class (n = 551) 15.3 years.

6. First results

Here the first results of the study are presented in the areas of environmental and natural experience and education for sustainable development. These include the evaluation of specific questions on topics such as importance of environmental protection, behaviour, knowledge accumulation in geography lessons, interest and frequency of field trips. These questions were first analysed descriptively. Furthermore, variables were aggregated, which should reflect the knowledge of education for sustainable development and the sustainability-related student behaviour. The latter were evaluated with univariate methods.

The first two questions evaluated the personal and family importance of environmental protection. In the fifth classes, an average of 3.0 to 3.2 (1 = not important - 4 = very important) was determined. A similar picture emerges in the ninth classes (2.6 to 2.8). This suggests that for the fifth graders the environmental protection is more important than for the ninth graders. The secondary general school students measure the issue in general, less important. A gender difference in the lower grades is considerably less pronounced than in the higher.

About 60% of students in the fifth classes of all types of schools indicate that the issue of environmental protection within the family is important or very important. In the ninth classes, this proportion is on average 50%. This might show a different perception related to the age of the students. Further investigated was how frequently the children do certain environmentally friendly activities in their daily life (1 = never - 4 = frequently). There are no differences between the different types of schools and the sexes.

The fifth classes, however, have shown an average of slightly higher rates (3.5 to 3.6). Frequently done activities include to switch off the light when leaving a room, to use buses/bike instead of the car and to switch off the PC after use. Opportunity activities (2.6 to 3.2) are sorting litter and saving water. Almost never did the students work at a nature conservation organization.

In relation to the environmental issue in geography lessons, it was found that in secondary general schools and intermediate secondary schools over the years, the topic is included regularly (from 2.3 to 2.7, 1 = never - 4 = frequently), while in the comprehensive schools in the fifth classes the topic is discussed much more than in the ninth classes (2.9 vs. 2.0).

Of course it must be taken into account that these are merely subjective assessments of students. If you ask the students to state if they would like to learn more about environmental issues (yes/no), there is an obvious age difference. The percentage of students who want to learn more in the fifth classes is significantly higher. Particularly striking is the secondary general school with 67% of fifth-graders saying 'yes' to facilitate knowledge acquisition. Again, the gender difference becomes clear with increasing age: in the fifth classes most girls and boys want to learn more about the environment (60-70%). In the ninth classes still 40% - 60% of the female students are interested in this subject, while boys in all kinds of schools do not have a majority (20% - 50%). The conclusion is that in general girls want to learn more about the environment than boys.

Asking about the frequency of excursions in geography lessons as a way of learning outside the classroom leads to implications that most excursions take place in fifth and in ninth classes in comprehensive schools (once per year). In secondary schools it is less than once per year. In the lower grades generally more excursions are carried out than in the higher. Regarding to the general question of the study it was asked whether excursions are able to arouse the students' interest in environment. The mean values in the fifth classes (2.5 to 2.7) are higher than those of the ninth classes (2.1 to 2.5). In the secondary general school lower values were specified.

One question asked how often the students deal with specific topics. Therefore a list of topics has been compiled, which includes both the issue of education for sustainable development and personal issues. Natural disasters are the number one among girls and younger students, followed by issues affecting their future, how to make money or to get an apprenticeship. For the boys, also, issues such as war and nuclear power play an important role. It is interesting that, across all the groups, topics like the growing world population, shortage of resources and lack of water supply do not matter. This may be due to the fact that students do not get to feel the consequences personally or that terms such as shortage of raw materials are only slightly familiar. Between the types of schools there are no differences. The older students generally show a more frequent preoccupation with the topics than the younger ones. The first aggregated variable describes an active engagement in education for sustainable development. It was analysed whether there is an age or gender difference. The results of the t-tests showed that there is a highly significant age difference ($p < 0.01$) in favour of the fifth class dealing with education for sustainable development. Here too, it is striking that the gender gap in the ninth class is more pronounced ($p < 0.05$) than in the fifth Class ($p < 0.10$), but in all cases still significant. This tendency can be seen across all types of schools, but in the form of school comparison, the difference between girls and boys in secondary general schools is the greatest. Girls engage with education for sustainable development more actively than boys. Another variable relates to sustainability-related behaviour. It also verified a possible age difference. The assumption of normal distribution was rejected by the Kolmogorov-Smirnov test, so instead a non-parametric method had to be chosen. The result was clear ($p < 0.01$): the fifth classes indicated significantly higher willingness to engage with sustainability-related behaviour than the ninth classes. Here, no school type is particularly emphasized.

7. Conclusion

Summing up the first results of the study, the conclusions are: given the importance of education for sustainable development for students, clear discrepancies exist. These are based both on age and gender, but also differences partly between school types can be identified. For the fifth classes, education for sustainable development seems to be more important. Girls in general state a higher interest in environmental issues. The gender differences are, however, in the fifth classes less obvious than in the ninth classes and the differences between the types of schools are significant. As a general conclusion, the engagement with the real landscape and the esteem of nature and landscape in the school should be allowed in the students' everyday life. Only on this basis of experience can sustainable behaviour be expected.

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Identification and Assessment of Landscape Semantic Attributes and Values

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Abstract: Landscape is observed individually. Besides visual perception are important cognitive processes. Objectification of landscape's assessment process is necessary step before implementation into landscape planning. We developed method about visual landscape identification and landscape character assessment. Fundamental is semiotic and semantic interpretation of landscape. Signs generate associations; they are communication medium which represent real objects. Key steps are: landscape optometry; identification and interpretation of characteristic features, as quality indicators, stressed in structured text and displayed in graphic icons; values assessment; proposals of incentives for planning about final landscape's quality, in sense of the European Landscape Convention. Landscape diagnosis rises from the functionality of system, prognosis comprises future conditions and therapy provides tools for the future design of landscape.

Keywords: diagnostic, visual, assessment, landscape, semantic, planning.

1. Research of visual and axiological landscape's attributes

Antrop, Eetvelde (2000) specify three main categories of landscape research: natural sciences with leading landscape ecology, humanistic with historical geography and human ecology with humanistic and semiotic approaches. We can study landscape as model by very exact methods in landscape ecology. The match between reality and mathematic models is assigned by the scientific knowledge (Wu *et al* 2007). On the opposite side, the marginal approach deals with genius loci (Norberg-Schultze 1994), and landscape as mental imagination (Eco 1990) mostly in humanistic scientific fields. Study of the historical genesis and semantic attributes of landscape interferes into the disciplines on the both sides. Co-operation of natural and humanistic scientific disciplines can bring innovation to the consolidated scientific branches with conservative methodologies.

This paper presents the method about identification and assessment of landscape's visual character. The subject of our study is visual landscape and axiological attributes as semantic attributes and values, represented by features which appear visually in landscape. They represent originality of landscape's visual character, activate associations and attract tourists. When we form these assumptions we have taken into consideration definitions about landscape's character, features and values assessment. Landscape character is individual and originated as natural and human interactions. Landscape consists of values, added values (tourism), land-use, artefacts and natural attributes (Dower 2000); Landscape appears as a complex of associative thoughts and relations in conceptual construction, of which is developed in our mind and our time (Ogrin 1999). Features are associated with the physical landscape, including natural environment, the way of the inhabitants living, their history and culture (Swanwick *et al* 2004). Lothian (1999) defines landscape's objective quality assessment as depending on quality of physical landscape elements, and subjective depending on individual construction of associations and thoughts related to the landscape. Swanwick (2009) differentiates between behavioural, formal-aesthetic and humanistic approaches to landscape perception.

When the value of visual landscape is significant it can be preserved by the law. The term "landscape's characteristic appearance" has been used since 2002 in Slovakia. It is defined in the Act on the nature and landscape conservation, no.543/2002, of the SR Council. Features should be preserved in common landscape types as well as in protected ones, because they support diversity, regional identity and traditional life of local people as it is specified in the European Landscape Convention (Council of Europe, 2000).

Our approach ranks among the formal-aesthetic group where landscape assessment is semi-subjective and the presented method uses relevant qualitative as well as quantitative tools for the identification of landscape values. Both qualitative and also quantitative approaches are possible for evaluation of landscape (Burley 2006). The first contact, as well as a mass of information flow, is obtain individually and visually from landscape, instead the fact that we use also other forms of perception combined with cognitive processes (Hoeven *et al* 2011). Typical for human perception are panoramic views on the landscape with side proportions of 3:1 perceived in optical visual ellipse of the human eyes (Smardon *et al* 1986). A dependence exists between quantifiable parameters of landscape, human eyes optics and the theory of photographical vision (Otahel 2000). Landscape's visualisations require knowledge about physiological limits of the human visual perception and its interaction with spatio-temporal characteristics of landscape (Maples 2004). Developed optometric methods make easier objectification of landscape's parameters. As optometric parameters we assume quantifiable datas about space size, distances and views conditions (Jancura *et al* 2009).

2. Methods about landscape character assessment in landscape planning

2.1 Visual quality assessment

The methods about axiological classification of landscape started in the 1960s by architects (Arthur *et al* 1977). The topic of correlation between land-cover structures, arrangement and visual quality of landscape was solved in landscape ecology (Zube 1987) two decades earlier. Today it is very popular in its theoretical field (Fry *et al* 2009) and it was implemented into the several national methods (Marusic *et al* 1998, Coreira *et al* 2003) and used in the practice of landscape planning (Bogdanowski 1998, Krause 2001). Generally we can distinguish different groups intended in the visual quality assessment. The first one uses GIS and statistical technologies for objectification and evaluation of various categories of significance of the studied factors (Pastora *et al* 2007). GIS interpretations are useful for regional assessment of landscape (Roth *et al* 2012). More popular are exact statistical evaluations of the real image of landscape according to the photographs (Clay *et al* 2004), or generation of the 3D/4D virtual models of reality (Lim *et al* 2006).

We would like to bring a new point of view on visual landscape assessment in the research of landscape ecology where the landscape is traditionally evaluated through the datasets of numbers in GIS applications. Differentiation methods are largely used for visual identification and assessment of images in the computer-based images processing (Dugelay et al, 1995). Differential method of identification (DMI) for visual landscape quality assessment was published in 2000 (Jancura, 2000) and in this case we present a modification of the approach.

Diagrammatic interpretation of landscape presents a synthetic frame for understanding the visual presentation of landscape (McLean 2012). We can understand only landscape by understanding its language (Spirn 1998). We define key terms, for the purpose of the method presented, from the aspects of the semiotic, semantic, information and communication theory. We refer to the classical works (Pierce CH., S., Barthes, R., Jacobson, R..) and to the recent ones about visual semiotic (Gombrich 1960, Sonesson 1994). The semiotic system is built by interconnections where signs stand for the real objects. Signs allow us to make associations to the denoted object and connotation of the implicit attributes. Differences are substantial oppositions working in all languages, in the systems of distinctive signs (Derrida 1993). Deleuze (1993) explains that the value of each sign depends on its position in the structure. Signs are communication nodes, which activate associative context to other ones on the network of the signs (Lemke 2002). Associations and simultaneity are the main principles in the visual communication (Michalovic *et al* 1997). Visual features are coded rapidly in parallel across the visual field using pre-attentive processes. In this phase, features activate any object types and the selected features are bound and then compared to the set of currently active representations in the recognition network to retrieve the identity of the object (Treisman, 1988). Identification of the visual object means a specialized form of object recognition in which the category is known, and one must recognize the exact identity of objects (Ferencz, et al., 2008). Visual communication has a character of the soft language. It should process symbolic and hard determinable structures as well as strictly denoted forms (Gärdenfors 1999). It reduces the continuous visual spectrum to the final discrete contrast of the signs (Lester 2005).

Developed method is taught in the bachelor and master degree program "Ecology and land-use" at the Technical University in Zvolen. Recognition and identification of signs in visual landscape requires training of the visual perception in the education process. Students refine practical skills in landscape photography in the field, and theoretical knowledge, obtained during lectures of the subjects, concentrated on the use of display methods in the landscape design and practice.

2.3 Method of identification and evaluation of characteristic landscape appearance

DMI was the first applied on the model cadastral area of Detva (Jancura, 2000) where the Department of Landscape Planning and Design co-operated with the Slovak Environmental Agency. Results presented in this paper arise from this work. We updated them on visual features which support the landscape's quality in 2012. The reason for this was based on the effort of the municipality to apply for a registration into the list of the European heritage landscapes[1]. After experiences in practice and education, we later developed the Method of identification and evaluation of characteristic landscape appearance (Jancura *et al* 2010) especially for practice of landscape and spatial planning. The Method consists of the following steps:

1. Excerption of the basic landscape's characteristics.
2. Visual-optometric parameters of landscape where we identify specific viewpoints on landscape and visual fields which consist of the visual sectors (angle of view) and visual zones (distance from the observed object) in the panoramas, sectored views and details of landscape (Figure 1).

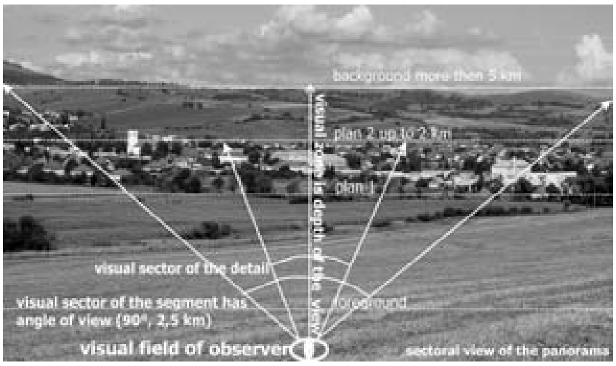
background more then 5 km
visual zone is depth of the view
plan 2 up to 2 km
plan 1
visual sector of the detail
visual sector of the segment has angle of view (90°, 2,5 km)
foreground
visual field of observer
sectoral view of the panorama

Figure 1 Optometric parameters in the sectored view of the panorama, photo by authors, 2010.

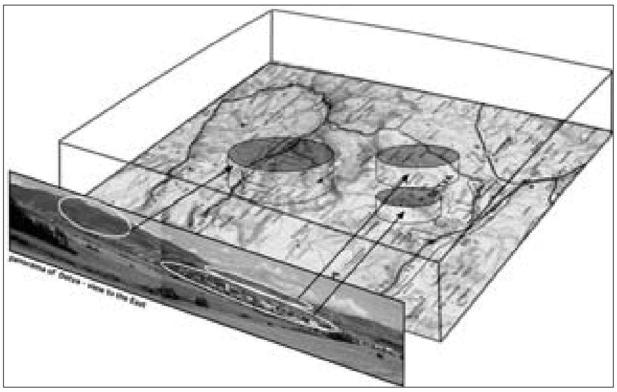

Figure 2 Comparison of the landscape types' position in the map and in the photography, elaborated by authors 2010.

3. We identify landscape types according to statistically significant combination land-cover composition and relief configuration attributes, which are interpreted in maps and text (structured sentences). Landscape type contains signs which appear visually. We compare statistically evaluated landscape types with types appearing in visual landscape; scheme is displayed in Figure 2. Visual signs are displayed in photos, panoramas, and hand-drawn images called icons. They presented abstract expression of the reality. Graphic icons display important information extracted from the photos, they are drawn with the minimum information redundancy, and are comprehensible for the wide public. Gestalt rules of forms recognition (Moore, 1993) are used in the technical drawing of the icons.
4. Evaluation of the visual signs observed in the second step and assessment of landscape type quality. We add semantic axiological attributes as significance and values to the signs, and identify visual features in the landscape. Features are clearly related to the objects and localities of natural and cultural heritage. They are present also in 'common' landscape which has individual and original

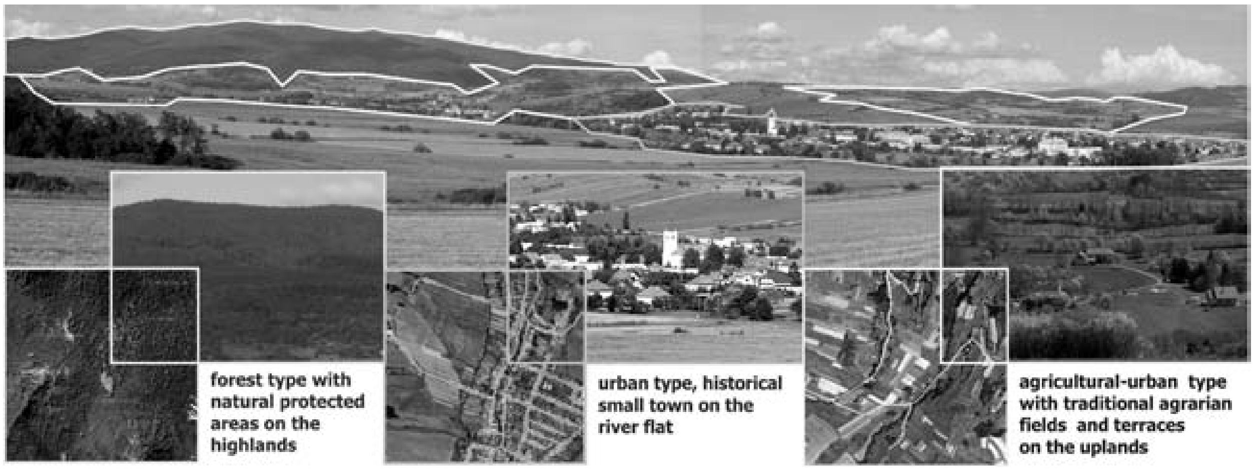
forest type with natural protected areas on the highlands
urban type, historical small town on the river flat
agricultural-urban type with traditional agrarian fields and terraces on the uplands

Figure 3 Visual appearances of the main landscape types in the Detva cadastral area, photo by authors, 2012.

character and is not protected, especially by the law. Values are created by originality, authenticity, scarcity, age, visual harmony, identity and special character. Significance of values is assessed at the local, regional, national and international level. Definite complexity of features displayed in context of each other in the panoramas of landscape's appearance represents landscape's characteristic appearance and landscape quality standard.

5. We assess the risk of landscape's quality degradation. Visual vulnerability is defined by visibility, values and semantic context of the objects in relation with other ones in the space of landscape. Symptoms are signs which disrupt the context between features and degrade the quality of landscape.

6. We apply incentives towards the achievement of the final landscape's quality and/or elimination of the symptoms.

We elaborated a landscape-ecological plan for the Detva cadastral area in 2001, where we proposed to eliminate macro-structures with arable soil by delimitation to the smaller plots divided by non-forest wooden vegetation forms, and we designed new structures arrangement as analogy of the historical pattern of agricultural fields. The plan was the first one in Slovakia and has been used as case study in the education process for several years.

3. Approach applied in the landscape study of the Detva cadastral area.

Cadastral area (6809ha) rises to an altitude of 300-1450 ASL, in the Southern part of the Polana Mountain, which is the form of the neovolcanic erosive caldera, unique in Slovakia. Rocky cliffs formed by lava flows spread into the lower parts and each formation are named by the local people. The climate is moderately warm, with local hard mesoclimatic conditions. Arable soils contain a lot of skeleton and substrate is usually dry. The prevailing part of the specific historical agricultural area spreads into the sub-mountain region (450-600 ASL). Inhabitants live traditional ways of life and folk traditions are surveying. Old Detva town represents a regional specific urban structure and silhouette. There is Calvaria with painted wooden crosses; nationally recognised wayside wooden painted crosses originated in this area, and characteristic are the wayside stone chapels. There are generally three main landscape types here, displayed in the Figure 3. Landscape's features appear in these three landscape sub-types which prevail in the area: agricultural-urban areas on the lower highlands (11%); forest-agricultural-urban on the lower highlands (13 %); forest-agricultural-urban on the uplands (10%) and mostly in these types can historical landscape structures be found, as well as agricultural fields and terraces (Figure 4). High heterogeneity is supported mostly by historical structures - agrarian fields, which create lines (mainly on the terraces), fan shaped forms and plates. It is typical to find more than 26 patches/1km^2. It is mainly the terraces that activate associations for the tourists compared to the other structures and objects of the cultural landscape. Features of the forest-agricultural-urban landscape type on the uplands, which represent national value of the cadastral are displayed in Figure 5. The value and originality of landscape at national level is expressed in the following features: Polana Mountain, where a Landscape Protected Area is designated as well as being of national natural heritage (f1); archaeological localities of primeval ages related to the high rocky cliffs with local folk names (Kalamarka, etc.) with national significance (f2); and traditional agrarian fields which create landscape patterns mostly of line forms and terraces (f3). Symptoms are buildings with inadequate proportions in the old town of Detva and macro-structures of fields (more then 30 ha).

4. Conclusions

Aesthetic criteria of the landscape's quality assessment is today largely incorporated into landscape and spatial planning documentations (Rogge *et al* 2007), and definition of cultural heritage in planning practice is developed from material entities to intangible values, which represent specific relations of the human society to its historical territory (Pungetti *et al* 2010). Using the presented method we can observe tangible and structural attributes of landscape, as well as inner functions, processes and axiological attributes. Sign is the basic unit which we identify and evaluate in the visual landscape. Features are used for identification of the landscape's originality; they are like tokens and present a medium for axiological attributes. They are indicators of landscape's quality. Indicators should be used for assessment of landscape's quality (Ode *et al* 2008). According to the features status we can predict transformations or destruction of landscape type. Occurrence of the symptoms indicates dis-functionality inside the system and means a degradation of values.

Contemporary architecture retains distance from the environments (Bangs 2007). In the practice of spatial planning in Slovakia it is typical to add arbitrary buildings to the landscape, without

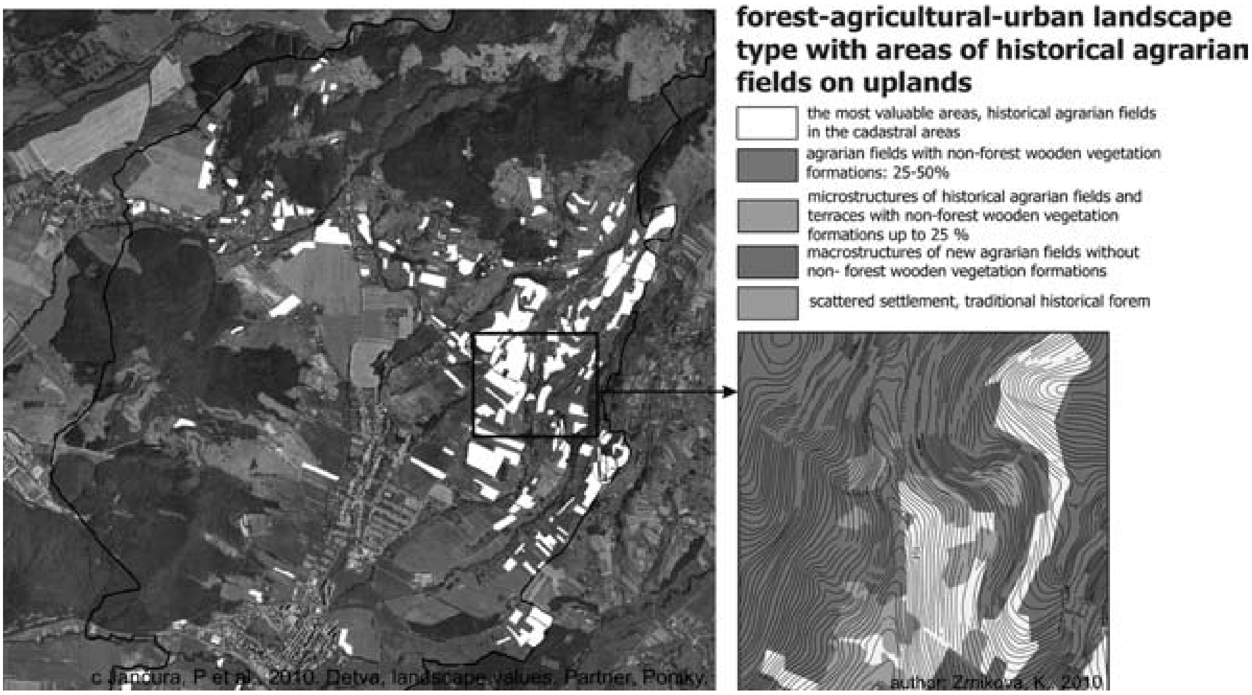
forest-agricultural-urban landscape type with areas of historical agrarian fields on uplands
the most valuable areas, historical agrarian fields in the cadastral areas
agrarian fields with non-forest wooden vegetation formations: 25-50%
microstructures of historical agrarian fields and terraces with non-forest wooden vegetation formations up to 25 %
macrostructures of new agrarian fields without non- forest wooden vegetation formations
scattered settlement, traditional historical forem
c Jančura, P et al., 2010, Detva, landscape values, Partner, Ponky
author: Zmikova, K., 2010

Figure 4 Forest-agricultural-urban landscape type is the most valuable type in the Detva cadastral area – as interpreted by the statistical typology in the square (1kx1km) as combination of the relief configuration and land-covers structures composition.

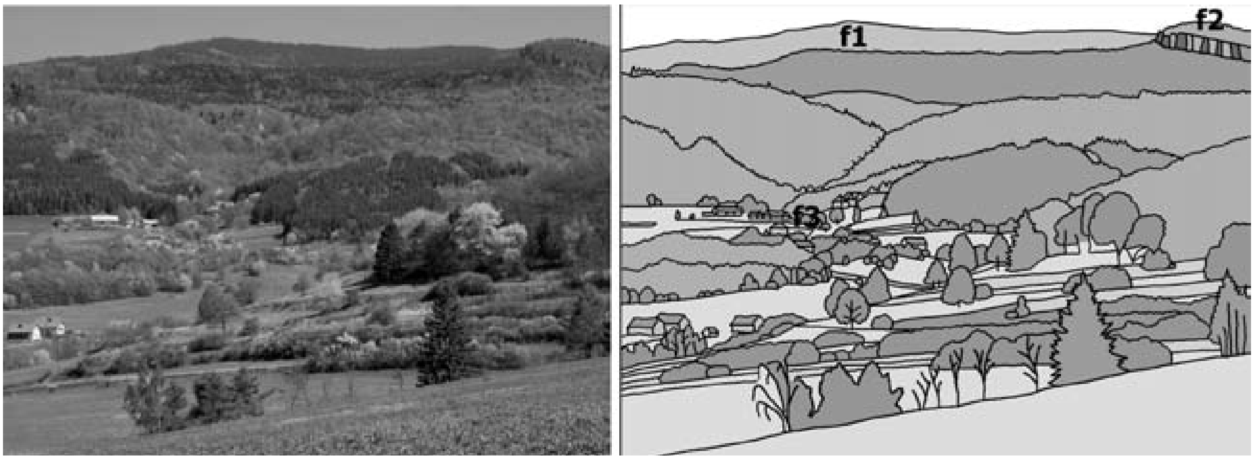

Figure 5 Landscape's features of the forest-agricultural-urban type on the uplands, photo and icon by authors, 2012.

searching for possible eurhythmic relations to the environment. We not only introduce the students to the theoretical background of this topic in the lectures of 'Urban Ecology' and 'Spatial Planning', but we introduce actual views on the situation in the landscape's quality assessment and in the assessment of the visual impact of new buildings on the examples of the original case studies and projects elaborated in the department. Besides specialized ecology subjects, we provide to students synergic knowledge about natural sciences in particular; knowledge of the landscape ecology is interpreted in relation to culture and history with emphasis on historical structures in landscape. In such a way students are led to understanding landscape identity. An integrating subject is 'Landscape Design', where students prepare case studies of the landscape according to the presented method. They can develop skills at the classical lectures and at the atelier's practices. Students are able to identify functional relations in landscape in the bachelor degree of the study. Landscape prognoses, proposals of therapy and landscape design are solved at the master degree. Conceptions and plans are processed in the GIS applications. Re-structuralization of land-cover components is a typical topic with the target proposals of disturbances elimination. On the other hand students are able to identify, evaluate and highlight features in the visual landscape. Projects on the objects are designed in the CAD applications.

Besides scientific-educational innovation of the visual assessment methods, we offer the possibility of economic valorisation of the landscape character in the field of tourism based on the originality and visual quality of landscape. Features make associations, which activate emotional and informed responses. There is a working consultation service at the Slovak Environmental Agency[2], where authors of the presented method provide services and seminars which help with the implementation of the method into the practice of the state's natural protection authorities.

Acknowledgements

The Authors would like to give thanks for financial support of the paper elaboration to the KEGA grant agency, project no.011TUZ-

4/2012 (80%) and to the Centre of excellence, task for decision making processes in forests and landscape, activity 3.6, characteristics of land-cover changes from aspects of natural and anthropic influences 2011/2012 (20%).

Notes:

[1] http://www.sazp.sk/public/index/open_file.php?file=Admin/2012/januar/StrategiaSAZP_2014_01.pdf

[2] http://www.sazp.sk/public/index/go.php?id=2145

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Essential Ingredients for Understanding Soil-Landscape Relationships

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Abstract: Relationships in the landscape between natural factors (for example geology, geomorphology, soil formation and derived soil patterns) and anthropogenic factors (for example land use) are keys to the understanding of landscape functions and services. Many of these relations in the landscape have been documented in aging soil survey reports but these have often been systematically undeveloped and are difficult to access. As a result, important and unique soil-landscape phenomena remain hidden for environmental scientists, spatial planners and policy makers for instance. A new overview of conceptual soil-landscape models has recently been developed for the Netherlands. Elements that are considered essential in conveying information on interactions within the landscape include, amongst others: 1) detailed conceptual catenas for specific soil-landscape systems indicating both natural as well as (agri) cultural landscapes, 2) integrating spatial soil geographic information with high-resolution DEMs to make soil-landscape relations more explicit, and 3) indicating the extent and impacts of land use change using maps of land use history. With these elements, insights into spatial patterns of geodiversity and land use are documented and available as a resource for education but also for policy makers working in the fields of spatial planning and agriculture.

Keywords: landscape, geoheritage, soil science, geomorphology, catena, land use change

1. Introduction

Landscapes deliver a whole range of services that are vital for society. These include, for example, food production, water storage and biodiversity (Pfeifer et al., 2012). In many cases, landscapes are co-defined by geological, geomorphological and pedological characteristics. Interrelations between geology, geomorphology, soil formation and derived soil patterns in relation to land use are vital to understand landscape functions and resulting landscape services. Yet, systematic approaches to understanding spatial landscape relationships have often been poorly developed. For example, the conceptual soil-landscape models behind soil maps are rarely explicitly communicated in publications that are used for teaching. In theory, soil-landscape models explain soil distribution at multiple scales and provide basic principles for understanding the geomorphic history of landscapes (spatial-temporal relationships) (Hugget, 1975; Wysocki et al. 2011).

Hudson (1995) argued that the conceptual soil-landscape model acts as an operative paradigm for many earth scientists doing field surveys. However, an extreme reliance on such tacit knowledge creates serious inefficiencies, both in learning the soil landscape paradigm and in disseminating the information resulting from its application. Therefore, the concepts inherent in the soil-landscape paradigm must be explicitly expressed in soils textbooks and taught to students.

Systematic descriptions of landscape genesis and explicit soil-landscape models allow first of all to appreciate the natural and semi-natural/anthropogenic relationships between landforms and soil distribution, secondly to identify and appreciate landscapes with little modern human disturbance (landscapes as windows into the past) and thirdly to recognize the importance of unique/special earth phenomena (uniqueness of landscape elements).

Recently, Jongmans et al. (2013) presented a systematic overview of the geology, geomorphology and pedology of the major landscapes in the Netherlands, and systematically documented conceptual soil-landscape models for these landscapes. The approach taken appears to be an effective approach to communicate soil-landscape relationships, especially with respect to landscapes developed in unconsolidated sediments. It also makes explicit how major soil forming factors, often phrased as the CLORPT model, are related to processes within the landscape. Therefore, specific attention is given to the role of climate (change), geodynamics (in relation to the formation of parent materials), geologial processes and their timescales, as well as the role of organisms and humans.

The objective of this paper is to: 1) present a short historical overview on the role of landscapes in the soil sciences in the Netherlands and, 2) provide an overview of new systematic elements that aid in the understanding of soil-landscape relationships on the basis of Jongmans et al. (2013). Finally, it is discussed how human interventions of the 20th Century have dramatically shaped many landscapes, affecting the applicability of conceptual soil-landscape models that are solely based on natural factors.

2. Short historic overview

2.1 Studying Soil-Landscape Relationships in the Netherlands

The soil-landscape paradigm only appears as a dominant paradigm for understanding soil landscape relationship in the mid-20th Century. In the 19th Century, with the emergence of spatial soil sciences (agrogeology), the dominant focus was on lithology. Thus, the earliest soil maps from the early 19th Century as well as the first soil textbooks (appearing in 1856 and 1860) were strongly rooted in geology and sedimentology. The emphasis shifted towards landscapes with Milne's catena principle (Milne, 1936). The catena was originally defined as a sequence of soils from crest to valley bottom, and is regarded as an elegant way to discern spatial relationships between soils and topography (Schaetzl and Anderson 2010; Sommer and Schlichting, 1997). In the case of uniform parent materials, catenas may also be referred to as toposequences, where relief is the dominant changing factor, in line with Jenny's factors of soil formation (Jenny, 1940). In the Netherlands, the catena concept, although not explicitly communicated as such, was advocated by first Oosting (1936) and later Edelman (1950).

Edelman used a physiographic approach where soil mapping was strongly based on identifying dominant landscape units. The national mapping program (scale 1: 200 000) which ran from 1952 to 1954 was strongly based on this physiographic approach. However, systematic classification principles for identifying soil-landscape relationships were never developed and a uniform overarching legend was also not created (Hartemink and Sonneveld, 2013).

In addition, following international developments, for example with respect to Soil Taxonomy in the United States, soil classification principles in the Netherlands moved from physiographic principles towards morphometric principles, thereby loosening the understanding of relationships between topography, parent materials and soil geographic patterns. Field surveyors still used soil-landscape principles to map soil regions in the 1962-1995 1: 50,000 soil mapping program, but soil-landscape relationships were again not systematically documented. Instead, because the physiographic landscape approach was abandoned, the initiative was taken to start the 1:50,000 scale geomorphological mapping program. One of its goals was to contribute to the soil geographic mapping program. However, this program started later (1975) and ended prematurely in 1993 and was only officially completed much later, in 2003. It remained a separate branch and geomorphological information was, up until very recently, not being combined with soil survey products coming from the 1:50 000 scale mapping program.

The 1962-1995 1:50,000 scale soil mapping program resulted in 89 map sheets and 69 soil survey reports. These reports were however not summarized in one final publication. During the final stage of the mapping program, Locher and De Bakker (1990) attempted to publish their soil geographic patterns for the dominant Dutch soil landscapes. Yet, this attempt appeared unsuccessful as they concluded that for the regions in the Netherlands it appeared impossible to produce a comprehensive and systematic overview of soil-landscape relationships. Therefore, to learn about soil-landscape relationships, students and others were dependent on individual soil survey reports and a strong reliance on field work to learn about soil-landscape models. Both the 1:200,000 scale soil mapping program as well as the 1:50,000 scale soil maps yielded a wealth of information on soil geographic patterns. Most information is now available in GIS databases, serving as input for environmental models, regional planning, archaeological surveys and ecological studies. Yet, because of the lack of documentation of conceptual soil-landscape models these databases are only considered as a mere storage of spatial data, and spatial relationships between soil-landscape elements are ignored or overlooked. At many universities and schools, the amount of field work has also decreased, hampering the current uptake of soil-landscape understanding.

3. Elements in Understanding Soil-Landscape Relationships

3.1 Overview of Some Selected Elements

Systematic descriptions of soil-landscape relationships following the catena concept require information on major soil forming factors, parent material, geomorphology and hydrology. Therefore, the scheme indicated in Figure 1 was used as template for documenting this information for all dominant landscapes in the Netherlands. For these landscapes, the catenas inform students and readers about

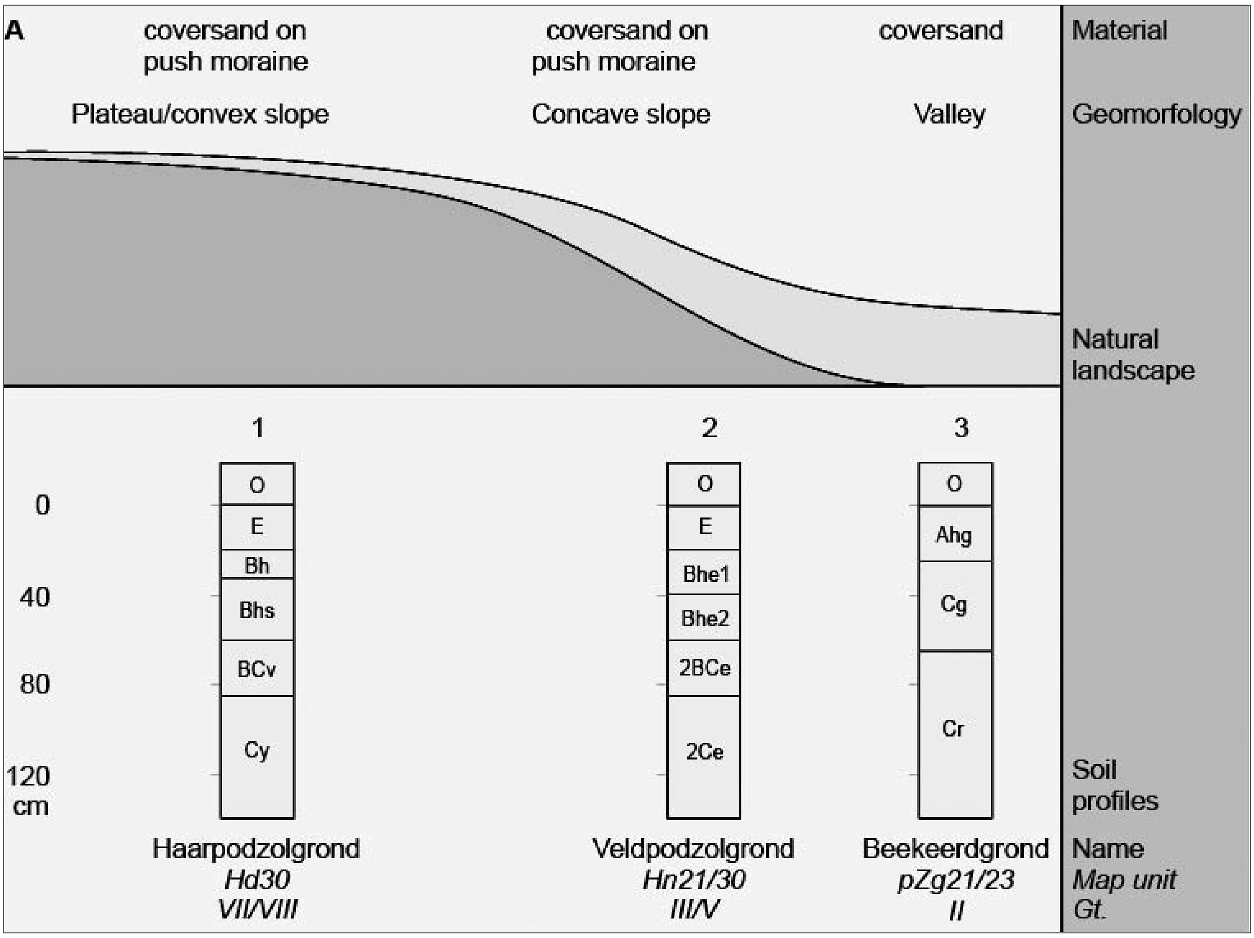

Fig. 1: Schematic cross section of the natural landscape of the central push moraine district in the Netherlands. The templace systematically addresses parent material, geomorphology, soil profiles and names of soil mapping units. Drainage classes are indicated at the bottom (Gt). Adapted from Jongmans et al. (2013).

parent material, geomorphology, soil profiles, soil names and hydrology. This is being done separately done for natural landscapes, that is, without human interventions, and cultural landscapes, that is, with human influences. Thus, as indicated as an example in Figure 1, morphometric soil profile properties are linked to soil geographic patterns in the landscape, as well as to soil mapping units.

In many landscapes, humans have also profoundly influenced the geomorphology and nature of the soils. Through artificial raising, for instance, or excavations, many soil profiles have been altered compared to their natural setting. Figure 2 indicates a similar landscape as indicated in Figure 1, but with human influence. In this case, the formations of sandy anthropogenic plaggen soils (formed during the last millennium) and related drift sands are made visible.

The soil-landscape catenas, as presented in Figures 1 and 2, also make specific reference to soil profiles and the associated horizonation. This allows the translation from landscape properties into soil properties towards soil classification. Although soil classification is not an objective in itself, it is often linked to other agricultural and environmental assessments (e.g. groundwater quality, susceptibility for erosion etc.).

Yet soil-landscape relationships are in reality 3D relationships. In the past, block diagrams were often created, but new technological developments allowed the creation of 3D models for all landscapes. The publication of high-resolution digital elevation models for example (DEMs, Van Heerd et al, 2000) now allow the creation of 3D-soil maps where surface topographic and dominant soil maps are being integrated.

Figure 3 shows the catena as indicated in Figure 2 using available soil maps and a high resolution DEM (5x5 m). The direction of the fault lines in the push moraine (central part) are clearly visible, as well as the variations in topography in the drift sands.

Moreover, each map is also accompanied by a reference to the related 1:50,000 soil survey report. (27W in Figure 3). Thus, these overviews also provide an entry to the related soil survey reports where more detailed information on soil-landscape relationships can be found.

The most dramatic changes in many agricultural landscapes took place in the 20th Century. Drainage, removal of landscape elements, changing land use, urbanisation and land levelling have substantially contributed to altering the landscape. Each particular landscape therefore also holds a section on land use change. Figure 4 shows the land use change from 1900 to 2004 for a part of the central push moraine landscape. Large parts of the landscape which were previously covered by heather (pink colours) or drift sands (yellow colours) are now forested.

Land use change maps for other areas make clear that urbanisation especially has had a substantial impact on the landscape.

The dramatic changes that altered landscapes from the second half of the 20th Century have also affected the usability of soil-landscape models based on natural factors. It is not surprising to find that the physiographic approach (Edelman, 1950) was developed in the 1930s and 1940s as many landscape patterns still were in line with natural patterns in the landscape. An example to illustrate this is given in Figure 5.

Conceptual soil-landscape models work particularly well in the way that little is known about the regions and in the way that natural patterns largely govern other spatial patterns (infrastructure, drainage, land use). Nowadays, many landscapes have been changed in such a way that soil-landscape relationships are much more difficult to unravel. Nevertheless, in many cases current spatial patterns have often evolved from historic spatial patterns and knowledge of the time-dimension of landscape change is important in under-

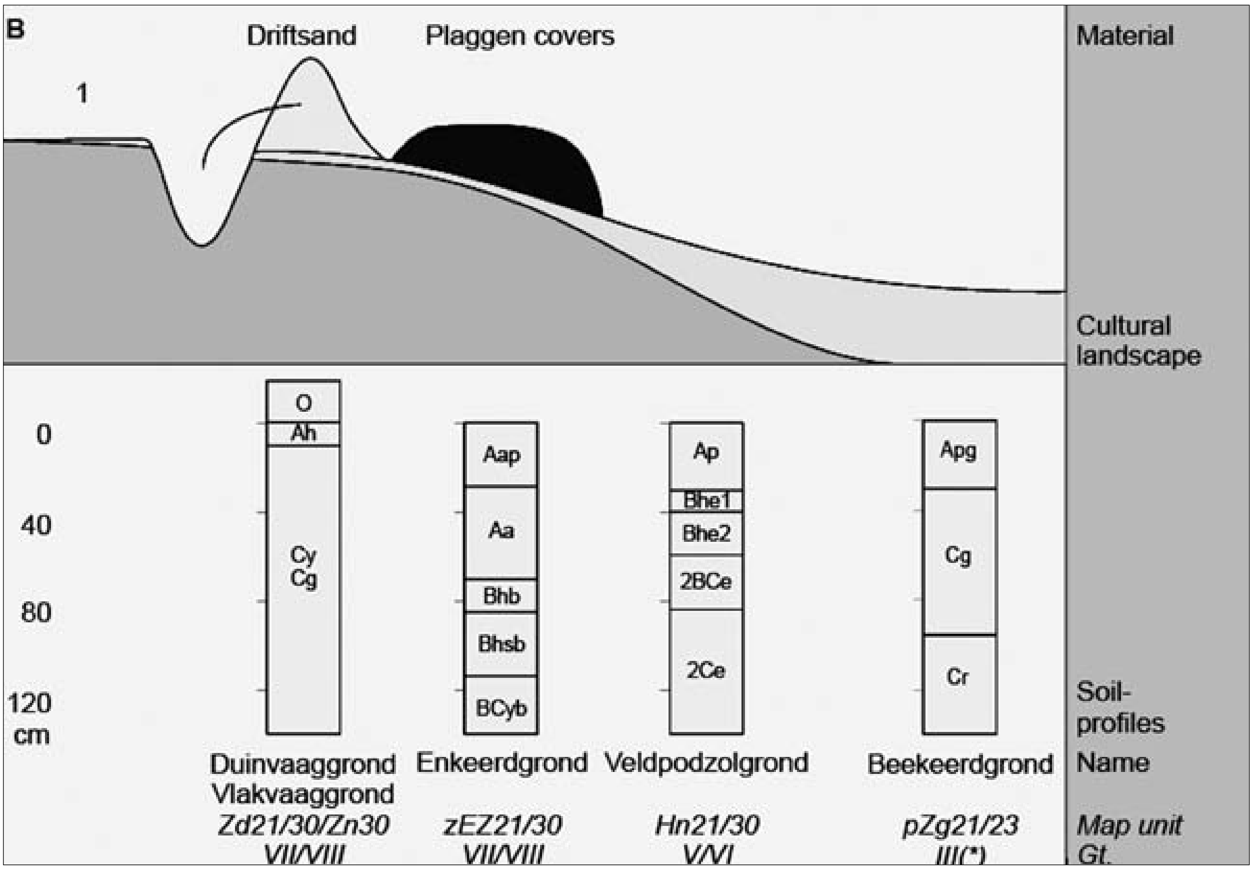

Fig. 2: Schematic cross -action of the natural landscape of the central push moraine district in the Netherlands.

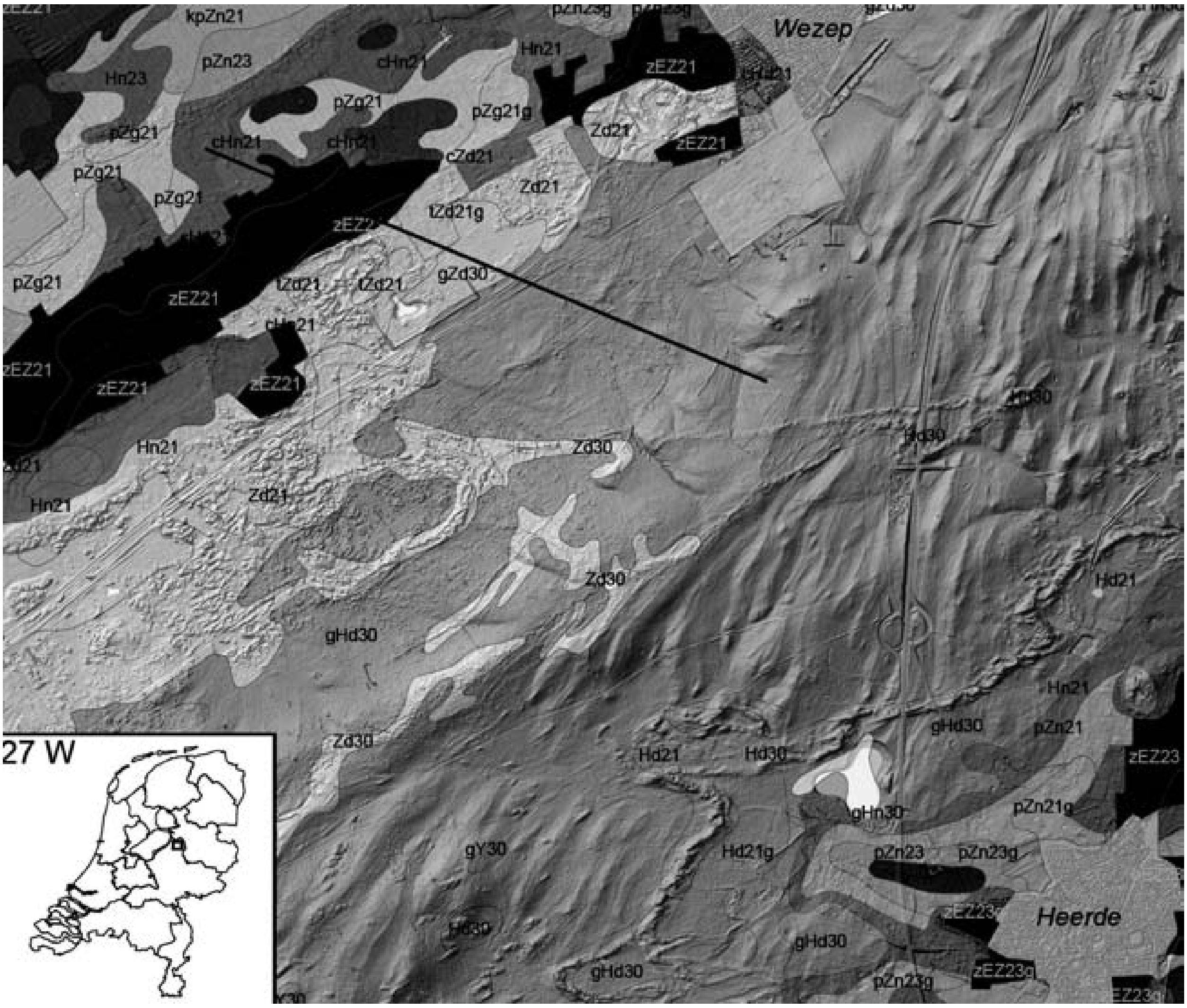
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Fig. 3: overview of soil-landscape relationships in the push moraine district with the cross section (catena) of Figure 2 being indicated by the black line.The country-scale map, in the lower left corner, indicates the position of this section.

standing landscape dynamics. Altogether, Jongmans et al (2013) used more than 1000 high resolution colour graphics to explain

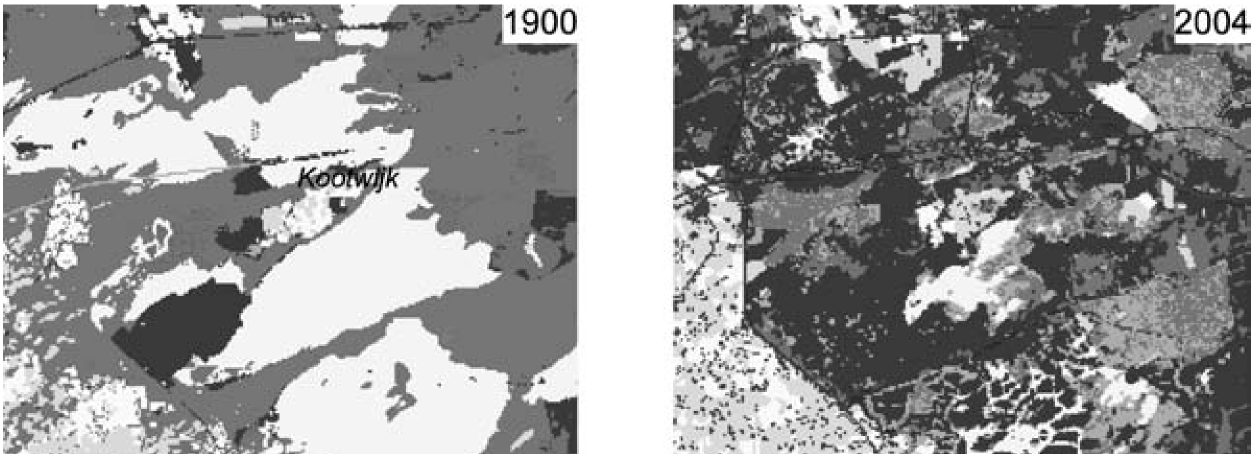
1900
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Fig. 4. Land use change in the central push moraine district from 1900-2004. Large changes occurred where heathlands and drift sands were converted into forest.

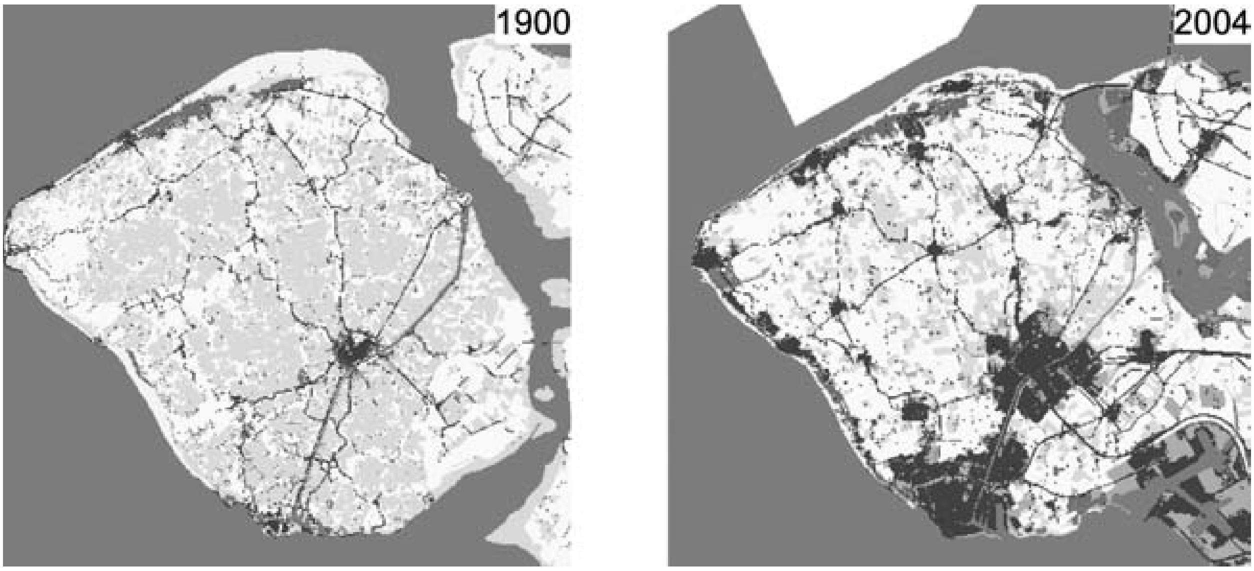

Fig. 5. Land use change in the south western marine district from 1900-2004. Clearly visible are the spatial distribution in land use (arable land – white and grassland – green) in 1900. This spatial distribution was strongly related to soil patterns and drainage patterns. In 2004, patterns have become much more diffuse because of improvements in drainage, land leveling and changes in farm technology.

soil-landscape relationships including cross-sections (e.g. Figure 1), maps (e.g. Figure 3), aerial photographs, soil profile photographs as well as land use maps.

3.2 Scaling in Space and Time

What has additionally appeared as a key element in conveying information on soil-landscape relationships is the challenge to link multiple spatial and temporal scales.

Typically, landscapes are formed by processes that operate at different time scales. These range from geological time scales (Quaternary), to centennial timescales (climate change) to decades (land use change). Additionally, landscapes challenge us into thinking at multiple spatial scales ranging from tectonic regions (e.g. North West-Europe) to catchments and soil profiles (soil forming processes). The ability to conceptually move from one scale to another is shaped by repeating, for multiple landscapes, how these scales interact.

With the approach taken by Jongmans et al. (2013), insights into spatial patterns of geodiversity and land use are documented and available as a resource for education but also for spatial planners, policy makers and others dealing with landscapes.

4. Conclusions

Conceptual soil-landscape models must be explicitly expressed in soils textbooks and taught to students and others for an understanding of landscape functions and related landscape services. Elements that are considered essential in conveying information on interactions within the landscape include, amongst others,:

1. providing detailed catenas for specific soil-landscape systems including parent material, geomorphology and soil information,
2. integrating soil geographic information with high-resolution DEM data to make soil-landscape relations explicit.
3. indicating the extent and impacts of land use change using maps of land use (history) on landscape functions

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The State of Sustainable Bioretention: Bridging Disciplines in Academia and Practice

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Abstract: Rain gardens are an effective Best Management Practice that reduce stormwater runoff, improve water quality, and contribute aesthetic value to urban settings. The more engineered a rain garden is, the less it replicates natural processes, and the less sustainable it is. Unfortunately, this design approach is common. In a time where solutions to environmental problems demand collaboration between disciplines, where are the horticulturalists, the plant scientists, in policy making? How can landscape designers address the aesthetics of ecology in urban areas?

Keywords: rain gardens, bioretention, experiential learning, research applied design, stormwater management

1. Introduction

Rain gardens (also called bioretention areas) are an effective Best Management Practice (BMP) in reducing stormwater runoff and filtering non-point source pollution of stormwater. Simply put, rain gardens are slightly sunken gardens that are sited to capture and filter storm water. The filter bed and plants both play parts in cleaning the water. A rain garden is typically comprised of four main elements: excavated bed (1), filter bed (2), plantings (3), and mulch (4). Rockery (5) might be included to reduce the velocity of stormwater entering the garden. A berm along the backside or low side (6) might also be incorporated to help retain stormwater if the garden is located on a slope (Kraus *et al* 2009).

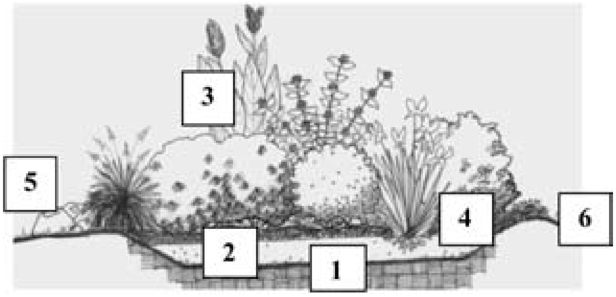

Fig. 1 Section Through a Rain Garden (drawn by author)

Rain gardens should be about five to ten percent of the total impervious square footage of a site to capture sufficient stormwater runoff. They can either be fairly shallow and cover more surface area, or have a smaller footprint with a deeper filter bed to collect greater volume. The term 'rain garden' is a bit of a misnomer. They are neither wetland gardens, nor dry gardens. Instead, they must survive, once established, on natural rainfall patterns. For many, this is often periodic deluges, followed by long periods of drought (Kraus *et al* 2009). Rain gardens are constructed in a variety of ways depending on the discipline – from the components of the filter bed, to the inclusion/exclusion of subsurface drainage systems, to the type of plants and planting design of the garden. Engineers tend to be more filter-bed oriented and concerned most with rapid infiltration, while horticulturalists are focused more on slower infiltration and the impact of plants.

1.1 Filter Bed

The most engineered method includes a filter bed constructed of 85% sand, 10-12% clay or silt, and 3-5% organic matter (Perrin *et al* 2009). This creates a very high infiltration rate, but most commonly an underdrain is installed at the base of the filter bed. The underdrain is connected to the storm drain system. Due to this set up, stormwater runs through the filter bed rapidly, into the storm drain and outlets into the nearest creek or stream. This filter bed has low Cation Exchange Capacity (CEC) which means that pollutants do not bind as readily to the particles. Hand in hand with this is the fact that plants need water in the soil long enough to uptake it and redeposit it to solubilize nutrients in the filter bed. If water moves through the filter bed too fast, plants might not be able to perform this function. It is also more expensive to build (often existing soil is hauled away and all new filter bed materials are brought in to site). Because of all of these factors, this type of filter bed does not support plant life over long run, and is less sustainable.

Horticulturalists, champions for plants, often prefer a filter bed made of part native/extant soil and part compost or Permatill™ (expanded shale). Both amendments improve infiltration, but compost allows the water to infiltrate slowly, giving plants an opportunity to absorb the water and nutrients/pollutants. Compost and Permatill™ have higher CEC than sand, allowing more nutrients to bind to soil particles. Compost also provides nutrients for plants and incorporates microbial activity into the filter bed. Microbes are key players in breaking down pollutants in soil. Detractors of this method are concerned about the use of organic matter leaching into the storm drain as well as its short-lasting nature.

1.2 Plant Material

Countless resources and guides specify that native plants should be used in rain gardens because they are adapted for a given area. The problem with this is that a rain garden in an urban setting is not at all natural. Additionally, in the case of engineered rain gardens made of mainly sand, specifying native plants for a region (which might require soils other than sand) sets up an unsustainable model. While many extension publications state that a horticulturalist should be consulted for plant selection, it is doubtful that occurs regularly.

Planting amounts and style are quite varied. Engineers will plant sparingly, partly to retain as much sunlight as possible reaching the rain garden to help kill off bacteria (Hunt *et al* 2009), and partly because they do not know the growth characteristics of the plants (Woodward 2010). Landscape designers and architects will plant more heavily based on principles of good design and horticultural practices.

1.3 Aesthetics

Despite the profession's interest in ecological design and using native plants, there is another hotly contested issue—the issue of aesthetics. While professionals are bending over backwards recreating natural systems in urban areas, public reception is luke warm. Research has shown that the majority of the general population does not find native landscapes/ecological landscapes aesthetically pleasing (Nassauer 1988). When people choose to spend time in natural settings, they anticipate and expect nature. In an urban center of daily life, however, people want/need landscapes to look as if they have been built by humans—orderly, neat, controlled. When informally polled about landscapes they found attractive, the majority of students responded not with the qualifiers one might expect such as "beautiful" and "colorful". Instead, most students were drawn to landscapes they described as "neat" and "clean". Additionally, most rain garden images available show designs predominantly of perennials plantings, taken (of course) in summer, when they look their most attractive. What is rarely shown (if at all) is what these gardens look like in winter (typically barren). Planting designers understand that for gardens to be attractive year-round, there must either be a mix of plant types (deciduous, evergreen, and perennial) or substantial amounts of perennials that still retain their structure in winter (e.g. ornamental grasses, where the foliage goes dormant, but the size, habit, some color, and movement remain intact). In fact, this is why I was first brought on my current collaborative team: a local municipality realized the importance of rain gardens, but did not like the aesthetics of what they had seen so far: "If this type of BMP is weedy looking, then we don't want them." they said (Beggs 2010).

At some point rain garden aesthetics and function overlap. Perennial root systems grow during the summer months, taking up nutrients and pollutants; woody plants put out root growth in the fall and winter. Here in North Carolina we receive approximately 42" of rain a year, fairly evenly distributed between the seasons, so it is important to have plants working to uptake nutrients and pollutants year round.

In my opinion, the best rain gardens currently being designed and built in the United States are in Portland, Oregon. They are city-funded projects, headed up by plant-savvy landscape architects. They are exemplary because they function well (in terms of capturing large amounts of runoff and reducing the amount entering the underground storm drain system), they are gorgeous year round (due to diversity of plant types), require little management, and they still look attractive, even years after installation (Perry *et al* 2012).

2. Challenge Tackled

A major problem is still the lack of collaboration between disciplines, both in the private sector as well as academic sector. It is very common for horticultural academics and engineer academics to rely only on their respective professional journals, resulting in the left hand not talking to the right.

One area where design professionals have always excelled is identifying a given problem, determining the best people needed to solve problems, and bringing those people together as a collaborative team.

The biggest issue is education. More specifically, *how* we educate, and *who* we educate—students, professionals in other disciplines, policy makers, municipalities, and homeowners all need this information. Students often learn greater lessons, and longer lasting lessons from experiential learning projects--hands on learning, learning by doing. Additionally, service-learning projects, those projects were lessons are learned through projects involving a real client and/or community outreach are extremely valuable for students. It allows them to apply lessons they've learned in the classroom to a real project.

In the university setting, we are able to utilize the latest (and even on-going) research in our teaching. In design classes we can take this one step further and teach students the importance of applied research to design. The incorporation a design/build opportunity for students allows them to experience firsthand the entire the design process--from site visit and client meeting to design development to design installation.

Outreach projects can show students real world challenges that they might not otherwise be prepared for when they enter the profession. Students not only apply design skills, but are often in a position where they need to educate others. Students gain an invaluable foundation in the classroom, utilize research to strengthen their designs, practice communication and education skills, and then evaluate the whole process. These are skills which they will utilize their entire careers.

3. Approach Applied

To tackle the challenge of greater collaboration, idea sharing, problem solving and education of a wide audience, I cast a wide net and looked to bring together and overlap all the groups – professionals, communities, and students – that I work with.

3.1 Professional Design Collaboration

We are fortunate on our campus to have a unique office called Watershed Education for Communities and Officials (WECO). Their job is to partner appropriate university faculty with the community and facilitate outreach projects. For the past several years WECO has been targeting one community within the Black Creek watershed. They began by working with biological and agricultural engineers, then added me (a landscape designer/architect) for the aesthetic component and planting expertise. Since 2010 we have designed and built several projects on public greenways, private yards, and public school grounds. The biggest area of contention was the engineer and I finding some middle ground on the best way to construct the filter bed. This engineer was not at all concerned about the plants in one rain garden we built at a grade school: "Of the entire project, the plants were the smallest expense. If they die, it's no big deal." But it is: a rain garden functions better with plants. It is more attractive with plants. Plus, the garden was installed with external grant money. The school has no funds to replant. Not to mention the principal, teachers and students at the school were so excited about the garden project. If it died, they would have been devastated. If the plants died the city would be less and less inclined to support rain gardens as a way of managing runoff. So to have the attitude that plants aren't that important does not promote sustainability. We finally came to an agreement that we would layer filter bed media - the standard bioretention mix on the bottom, more existing soil and compost in the top where it's available for plants. In some cases the rain garden is not large enough (deep enough) for layering media for the engineer to feel comfortable, so we use the standard bioretention mix with a modest amount of compost when we plant each plant in the garden. Regardless of the filter bed, the gardens are always mulched, which will provide a slow, but steady stream of organic matter for the plants. The collaborative groups have held many workshops focusing on ways to reduce storm water runoff at the residential scale for homeowners. Most recently, we have published a series of fact sheets about rainscaping techniques that are geared specifically for homeowners.

3.2 Teaching

This past semester I incorporated a current WECO project to my class as a learning vehicle. Horticulture and Landscape Architecture students in an upper level planting design course in the Department of Horticultural Sciences at North Carolina State University learned about rain gardens in a variety of methods this semester.

3.2.1 The Introduction

Students were given an overview of rain gardens in a classroom lecture. The importance of rain gardens was discussed as was properly locating and relating the garden to the larger landscape. Different construction methodologies were covered as were appropriate plant choices. The lecture was also used to show good and bad examples of built rain gardens in the United States, as well as stimulate a discussion about the different approaches to construction and planting and the students' role/responsibility to bringing their expertise to the table when they enter the professional arena.

3.2.2 In-Class Research

To focus just on the plant palette and needed research, the students were then given a hypothetical site project. Half of the class was told the site had wet or consistently moist soils; the other half was told the site had dry soils. All other environmental factors were the same. The students then had to research appropriate plants for their sites. The lists they developed were then cross-checked and the species that appeared on both lists (that were suitable for dry as well as wet soils) were compiled as potentially appropriate species for rain gardens.

3.2.3 Observation

Although images of rain gardens were shown in the lecture, there is no substitute for seeing gardens first hand. Students were taken to several rain gardens in the area to practice their critical thinking skills by assessing garden placement, analyze storm water entry into the garden, study planting design of the garden, identify and critique plant species used, assess apparent functionality/effectiveness and rate overall aesthetics.

3.2.4 Application

With a solid foundation in rain garden design, students were then given a real rain garden design/build project at a local elementary school. This was part of the WECO Black Creek Watershed Collaborative Project, so an engineer had already done the calculations for storm water catchment and underdrain system, placement, and garden shape. Regardless, students were instructed to study the site on their own, and double check garden placement and shape. They could either incorporate the engineer's garden layout, or design a new shape, as long as it captured the same amount of runoff. Each student developed their own design and presented to the clients (members of WECO group and the Northwoods Elementary Parent/Teacher Association). The students took the feedback they received and collaborated as a design team to combine the best ideas into one final design for the client as shown below in figure 2.

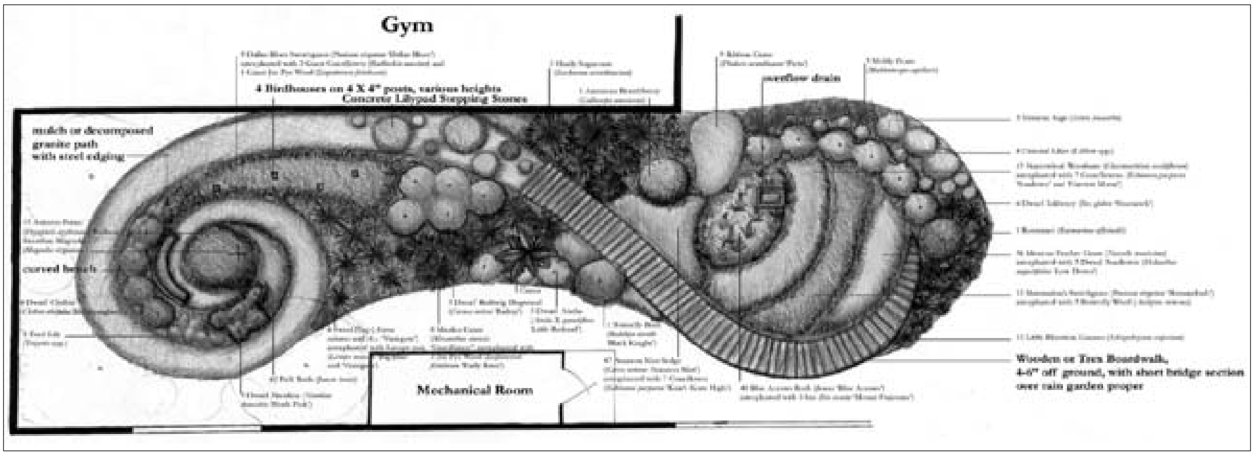
Gym
4 Birdhouses on 4 X 4" posts, various heights
Concrete Lilypad Stepping Stones
overflow drain
mulch or decomposed granite path with steel edging
curved bench
Mechanical Room
Wooden or Trex Boardwalk, 4-6" off ground, with short bridge section over rain garden proper

Fig. 2 Northwoods Elementary School Rain Garden and surrounding planting, designed by horticulture and landscape architecture students at North Carolina State University, Department of Horticultural Sciences, Fall 2012.

3.2.5 Culmination

Students saw their ideas come to life during the installation of the garden a few weeks later. Installation was made possible with grant monies from the Environmental Protection Agency (EPA), a donation from an ornamental grass nursery, and hardscape material donations from parents of the elementary school children. After the excavation, installation of the underdrain, and building of the filter bed by the engineer and contractor, the garden proper was built by my students, myself, and a small group of volunteers from WECO and the elementary school (parents, teachers, and even some young students).

Some students have spent their entire design education in a classroom, so to see how their ideas grow from a mental idea, to developed design on paper, to actual installation was the best learning experience they had ever had, and they got to see how people reacted to their design ideas, which was incredibly rewarding.

3.3 Innovative Research

In addition to undergraduate teaching, I also supervise graduate research. Rain garden research to date has typically been conducted within individual disciplines. In 2009, however, a multidisciplinary research committee formed to help a master's student in the Department of Horticultural Sciences at NC State University with a rain garden project. The student's committee was comprised of four horticulturalists (a soil scientist, 2 nursery management and media specialists, and a landscape designer) and one biological and agricultural engineer. The student successfully conducted an ambitious study comparing three different filter bed mediums (standard bioretention mix, soil and compost mix, and Permatill™) for infiltration rates, nutrient leaching, etc. She also tested the performance of several native plant species and cultivars of those species (technically non-native) in the different filter beds (Pledger 2012).

Just as important as the research findings was the collaborative process experienced by everyone involved. That one project (and subsequent publications) will undoubtedly lay the groundwork for future interdisciplinary collaborations.

4. Conclusion

This paper focused on rain gardens, but the lessons of collaboration and education of wide ranging audiences can be applied to almost any environmental design challenge requiring creative problem solving skills.

Major lessons learned include the fact that individual disciplines are not well-equipped to solve environmental problems. Every team should be collaborative for the greatest depth and breadth of creative problem solving. Collaboration is a necessary skill that should be part of any teaching curriculum. Even contentious discussions can become teachable moments. Faculty who have roles in both the professional realm as well as academic setting should strongly consider overlapping the two as doing so provides the greatest opportunity for education.

In summary, environmental problems are solved best by collaborating disciplines. Students should be exposed to research-driven design, critical thinking skills, and the art of collaboration early.

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Variations in Landscape Patterns and Vegetation Cover Between 1930 and 2010 in a Coastal Mediterranean Natural Reserve
The Estate of Castelporziano (Central Italy)

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Abstract: The aim of this paper is to analyse the evolution of the landscape in the Presidential estate of Castelporziano, a nature reserve located 20 km south west of Rome. In this territory there are two SCIs (Sites of Community Importance) and several environments of natural value. For the natural characteristics of the studied area and its location, this research represents a case of study in landscape planning and transformative processes, in terms of governance. In fact, Castelporziano is located in the proximity of two urban centres, Rome and Ostia, a peri-urban territory that was the subject of significant transformation in recent decades from anthropic pressure in terms of land use change. Photo-interpretation of aerial photographs (years 1930-2010) was carried out to perform a land cover (LC) and change detection (CD) analysis with the support of LIDAR (Laser Imaging Detection and Ranging) data. In order to characterize the landscape's structure we used Patch-Analyst to calculate landscape indices.

Keywords: Land-cover change; aerial photographs; Lidar; nature reserve; landscape pattern metrics.

1. Introduction

Mediterranean landscapes are increasingly threatened by an intensification of forestry and agricultural activities, as well as urban development, tourism, and uncontrolled recreational usage. Moreover, the abandonment of traditional activities (e.g. the abandonment of traditional agricultural activity and the cessation of silviculture), coupled with economic and demographic recession in some areas, is altering the precarious balance achieved by these traditional methods. As a consequence, biodiversity in Mediterranean ecosystems is generally in decline as shown by recent studies of: Kruess and Tscharntke, 1994; Stoate et al., 2001; Sluiter and de Jong, 2006. Landscape changes are much more evident near urban centres, where the spread of urbanisation due to human activity has intensively exploited the territory. This phenomenon has many environmental consequences, the most evident of which is the fragmentation of ecosystems with negative effects especially for animals. In fact, when roads and similar infrastructure cut otherwise undisturbed habitats, they create long, thin edges resulting in fragmentation. Despite their ubiquity, however, our understanding of the ecological effects of roads has lagged behind studies of edges such as those created by timber harvesting. The aim of this paper is to evaluate the landscape structure in the Nature Reserve of Castelporziano, Italy, using time-series GIS (Geographic Information System) datasets (aerial photographs and LIDAR), and to investigate the change of its landscape structure over time. In order to do this, a GIS based approach, which compares aerial photographs and LIDAR data from different periods by means of landscape pattern metrics, can prove to be a useful tool in investigating natural and anthropic dynamics, the cause of change, and their contribution to a landscape's evolution over time.

2. Methods

2.1 The study area

The study area is of great historic interest. From the 5th century onwards it was in possession of the Vatican State, until the 19th century, when it was established as a hunting reserve for the Italian royal family. Finally, at the end of the Second World War, Castelporziano was chosen as the Presidential estate of the Italian Republic, thanks to its rich environmental and cultural heritage. The territory of Castelporziano was established as a nature reserve in the 1999. It covers about 6.000 ha, extending south west of Rome towards the Tyrrhenian Sea,

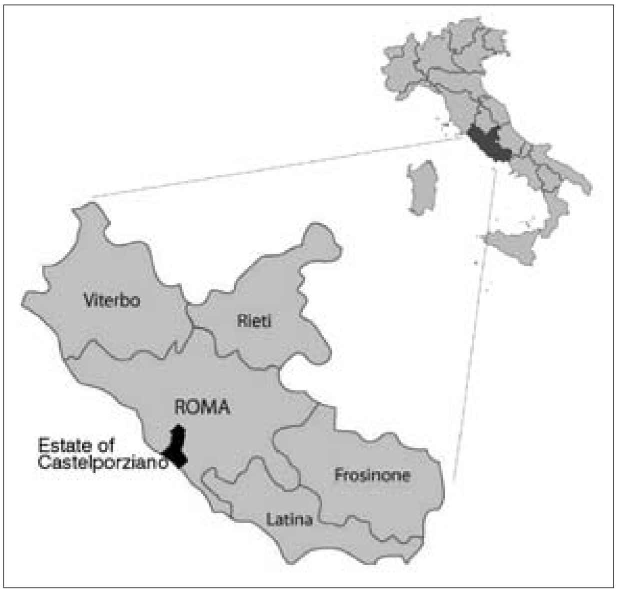


Fig. 1 Map of Italy showing the location of the Estate of Castelporziano.

The territory remained substantially unchanged in recent centuries, allowing an undisturbed growth of vegetation, which was able to develop and mature considerably. Castelporziano can be considered a unique environment in the Mediterranean due to the concentration of very old plants (Quercuscerris L., QuercuspubescensWilld., Quercusrobur L.) which, in consideration of their age and size (many are more than 400 years), can be defined as "monumental trees" (Giordano et al. 2006).

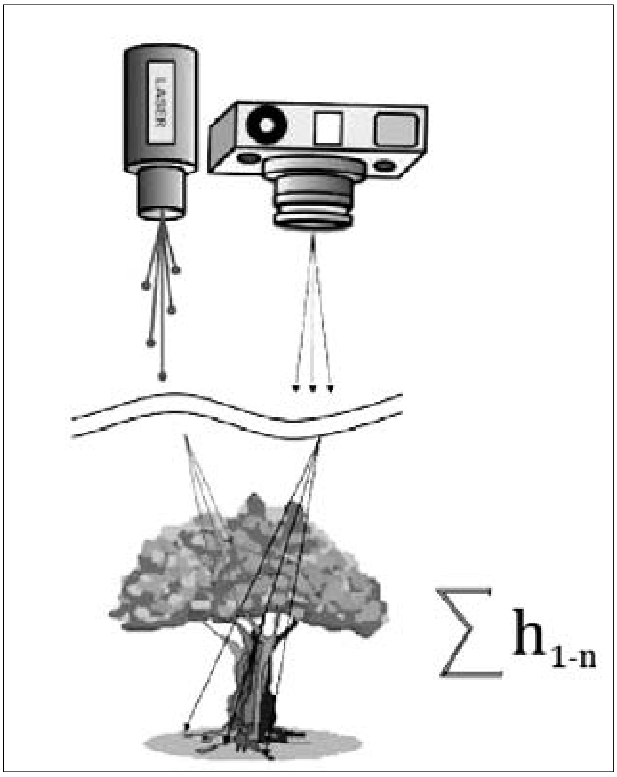


Fig. 2 LIDAR working principles: optical remote sensing technology that can measure the distance to, or other properties of, targets by illuminating the target with laser light and analyzing the backscattered light.

2.2 Remote sensing data

Data on landscape and vegetation was acquired by interpreting black–and–white, and coloured aerial photographs, taken in 1930 and in 2010 respectively, and photo-interpreted on a scale of 1:2.000. Additional information was obtained from LIDAR (year 2012) data. These data made it possible to determine more precisely the canopy cover and the individuation of monumental trees.

2.3 Land cover production

Obtaining accurate time-series land cover maps is a fundamental key to characterising a landscape and its structural and functional dynamics. An analysis of the landscape dynamics was performed comparing two temporal scenarios relative to the years 1930 and 2010, by means of photo-interpretation and interpretation of LIDAR data to better detect the canopy cover and monumental trees, as mentioned above. The landscape was divided into ten major cover types, based on the ease with which those types could be readily differentiated, in both the historical and the recent aerial photographs

2.4 The LIDAR (Laser Imaging Detection and Ranging) data set

In order to interpret the structural dynamics and function of the landscape, photo interpretation is certainly a useful tool, but not always effective in the definition of detailed information on the structure and components of the landscape. A prime example, especially in nature reserves located in the Mediterranean area, is the interpretation of the structural complexity of the forest, where it is often difficult to identify with certainty the stratified layer between dominant and dominated layer.

Useful for this end result is the use of the LIDAR relief, which allows a layered reading of the heights of each component of the landscape, with a detail of 1 sqm.

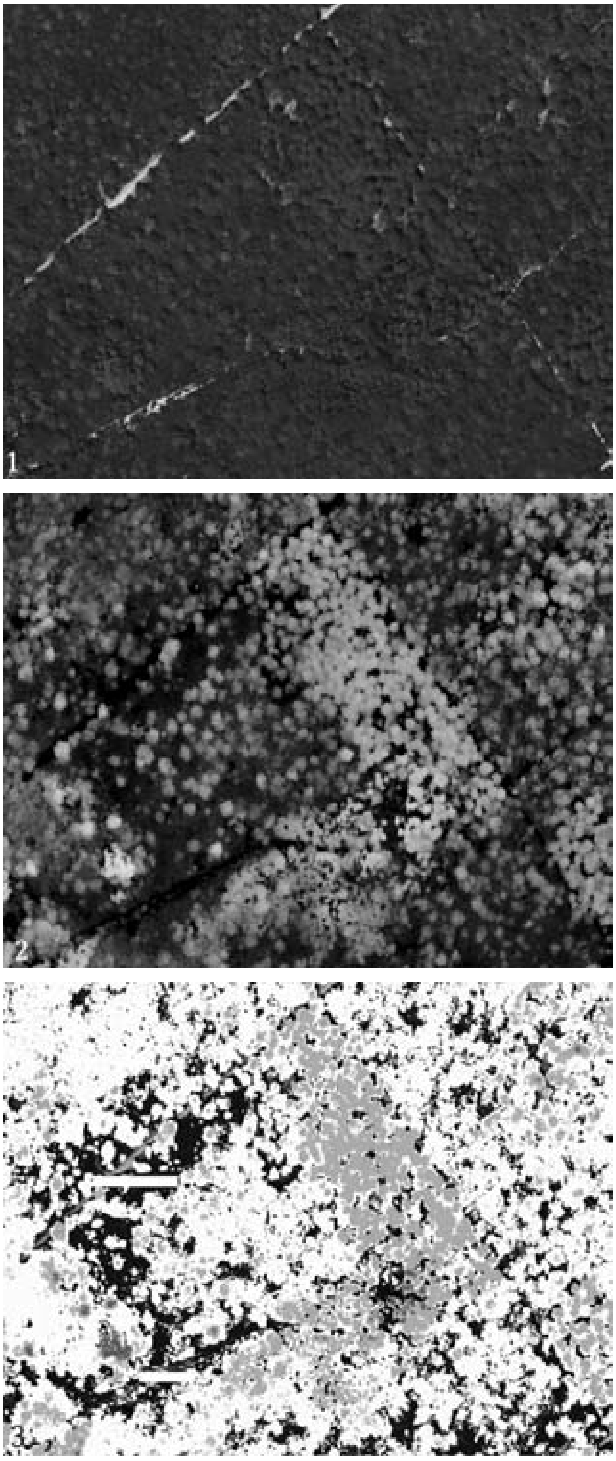


Fig. 3 Example of the same territory detected by: (1) Aerial photograph; (2) a LIDAR image and (3) the same image reclassified in five classes, to better detect the different forestry layers.

2.5 Landscape composition and structure

Landscape composition was quantified by means of the area covered by each class. An analysis of landscape changes over time was carried out for each single land-cover class, and transition matrices over the two periods were calculated to quantify the overall gains and losses of area for the different landscape classes (Calcerrada et al. 2004; Kennedy et al. 2004). Subsequently, landscape structure was assessed by means of patch-based metrics. The size of the patches was measured by means of opportune descriptive indices, i.e., Mean Patch Size (MPS) and the Max Patch Area (MPA). The shape of the patches

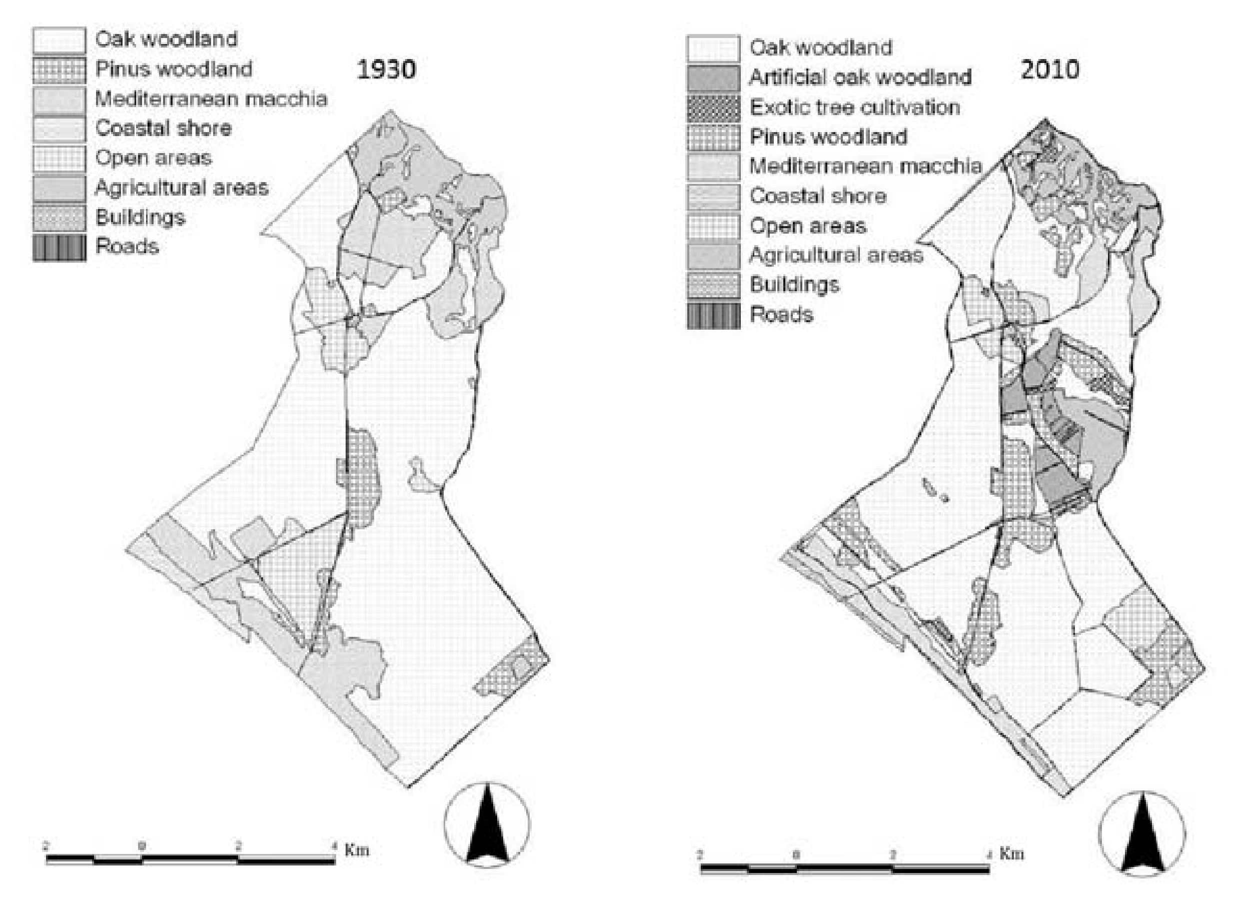
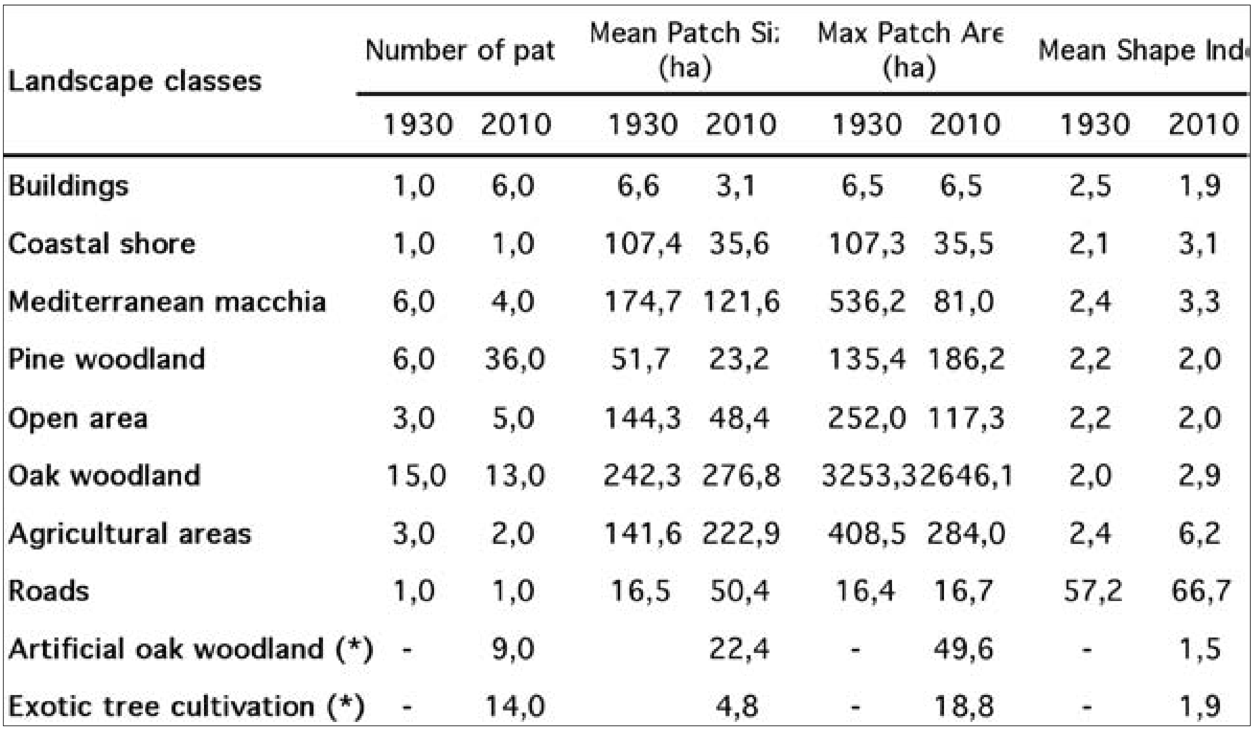

Oak woodland
Pinus woodland
Mediterranean macchia
Coastal shore
Open areas
Agricultural areas
Buildings
Roads
1930
Oak woodland
Artificial oak woodland
Exotic tree cultivation
Pinus woodland
Mediterranean macchia
Coastal shore
Open areas
Agricultural areas
Buildings
Roads
2010
2
0
2
4 Km
2
0
2
4 Km

Fig. 4 Land Cover production (1930 and 2010).

Table 1. Transition Matrix for the period 1930 - 2010 (values in ha). (*)Land-cover classes absent in 1930.

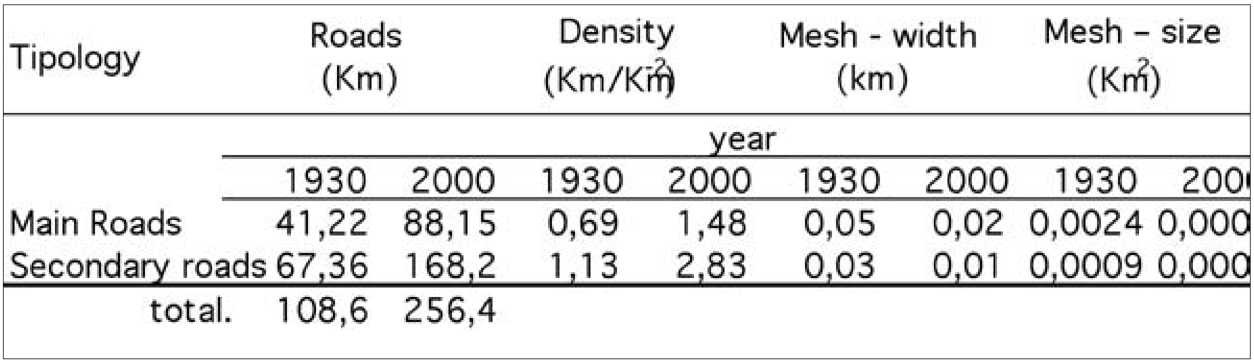
2010	1930								
	Buildings	Coastal shore	Mediterranean macchia	Pine woodland	Open area	Oak woodland	Agricultural areas	Roads	TOTAL (20
Buildings	**6,03**	1,22	7,16	0,02	2,48	1,49	0,00	0,04	18,4
Coastal shore	0,00	**35,56**	0,00	0,00	0,00	0,00	0,00	0,00	35,5
Mediterranean macchia	0,00	67,69	**301,03**	0,00	0,00	104,64	11,87	0,55	485,7
Pine woodland	0,02	0,00	76,66	**302,30**	15,87	412,10	27,71	0,80	835,4
Open area	0,23	0,00	0,14	0,09	**104,11**	119,66	17,67	0,14	242,0
Oak woodland	0,00	2,12	649,87	4,40	296,56	**2561,92**	79,17	4,02	3598,0
Agricultural areas	0,00	0,00	0,36	0,62	1,06	175,93	**267,19**	0,72	445,8
Roads	0,28	0,78	9,81	2,28	1,94	20,52	4,58	**10,18**	50,3
Artificial oak woodland (*)	0,00	0,00	0,00	0,00	10,81	190,89	0,00	0,00	201,7
Exotic tree cultivation (*)	0,00	0,00	3,26	0,15	0,14	46,32	16,71	0,03	66,6
TOTAL (1930)	6,56	107,37	1048,29	309,86	432,97	3633,47	424,90	16,48	**5979,9**

Table 2. Landcape Indices. (-) Land-cover classes absent in 1930.



Landscape classes	Number of pat		Mean Patch Si (ha)		Max Patch Are (ha)		Mean Shape Ind	
	1930	2010	1930	2010	1930	2010	1930	2010
Buildings	1,0	6,0	6,6	3,1	6,5	6,5	2,5	1,9
Coastal shore	1,0	1,0	107,4	35,6	107,3	35,5	2,1	3,1
Mediterranean macchia	6,0	4,0	174,7	121,6	536,2	81,0	2,4	3,3
Pine woodland	6,0	36,0	51,7	23,2	135,4	186,2	2,2	2,0
Open area	3,0	5,0	144,3	48,4	252,0	117,3	2,2	2,0
Oak woodland	15,0	13,0	242,3	276,8	3253,3	2646,1	2,0	2,9
Agricultural areas	3,0	2,0	141,6	222,9	408,5	284,0	2,4	6,2
Roads	1,0	1,0	16,5	50,4	16,4	16,7	57,2	66,7
Artificial oak woodland (*)	-	9,0		22,4	-	49,6	-	1,5
Exotic tree cultivation (*)	-	14,0		4,8	-	18,8	-	1,9

Table 3. Main and secondary roads change (1930 - 2010).



Tipology	Roads (Km)		Density (Km/Km^2)		Mesh - width (km)		Mesh – size (Km^2)	
	year							
	1930	2000	1930	2000	1930	2000	1930	200
Main Roads	41,22	88,15	0,69	1,48	0,05	0,02	0,0024	0,000
Secondary roads	67,36	168,2	1,13	2,83	0,03	0,01	0,0009	0,000
total.	108,6	256,4						

was analysed by means of the Mean Shape Index (MSI), (Frohn et al. 2006; Rocchini et al. 2006). Concerning road development, this type of infrastructure can play an important role in landscape patterns and may increase the fragmentation of ecosystems (Haskell 2000; Trombulaket al, 2000). Through the determination of parameters such as road density, mesh-width and mesh-size, it is easy to judge the threshold beyond which both the homogeneous and the heterogeneous landscape units of the ecosystem pattern of a given environment is gradually jeopardised by road infrastructures.

3. Results

The comparison between the two land-cover maps, *Fig. 4*, shows a general increase in fragmentation of the landscape, with a consequent change in its structure, also due to two new land-cover classes which were absent in 1930. The most significant decrease was observed in the Mediterranean macchia and open area classes. The first decreased by 9% of the total surface area (i.e., it was reduced to roughly half its 1930 area), the second has reduced his area by 3%; the reduction of the surface in both classes is due mainly to the increase of oak woodland. For the other land-cover classes, significant changes in percent of area did not occur. The transition matrix, *Table 1*, shows trends in land-cover change.

3.1 Landscape metrics

Landscape metrics were calculated in this study using Patch Analyst in Arc View. On a landscape scale, the number of patches increased by 165% in the observed time span, *Table 2*.

The pine woodland patches increased in number from 6 in 1930 to 36 in 2010. This increase is attributable to the numerous artificial reforestation interventions carried out in the time span 1930-2010. Even the number of patches for buildings and open areas has increased over the last eighty years, although not excessively. Regarding the construction of new buildings they were built just for purposes of representation and as offices for the management of the nature reserve. Moreover, no area of the reserve has been marked for residential purposes. The other land-cover classes were not affected by any significant change in the number of patches, while the artificial woodland and the special cultivation, which currently present a large number of patches (i.e. 9 and 14 respectively), were not considered in the landscape metrics because they were absent in 1930. However, more substantial changes emerge from the analysis of the dimension of the patches.

The mean patch size (MPS) values show that the mean dimensions of the patches decreased significantly in all the classes, except for oak woodland, agricultural areas and roads which increased their mean dimension, *Table 2*.

The max patch area (MPA) values decreased for all the classes; in particular the values for oak woodland and Mediterranean macchia show a notable drop, from 3253 ha to 2646 ha and from 536 ha to 31 ha respectively.

The reduction in surface area of the land-cover classes which can be considered as the core habitat for certain species of ungulate (e.g. Damadama; Capreoluscapreolus) is a case for concern. Consequently, periodic monitoring is needed for these environments, aimed at mitigating the effects of fragmentation.

Only the pine woodland class sees an increase in MPA value, due to reforestation. In terms of patch shape, the mean shape index (MSI) highlights a slight increase for all the classes, except the pine woodland class and open area class whose value are nearly unchanged, *Table 2*.

3.2 Road development

To describe the dynamics of this land-cover, more meaningful parameters were calculated, i.e., length, density, mean mesh size and mean mesh width. It can be seen from the results shown in *Table 3*, that an increase took place in all the parameters observed. This was mainly due to the increase in the total length of these infrastructures, which consequently more than doubled the area covered by roads, over the time span observed. This development led to a drastic reduction in the mean mesh size and mean mesh width, thus increasing the fragmentation of all the patches through which the roads went.

4. Conclusion

This paper presents a change in detection study using aerial photographs and LIDAR data of a Mediterranean landscape in central Italy. We distinguished ten land cover change classes on a detailed scale. The study showed the effectiveness of an analysis of changes in landscape structure over time, performed in a GIS based environment. The nature reserve of Castelporziano has not been affected at all by the notable increase in urbanisation in the surrounding areas. Castelporziano can therefore be considered as a natural container, a depositary of landscape elements of the past, (around 60% of the whole territory is still occupied by lowland oak woodland).

The preservation of this area has been possible thanks to the type of management to which Castelporziano has been submitted: it was a hunting reserve for several centuries up to 1950, when it was established as the Presidential estate of the Republic, thus conserving its integrity up to the present day. Nevertheless, a gradual and widespread fragmentation of all the land cover classes occurred between 1930 and 2010, and although the present state does not give rise to particular concern, constant monitoring is required to prevent any further landscape fragmentation. The principal causal agent of this trend lies in the anthropic activities that took place over the eighty year period. This environmental fragmentation is attributable in part to reforestation performed using exotic species, but principally to the development of road infrastructure (especially the construction of main roads). In fact, roads more than doubled in length over the period.

The trend is confirmed by the indices related to the size and the shape of the patches, which show a slight generalised increase across all the land-cover classes examined.

The results of this study confirm that the landscape and its transformations are complex processes that must be studied through a multidisciplinary approach able to simultaneously describe and quantify changes over time. To achieve these objectives, a key role is played by the methodology used. In order to better detect each layer of forest, both dominant and dominated, a new technology has been tested in a nature reserve. Especially in the Mediterranean environment, LIDAR is a powerful instrument for the analysis of forest landscape as it is an easy way to quantify and represent the different structure of forests (eg, Mediterranean scrub and oak forest).

The study and interpretation of the collected data has produced interesting results thanks to the different backgrounds of the professionals involved.

The ecological approach has allowed a reading of the layers of information oriented to understanding the structure and physiological well-being of the ecosystem analysed. The landscape architect searches for the anthropic /compositional value, which transforms the landscape's ecosystem. For the design of a sustainable landscape, a task for the scientific community, in particular for the architect and ecologist in the coming years, will be to plan effective management strategies to integrate these areas of high natural value in urban planning.

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Evaluation of the Legal Framework for the Design, Construction and Management of Playgrounds in Greece and Presentation of the Relevant Spaces' Current State in Ten Cities

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Abstract: In this study the present legal framework for designing, construction, management and auditing of playgrounds in Greece is presented. Playgrounds, along with schoolyards and squares, constitute the main types of urban play spaces in Greece and most times one of these is the only available open space in highly populated neighbourhoods. An analytical survey regarding playgrounds was conducted in ten Greek cities of various sizes. The relevant questionnaires of Play England were adopted after adjustments in order to take into account local peculiarities. Data analysis revealed issues regarding the spatial distribution, the design and the management of playgrounds as well as problems regarding their use and safety. Proposals are made in order to set the framework for developing modern sustainable playgrounds.

Keywords: GIS, urban green spaces, children

1. Introduction

In our times the need – because of the intense urbanization – and the demand – because of the rise of living and educational status – for efficient urban green spaces which will host children's play activities is very powerful.

A space of this kind has to provide appropriate field to children for physical activity, expression and communication while promoting the building of vital skills, character formation, development of imagination and creativity and more generally affecting the process of social and cultural maturation (Vygotsky 1935; Piaget 1967; Morval 1981; Spencer *et al* 1989). According to the relevant literature (Shackell *et al* 2008; DCSF 2008a; DCSF 2008b; FIT 2008; INSPIRE Consultancy Ltd. 2009; KIDS 2009) there is a list of design principles that have to be followed in order to create successful open play spaces: to be well located – in the best possible place for children; to be designed to enhance their setting; to make use of natural elements; to provide a wide range of play experiences; to be accessible to both disabled and non-disabled children; to meet community needs; to allow children and young people of different ages to play together; to provide opportunities to experience risk and challenge; to be sustainable and appropriately maintained and to allow for change and evolution. In this framework the design, construction, maintenance and operation of such urban spaces must concern the relevant authorities in multi-discipline level.

2. Challenge Tackled

In Greece, efforts for designing prototype play spaces have began during the middle of last century. The play park that the architect D. Pikionis designed at Philothei / Athens in 1962 is an exceptional example, while the prototype wooden playground equipment designed by Prof. K. Kassios in 1979 showed the way for considering nature in all aspects of a play space. Nowadays, playgrounds, schoolyards and squares, constitute the main types of urban play space in Greece and most times they are the only available open space in highly populated neighbourhoods. Unfortunately, in many cases empty or abandoned urban lots are the only available spaces for play. In every case both in the conscience of citizens and in the spirit of the relevant laws, the playground, be it as a stand alone place or as a special purpose part of a wider green space, constitutes the main type of public play space in Greece.

A number of laws, standards and decisions constitute the legislative framework regarding the design, construction, operation, auditing and maintaining playgrounds in Greece. The recent (2009) law of the Ministry of Interior Affairs (YPES 2009) aims at the connection of all the relevant administrative and design documents and the detailed definition of the administrative procedures for the construction and operation of playgrounds in Greece. According to this text, a playground is defined as a bordered municipal open space which is intended for the recreation - without the supervision of personnel - of toddlers and children up to the age of 14. All responsibilities regarding playgrounds are assigned to the technical services of each municipality and it is remarkable that only technical engineers have to be engaged in the relevant procedures. According to this law, all the playgrounds in Greece should fulfil the relevant standards and place a special certification sign before the end of 2012.

3. Approach applied

In 2008 in the UK, the government defined the national strategy regarding children's play (DCSF 2008b). In this framework a national index was developed in 2009 (NI 199) aiming at the evaluation of children's satisfaction from public play spaces (parks, playgrounds, etc.). The purpose of this index was to encourage local authorities to give high priority to the development of efficient and sustainable

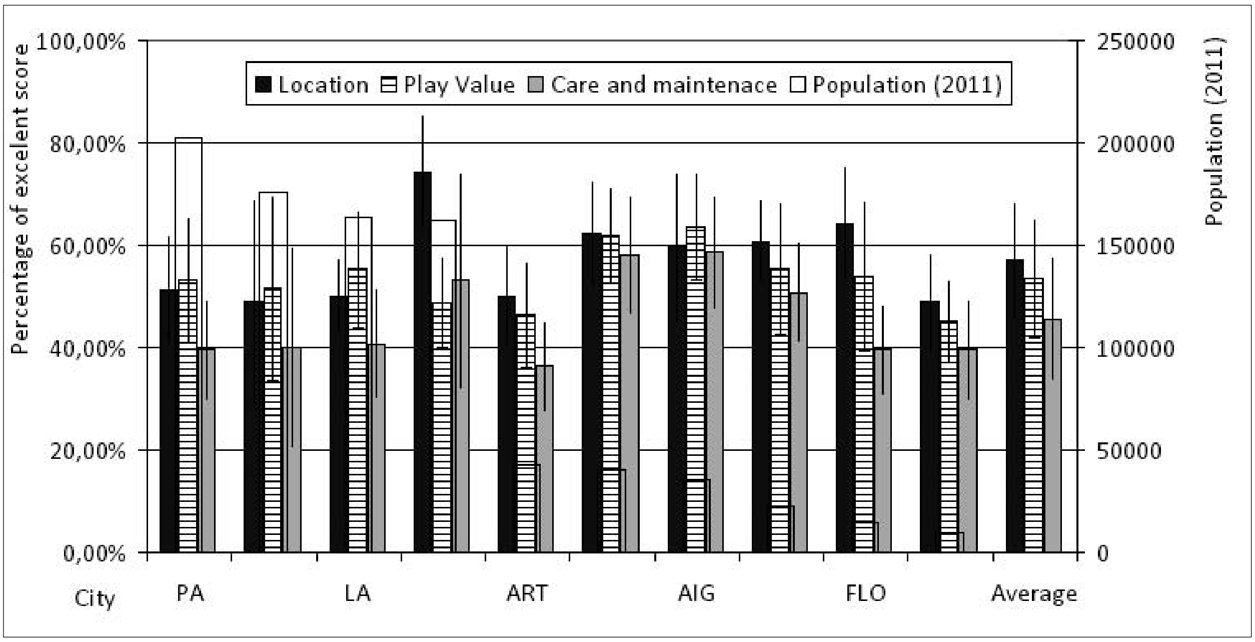

Fig. 1 Playground evaluation values for 10 cities around Greece according to QS_1 data (bars: average values; lines: standard deviation)

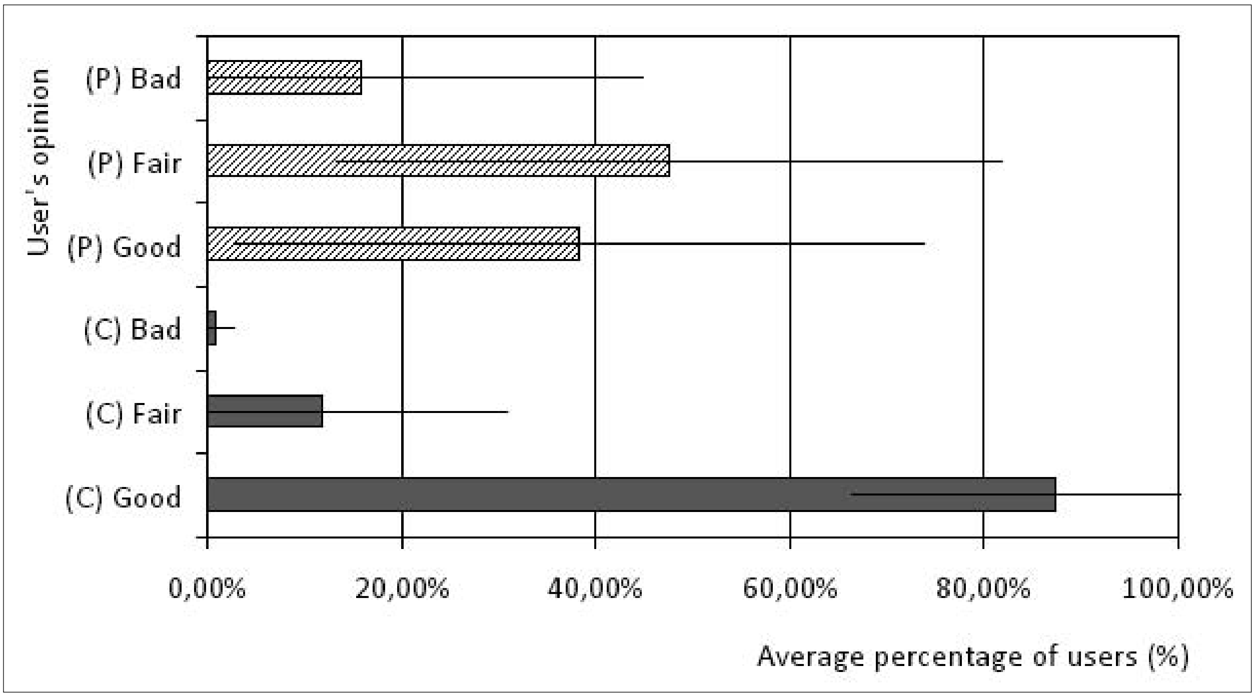

Fig. 2 Mean values from QS_2 for users' opinion about the playgrounds (P: Parents, C: Children; bars: average values; lines: standard deviation)

play spaces in their areas. Play England[1] – a non-profit organization dedicated in play spaces value enhancement (2009b) – has afterwards set a series of evaluation indicators regarding play opportunities on the local level. The concept was that all children should have access to a variety of spaces and facilities for play and recreation in short distance from their residence. If this happens there is great possibility for children to participate in play activities in open spaces. This is more likely to happen if they get satisfaction from the play experience that they live when they use these spaces. The latest has more possibility to happen if these spaces are of high quality. The application of a relevant auditing process can lead to conclusions regarding the adequacy of such spaces and more specifically if they fulfil the three freedom rules: free use, free access and free selection of use (Else 2005); if they are easily accessible, hospitable and available to all, including children with special capabilities and sensibilities, and if they can host children of different ages and different interests regarding play. The auditing results are not intended to be used to compare the level of relevant spaces between different municipalities but to form conclusions and support decisions regarding the placement and the design of new play spaces and the upgrade of existing ones.

3.1 Research organisation

In the framework of the present study the evaluation concerned only playgrounds, which make up the most typical outdoors play space in Greece (they are categorized as Type B: Local space and facility according to Play England's typology). Indicators 2 (Access to a variety of facilities and spaces), 3 (Quality of facilities and

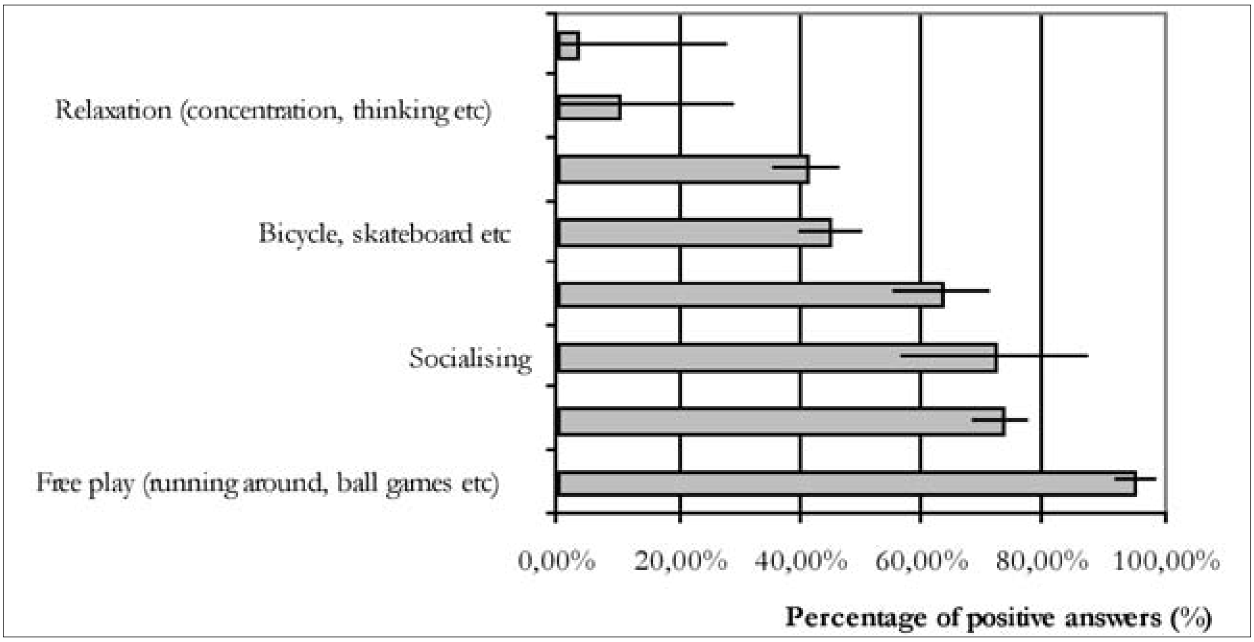

Fig. 3 Mean values from QS_2 regarding what children want to do at the playground (bars: average values; lines: standard deviation)

spaces) and 4 (Satisfaction) were considered (INSPIRE Consultancy Ltd. 2009). For the evaluation of playgrounds, the assessment sheet which is contained in "Playable Space Quality Assessment Tool" (INSPIRE Consultancy Ltd. 2009) was used as a basis. The questionnaire was modified in order to be fitted to Greek reality and also to cover the relevant Greek laws for playground design (YPES 2009). This sheet was named "QS_1, Playground Evaluation Sheet". For the users' opinion we used as a basis the leaflet "How do you feel about the places to play, or hang out, in your area?" (Play England *et al* 2009). Modifications for adoption of the material to characteristics of Greek society were made. This sheet was named "QS_2, User's opinion questionnaire". Finally for the GIS buffer analysis we used the suggestions made in "Tools for evaluating local play provision: A technical guide to Play England local play indicators", (Play England 2009b). The "Playground Evaluation Sheet" was designed to gather information regarding location, play value, care and maintenance, compliance with Greek legislation and optical documentation (sketch / photos). The "User's opinion questionnaire" was designed to register the opinion of children and their parents regarding each playground (variety, quality and safety). Regarding the spatial analysis, according to the method that was used, playgrounds are expected to cover an area of 240m in a straight line or 400m of walking around them (Ashley Godfrey Associates 2009). This analysis was made using ESRI – ArcGIS™.

The evaluation started in the middle of 2010 and is now completed for 10 cities (15 more are expected to be completed in 2013). The presented results concern 10 Greek cities of various sizes (in brackets an abbreviation and the relevant population according to 2011 census is referred): Athens (part -6th district- of the municipality [ATH, 162,366/10.57% of Athens population] and a city –Alimos [AL, 40,156]- within it's metropolitan area), Patras [PA, 202,757], Piraeus [PEI, 175,697], Larissa [LA, 163,380], Arta [ART, 42,980], Aigio [AIG, 35,123], Naoussa [NA, 22,288], Florina [FLO, 14,873] and Grevena [GRE, 9,619]).

In the research framework the relevant departments of the local (municipal) authorities were contacted; all the playgrounds of each city were registered and evaluated by teams of two trained researchers and about 20-50 users were interviewed in selected playgrounds (at least three in each city). The playgrounds were visited in three selected days from 10:00-20:00 during the user's survey period.

3.2 Results and Discussion

Figure 1 presents the evaluation values (as percentage of the excellent score) for the playgrounds according to QS_1 data. The average values are 57% (±11%) for location, 53% (±11%) for play value and 45% (±12%) for care and maintenance. Cities with population less than 100,000 inhabitants seem to have about 10% better scores comparing to bigger cities. This is probably because of the population characteristics of smaller cities (locality, homogeneity, direct connection with local authorities, etc.). Regarding the special design issues that have been recorded (data not shown), local authorities feel that the participation of the community in the design process is at least fair even if using unofficial ways. The environmental perspective in the design is acceptable at 50% percent of the playgrounds, about 70% of the playgrounds have at least part of the ground covered by safety materials, 70% are fenced or bounded, 80% are planted with proper planting material and 70% provide shaded areas (average values for all the cities under consideration). The spatial analysis showed that 62% (±21%) of the urban areas are beyond 240m in straight line from a playground.

Figure 2 presents the mean values from QS_2 regarding users' opinion about the playgrounds. It is more than obvious that each playground is at least fair and in most cases good for the children. If we connect this with the results shown in Figure 3 we conclude that this is probably because socialising, free play and fantasy games are among top pReferences: of children regarding the use of a playground. On the other hand, parents are more concerned (Figure 2) as almost half of them 47% (±34%) find playgrounds to be acceptable and 16% (±29%) find them problematic. An explication for this can be found in safety issues. QS_2 includes a special part for this and data (not shown) led to the information that only 10% (±2%) of the children feel safe at the playground and 70% (±5%) of them state that they had at least one accident when playing there. Parents think (data not shown) that this in most times is due to improper use of structures and insufficient maintenance. Only 11%

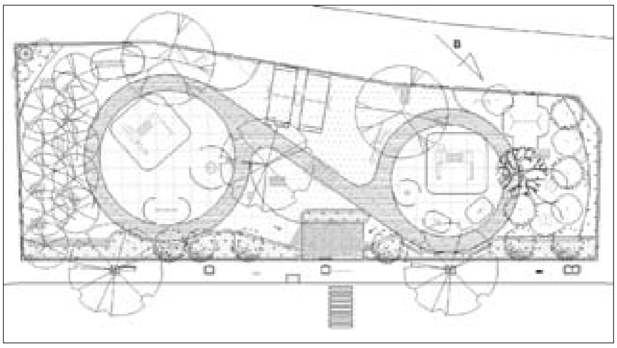

Fig. 4 Proposal (top view) for a new playground at Arta/Greece (TEIEP and FLA 2011)

(±3%) of the playground users say that bad design is responsible for accidents. Figure 3 presents the pReferences: of children at the playgrounds. Free play along with typical use of playground structures dominates. Socializing and use of structures for fantasy games are also common while other activities such as climbing, bicycling, skateboarding, crafting and relaxation have less pReferences:. The reason for this has probably a base at the available space and the design of the playgrounds. Finally regarding the certification of playgrounds according to the relevant law (YPES 2009), only 11% (±5%) of the playgrounds are already approved or ready to be approved. 22% (±11%) need minor changes in order to be ready while 67% (±10%) need major changes in order to be inline with the law.

4. Conclusion

Playgrounds auditing can contribute to the development of improved play conditions. The experience from the pilot application of playgrounds audits for evaluation of the current situation of these open play spaces in 10 Greek cities is considered to be very positive as it documented the current situation, developed citizens' awareness regarding this issue and generated action from the local authority's side. In most of the cities the results of this procedure were discussed and taken into account for future actions. The analysis of the results brought out issues regarding: location, design and maintenance, but the most significant is the safety of children. Accidents are mainly attributed to problematic design, bad maintenance and improper use of the structures. The recent decision of the Greek Ministry of Internal Affairs (YPES 2009) developed a good framework for the upgrade of existing and the construction of improved playgrounds in Greece. Also, the auditing procedures that this decision includes may lead to fewer accidents. A problem is that it implicates only engineers in the design and auditing of playgrounds, keeping other scientists (agronomists, landscape architects, teachers, etc.) out of the game. Their presence would solve most of the special design problems (participatory design, more natural places, etc.). This is clearly promoted by the International Play Association. The state authorities must revise this part of the law. This is expected to lead to more interesting play spaces with extended use of appropriate natural elements and planting material which resemble more the idea of a natural adventure space instead of that of an artificial technical one. Articles regarding play workers and participation of volunteers in supervision and maintenance activities are also to be added. Relevant university departments could contribute in this way as they are more flexible in organizing research and design clusters to develop sustainable proposals for future playgrounds. Figure 4 presents the top view of a relevant proposal, which a multidisciplinary team prepared in the Dept. Floriculture – Landscape Architecture of TEI of Epirus for the Municipality of Arta in 2011.

Acknowledgements

Thanks to the Technological Educational Institute of Epirus for financial assistance and the students of TEI of Epirus, Dept. Floriculture – Landscape Architecture for their enthusiastic participation in this research.

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[1] http://www.playengland.org.uk/

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How to Teach Project Techniques in The Schools of Landscape Design.

Case Study of two French Schools: L'ensap Lille and Ensp Versailles.

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Abstract: This paper examines and questions the precise techniques for the teaching of landscape design projects. It is an issue is raised in every landscape design (LD) French school. Conception and knowledge along with creation and technique are often placed against one another, whereas knowledge and know-how give every one freedom and creativity. In Lille as well as in Versailles, technical teaching tends to be saved for a group that is more and more related to other teachings while still maintaining autonomy. In order to improve the skills of the would-be landscape architects, increase their credibility and allow them a place in contemporary political debates, the shaping of the teachings and assessment may need to be revised. One way that this might be achieved is through a more systematic integration of the technical field into the objectives of theoretical teachings and project-practice, as well as into seminars on research initiation.

Keywords: Teaching, technical, landscape design, culture, pedagogy

1. Introduction

In France there is almost no distinction between training in landscape design and landscape planning. The schools in question here are those schools of landscape design where the tools and methods of landscape planning are also taught. There are at least five different schools, yet these are closely related in regards to cultures and practices. The teachers move from one to another. Each one of these schools gives professional-oriented prospective objectives that express a commitment to different forms of research. Their teaching is organised by and for landscape design projects at various scales. Half of the given teachings focus on theory and project practice. They each advocate the importance of terrain, creativity, the different scales of reflection and projects. The issue raised for each then is this: how to teach the 'know' and the 'know-how' – in other words the knowledge and the skills related to the specific techniques?

To address this issue, a few observations are made about the notion of technique, educational methods on knowledge, a synthesis of the practices at ENSAPL and ENSP, and, as a conclusion, on-going and incipient hypotheses to kick-start evolutions in teachings in relation to societal and educational transformations

2. Techniques for the landscape design project, elements of definition:

1.1 What are we dealing with?

It is said that there is technique from the moment an activity is elaborate enough to distinguish a goal and the necessary mediations to reach that goal; that means there is technique for everything. Techniques are, in one sense, a tool for research, experiments, demonstration and arguing a design. They fall within the phases of analysis and comprehension of a site, its issues, as well as the phases of research, conception, finalisation of intentions, and the phases of achievement and materialisation. Technique combines the necessary knowledge and know-how for carrying out a project - whatever the scale, the topic or the context. It cannot be reduced to details. Instead it constitutes an all-inclusive and holistic type of thought, and is therefore involved in the whole process of thought and development of a particular project. It assists the landscape architect during each step of his or her work. By definition, the notion of technique:

- is related both to the fields of theory and practice, knowledge and methods, and skill and specialisation. A landscape architect cannot be expected to be a specialist in a large number of disciplines. The designer therefore is more of an intermediate or a prescriber than a technical expert in each subject.
- originally expresses the act of building and shaping, and involves quite a high level of complexity from understanding the operating and material constraints to the sociological, economical and political context. However, the techniques used to create open or public spaces do not require sophisticated technology, but demand more so a sense of practicality and logic.
- conveys an image with an operational and thus professional, character.

Within the context of urban planning, the word 'technique' is more often employed in the plural, implying some form of complexity and multiple interpretations. The technical dimensions are used to demonstrate an idea's feasibility but are not often expressed as a concept or main values. We can reassert that creation and intuitive knowledge are not alien to engineers. "Of course intuition has to be controlled by experience. Yet when it is belied by calculations, I ask for it to be calculated again, and my collaborators assure me that, in the end, the calculation is always wrong" - in this account, Eugène Freyssinet (1993: 200) points out how when engineers reach a high skill level, the arithmetic is at the ideas' service and not the other way around. Contemporary engineers perpetuate this tradition of artists/engineers. Nevertheless, the last two centuries have seen a disjunction between designers and engineers. Scientific fields became more and more specialized so that it has separated the professions.

Technical culture has defined the main guidelines to town and country planning since the 19th Century at the lastest. That paradigm has not been contradicted since. Scientific culture and technique are connected to planning in land settlement and economy. Since the 1960s it has been associated with the growth of the automobile industry and the creation of rank networks. Engineers are the main originators of roads and networks. They occupy key jobs in the organisational chart of cities' technical services. That specialisation simultaneously removes the landscape architect from the technical dimensions. Budgets are often allotted to 'VRD' ('Voirie Réseau

Divers' in French, road department and miscellaneous networks) design offices, thus illustrating how technical issues elude the skills of landscape architects.

On the social level, scientific knowledge and technical skills are acknowledged values. The engineer status traditionally holds a certain honour. Nevertheless technical learning seems to be kept for underachieving students in secondary schools. Scientific learning is more elitist and, at times, arcane. In primary and secondary schools it consists more often than not in learning the scientific steps involved rather than learning ways to think about the world. Technique is devalued when one mentions a technical and practical dimension that is regarded as inferior to a general academic or scientific teaching. We can also say that society only deals with technique when it fails, and it blames technique when it is seen as unreliable, when it fails to solve a particular problem, or does not stand up to powerful scrutiny. Also the technical field is not seen as a creative one and as such is not seen as appropriate to secondary school.

Included in landscape design schools is a synthesising between design and arithmetic. There is an opposition towards the objective world from which we have to flee in order to reach the creative world – a world where we should be free to imagine and design. Of course there are some tints and gradients. Some teachers and students for instance think that they have insufficient time during their schooling. They want to delay learning technique, postponing it for when they are professionals - as if the two were not linked.

1.2 Student's technical culture:

Recruitment in French landscape design schools mainly seeks students that come from various programmes and course. One might argue that they usually have little technical and scientific background knowledge. Even students who come from technical schools; they often learn the 'how' aspect, but not the 'why', which links with space and spatiality. Furthermore, computers and video games distanced them from the real world. They do not gain realistic experiences. Some students are conscious of this and seek reassurance. It is as if they accepted that design would be quite difficult and therefore want to be reassured about the technical fields. Once again there is a disjunction between conception and knowledge. In this cultural context, how can project techniques be taught in the schools of landscape design?

3. Educational Questions: What, When and How?

For all the disciplines, it is necessary to establish how to teach all the desired areas in spite of the lack of extensible time. For the technical aspects, as with all other disciplines, taking into account the allocated and non-extensible time frame, how then do we proceed?

The students are engaged in higher education and therefore it is assumed that they are capable of acquiring and manipulating numerous notions, developing them and including them in practical exercises as well as in their projects. Everyone agrees on the necessity of organising practical exercises such as in tutorials, workshops, studios, and laboratories. Only this form of teaching seems to allow for a real possession of knowledge. The teaching methods - experiments, meiotic, practical exercises - are all seen as positive.

A question remains: at what point does one introduce and contribute to the knowledge (and the associated practical exercises) necessary for their training – that is the knowledge expected as part of the competences of a young degree student?

- Before the students even need it in the exercising of a project that is central to their development?

Consequently, they can initiate this type of knowledge as soon as they please. The risk is in its lack of practice and eventually the students forget it.

- Subsequently? Once they feel the necessity, a certain curiosity will render them receptive. They risk is, therefore, thinking that this knowledge is arriving at too late a stage, at which point they no longer require it
- At the same time? The risk is that this type of education resembles more of an advisory mission given by a design office rather than a real formation.

It is important to remind ourselves at this point that the target is always to find forms adapted to students in difficulty, with the best already knowing how to get the most out of any given situation.

Concerning the teaching content, each school defines this through their educational programme. The following section outlines the ENSAP de Lille and ENSP Versailles educational programmes.

4. The ENSP technical teaching method, the tradition of a department.

The ENSP, Ecole Nationale Supérieuré du Paysage de Versailles, has structured its teaching methods around its departments. The project-teaching department and four thematic departments - ecology, visual arts, human sciences and technical projects - organise classes, tutorials, visits and a few courses in direct relation with the project workshops. From 1976 to 1986, this educational system was organised by Allain Provost, a horticultural engineer. He brought in numerous professionals and the students subdivided the diverse construction and site works phases in a given project. He elaborated a series of very generous support documents explaining the project management know-how. In 1987, landscape architect Alexandre Chemetoff organised the technical education system as descriptive chapters, with attention given to observation and surveys. Thematic lectures were associated with site visits. This structure, with a few variations, was taken up by his successors, Jean-Marc L'Anton in 1990 and then by myself in 1999, including, in practical exercises, the application of knowledge by generating a relationship between workshops and technical fields, as well as ecology, and by the creation of interfaces around a project.

With only one permanent lecturer, it was the least provided for in lecturers of any of the school's departments, but had the equivalent of a budget of four departments. I introduced several specific exercises: a technical workshop which set the challenge of dealing with surface rainwater drainage. This workshop was associated the competences of a landscape architect for hydraulics. It proposed a multidisciplinary procedure in which technical and spatial dimensions (Varcin, 2004) were reconciled with no particular hierarchy. This multidisciplinarity was understood not as a chronological juxtaposition of methods and practices, but as a real mixed approach, where knowledge and know-how benefitted from a common objective: the valorisation of a public space; its qualities revealing, at the same time, aesthetic, social, and technical information. The evaluation was based on the following three points. The students understood drainage issues, learning to quantify and therefore check the feasibility of their projects. Other establishments also took on board this exercise.

A study week focusing on urban lighting was undertaken, again to establish, in the short term, the relationship between space and light as well as the means of establishing their purposes, with the project being for day and night. Lighting designers participated in the workshop's final report. I brought this exercise to Lille in 2007.

Another teaching method was undertaken and consisted of asking architects and landscape architects to intervene during a workshop in order to train students in the technical description of a specific part of a project. These exercises always have a high practical element. Today, a landscape architect handles the educational co-ordination of a department in the continuity of his predecessors. A large space is given over to the presentation of exercising landscape architects and their experiences.

The projects' workshops ensure training in topography and terrain levels - a major component in landscape projects. Despite the ambitions of and engagement with each workshop, the teaching of technical issues in Versailles is not central to the overall training.

5. The technical teaching at ENSAP Lille; construction of a culture of technical objects

The school of Landscape Architecture in Lille is the most recent in France. Founded in 2005, it stemmed not from a horticultural formation as in ENSP de Versailles but from questions concerning the mutation of territories (the presence of brownfield sites in the region of Nord Pas de Calais, the importance of the coastline and its cross border situation). It founded its educational programme with the objective that each student acquires an aesthetic sensitivity, a culture and an artistic practice, a technical culture, an understanding of society's issues and questions and an assurance that he or she can take part in society's debates. Thus, it was chosen that the education of the arts, sciences and technical aspects as well as the economic and social dimension, and in a recurrent and simultaneous manner, is given in every project exercise, and at the start of the first year. The formation is not structured in a department or field. The teaching of these technical aspects is co-ordinated by Jean Michel Merchez. Engineers and designers undertake these classes, tutorials and experiments. A form of multidisciplinarity is desired, having for a general objective the educational interface between the project and scientific lecturers. The target is for the student to acquire a general professional background serving the definition of a project. The first year consists of building a general background, presenting operational concepts, explaining how a project implements a particular technical reflection and at different scales. Then, rather than spreading the programme over several years, each theme is undertaken in the second year, and then again in the third year while expanding on it. In principle, the first and third year project workshops are connected to the teachings. In the fourth year, a seminar concerning urban and rural engineering is organised and the students then carry out their (end of year) group project known as the TPFE.

6. Evaluations from both case studies

In the two schools technical teaching is, apart from the topography, mainly introduced within the workshops. The term 'technical' is difficult to assume; it never seems to be self-sufficient, even if we do take definitions given by Mauss (François, 2003) or other intellectuals. It is a term rich in content and history, either in the ENSP Versailles accumulative form or the repetitive and ever expanding approach of the ENSAP Lille.

In the two circumstances levelling and topographical questions are both addressed in a workshop. Everyone tries to teach a method based on an underlying inquisition on how to treat an unknown technical question. The idea of competencies is never really put to one side. It is always integrated within the acquisition of various types of knowledge, using teaching methods, the construction process, and different types of reflection.

When it is organised into departments, the technical teaching is more isolated. Everything happens as if a certain vision allows the liberation from the teaching method, with its knowledge and know-how outside of the time dedicated to the technical teaching. It also appears that multidisciplinarity is always a positive factor in the receiving of an education and its general efficiency.

In any event there remains, in every establishment, a real difficulty to give a place to such teaching, despite the intervention of quality pedagogues. Project time, for students, always overrides the technical aspects. The question then remains on how to evolve this situation?

7. Conclusion

In spatial conception as well as with technical conceptions, the objective is to teach students to think and act in the context of previously unknown situation. From the perspective of this study, technical knowledge is not an end in itself, but the condition of the acquisition of a freedom and ease that fosters the creation and elaboration of a project from sketch stages up to its construction and maintenance. We can borrow from science (Lacointre, 2012) and apply it; this includes research, technical information and research seminars:

- rigorous reasoning, the questioning of hypothesis, the clarity of statements and the transmission of judgments with a grasp on reality,
- the recognition that truth is absent from a given defined context and the seeking of a collective agreement for the arguments developed,
- and especially, the imagination and aptitude to invent new concepts and their applications.

In order to give space, in the eyes of students and their teachers, to more positive and essential teaching techniques, several areas can be explored, reconsidering the evaluation methods of students work and changing the teaching of projects as well as research conferences. Must one multiply for instance the assessment procedure or add technical fields to those of the workshops already existing, or perhaps to some other teaching forms? What hierarchy is to be given between the teaching methods? Do we accept that a formation is incomplete in one field for the purposes of good results in another?

At the ENSAPL, Jean-Michel Merchez and I are conducting experiments around a third year workshop where students are asked to present their project, the work of a term, show a well-defined levels plan as well as a vegetation and planting strategy. Other documents are also included, such as a methodology note, sketches, sections and maps. Work on the technical aspects is evaluated at the same time as the project.

We think, therefore, it is in the heart of the project teaching process that a dynamic and an implementation of the technical instructions are created; this includes ecological issues and artistic practices, especially at the masters level. This is based on the notion that the *education of technical fields must not be reserved to classes and eponymous laboratories*

The materiality of a project is taken from the act of conception. It is the workshop tutors that sharpen the required technicalities of a project. We cannot define the transmission of knowledge on one side and the workshops on the other, akin to a type of black box.

In considering project teaching as being, at the same time, the transmission of knowledge, defined content is at risk of removing a sort of near transcendence that some assign to it, provoking a form of deconsecration. But the benefits to students will be great, both in the education of these technical aspects and for the project. A greater precision concerning the explication of this process, the attitudes, the means to evolve an idea, will allow the evacuation of obscure forms that sometimes accompany the debate around a project.

The identification of factors of research also produces reflections in which the technical aspects are to be clearly developed.

Taking into account the mutation of societies and environments, it seems urgent to invite each one of our students to engage in a form of realistic utopia. The education of the technical aspects helps them in this enterprise in associating the efforts of technical conception and the sensitive spatial conception.

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Evaluation of The Level of Incorporation of Hydronomic Works in Natural Landscape

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Abstract: The purpose of hydronomic works (that is to say works associated with the arrangment of rivers and streams) is to control torrent effects (such as disintegration, erosion, sliding, crumbling etc), to help stabilization of stream sides and to provide protection from flooding. For these reasons, hydronomic works, by nature, constitute significant environmental-protection works and so are generally excluded from the need for environmental approvals and permissions. Additionally, hydronomic works in downgraded hydrologic basins and river sides, except where protection is provided, can contribute to the formation and evolution of the stream environments themselves. In the present study the level of impacts and contributions of hydronomic works in natural environments is evaluated for the case of Greece.

Keywords: Hydronomic works and environment, dams and environment

1. Introduction

Hydronomic works and river restoration techniques are referred to as part of a large variety of ecological, physical, spatial and management measures and practices. These are aimed at restoring the natural state and functioning of a natural system in support of biodiversity, recreation, flood safety and landscape development. By restoring natural conditions, hydronomic works improves the resilience of the river systems and provides the framework for the sustainable multifunctional use of estuaries, rivers and streams. Hydronomic works are an integral part of sustainable water management and are in direct support of the aims of the Water Framework Directive, and national and regional water management policies.

Riverine wetlands in a natural setting are part of a dynamic self-sustaining stream corridor. The stream corridor consists of a stream channel, flood plain wetlands, flood plain non-wetlands, and flood plain vegetation which form a stable system in dynamic equilibrium (Varras, et. al., 2006) These riverine systems serve to reduce flood peak discharges, absorb and cycle nutrients, transport and/or cycle sediment, and provide habitats for wetland plant and animals. Vegetative plant communities change spatially and temporally in response to the inputs of water and sediment supplied by the stream system. While the active stream channel transports sediment through the reach, the flood plain and its wetlands capture and store sediment during flood flows for later release during periods of stable adjustment in channel and flood plain geometry. This dynamism provides the spatial and temporal changes in plant community and provides a system with multiple stages of succession which maximizes the available habitat niches for fish, herpetofauna, and mammals (USDA, 2008).

Land use can affect habitats by disrupting the processes that form and sustain them, such as the supply and movement of sediment from hill slopes, woody debris recruitment, shading of the stream by the riparian forest, and delivery of water to the stream channel. Many processes that create habitats operate on time scales of decades or longer (for example channel migration and the formation of off-channel habitats). Interrupting these processes (for example by stabilizing banks or constructing roads and levees) can lead to loss of habitat over the long term (decades to centuries), (Beechie and Bolton 1999, Roni, et.al., 2002).

The simplest way to avoid these problems is to focus on restoring processes that form, connect, and sustain habitats (Peterken, G.F., Hughes, F.M.R. 1995). Each reach within a stream network can produce a limited range of habitat characteristics depending upon its position within the drainage network and site-specific physical characteristics (e.g., valley slope, valley confinement, and proximity to sediment sources).

Instream restoration techniques often attempt to create instream or floodplain features incompatible with the natural characteristics of the site. Focusing on the restoration of natural processes avoids the misapplication of restoration techniques by enabling the natural array of habitat types to form in all parts of a stream network. Moreover, this approach provides suitable habitats for all native aquatic species because it restores the conditions to which local fish stocks are adapted. Thus, it avoids the problem of building habitats where the habitat is improved for one species yet degraded for others (Soar, and Thorne, 2001).

2. Methods of hydronomic works

There are two main 'hydronomic' methods that can be applied in a river or a stream in order to improve its functionality: 'Soft' Stream Restoration Techniques and 'Hard' Stream Restoration Techniques. This categorization is made by the Montgomery County, in Maryland, USA. Many of these procedures have been applied in restoration projects in Greece and are analyzed below.

2.1 'Soft' Stream Restoration Techniques:

Stone toe protection: Stone installed at the base of the stream bank protects it from heavy storm flows and prevents erosive flows from undermining the base of the stream bank.

J-hook: Rock is placed in streams in the shape of a 'J' to channel the flow of water away from eroding stream banks. The hook or curved tip of the 'J' has slots that allow fast-flowing water through to dissipate energy and form scour pools. Cross vane: Lines of stone are carefully positioned at an angle to help turn the flow of water towards the centre of the stream. These vanes help to keep fast-flowing water away from the banks to prevent erosion and maintain the streambed elevation.

Grading and planting: Steep stream banks are graded into a series of gently sloping steps. During high-flow events, the stream has a channel with a wider fit and more surface to spread out along the mini-floodplains. Plants and vegetation roots help to stabilize the banks and hold them in place.

Log vane: Logs are placed and anchored to divert stream flow away from eroding stream banks toward the centre of the stream. The concentrated stream current forms scour pools below the vane, adding a pool habitat. Vanes can also be constructed with rock.

Step pools: Rocks are placed in front of storm drain outfalls to form a step pool system that dissipates the energy of high-velocity storm-water runoff before it enters the stream. Step pools allow stream-flow to lose erosive energy by gradually lowering the elevation of the stream in a series of steps.

Woody debris: Woody debris includes logs and woody material, which can be used to provide spaces where fish can live and reproduce. Large tree limbs and woody materials are anchored along stream banks to reduce erosion and to buttress terraces and pools.

Mulch planting: Lengths of stream banks are planted with vegetation to stabilize the banks and hold sediment in place through the roots of the plant.

2.2 'Hard' Stream Restoration Techniques

Rock pack and flush cut: Stream bank trees that have been seriously undercut by erosive storm flows can be protected with supportive rock packing. If undercut too far, they can be flush cut, which allows the roots to remain in the bank for stabilization and erosion protection.

Imbricated Riprap: Overlapping stones help protect stream banks from erosion or potential failure. Riprap is typically used along stream reaches where eroding stream banks threaten private property or public infrastructure, or where the stream is highly confined and subject to particularly erosive storm flows.

Dams: The construction material of dams is ether cement or soil. These works are usually small in height in order to maintain the ecological and environmental balance of local area. In most cases hydraulic structures have combined usages (river restoration, energy production, irrigation needs etc.). Dams, of all kinds, operate as a foundation for hydronomic works, upon which river restoration principals are based (protective, hydrological, growth).

Streams and rivers that function well, with healthy aquatic ecosystems, bring benefits to the environment as well as to the neighbourhoods adjacent to aquatic systems. Well-functioning streams and rivers mean:

- Better flood control
- Less trash in and around local water bodies
- Higher property values adjacent to these beautiful amenities
- Higher quality stream valley trail systems for recreation such as walking, birding, and biking
- Wider, more lush buffer areas along streams
- Reintroduction of wildlife species
- Better protection of wetland areas
- Improved aesthetics for clean and well-functioning waterways
- Stabilized stream banks
- Reduced local pollution, and reduced pollution flowing downstream into the Chesapeake Bay
- Improved habitat for fish, amphibians, insects, and other aquatic organisms that compose a balanced ecosystem food chain
- Cooler waters, which make it easier for fish to survive

3 Hydronomic works in Greece

The fieldwork of the research took place in streams and rivers after an investigation of projects implemented by the Forest Agency Department of Hydronomic Works. This research examines not only the construction itself (material, engineering, and so forth) but also the adjustments of these projects in the natural landscape, based on the above categorization.

Traditionally, the construction material which is used for river restoration project in Greece was stone, soil, planting material, wood, cement, or a combination of these. Up until 1970 the dominant material for the construction of engineering hydronomic projects was either plain stone or a mix with other natural materials such as soil or wood for instance. The materials that were used, apart from the predominant aim to restrict the impact of torrent phenomena (prevent erosion corrosion, landslide flood phenomena), were used in combination with local environment (surface water, groundwater, gorges, and so forth) in order to promote the natural landscape. Cement has become dominant since the 1970s as a material for the construction, despite the fact that dams were decorated by a stone cover.

This research focuses on construction materials that were used in Greece and examines their protection ability, their hydronomic services, and their adjustment in the natural environment. In addition, architectural, environmental and aesthetic parameters were examined. Special attention was given to stone construction materials, especially in dams, that together with stone bridges provided high quality aesthetics.

During the investigation of river restoration works restoration projects (surface, riverbed) were discovered and recorded characteristically. Such examples can be considered as the projects for the riverbed and river watershed interventions (Fig 3.1 to Fig 3.9).

The river restoration project offers an integrated anti-weathering protection of land, by fully covering the investigating area with installation of plan material that simultaneously provides ecological and aesthetic improvement of the landscape (Fig 3.1).

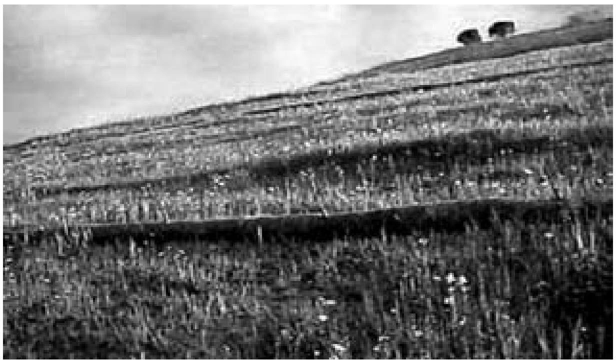

Fig 3.1 Stabilization - restoration of disordered soils using wood fences and for protection (Paylidis et. al, 2012).

Some of the Greek Islands present stone-built terraces that maintain the land and increase the filtration ability in order to become agriculturally usable (Fig. 3.2) (Paylidis et. al, 2012, Petanidou, 2001). Terraces are projects that are considered as "soft" river restoration actions. These works, further to the anti-weathering and anti-flood character, are basic actions for the survival of local population, creating conditions of agricultural and livestock works in difficult environments. In addition, the reduction of surface inclination, combined with water collection projects, provided the local population with the necessary drinking water. It should be noted that the blue colour of the sea and the terraced landscape of the Cycladic Islands have become main attractions of tourists visiting these islands. The examples of these terraces in the Far East, Philippines, Peru and elsewhere, provide a living proof that manmade intervention advances aesthetically natural landscape and provides sustainability in local production without compromising environment and productivity.

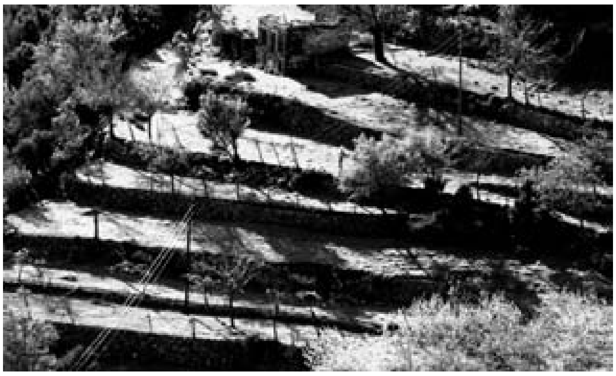

Fig 3.2 Protection of soil erosion and normalization - filtration - water retention by steps in the Aegean islands (Paylidis et. al, 2012).

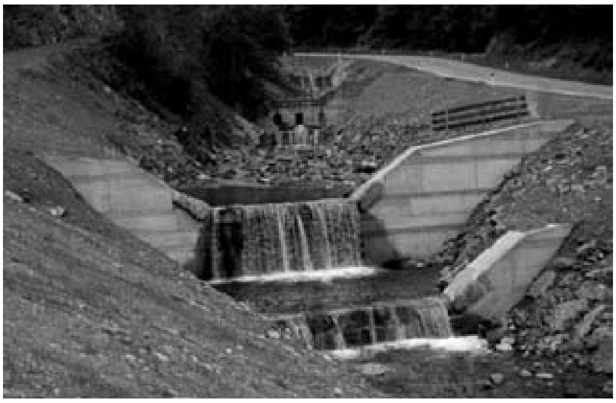

Fig.3.3: Views of harmonization and improvement of the natural environment through a series of projects fixing the riverbed in mountain streams (Pavlidis, 2005).

In mountain areas, in order to prevent erosion of the axial beds of riverbeds, root wars, woody debris, plat-technical works are generally presented (Fig. 3.3).

The objectives which were achieved by the implementation of these works, are (Kotoulas, 2001, Pavlidis, 2005):

- Provision of anti erosion and flood protection.
- Natural integration of implemented projects with complete or significant use of natural construction materials, such as stone, soil and wood.
- Full integration with the natural landscape. These projects not only upgrade the natural landscape but also provide the necessary conditions to develop flora at the sides of the riverbeds. Finally, they improve aesthetics using one or consecutive waterfalls.

Also in order to protect from flood and erosion phenomena, river restoration works like stone belts, stone toes, green restoration plans and wood fences are applied in the riverbeds (Fig 3.4). This works have the following results:

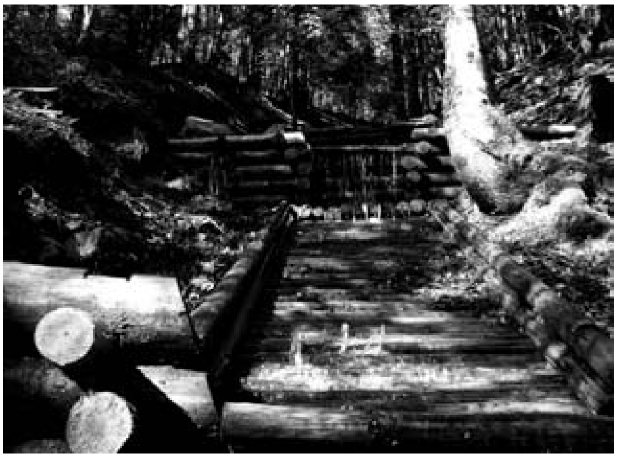

Fig. 3.4 River restoration work using belts, stones, wood, and plant material for slope and river bed protection (Pavlidis, 2012).

- Avoiding the occurrence of erosion and flood phenomena, with the construction of a series of low level height dam (less than 2 meters) combined with riverbed forming.
- The coverage of the riverbed or a significant part of it with natural material (especially with big stones or protection boulders and increase of the roughness and the subsequent oxygen of running water. The stones are placed either in bulk or in more rare cases anchored in a shallow cement bed. Often these are interrupted by small woody pile.
- Slope protection is achieved with full coverage slopes with bulk stones, wood series or sarzanet covered by plant material, creating a solid aesthetic-environmental mass called 'green restoration'.
- The environmental upgrade from implemented projects with complete or significant use of natural construction materials, such as stone, soil and planting.

This integration in the natural environment (both for land and water) provides a new quality and environmental dimension and makes this perspective more environmentally desirable. The use of stones in the protection of the beds and slopes of rivers is increasing the roughness of rivers, allowing the optimal self-oxygenosis of water for lowland areas, creating favourable conditions for the optimal development of streams. The whole formation of slopes coverage allows the installation of green plants called 'settlement' which are a vital environmental advancement of lowland view. The above elements combined with small running waterfalls are enhanced.

In addition in this paper, images of protection projects (multiple dams) adjusted to the natural environment are demonstrated. Impressive dams are presented in the creation of small mountainous lakes. These projects are used to control and redistribute flood water of high Alpine streams. Particularly noticeable is the impressive adaptation to the surrounding nature that provides for striking scenery in the Alpine landscape. In addition, these reservoir dams provide, directly or indirectly, the necessary conditions for the enhancement of biodiversity (birds passaging, water provision for the warmer periods of the years, and so forth). Similar projects appear in the more mountainous area of Greece too (Andreopoulou, et. al., 2007). There is a major need for such projects which improve precious water resources environments, streams and rivers for instance.

Fig. 3.5 presents the irrigation dam of Marnas (Paulidis et al., 2012)

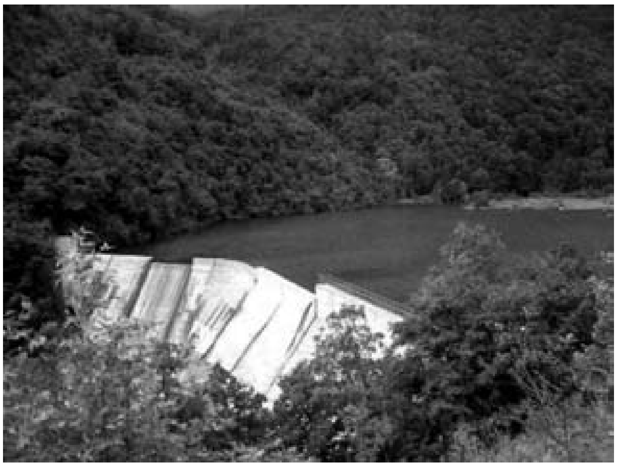

Fig 3.5 Views of strongly adapted to the natural environment Marnas irrigation dam project (Pavlidis et al, 2012).

which removes water from the prefecture of Pieria. This reveals the adaptation of the reservoir and the dam in the surrounding landscape. In addition there is an optical and natural improvement from the presence of the water element.

Fig 3.6 presents different views of river restoration works (mainly dams) that exist in Greece. These projects were either designed or enriched with additional environmental and functional elements or emerged as a result of natural stabilization processes of the basin within which they existed. Again the integration of the projects with the scenery is depicted, providing a cultural heritage as well as functionality. These works are adapted to the natural environment. In this project, water movement through the waterfalls contributes to the self-cleaning process from possible polluting factors.

The construction material of these works is mainly stone, highly adjusted to the surrounding environment. By this design view, all the construction works are integrated with the environment, combined with manmade construction works such as stone bridges. From these actions, an environmental upgrade, generally of the stream area, due to improvement of the ecological and environmental conditions is produced.

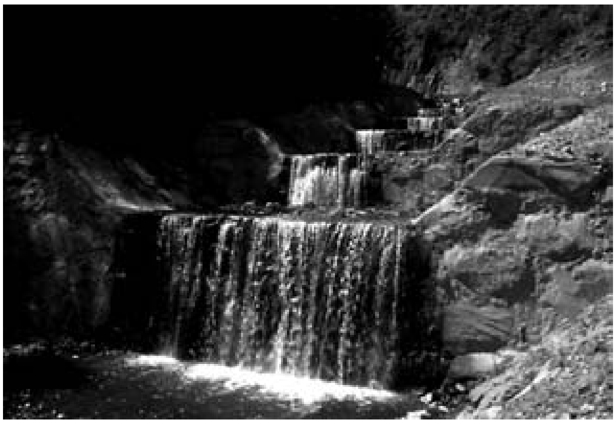

Fig. 3.6 Views of adaptation and integration techniques in river restoration works at the local natural environment (Varras et al., 2006).

Fig 3.7 presents views of an extremely beautiful stream belt of the Krousovitis River (Paulidis, 2012) incorporated with the wild series of dams of the Forest Service. The dam not only alters the river landscape view but upgrades the environment, leading to the conclusion that river restoration works are and should be enhancements that promotes river and stream landscapes and environments.

In order to protect from catastrophic flood phenomena of the Aeropotamos Stream, Greece (Fig 3.8), restoration projects were constructed, using rock packs and imbricated riprapas. Fig 3.9 shows panoramic views of implemented projects as well as information about the prolongation arrangement of the stream estuary, providing both functional and aesthetic actions in a small port (Arsanas).

The restoration works of Aeropotamos stream were a sediment retention dam (Fig 3.9), of which its deflectable floodwaters deposit the debris of streambed sediment, avoiding rapid silting of the harbour of the monastery (Andreopoulou, et. al., 2005).

Fig 3.7 Harmonization of sediment retaining dam of Krousovitis river, by water, and river environment (Pavlidis et al., 2012).

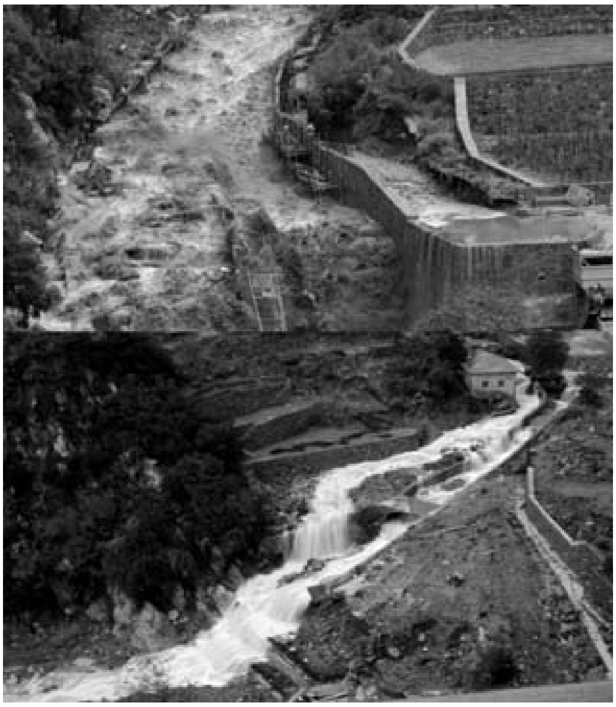

Fig 3.8 Characteristic views of a flood disaster in the stream Aeropotamos, Holy Mount Athos Dionysiou. Views of restoration works of the settlement system of the stream Aeropotamos (Pavlidis et al., 2012).

This project is fully consistent with the buildings and spires of St. Dionysios I M. Athos. This work is combined with an adaptation-promotion-extension work of the estuary of the river Aeropotamos within the marine space, so that any arriving mudflow will pour into the deepest parts of the sea at Mount Athos (Fig. 3.9) and not run into the Arsanas port. The whole project is a significant functional and environmental adaptation, signalling environmental projects with similar functional and aesthetic customization in river and stream restoration projects.

4. Conclusions

This paper shows that, in river restoration programmes, restoration actions can apply that can improve the environmental conditions of the rivers.

In Greece, in river restoration projects, the building materials that are used are mainly stone, woody materials and cement. Cement has been used in walls and dams in the 1970's and is no longer used for these projects. The main design procedures that are used include stone fences, stone terraces, stone walls, stone belts, rock vanes, rock hooks, wood fences, plant-technical and vegetation approaches, and earth dams. These actions improve the natural environmental conditions of river systems and are environmentally beneficial to the study areas, contributing to the development of local areas and communities.

Generally plant-technical, stone, wood and soil methods in Greece provide an ecologically-superior approach, alternative to conventional methods, such as concrete works. These low-impact and generally low-cost methods can provide effective restoration results, while strongly adapting to the natural environment and the local conditions, simultaneously providing aesthetic improvement of the natural landscape.

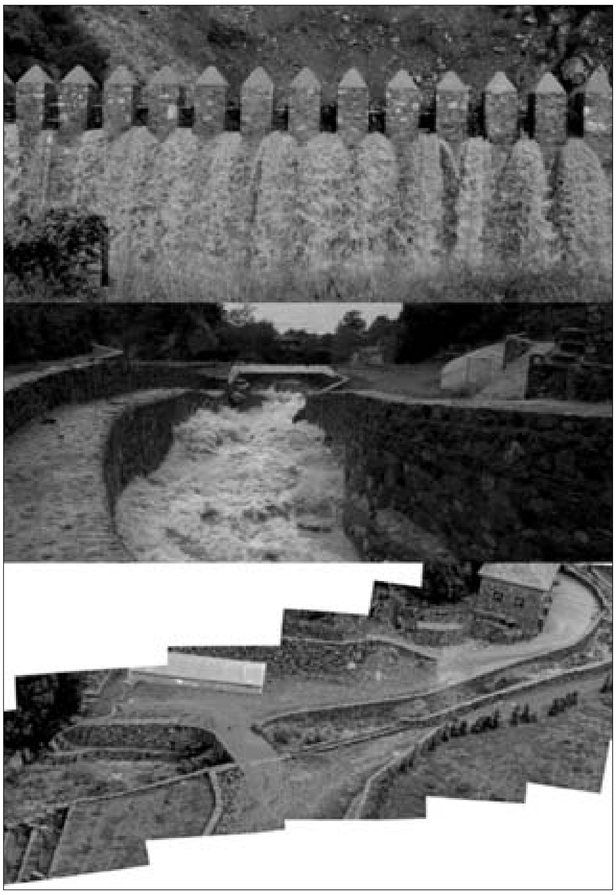

Fig 3.9 Characteristic views of sediment retention dam and adaptation-promotion-extension work integrated into the Aeropotamos stream of Agios Dionysios Monastery of Mount Athos. The dam is strongly adapted to the natural environment of Holy Mount Athos Dionysiou (Pavlidis et al., 2012).

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On the Interactive Relationship Between Sustainable Landscapes and Local Governance: Interdisciplinary Approach to "Milieu"

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Abstract: On the basis of our case study, we herein present interdisciplinary methods for analyzing "milieu", the interrelationship between society and its landscape. These methods are aimed at clarifying interrelations between the landscape transformation process and the act of renovating the framework of a community and its rules. For this purpose, we use two models – one for analyzing socio-spatial landscapes and the other for analyzing policy processes concerning landscapes. Consequently, the methods can help positively demonstrate the mechanism by which a community's landscape and local governance are mutually renovated. Therefore, the methods are deemed applicable to international comparative studies on the meaning of sustainable landscapes and their transformations.

Keywords: Interdisciplinary approach, sustainability, socio-spatial landscape, local governance, policy, milieu

1. Introduction

Japan is still on the verge of crisis, with its regional landscapes threatening to collapse on a national scale. Why is Japan's landscape so fragile? How might a sustainable landscape be possible?

Berque (2008) maintains that "never in our history have we so thoroughly punished our landscape". He refers to the "landscape thought" (la pensée paysagère) for moving beyond modernity—or the "trajectivity" (trajectivité) that defines the ontological standards of our natural and cultural landscapes, forming the basis of what it means to be a subject in this context.

In approaching this issue, it would seem that the severity of regional landscape deterioration is an integral part of both the decline in local communities, which stems partly from changing economic and social structures, and the ineffectiveness of local governance charged with resolving this issue. In other words, there is likely a fundamental problem with local governance and the reconstruction of the major players in local governance lies at the heart of this issue.

2. The Challenge

Empirically conducted research aiming to explain the mechanism that drives the dynamic interrelationship between the form of the regional landscape on the one hand, and the shape of local governance foundations on the other, is in progress. This research includes a theoretical investigation of the generative principles behind this mechanism (Fujikura *et al* 2010, 2012).

We aim to construct a research framework that makes it possible to realistically compare and discuss the relationship between sustainable landscapes and the acts of governance that are repeated within them, as well as what it means to be a subject within this context. We also hope to drive forward international comparative studies that consider the relationship between landscapes and local governance, encouraging interdisciplinary discussions and theoretical examinations based on empirical research as a means of generating new experiments that seek out the true nature of landscape environments.

3. Approach

According to our case study from Japan, we begin with a thorough consideration of the relationship between spatial elements and social elements that structure regional landscapes and local communities using a model for analyzing socio-spatial landscapes, and then analyze this relationship on an empirical level in terms of the realities and transformations affecting it, illustrating its mutually complementary structure.

Next, we analyze the regional impact of cyclical processes in landscape policy using a model for analyzing policy processes concerning landscapes, thus clarifying the effects on the shape of local governance foundations and structures as well as the generative principles that give rise to those effects.

4. Result and Discussion

4.1 Socio-spatial Model

This section outlines our analytical approach to the interrelationship between regional landscapes and local communities using the socio-spatial model.

4.1.1 Socio-Spatial Relations

We will start with an exploration and analysis of the social-spatial relations within regional landscapes, one that combines landscape engineering methods (Yamada 2008) and qualitative research methods. More specifically, we make an exhaustive study of the elements of spatial structures that exist in the investigated regions (relatively small fixed areas roughly equivalent in size to a village community in our case study), and then present in a matrix format the relationship between those elements and various forms of social activity (i.e., who owns and/or controls each spatial element and what kinds of social activities are carried out within each). We also use topographical materials and interviews to get a clear grasp of how circumstances actually were in the past (the results had to be omitted here due to limited space).

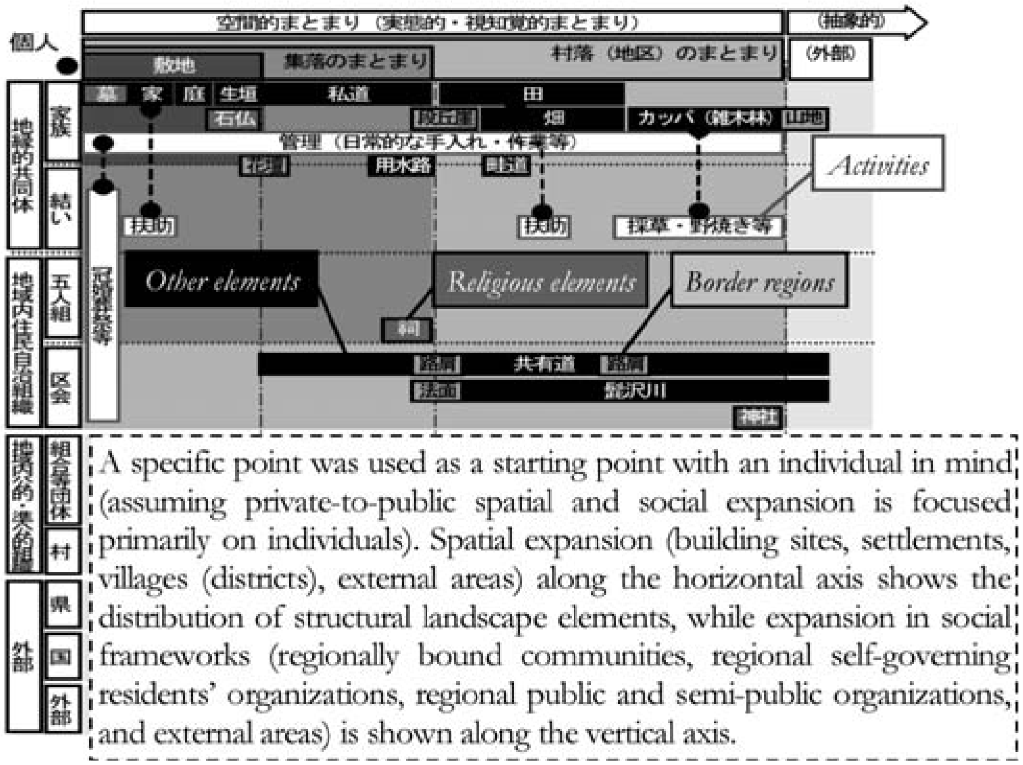
4.1.2 Model and Analysis

A structural diagram of socio-spatial interrelationships was prepared based on the results of the investigations described in 4.1.1, which allowed us to model the structure of the relationship between elements of spatial structure (both past and present) and local communities.

Specifically, the socio-spatial distribution characteristics of the spatial elements and various forms of social activity were modelled by pointing out the major players in the various forms of social activity related to each element (Fig. 1 and Fig. 2).

4.1.3 Fundamental Landscape Units

The socio-spatial distribution characteristics clearly indicate the fundamental units of regional landscapes: i) scenes of daily life within the settlement, ii) scenes related to primary industry, iii) scenes of administrative control, iv) border regions, v) program-related scenes, and vi) scenes of external control activities that do not concern the district (Table 1).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（外部）
墓
家
庭
生垣
私道
田
石仏
段丘崖
畑
カッパ（雑木林）
山地
管理（日常的な手入れ・作業等）
用水路
畦道
Activities
扶助
採草・野焼き等
地縁的共同体
家族
結い
地域内住民自治組織
五人組
区会
冠婚葬祭等
Other elements
Religious elements
Border regions
祠
共有道
路肩
鬆沢川
法面
神社
地域内公的・準公的組織
組合等団体
村
外部
県
国
外部

A specific point was used as a starting point with an individual in mind (assuming private-to-public spatial and social expansion is focused primarily on individuals). Spatial expansion (building sites, settlements, villages (districts), external areas) along the horizontal axis shows the distribution of structural landscape elements, while expansion in social frameworks (regionally bound communities, regional self-governing residents' organizations, regional public and semi-public organizations, and external areas) is shown along the vertical axis.

Fig. 1 Socio-spatial distribution characteristics (1947)

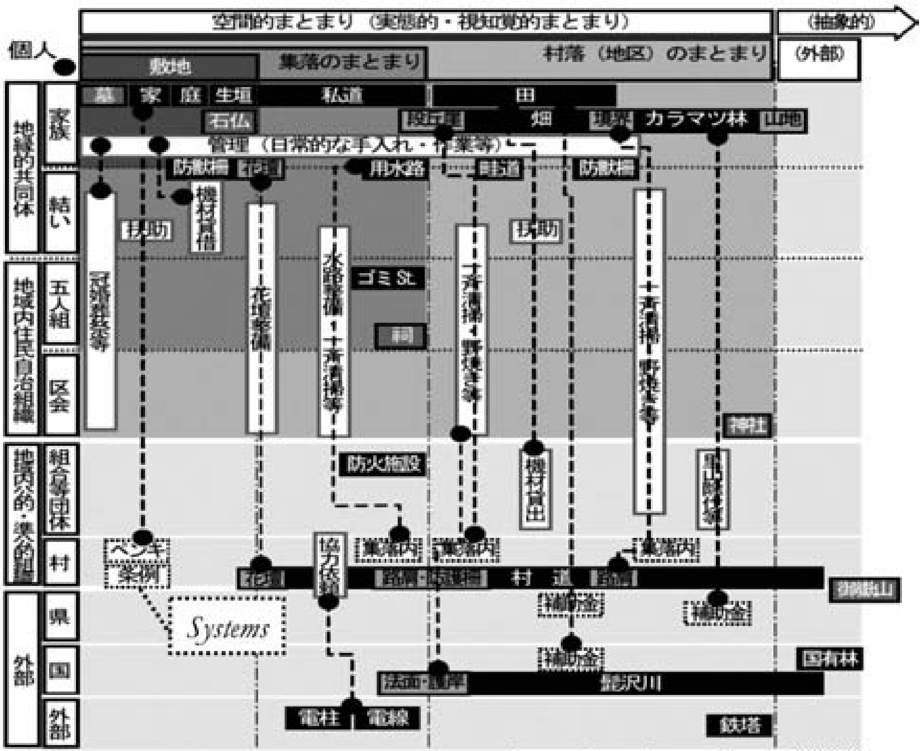
空間的まとまり（実態的・視知覚的まとまり）
（抽象的）
個人
敷地
集落のまとまり
村落（地区）のまとまり
（外部）
墓
家
庭
生垣
私道
田
石仏
段丘崖
畑
カラマツ林
山地
管理（日常的な手入れ・作業等）
防獣柵
用水路
畦道
防獣柵
機材貸借
扶助
扶助
冠婚葬祭等
花壇整備
水路整備・一斉清掃等
ゴミSt.
祠
一斉清掃・野焼き等
一斉清掃・野焼き等
神社
防火施設
機材貸出
ペンキ
条例
協力依頼
集落内
集落内
集落内
路肩・防護柵
村道
路肩
補助金
補助金
補助金
国有林
Systems
法面・護岸
鬆沢川
電柱
電線
鉄塔
地縁的共同体
家族
結い
地域内住民自治組織
五人組
区会
地域内公的・準公的組織
組合等団体
村
外部
県
国
外部
境界
宗教
その他
活動
制度

Fig. 2 Socio-spatial distribution characteristics (2009)

4.1.4 Two Intrinsic Landscape Systems

The results of the analysis described in 4.1.1–4.1.3 and the sentiments of residents gathered through the interviews were used to unpack the regional landscape, leading to the understanding that two intrinsic landscape systems are at work: the "evaluative system" and the "boundary region system".

In terms of the concepts presented by Nakamura (1977) in elaborating the definition of landscape[1], the evaluative system brings together several fundamental landscape units that stem from the relationship of that landscape to the social activities that are carried out within it. This is an intrinsic system that gives rise to, in those that view the landscape, sensation-based memories and assessments that make a comparison to things past, which can be derived from the affordance pointed out by Gibson (1950), Sasaki (1996), and Ichikawa's "theory of the body" (2001)[2].

One straightforward example is the sentiment that "the mountains are dirty", which was voiced by many local residents. The word "dirty" goes beyond a physical understanding (as with reforestation) to strongly convey a bodily sensation—indicating the existence of an underlying evaluative system.

Table 1 Fundamental landscape units

Unit	Structural elements of the landscape	Related social activities
i) Scenes of daily life within the settlement	Landscape elements like homes, yards, fences/barriers, private roads, flowerbeds, slopes, and gravesites are scenes that form groupings related to settlement units	Primarily owned and/or controlled by communal groups, self-governing residents' organizations (e.g. five-family units), groups or clubs (e.g. elderly groups), and the like
ii) Scenes related to primary industry	Landscape elements like rice paddies, cultivated fields, forests, irrigation channels, footpaths between rice fields are scenes that form groupings related to land use for primary industry that surrounds a settlement	Primarily owned and/or controlled by communal groups, self-governing residents' organizations (e.g. ward assemblies or five-family units), semi-public organizations (e.g. forest owners' cooperatives), and the like
iii) Scenes of administrative control	Landscape elements under administrative control, like rivers, riverbank protection, and roads, are scenes that help make up the landscape	Controlled by the national, prefectural, or municipal government
iv) Border region scenes	Border regions or roads/rivers that separate the surrounding areas (building sites, rice paddies, cultivated fields, forests, etc.) are scenes that form an integral part of the landscape	May be owned exclusively by public organizations (primarily municipal governments) or divided among communal groups or the like, but management is carried out holistically by public or semi-public organizations, self-governing residents' organizations or the like
v) Program-related scenes	These scenes are institutionally related to the national, prefectural, or municipal government via regulatory concerns such as subsidies or basic regulations. These scenes partially overlap with units i) scenes of daily life within the settlement, ii) scenes of primary industry, and iv) border region scenes.	
vi) Scenes of external control	Telephone poles, telephone lines, public telephone booths, outdoor advertising, etc.	Owned and/or controlled by businesses operating outside the village area

Boundary region systems, on the other hand, come out of border scenes (iv, see Table 1) in particular and lie in between other types of scenes, invigorating activities by increasing harmonization and/or competition among those that own and control them. Yamaguchi (2000) has used insights from cultural anthropology as clues in discussing this phenomenon[3]. The current status of border regions has become markedly more complex since 1947 (see Fig. 1 and Fig. 2), which is most likely a result of disparate social elements being more intricately reflected in the regional landscape.

When the involvement of complex elements revolving around border regions (increasing harmonization and/or competition among the main players in the contrasting regions on either side) is manifested (re-realized or re-socialized) in line with sensory evaluations of the landscape (such as the sentiment that "the mountains are dirty"), that manifestation serves as a yardstick for the regional landscape as well as a point of comparison for the local community. It further signifies substantial or workable questions that seek to define new social frameworks for that community (i.e., the questions regarding the reconstruction of local governance foundations from the perspective of self-rule).

Still, there are few who have experience running a reflexive self-government (Ishida 1998)[4] in Japan, where several fundamental problems are beginning to come to light in terms of the difficulty of linking proactive problem-solving methods to administrative activity by autonomously building citizen awareness, rules, and systems.

We believe that it is possible to find a fundamental breakthrough that will address this situation by making an inquiry that seeks to identify new social frameworks which will be brought about by the realization of the above intrinsic regional landscape systems.

4.2 Policy Process Model

In this section, we use a socio-scientific model for analyzing policy processes concerning landscapes and identifying the structure of policy development and impact in the policy process.

4.2.1 Policy Structure Development Process

After exhaustively collecting policy information for each policy process, this information was categorized based on the flow of social backgrounds and issues, the flow of policy as a whole, and the flow of politics. A policy group structural analysis diagram was then used as a tool for grasping the relevant relationships.

Fig. 3 points to (1) the simultaneous movement that drives issue definition and policy formulation/ decision-making (along the horizontal axis in Fig. 3); (2) the diachronic movement that builds

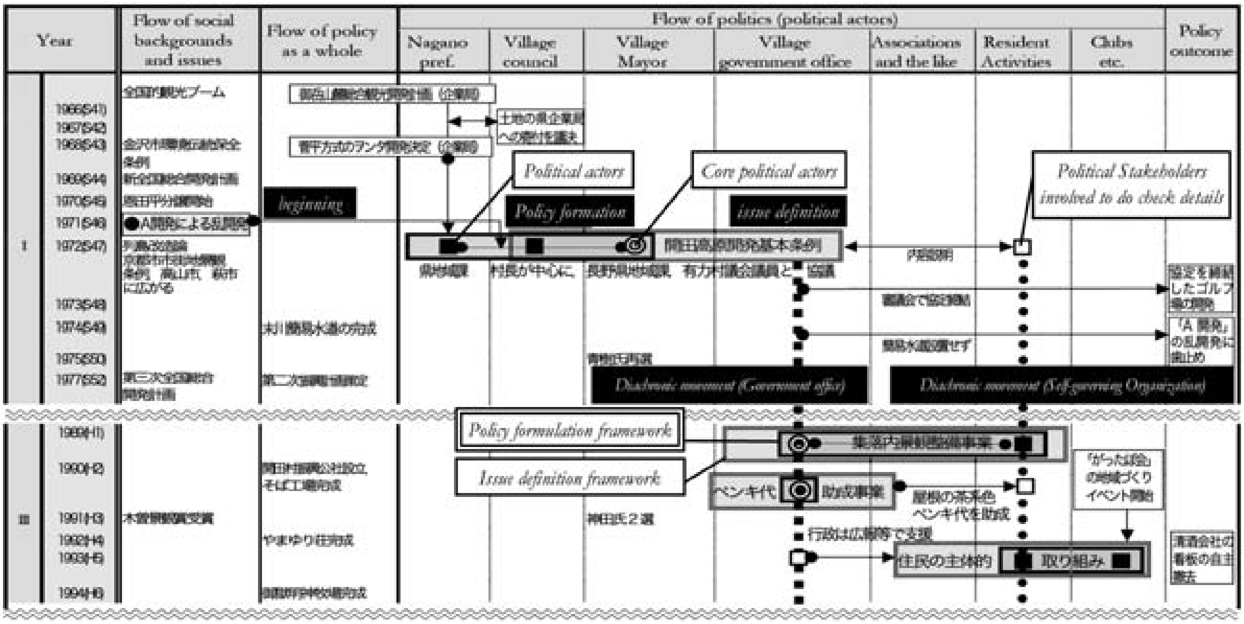
Year
Flow of social backgrounds and issues
Flow of policy as a whole
Flow of politics (political actors)
Nagano pref.
Village council
Village Mayor
Village government office
Associations and the like
Resident Activities
Clubs etc.
Policy outcome
I
II
III
全国的観光ブーム
Political actors
Core political actors
Political Stakeholders involved to do check details
beginning
Policy formation
issue definition
Diachronic movement (Government office)
Diachronic movement (Self-governing Organization)
Policy formulation framework
Issue definition framework
ベンキ代
助成事業
住民の主体的
取り組み

Fig. 3 A policy group structural analysis diagram

up programs, organizations, human resources, reference materials within two bodies—the village government office and self-governing residents' organizations (along the vertical axis); (3) the key political actors, expert opinions, policy ideas that drive policy development and whose interaction and synthesis stimulates cooperation between the government and self-governing residents' organizations – ultimately leading to the construction of a new framework capable of even broader issue definition and policy development.

4.2.2 Influence of Policy Structures on Social Frameworks and Fundamental Landscape Units

Next, transformations in social activities and landscape characteristics before and after policy implementation were characterized using a trend analysis diagram.

Fig. 4 shows a portion of the trend analysis diagram used in the case study.

The first trend marking the transformation in social activities is the restriction and elimination of external activities that go beyond the regional land use framework (Fig. 4 A). The second trend is the encouragement of collaborative and cooperative action between the village government and activities by self-governing residents' organizations, quasi-public organizations such as tourist associations, new club-like organizations, and the like (Fig. 4 B). The third trend is consideration for sightseeing and other visitor activities (Fig. 4 C). In looking at the fundamental landscape units, the first trend is the movement to restrict external control (vi) (Fig. 4 a). The second trend is activity to transform fundamental landscape units like scenes (i) or (iii) into border regions (iv) (Fig. 4 b). The third trend is the movement to maintain scenes (i), (ii), and (iii) as fundamental landscape units while adding sightseeing and other visitor activities to stratify social activity and add distinction to border regions (iv) (Fig. 4 c). Looking at the two intrinsic landscape systems described in section 4.1.4 reveals the following information about the impact that policies concerning the landscape have on local communities. Once the transformations in social activity that arise from policy implementation have accumulated within the fundamental landscape units, re-socialization occurs as a result of the integral realization of evaluative systems and boundary region systems with temporal discrepancies (gaps). This in turn leads to evaluations of the impact of social activity transformation itself and the rise of a structure of increasing harmonization and/or competition. This structure actualizes policy formation fundamentals or regional rules while promoting policy development at the same

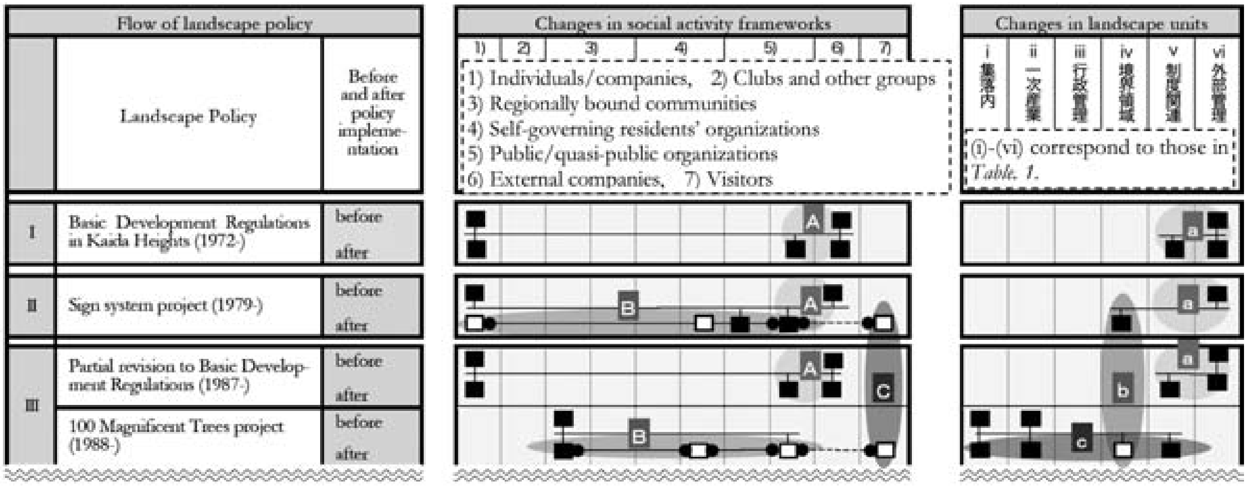
Flow of landscape policy
Landscape Policy
Before and after policy implementation
I
Basic Development Regulations in Kaida Heights (1972-)
II
Sign system project (1979-)
III
Partial revision to Basic Development Regulations (1987-)
100 Magnificent Trees project (1988-)
before
after
Changes in social activity frameworks
1) 2) 3) 4) 5) 6) 7)
1) Individuals/companies, 2) Clubs and other groups
3) Regionally bound communities
4) Self-governing residents' organizations
5) Public/quasi-public organizations
6) External companies, 7) Visitors
A
B
C
Changes in landscape units
i 集落内
ii 一次産業
iii 行政管理
iv 境界領域
v 制度関連
vi 外部管理
(i)-(vi) correspond to those in Table. 1.
a
b
c

Fig. 4 Trend analysis diagram of the transformations in social activities and landscape characteristics

time. Or, the structure is one of formation and/or reformation in that it represents the impact of policies that concern the landscape.

4.3 Cyclical Processes in Landscape Policy

In looking at cyclical policy processes as general movements that push upcoming policies forward, delivering an impact that affects local communities through policy processes and development structures, we need to identify the theoretical relationship that arises between the fundamental structures of self-government through cyclical processes.

4.3.1 Two Stages in the Process

The region targeted by our case study fostered the formation of two stages related to the fundamental structures of self-government. The first stage was a process that fostered the bringing about of regional rules and the establishment of political actors who would allow municipalities to independently formulate policy through initial basic regulations or sign system projects. In this stage, regional rules were systematized through independent regulations with the aim of building consensus between the government or the village council and local residents or others driving social activity. Having these regional players nail down a program amidst their daily social activity is considered the most basic foundational process of self-government. The second stage used later policies to foster the rebuilding of frameworks consisting of self-governing residents' organizations and the like in conjunction with political actors, as well as the reformation of regional rules through efforts to address a host of transformations in social conditions. This stage addresses the diversification of policy formation fundamentals due to collaboration and cooperation between the government and self-governing residents' organizations and the like, as well as transformations in social conditions that affect the municipality. This is a process of rebuilding the relationship between citizens and government structures by increasing the possibility that regional rules can be reformed through policy formulation. In other words, this stage is considered to be a process that rebuilds the foundations of self-government and improves the quality of local governance.

4.3.2 Stages and the Role of Landscapes

The first stage fostered the incorporation of conflicts arising from rampant development and current underlying regional rules into actual policy through the evaluative system that had already built up in the regional landscape prior to the policies being formed. The second stage saw the expansion of policy scope through the integrated manifestation of the regional boundary system and evaluative system. The new landscapes that were formed during this process were evaluated in terms of each social activity that they supported and began to take hold in the region. Under these conditions, the outside expert opinions and policy ideas put in place during the first stage were absorbed and used to form the next policy. In addition, the infusion of opinions and ideas from experts outside the region encouraged the formulation of policies that went beyond the frameworks of regional rule systems. Regional landscapes have two unique characteristics that are unlike any other target of policy. One, as an accumulative medium for social activity, they manifest (re-socialize) evaluative systems and boundary region systems in line with temporal discrepancies. Two, they offer an easily shared framework that visually demonstrates the impact of policy implementation. These two characteristics are the fundamental factors that encourage landscape policies to rebuild the foundations of self-government.

4.3.3 Dynamic Interrelationship between Local Landscapes and Local Governance

In light of the insights above, we were able to construct a conceptual model indicating the dynamic relationship between regional landscapes and the foundations of local self-government (Fig. 5).

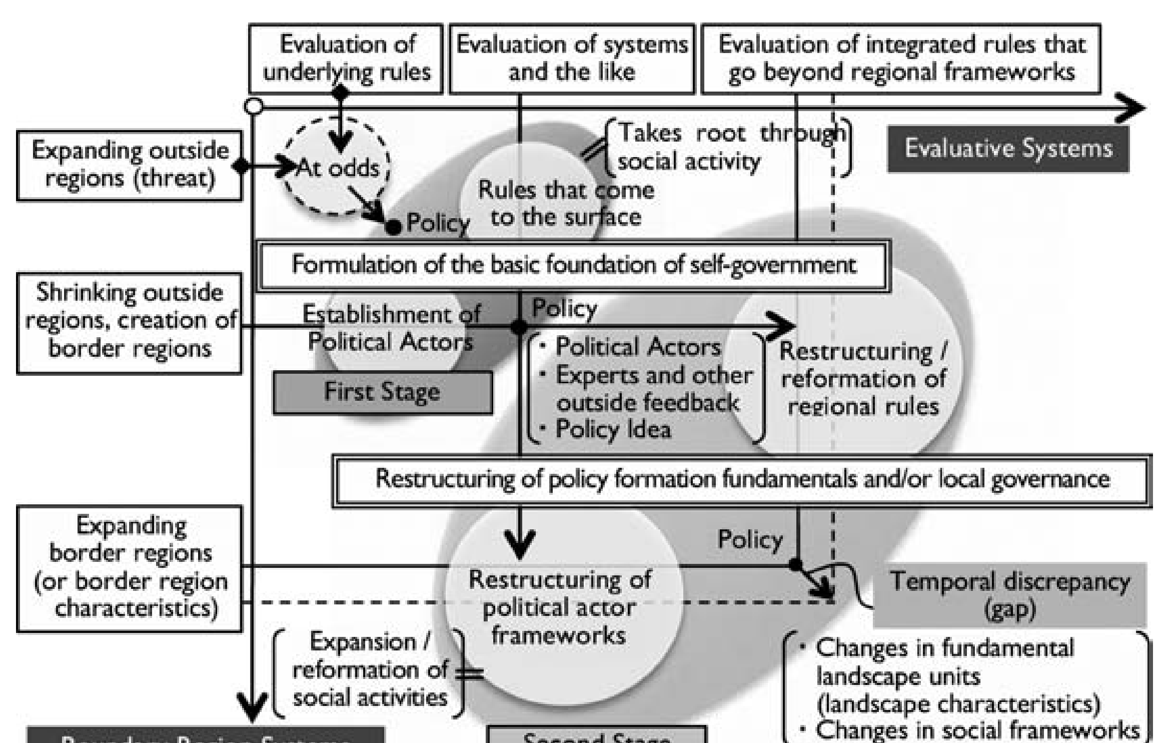
Evaluation of underlying rules
Evaluation of systems and the like
Evaluation of integrated rules that go beyond regional frameworks
Expanding outside regions (threat)
At odds
Takes root through social activity
Evaluative Systems
Rules that come to the surface
Policy
Formulation of the basic foundation of self-government
Shrinking outside regions, creation of border regions
Establishment of Political Actors
Policy
First Stage
· Political Actors
· Experts and other outside feedback
· Policy Idea
Restructuring / reformation of regional rules
Restructuring of policy formation fundamentals and/or local governance
Expanding border regions (or border region characteristics)
Policy
Restructuring of political actor frameworks
Temporal discrepancy (gap)
Expansion / reformation of social activities
· Changes in fundamental landscape units (landscape characteristics)
· Changes in social frameworks
Boundary Region Systems
Second Stage

Fig. 5 Conceptual model indicating the dynamic relationship between regional landscapes and local governance

Fig. 5 shows the effect of evaluative systems along the horizontal axis and that of boundary region systems along the vertical axis. Moving from the upper left to the lower right of the figure presents a conceptual image of the movement towards generating richer self-government foundations.

5. Conclusion

5.1 True Potential of Landscape

As seen in the preceding discussion, policies that concern landscapes are kinetic ones that use a cyclical process to repeatedly push through for the formulation of self-government based on regional landscapes and subjective citizens. That repetitive drive supports a process that reflects the fundamental principle of democracy – a oneness between the government and the governed – not as an abstract concept, but through the actual operation of municipal government. This is the true potential of landscape.

5.2 Problems with Scientific Evidence and Contribution to Education

The methodology used in our case study is valid from the perspective of analyzing actual conditions: spatial elements and social activities. By recognizing certain conditions, such as the cultural characteristics that define a given region, we may make international comparative studies that account for these unique elements. In their current form, the two intrinsic systems presented here reflect insights from other fields of research. Proof of their validity lies in the reality of spaces and activities as well as in the use of narrative data based on subjective experiences. It is absolutely critical that data like this be used if we are to unpack these intrinsic systems on a fundamental level. When conducting interdisciplinary research that combines plural and different tools, how are we to apply empirical scientific evidence as well as data based on subjective experiences? We need to deepen the discussion on whether or not a merger of the two is possible[5].

On a separate note, there exists a separation between our actual day-to-day experiences and abstract social systems like political administration. In Japan, a historically collective society with communal tendencies, automatic forms of self-government have continued to crumble since the end of World War II. At the same time, there are the problems with building a reflexive form of self-government. Concerns over Japan's crumbling landscape embrace problems from both the former and the later system. There are two ways for one to be a subject: first, in terms of Japan's traditionally held collective self-identity, and second, in terms of the modern systematic and political subject embodied by the sovereign state or democracy. This points to the fact that Japan has yet to construct a new subject. We must find a way to rebuild this ambivalent relationship so that the two ways of being are no longer in opposition to one another. As our two intrinsic systems indicate, landscapes actualize both ways of being and present them to us in a way that we can see with our own eyes.

In terms of landscape education as well, it is important not only to teach practical aspects like color, form, composition, and design, but also to teach critical perspectives that present landscape as a means of reconstructing local governance and its subjects.

Finally, from a practical standpoint, local residents may take the realities of this relationship on a practical level, prioritizing those that they can experience on a sensory level. It is here, in actual sites where local residents are working tirelessly to improve the local landscape, that subjects will be reconstructed in this way, where inquiries will be made into ways of being human, and where practical education will take place.

Notes:

[1] Landscape presents an overall view of the environment… it is deeply connected to human evaluations of the environment.

[2] Sasaki (1996) points out, "When the 'environment is changing' as the result of behavior, the look of that environment is transformed depending on that behavior. The effect of a given behavior can be anticipated based on the changes it has produced." Ichikawa (2001) notes, "the body has not only become a way of self-organizing to engage the world, but engaging the world with one's body results in the organization of the self."

[3] Yamaguchi (2000) notes "the central component of value is visualized in a specific time and place, emphasizing and calling attention to it in order to create a 'counterstatement' against the system that forms its core".

[4] Reflexive self-government is the concept of employing the self to govern the self (self-rule). According to Ishida (1998), the concept of local self-rule in Japan is a system formulation process that dates back to the Meiji period, where villages use a form of automatic self-government (natural governance) arising from communal village systems. This concept was adapted from local systems of government imported from Germany, where communal village systems were incorporated into the furthest arms of bureaucratic control. Because of this, the concept was not understood to be linked to self-rule following World War II, even after the principle that sovereignty rests with the people was outlined in the new constitution.

[5] Ken Nishi gave a lecture entitled "What is 'Evidence'?: The Difference between 'Empirical-Scientific' Evidence and 'Self-Reflective' Evidence" at the 2012 International Human Sciences Research Conference in Montreal.

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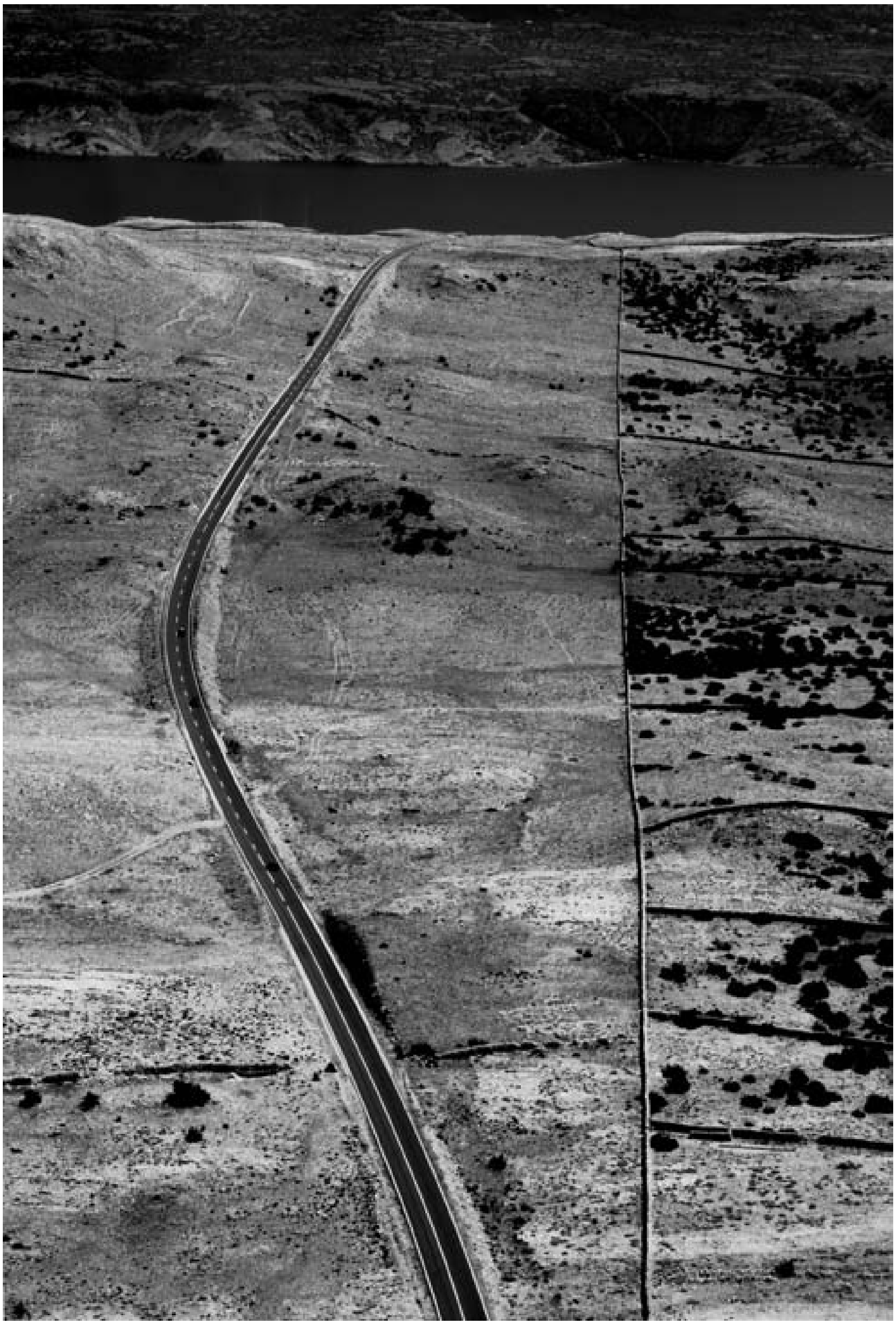
Yamaguchi M, 2000. Bunka to ryogisei, Iwanami Shoten, Tokyo, p.99. [The ambiguity of culture]

Governance



G. Andlar, Pastures on the island, Third Edition People's Landscapes

Regional Learning: Integrating the Science and Practice of Strategic Spatial Planning

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Abstract: Spatial planning is facing the growing complexity of metropolitan landscapes. It has to deal with the highly complex, reciprocal relationship between the landscape and societal activities. The complexity is increasing due to processes such as climate change, decentralisation of responsibilities and the search for new economic pillars. Conventional planning approaches are not up to these tasks and many regions are in need of innovative knowledge and approaches to deal with these challenges. This paper describes the development of such an approach in a strategic spatial planning studio at Wageningen University, using the concept of *Kenniswerkplaats* – a learning, research and work community, with regional partnerships between the university and the community of regional stakeholders.

Keywords: Practice-based learning, knowledge arrangements, spatial planning, regional planning, planning studio.

1. Introduction

The Land Use Planning group at Wageningen University has traditionally focused on the land-use and environmental planning of rural areas. In recent decades, this domain is facing the growing complexity of the metropolitan landscape of Western Europe, where planners and decision-makers have to deal with a diversity of increasingly involved stakeholders, with often conflicting objectives (Van der Valk 2002, Albrechts 2004, Carsjens 2009). The planning of the metropolitan landscape is caught between the increasing pressure on rural areas for economic and urban development on the one hand, and the need to preserve farmland and natural resources on the other. The challenge is to find a balance between both, as in practice this balance often turns in favour of economic development (Carsjens 2009). The complexity of this challenge is increasing due to processes such as ageing of the population, climate change, decentralisation of responsibilities to lower-tier governments (provinces and municipalities), and the search for new economic pillars.

This requires an integrated approach that synthesizes socioeconomic as well as physical and environmental information at various levels of detail, in order to facilitate realistic assessments of more sustainable future spatial development (Pettit & Pullar 2004). Albrechts (2004) argues that spatial planning for these complex situations requires an ability to combine the creation of a strategic vision for the future development of areas with short-term actions. This is also identified as one of the key challenges for Dutch water management in dealing with the consequences of climate change. Van Pelt (2011, p. 89) argues: "We have to assess our choices for the short term 'forward in time', in order to identify how such choices relate to developments and policy options for the long term. And we need to assess our policy choices for the long term 'backward in time', by identifying the subsequent steps we have to take in the coming years". Conventional planning approaches are not up to these complex tasks and many regions in the Netherlands are in need for innovative knowledge and approaches to deal with these challenges.

To give students the best possible picture of the complexity of these planning issues, the Land Use Planning group strives to connect learning processes in the spatial planning program with real-time experiences from planning practice. Since 2008, this takes place within the concept of the *Kenniswerkplaats*1 (knowledge factory), a permanent, practice-oriented learning and knowledge-sharing in a region, where students, lecturers, politicians, practitioners and stakeholders meet with the intention of learning from each other's knowledge and approaches (Foorthuis *et al* 2012). *Kenniswerkplaats* aims to support regional innovation through personal and professional development, and to embed lasting effects of the results in the region and in knowledge infrastructures.

The objective of this paper is to assess the results of the *Kenniswerkplaats* for one of the spatial planning courses, studio strategic planning, in order to identify whether the aims of the *Kenniswerkplaats* are being met. The main research question is: Does the studio support regional innovation and how? Section 2 describes the background and approach of the studio. Section 3 assesses the results of the studio in different *Kenniswerkplaats* regions in the Netherlands, and conclusions are drawn in Section 4.

2. Studio strategic planning

This section describes the theoretical notions behind studio strategic planning (2.1), the approach and methods applied in the studio (2.2) and the *Kenniswerkplaats* regions of the studio (2.3).

2.1 Strategic spatial planning

Strategic spatial planning concerns major spatial developments, more typically at the regional level. Spatial planning at this level is usually public-sector led, aimed at influencing the future spatial distribution of activities (Dimitriou & Thompson 2007). Albrechts (2004) sees spatial plans as strategic frameworks for action, which shape and frame the present and future spatial organization of a region.

Nowadays, strategic spatial planning is often seen as a relic of the past, and "[…] planning has little choice but to surrender its responsibilities to local public participation. Planning for the people is obviously no longer acceptable and planning with the people proved too complex, so planning by the people has become the rallying cry of many 'new' planners" (Couclelis 2005: p. 1358). However, the growing complexity of the metropolitan landscape and its many relationships with other spatial and temporal scales cannot be properly addressed by local communities and the public only (Carsjens 2009). Local participative planning is not a substitute for strategic spatial planning (Couclelis 2005). Spatial planning for the complex metropolitan landscape calls for an approach that combines both (Albrechts 2004). A combination of different approaches to cope with complex planning issues has been widely suggested in planning literature (e.g. Chermack 2004). The Wageningen planning program aims to gradually teach, practice and intertwine methods and techniques from the design- and decision-oriented views of planning.

The decision-oriented view originates from the rational process theories of planning and decision-making (Faludi 1987). The decision-oriented view promotes a bottom-up approach of planning in order to enhance the effectiveness and legitimacy of spatial planning. The different interests and views of stakeholders in society concerning current planning issues are taken as a starting point. Decision-oriented planning is a form of collaborative or participative planning, involving interaction between stakeholders and consensus building (Margerum 2002). Decision-making in this respect, is the outcome of discussions, and often conflicts, among actors with various forms and degrees of power. Decision-making by consensus is a dominant planning style in the Netherlands (Van der Valk 2002).

The design-oriented view of planning emphasizes the construction of creative visions for the future spatial organization of an area (Kleefmann 1984, Carsjens 2009), making use of scenario techniques (e.g. Xiang & Clarke 2003). Scenarios are considered indispensable for initiating debate about preferred or plausible futures. The design-oriented view should not be confused with the paradigm of planning as design that dominated city planning during the late 19th and first half of the 20th century. Needham (2000) points to an important difference between spatial planning and design disciplines such as architecture, industrial design, and interior design. As he states: "[…] it can be misleading to think of spatial planning – as a design discipline – as being mainly the designing of the spatial disposition of activities, buildings, and spaces (such as making a spatial plan, although that can indeed be part of the activity)" (Needham 2000: p. 443). The spatial allocation of activities in practice is created and changed by many public and private actors. Public bodies which practice spatial planning have only limited and often indirect influence on spatial developments. The design-oriented view of planning, therefore, aims to influence the actions of those who shape spatial organization, by initiating a debate on likely and desired futures with spatial scenarios and map representations.

It is attractive to combine the fruits of the methods and techniques from the decision- and design-oriented views of planning. On the one hand, the combination silences complaints about the negligence of creativity and substance in the decision-oriented view of planning, while on the other, it bridges the gap between scenarios and actual decision-making in the design-oriented view of planning (Carsjens 2009).

2.2 Approach of the studio

The strategic planning studio is a problem oriented studio in which the students are confronted with a complex planning problem taken from planning practice (Carsjens *et al* 2012). Learning by doing is combined with the systematic application of prescriptions taken from preceding planning methodology courses in the bachelor program. The lecturers perform the role of advisers on the job. The studio takes four weeks of full time group work.

Students are challenged to produce a strategic vision for the future spatial development of a region in the Netherlands, including spatial scenarios and visions, as well as a package of short term actions to deal with current problems. The students have to produce a professional oral and poster presentation, where the emphasis is laid upon the argumentative part of the work. The students are confronted with actual clients and stakeholders from planning practice, enabling them to strengthen their facilitation and communication skills, which are much needed in current participative planning practice.

A main task for the groups at the start of the studio is to build a work plan or strategy to deal with the planning task. The work plan has to describe the subsequent steps of the process that will result in such a vision and strategy, and the methods and techniques used in each step. The work plan should also make clear how the results of the different steps in the process are linked or intertwined. The work plan acts as a tender that should convince the client and lecturers that the group is up to the job.

The methods and techniques applied have been introduced in preceding planning methodology courses. This also includes training exercises in communication and facilitation skills and in writing a work plan.

The methods for building scenarios involve a combination of different methods and techniques, using a two-scenario-approach (Dreborg 2004). In the studio we use a combination of external scenarios (forecasting) and policy scenarios (backcasting). External scenarios describe the range of possible developments that are outside the control of the actors in the region involved. Policy scenarios or visions typically include the use of policy measures or objectives leading to predetermined goals (Dreborg 2004). External and policy scenarios avoid the problem of trying to specifically predict the

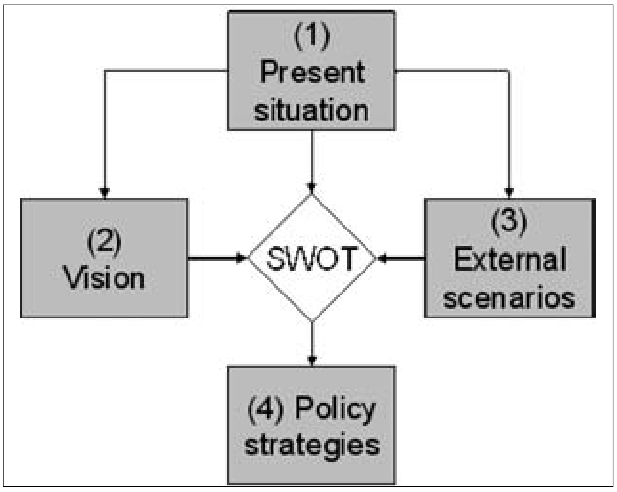

Fig. 1 Scenario approach applied in the studio

future, by not suggesting one single future but several possible or preferable futures, which is appropriate in complex situations with a high degree of uncertainty. External and policy scenarios are useful instruments to support the debate among stakeholders in the region about the way forward. The scenario approach used in the studio includes four building blocks: (1) identifying the planning task and a baseline analysis, (2) the development of visions for a desired future and (3) external scenarios, and (4) formulating policy strategies based on a confrontation between the present situation, external scenarios and visions, using a SWOT analysis (see Figure 1).

The methods for identifying short-term measures also involve a combination of different methods and techniques, such as stakeholder analysis, document research and the toolbox of the strategic choice approach (Friend & Hickling 2005). These methods take the present situation and the different problems and interests of stakeholders as the starting point.

The strategic planning process of the studio should facilitate the construction of alternative futures in an open and creative way, able to respond to growing complexity and new demands. Albrechts (2004) argues this should include developing a long-term vision, related to the context of social values in a particular environment, and developing short-term and long-term actions. A key challenge in the studio is to intertwine both, as short-term actions should tackle problems in view of the long-term vision, scenarios and strategies.

2.3 The studio and Kenniswerkplaats

Since the academic year 2009-2010, studio strategic planning is linked to the concept of the *Kenniswerkplaats*.

The use of the concept in the studio aims to provide the students with the best possible picture of the complexity of regional spatial planning. The link with planning practice is also considered important as it gives the students the opportunity to critically reflect on the meaning and relevance of theory and methodologies taught in the program.

The *Kenniswerkplaats* region of the studio has changed yearly, depending on the possibilities for linking the approach of the studio with the knowledge, questions and planning tasks of the region. The regions were (see also Figure 2):

- Region Twente (January 2010) – A region with an ageing population; a city network bordered by protected landscapes; focus on the sustainable development of the city network outskirts.
- Region West Friesland (October 2010) - A region dominated by agriculture, especially horticulture and bulbs; focus on raising expertise and innovation in the agribusiness complex.
- Nieuwkoop municipality (June 2011) – A rural municipality in the green heart of the metropolitan area of western part of the Netherlands, surrounded by fast growing cities; focus on strengthening the spatial quality and identity of the region within the dynamic metropolitan area.
- Region Waterpoort (June 2012) – A region with a large-scale, open landscape and historically valuable water defence systems, vulnerable to flooding; focus on strengthening Waterpoort as a robust and self-sufficient area, with new economic activities and transition towards renewable energy.

The organizational activities and knowledge connections in the *Kenniswerkplaats* usually include some activities that are scheduled prior to the studio, embedded in a preparatory planning methodology course. These activities are organized by the lecturers and include:

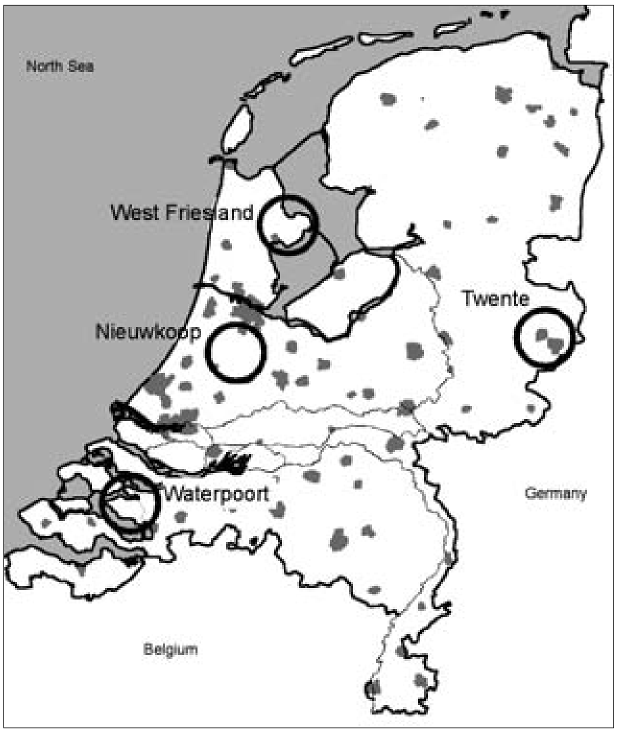

Fig. 2 Location of the Kenniswerkplaats regions

- an oral presentation and introduction of the regional planning task by the client (representative of the regional or local authorities or an NGO)
- a guided bus tour through the region
- studying some prepared documentation and maps of the region and planning task
- a training exercise in writing a work plan for this planning task

The organizational activities and knowledge connections during the studio are to be prepared by the student groups and include:

- allocating organizational and expert roles among the members of the groups
- preparing the work plan
- collecting data and information on the region
- organizing field visits and meetings with stakeholders in the region
- organizing regular meetings with the supervisors
- organizing a mid-term presentation meeting with the client
- organizing the final presentation and public hearing in the region

3. *Kenniswerkplaats* Assessment

Three of the *Kenniswerkplaats* projects have been assessed for this paper: Twente, West Friesland and Nieuwkoop. The assessment was carried out by semi-structured, open-ended interviews with clients and stakeholders involved in the three regions. The interviews were held in autumn 2012.

The topics and key questions derived from the objectives of the *Kenniswerkplaats* and the studio are listed in Table 1, and the details of the interviewees in Table 2. The results of the interviews are presented below, structured along the main topics.

Table 1 Interview topics and key questions

Topics	Questions related to
Content related results	- Contribution of the results to regional development and innovation - Use of the presented material - Exchange of knowledge about the region
Process related results	- Contribution of the methods and approach to regional development and innovation - Exchange of knowledge about methods and approach
Personal and professional development	- Change of perception on the area and its challenges - New discussions and initiatives - Personal and professional development in general

Table 2 Interviewees

Region	Interviewees
Twente	- Manager *Kenniswerkplaats* Groene Kennispoort Twente - Policy advisor urban development Enschede municipality
West Friesland	- Deputy manager *Kenniswerkplaats* Noord-Holland Noord - Project leader spatial planning Projecten LTO Noord (part of the Dutch Federation of Agriculture and Horticulture)
Nieuwkoop	- Manager *Kenniswerkplaats* Groene Hart Academie - Head spatial planning team Nieuwkoop municipality

Content related results

The interviewees in all three *Kenniswerkplaats* projects stated that the results of the studio did not contribute directly to the regional development and innovation process, but only indirectly. The main arguments for the lack of direct impact were the low level of detail and overly broad focus of the presented results. The interviewees identified this as an issue of concern. The presented results did not meet the expectations in the Twente region (policy advisor Enschede municipality), while the interviewees of Nieuwkoop recommended investing more time in carefully narrowing down the planning task in the preparation phase. However, the deputy manager of *Kenniswerkplaats* West Friesland argued: "It will be difficult to find a balance between an integrated, regional study and a manageable, detailed research. After all, it's not only the content that matters, but also the process, methods and approach."

The interviewees were unanimous about the positive indirect results of the studio. The different creative visions that were presented by the students did stimulate the debate in the regions. In particular, the joint meetings of the students and stakeholders in the region were highly valued by all interviewees.

The deputy manager of *Kenniswerkplaats* West Friesland stated: "The workshops with stakeholders have been very valuable for the region by bringing together explicit and tacit knowledge". The meetings stimulated discussion and contributed to identifying relationships between different sectors and changing the stakeholders' perspectives on the region. In the regions Twente and West Friesland the results did contribute to the development of a regional vision, by supporting the debate on different topics. The situation in Nieuwkoop changed dramatically after completion of the studio, due to the economic crisis. The head of the spatial planning team of the Nieuwkoop municipality stated: "We had to adjust our ambitions ... and now we have an even higher need for new creative and innovative input from students."

The interviewees of the *Kenniswerkplaats* in West Friesland stated that the project made them aware of the limited knowledge of the students about the agricultural sector and the regional diversity of the sector, which added to the low level of detail of the results. It made the interviewees realize that such content related knowledge has to be provided by the region, which was identified as an issue for improvement in future *Kenniswerkplaats* projects. The interviewees of Nieuwkoop expressed their concern about the transfer of the results to successive *Kenniswerkplaats* projects. The students presented their results in A0 size posters, supported by an oral presentation and discussion.

According to the interviewees it was difficult to use the posters in successive projects, because a written explanation was lacking. Moreover, some of the involved stakeholders were unable to attend the final presentation. This made the transfer of knowledge more difficult. The head of the spatial planning team of the Nieuwkoop municipality made a plea for finding more effective ways to present and discuss the results. He suggests using more interactive media, for example the Internet.

Process related results

The interviewees in all three *Kenniswerkplaats* projects stated that the process, approach and methods applied in the studio triggered regional development and innovation. In Nieuwkoop the approach and methods proved to be very useful for a follow-up *Kenniswerkplaats* project by students of a professional academy. Moreover, the head of the spatial planning team of the Nieuwkoop municipality observed an important spin-off of the studio in raising enthusiasm among other stakeholders in the area, such as the province and the water board. This resulted in several follow-up projects and an increased interest in the *Kenniswerkplaats* concept. The *Kenniswerkplaats* prepared a knowledge agenda for the region, in cooperation with a large number of stakeholders.

This agenda allows potential clients, stakeholders and educational institutions to connect in dealing with important societal issues. In Twente the studio triggered the interest of some smaller municipalities outside the study area. These municipalities are now exploring the options for setting up similar projects, in cooperation with the provincial government.

A critical remark was made by the interviewees of *Kenniswerkplaats* in West Friesland. They stated that the representatives of the farmers in the region were less interested in developing alternative visions for the region, which is an integrated part of the approach of the studio. Instead, they would have preferred a more confined analysis of the future spatial organization taking their own, agricultural based vision of the region as a starting point.

Personal and professional development

The results show that the interviewees recognize that the studio contributed to personal and professional development. However, the manager of the *Kenniswerkplaats* in Nieuwkoop mentioned that it is difficult to pin point exactly what the participants had learned. The head of the spatial planning team of Nieuwkoop argued that the *Kenniswerkplaats* contributes to on-going personal and professional development.

He gave the example of a councillor who is looking for opportunities to realize his ambitions, eagerly responds to an announcement of a *Kenniswerkplaats* project and immediately wants to use the results of it. According to him it "... shows an increasing awareness that creativity and brain power of students are valuable resources that can lead to surprising results". This is confirmed by the interviewees in Twente. The steering committee of the *Kenniswerkplaats* Twente, comprising the local authorities in the region, expressed the importance of collaborating with students. This has resulted in considerable support in the region for the activities of the *Kenniswerkplaats*.

The project leader of Projecten LTO Noord cited the chairman of the Dutch Federation of Agriculture and Horticulture North branch, who claimed: "The students made me more aware of the importance of a structured approach and analysis along different themes". In Twente the studio contributed to an increased awareness among stakeholders about the many relationships between the urban and rural area.

The region is now exploring the added value of improving these relationships and the opportunities it gives for strengthening the region. The policy advisor of the Enschede municipality concluded: "The projects of the *Kenniswerkplaats* contribute to a learning society".

4. Conclusion

The results of the research suggest that the aims of the *Kenniswerkplaats* were met. The strategic planning studio supports the regional debate by presenting creative visions, and stimulates new initiatives and follow-up projects by raising enthusiasm and awareness among clients and stakeholders. As such, the lasting effects on the region are evident. However, the effects are all related to the indirect results of the studio. According to the interviewees, the results presented by the students did not contribute directly to regional development and innovation.

Moreover, some were expecting more specific and detailed results. This may have to do with the narrow focus of many politicians nowadays, who have to deal with an increasingly pluralistic society, where decision-making is based on the outcome of discussions among stakeholders, and a more holistic view on the long term is often lost. The focus is all too often on results that can be implemented directly, as was shown in the example of the Nieuwkoop councillor. We argue that the studio cannot and should not answer such needs. Instead, its strength in stimulating the regional debate should be further explored. Knowledge transfer takes place especially during the meetings and discussions between students, clients and stakeholders.

These phases in the process are a tool to further increase the relevance of the studio for the *Kenniswerkplaats*. An important lesson learned is that the expectations about the results of the studio need to be communicated better with potential clients and stakeholders during the preparation phase.

Follow-up research aims to extend the research by including other stakeholders, students and the Waterpoort region. Interviews with students will allow us to assess the role of *Kenniswerkplaats* for the learning outcomes of the studio, an aspect that was not included in the research so far.

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Sustainability Reflections on Landscape Education

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Abstract: The idea of sustainability of landscape architecture education is pointed out according to a series of environmental landscaping problems caused by the rapid urbanization process of mainland China. The author proposes to pay attention to the professional criterion of people who are currently involved in the actual fields of design, construction and management, while focusing on the quality of education of current University students. By applying the education experience of the author's current university as a leader and professor, she is able to elaborate the detailed ideas, objectives, strategies, and the effect of attaining a sustainable landscape architecture education.

Keywords: Landscape education, sustainability, part-time system.

1. Current status and historic analysis

On Mar. 8th 2011, the Chinese government published the Course Catalogue of Degree Granting and Talent Training (2011), in which "Landscape Architecture" was newly added as the national first-level discipline. The setup of landscape architecture (LA) as the first-level discipline not only plays an important role in unifying the discipline name, standardizing its area of influence, integrating talent and forming industry consensus, but it also motivates further positive promotion of landscape architecture talent. The setup of the first-level discipline indicates that Chinese landscape architecture education will enter a new phase.

On the one hand, the rapid development of China's urbanization process demands urban construction to be more ecological and economical, and Chinese society needs a lot of high-level personnel who have majored in landscape architecture.

On the other hand, in terms of the current status of LA personnel development, the personnel awarded with doctor and master degrees in the previous years were mainly groomed to be the academic talents engaged in the areas of education and scientific research, whose knowledge structure was heavily weighted towards scientific theory research, with a lack of comprehensive field knowledge as well as practical abilities. In addition, most of these doctors and masters were working in colleges, universities and scientific research institutions; only a few of them participated in frontline work, which causes insufficient high-level LA personnel on the frontline. Meanwhile, a large number of the personnel working in this field are not graduates (their backgrounds are only related or even not related to this area), so there is no satisfactory result achieved for landscape construction. Thus it is difficult to accomplish the tough and heavy works related to the landscape architecture being rapidly developed, and to meet the demands on practical, compound, professional and high-level personnel. So, based on the current status, on Jan. 2005, the 21st meeting of the Academic Degrees Committee of the State Council deliberated and approved the decision to set up the master of landscape architecture (MLA) degree.

There are two types of MLA degree education systems: full-time and part-time. Part-time landscape architecture education is designed particularly for the current particular situation of this specialty in China. According to incomplete statistics, there are about five million frontline workers engaged in the field of landscape architecture in China, of which only about 3.5% has obtained a higher education degree, not to mention the far lower proportion of the professional talents with a master or above degree (Fig. 1). For this reason, the promotion and development of workers already bearing some basic theory and rich practical experience will improve their knowledge and professionalism, so as to meet the personnel demand with regards to the tough and heavy tasks in the field of landscape architecture.

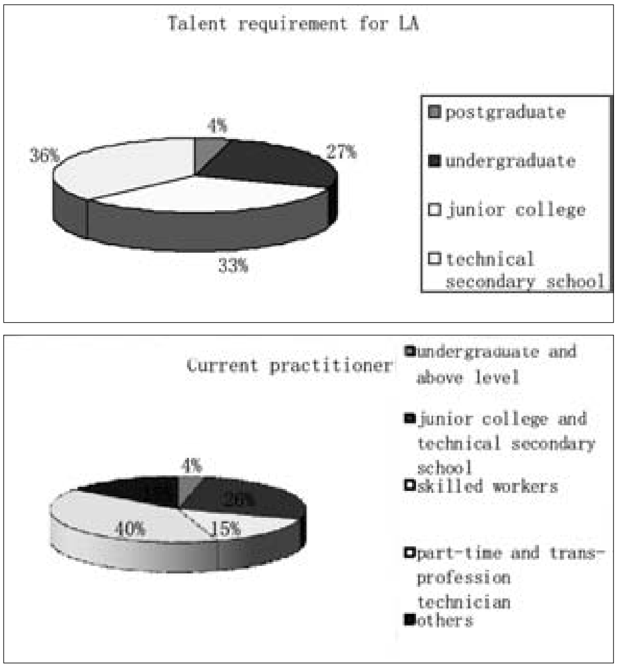

Fig. 1. Comparison between talent requirement and current practitioners of LA

Unlike the promotion of full-time academic graduates, the promotion of the landscape architecture graduates has started rather late and features limited centralized class hours, diversified undergraduate major disciplines, high development target comprehensiveness, obscure assessments and test standards, and so on. It has thus become an urgent problem of MLA promotion to find out how to draw on and utilize the experience and platform of academic graduate fostering to construct a system fit for the education, practice, thesis guidance and assessment for part-time graduates, while effectively motivating our country's MLA promotion and meeting the social demand for high-level personnel who has both solid basic theoretical and systematic knowledge, as well as professionalism and the capacity to undertake the design, construction, protection and management works of landscape architecture.

The discussion on the education system and teaching methods for the part-time MLA degree presented in this article is based on the above-mentioned background and takes into consideration the actual situation of the university the writers are currently serving.

2. Teaching system construction

2.1 The foundations of institution building

The history of facilitating the LA subject in Chong Qing University can be traced back to the 1930's, during the Second World War. At that time, the design and localization of ancient Chinese classical gardens was studied at the university. During the 1950's, an urban green organization was established. In 1981, the LA direction in the urban planning department accepted Master degree students. In 1985, MLA degree students were officially accepted. In 1987, LA undergraduate students were admitted. In 2004, LA master degree, doctor degree and post doctor degree mobile stations were set up independently. In 2005, the MLA section was officially approved. In 2006, admissions to the LA undergraduate program were opened. Throughout more than 80 years of openness to international countries, the LA department in Chong Qing University has become an important place for training LA field specialists in west of China.

Since 2005, 30 to 50 part-time MLA students have steadily entered the program every year. We have provided a total of 240 people pursuing a MLA. For the last two years, over 20 students have graduated successfully, the quality of their thesis receiving high recognition from the authorities. Through the practical teaching for a few years, we have gained valuable experiences for course structure, building of make-up course system, organization of tutors, thesis guidance, control of thesis quality, and perfection of the evaluation system. We have successfully established the teaching research project of "Teaching mode reform on part-time LA degree" in Chongqing.

2.2 Teaching system build-up

2.2.1 Setting up a group of courses with a clear subject direction

Currently, as scientific technology is developing by leaps and bounds, new knowledge, new theory and new technology are progressing with each passing day, and occupational differentiation becomes more and more detailed. The technical content and the degree of professionalism are becoming higher and higher. The present society needs a great amount of extremely talented candidates to fulfill the demand for multi-specification positions. All over the world, University education systems are actively adapting to these changes by adjusting education objectives and education models. Therefore, building up a group of courses with clear subject direction will greatly benefit the competitiveness and suitability of future candidates.

Along with the setup of landscape architecture as the first-level discipline, the following five second-level disciplines have been established according to the schooling history and the experience of our LA faculty: History Theory and Heritage Protection of Landscape Architecture, Mountain Landscape and Landscape Design, Earth Landscape Planning and Ecological Rehabilitation, Landscape Plant Application and Mountain Landscape Architecture Technology Science. In this context, the original curricula need to be further expanded and integrated, and adequate core curricula and relative curriculum groups should be established in light of discipline orientation.

2.2.2 Establishing open and flexible educational systems

The cultivation of part-time LA masters is specific to the current status of a critical shortage of high-level frontline personnel. Thus, the teaching program should be focused on know-how and blended with diverse disciplines. It should establish an open curriculum system which is able to accommodate and integrate multidisciplinary teaching resources and involve professionals from social organizations and management departments. This will better further the education of LA workers bearing certain basic theory and rich practical experience, and improve their know-how and scientific literacy, so as to meet the personnel demand of the tough and heavy tasks in the fields related to landscape architecture.

The curriculum design for part-time system should be aimed at "Occupational capacity". As this type of system is limited due to class time (two-day weekend or centralized lecturing), the curriculum for a given specialty should be divided into many independent units, and all units should integrate into a system in a certain form. As for lecturing, the latest scientific and technological achievements and advanced experiences and cases and so on should be incorporated for each curriculum, which will be conducive to cultivate the high-level professionals bearing innovation capacity, entrepreneurial capacity and hands-on capacity (Fig. 2).

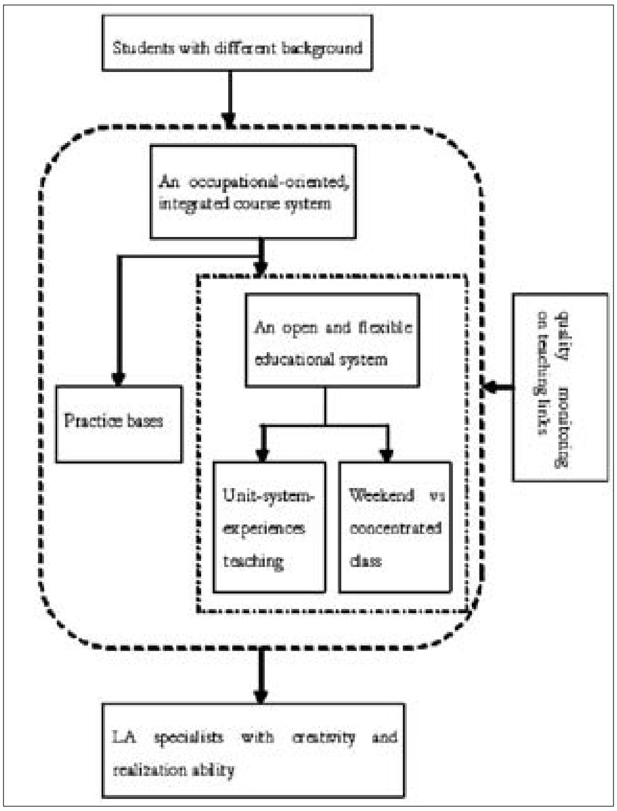
Students with different background
An occupational-oriented, integrated course system
An open and flexible educational system
Practice bases
quality monitoring on teaching links
Unit-system-experiences teaching
Weekend vs concentrated class
LA specialists with creativity and realization ability

Fig. 2. Part time MLA training program

2.2.3 Construction of a stable and efficient practice base

As the practice base is the second classroom for the master degree candidates of landscape architecture specialty, the quality of the practice base directly influences the acquisition of practical knowledge and the level of research paper. At present, practice bases with different professional levels and without much screening make adverse influences on the education of master degree candidates. Therefore, deep investigation on the academic level of design and scientific research units, and screening and establishment of stable and efficient practice bases play key roles in the education of part-time master degree candidates of landscape architecture specialty to a certain extent.

2.2.4 Excellent quality monitoring on teaching links

Excellent teaching management is a fine tradition of postgraduate education work in this university. However, as for the education of part-time master degree candidates of the landscape architecture specialization, special teaching time, student sources and paper writing require the establishment of a complete quality monitoring control system, as well as the intensification of the monitoring and management system on teaching, practice, paper topic selection, paper writing and other links, so as to improve the integral professional level of MLA candidates.

2.3 Problems and implementation strategies

2.3.1 Problem and countermeasures

(a) Various student background: Teach students in accordance with their aptitude, based on the teaching focus planning

(b) Different student levels: Carry out the application-oriented education goal, and strengthen the introduction of frontier theoretical trends.

(c) Different student employment goals: Give prominence to our teaching features, and provide universal basic training.

(d) Different teaching background: Depending on our teaching advantages and characteristic disciplines, attach importance to multi-disciplinary and multi-platform crossing and integration.

2.3.2 Implementation Strategy

(a) Combination of classroom teaching and group discussion.

(b) Combination of theory learning and field survey.

(c) Combination of actual work and summing-up for improvement.

(d) Combination of mutual responsibilities of intramural and extramural tutors.

(e) Combination of link control and practice results.

2.4 Teaching effects

Although providing a professional postgraduate education is the development trend of Chinese postgraduate education, research in this field is not deep and systematic enough. There is no deep research and practice on course system structure, effective teaching quality control and other aspects, and there are too many blank fields for application and generalization. Therefore, our research has more opportunities and a larger strategic development background.

The establishment of landscape architecture first-level discipline provides ample space for development for this discipline in China, and impulses the education development into a new stage. Research on specialty education and teaching modes is of great advantage to the training of high-level professionals with profound theoretical and practical experience, so as to significantly improve the accomplishments of Chinese landscape architecture practitioners, as well as the integral level and status of the landscape architecture discipline. The eight years of experience of this university in LA tells us that this specialization has indeed cultivated a batch of talented professionals and provided a high quality reeducation opportunity for practitioners. All students have good comments on this specialty. Most students have become the foregoers of their posts, with good social effects.

3. Summary and reflection

Since the landscape architecture specialization has started late in China, it is a new topic requiring continuous exploration, summing-up and feedback. Furthermore, for the new problems that have emerged in the process of constructing a new first-level discipline, there are no pre-existing answers and modes for reference. It is necessary to continue the exploration in the following fields.

3.1 Improve the training system in accordance with the students' aptitude

In accordance with the particularity of the MLA degree, an applicable teaching control mechanism and teaching system should be established. The conflicts between theory teaching and engineering practice need to be coordinated by means of applicable teaching units in the detailed teaching links.

As the total teaching period is fixed, the design courses and practice courses should be combined, and the practice time should be set appropriately. Furthermore, a strict teaching process control mechanism should be established to improve the teaching quality of master degree candidates.

3.2 Promote the construction of teaching staff on the discipline-oriented platform

Based on the advantageous platform of landscape architecture first-level discipline, a selection should be done to construct four discipline orientations with leading status in China and vivid regional characteristics, and establish a teacher team. By means of the construction of master curriculum group, the teaching talents team should be developed, so as to improve the integral accomplishments of the teaching staff.

3.3 Strengthen the selection and construction of practice bases

Approximately 3-5 practice bases should be selected for joint construction. According to the inherent advances and features of landscape architecture, the regional cooperative teaching topic for common guide should be put forward in the practice bases, carrying out the essential bi-tutorial system and responsibility system, and reforming the graduation thesis requirements and defense form. In addition, students should be taught in accordance with their aptitude and with a definite object in view.

3.4 Summarize the teaching achievements duly and form the promotion effect

The master station of landscape architecture specialty is to be actively constructed, including applications to the local government for the joint construction of the teaching project. A countrywide teaching seminar on landscape architecture master degree should be held, along with social surveys and interviews at various levels. Moreover, the international cooperation and exchange is to be conducted actively. Experiences and lessons should be continuously summarized for timely correction and improvement of a series of teaching reform schemes.

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Development and Operation of “Landscape Design Progress Notes” in Kyushu Regional Development Bureau, Mlit

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Abstract: Building infrastructure is very long term, so the concept of design must be continued throughout, from planning to maintenance, in order to create a good landscape. Yet this is quite impossible in Japan because the administrators are transferred every couple of years. Meanwhile, the Japanese ministry laid down the *Policy Outline for a Beautiful Country* in 2003, and the *Landscape Act* came into force in 2005. Based on this background, we developed a unique system at Kyushu Regional Development Bureau in 2007; it is called “Landscape Design Progress Notes”. This system covers all projects in the Kyushu region by the Ministry of Land, Infrastructure, Transport and Tourism and aims to continue the concept and to be flexible with change. This paper reports on the system along with examples of both a large and small-scale project.

Keywords: Education for Administrators, Landscape Development Management System, Landscape Design Progress Notes

1. Introduction

A certain measure of social infrastructure has been attained as a result of various development projects on national land which contributed to the remarkable economic growth in the post war era in Japan. However, on the other hand, it led to unintended consequences: the development came at the cost of the natural landscape with its four distinctive seasons and the urban landscape of modest living which were profoundly changed. Based on reflection on such losses, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) enacted the *Policy Outline for a Beautiful Country* in 2003 and it was followed by the enforcement of the *Landscape Act* in 2005. Various activities based on these new laws can be seen nationwide at present.

On the other hand, attempting to improve the quality of landscape elements in public works is not easy. This is because from surveying and planning to construction, management and maintenance public works are extremely long-term projects, and it is difficult to retain the original concept from the planning stage throughout, along with carrying out any improvements in response to the needs of the progressing time. This is especially so in this country, as the department is generally responsible for changes as the project proceeds. In addition, the people in charge are transferred every few years and consistency and sustainability in personnel cannot be guaranteed.

This has been pointed out as one of the greatest causes leading to construction which ignores well-thought out plans for the landscape or pointless superficial construction depending on the size of the budget.

Based on such a background, the Kyushu Regional Development Bureau of MLIT developed the ‘Landscape Development Management System,’ hereafter LDMS) and started operating it in 2007. This is a system centered on ‘Landscape Design Progress Notes’ and is based on the idea that transferring control of the overall maintenance progress is important. The system aims to improve the administrators’ consciousness as their influence on the creation of the landscape is significant. This paper is a report on a summary of the system and examples of its operation.

2. Details and characteristics of the system development

2.1 Detail of development

Taking those nationwide endeavors described above, the Kyushu Regional Development Bureau established the ‘Round-Table Conference for Beautiful Kyushu’ in February 2005, and issued a proposal for the ‘Landscape Nation Kyushu’ in the following year. That required five actions of the Development Bureau; one of which is the “establishment and realization of a system that creates beautiful social infrastructure by itself”.

What was emphasized in the proposal was that, as an organization, a firm awareness towards the landscape was to be held as well as the importance of its sustainability. Prior to this system, academic landscape advisors had previously been appointed for some projects under MLIT’s control, based on the *Policy Outline for a Beautiful Country* described above, but the effect was uneven across the projects. The greatest reason seemed to have been problems on the side of the organizations accepting the advisors. Compared to quantitative matters like disaster prevention and transport, awareness of the landscape within the Japanese administration is not so high to begin with, and the transfer of responsibilities among departments as well as the regular personnel changes described before caused great difficulties for consistency and sustainability. The ‘LDMS’ is intended to resolve these problems as a system.

2.2 Characteristics of the system

Based on this background, the ‘Landscape Committee’ was established in November 2006 and after some trials were carried out the system began regular operation in April 2007.

The basic flow of the system is thus: make ‘Landscape Design Progress Notes’ (to be described in the next paragraph) for each project, editing and modifying as necessary with the project progress, and getting approval from the ‘Landscape Committee’ at each stage. The following two points can be seen as major characteristics.

The first one is that all projects are subject to it. The purpose is to thoroughly raise awareness that every little improvement is equally important in creating daily landscapes, and not just large-scale improvement projects like large bridge construction. Of course, as it is difficult to control all the projects at once, the 'Landscape Committee' is divided into two categories: projects deemed especially important like designated landscape areas under the *Landscape Act* or in nature reserves, or those adjacent to sites proposed for inscription to World Heritage are to be dealt with by the head committee, and the others are dealt with by the landscape committees within the offices.

The second is that an office director is to give the explanations to the main 'Landscape Committee'. This is also aimed at establishing within an organization a firm understanding of consideration for the landscape by the office as a whole. Dr. Shimatani, one of the authors, is the director of the informal conference and the main Landscape Committee; Dr. Kobayashi is a member of the main Landscape Committee and director of the Committee of River and National Roads Office, Kumamoto, and Dr. Hoshino is a member of the committee in the same office.

Fig. 1 Landscape Committee meeting (head office)

3. Description of the 'Landscape Design Progress Notes'

Firstly, a description is presented of the 'Landscape Design Progress Notes' which are at the core of the system. Figure 2 shows a summary and Figure 3 is an example of an actual note. The overall structure of the 'Landscape Design Progress Notes' consists of INPUT, understanding the current situation at the preliminary planning level, OUTPUT, landscape proposals occurring at each stage of progress from the preliminary planning to project evaluation, and CHECK, evaluating the validity of each stage, and then recording the overall history. What we value most importantly is "4. Policy to realize desirable landscape" (double-lined box, Figure 4). Why is that?

Landscape design is not just about making structures and the surroundings look good, but also about considering how to offer comfortable spaces to users. A player (specialist or consultant) carries out the landscape design and the employer has the task of coaching or giving suitable suggestions. Suitable suggestions are presumed to be the 'intermediate items (= policy)' that link the major items ('desirable direction of the landscape') to the minor items ('considerations'). In short, these 'intermediate items = policy' are required to be moderately abstract (allowance for degrees of freedom) and moderately specific (directing). Taking an example from river improvement projects, the major items are generally applicable to any river, such as 'creating a beautiful country', 'making people-friendly rivers' and 'waterside with abundant greenery', and the minor items are such things as 'pedestrian walkway 3m wide', 'stone embankment', and 'green bank on 20% slope', which tend to be too specific and often restrict the design excessively. In contrast, the intermediate item could be, 'take the view of the other bank into account as the river width is 50m', 'consider the use and optimization for children as there is a primary school nearby': they are items considering the characteristics of the river to a certain extent but which are not too specific. In other words, the intermediate items are for enhancing the ideas of the designer (who decides the minor items) while realizing the major items. Part 4 will detail a couple of specific examples.

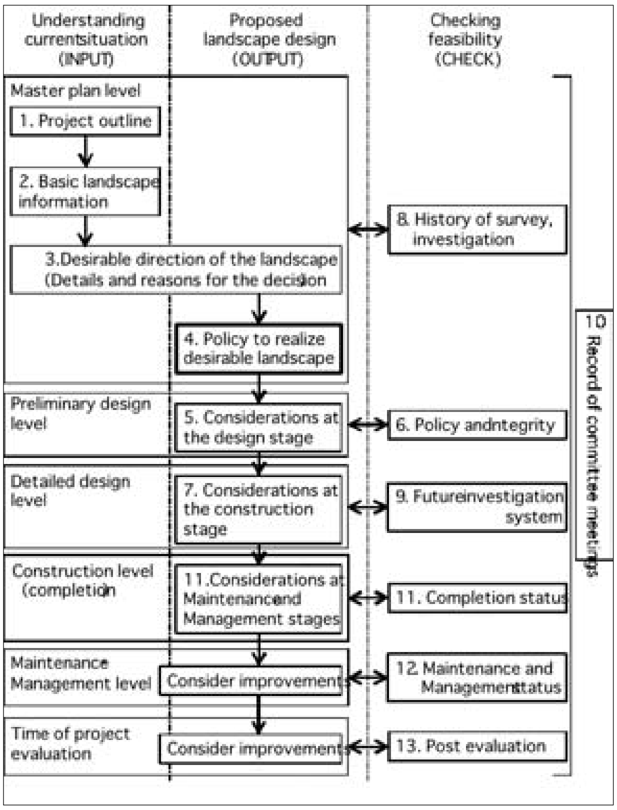
Understanding currentsituation (INPUT)
Proposed landscape design (OUTPUT)
Checking feasibility (CHECK)
Master plan level
1. Project outline
2. Basic landscape information
8. History of survey, investigation
3.Desirable direction of the landscape (Details and reasons for the decision
4. Policy to realize desirable landscape
10 Record of committee meetings
Preliminary design level
5. Considerations at the design stage
6. Policy andntegrity
Detailed design level
7. Considerations at the construction stage
9. Futureinvestigation system
Construction level (completion
11.Considerations at Maintenancend Management stages
11. Completion status
Maintenance Management level
Consider improvement
12. Maintenance and Managementstatus
Time of project evaluation
Consider improvement
13. Post evaluation

Fig. 2 Summary of the Landscape Design Progress Note

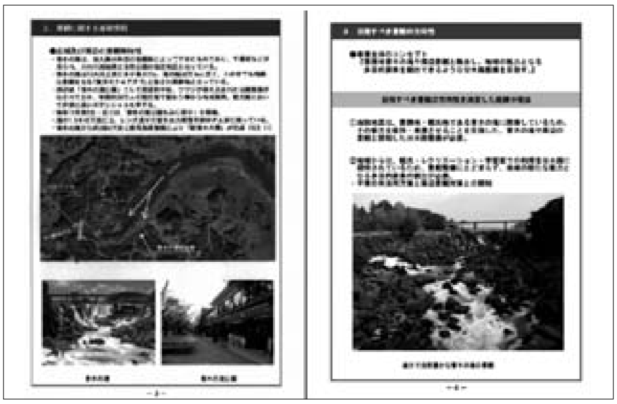

Fig. 3 Actual Landscape Design Progress Note (Flood diversion channel of Sogi Falls)

4. System operation example

This chapter introduces two projects in detail. One was a major project submitted to the main Landscape Committee and the other was a minor project that was submitted to an office's committee.

4.1 Major landscape improvement example

4.1.1 Summary of the project

The 'flood diversion channel of Sogi Falls' in Isa City, Kagoshima Prefecture is featured as an example of a major project. This project is part of a disaster recovery project after severe flood damage around the River Sendai area in north Kagoshima Prefecture in July 2006 and was designated a 'directly controlled special emergency measure for the seriously damaged river (commonly known as: emergency project for serious damage)'. The prepared flood diversion channel is 400m in length, 30m wide, and the volume of the branch flow is 200m^3/s. It was completed in March 2011. As it is adjacent to a tourist spot, the 'Sogi Falls', consideration for the landscape was valued from the beginning of the project, and the 'Committee for the Consideration of the Landscape of the Flood Diversion Channel of Sogi Falls' was established in July 2007 consisting of experienced academic experts and local residents. The co-authors, Drs. Kobayashi and Shimatani, became committee members and Dr. Hoshino was appointed as landscape advisor. It was reported three times to the Landscape Committee meetings at the head office: November 2007 (early stage), March 2008 (design stage), and March 2012 (construction stage (completion)). This project was chosen for the 'Good Design Sustainable Design Award' in 2012, evaluated thusly: "the result of creating a naturalistic river space, creating an amenity and giving new value to the local area beyond recovery from a natural disaster is epoch-making".[1]

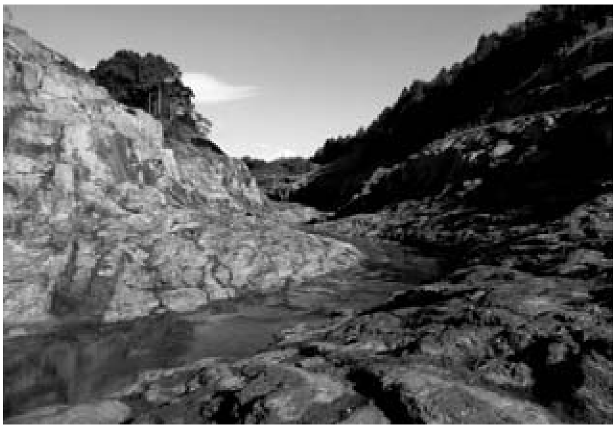

Fig. 4 Completed flood diversion channel of Sogi Falls

4.1.2 Characteristics of the improvement

The 'desirable direction (major item)' was determined as 'unifying the Sogi Falls, a scenic spot, and the surrounding landscape, and creating a multi-purpose element to make the local area attractive'. The 'policy (intermediate item)' for that was as follows:

1. Consideration for the surrounding landscape (unification of the flood diversion channel and Sogi Falls)
2. Three-dimensional investigation of the flood diversion channel alignment
3. Creating diverse amenities (Creating diverse spaces and flow design)

Based on these, 'design considerations (minor items)' were determined to be the 'investigation of the viewpoint and flow', 'investigation of the alignment of the flood diversion channel towards the flow of flood water and keeping water amenities', 'investigation of water flow in normal times (making a low and shallow channel)', and 'investigation of the 'change of spatial composition' by the differences in finish surfaces of the riverbed', and while investigating the hydraulic functions as a diversion channel and making minute adjustments, integrity with policies was sought by the making of models and careful site management.

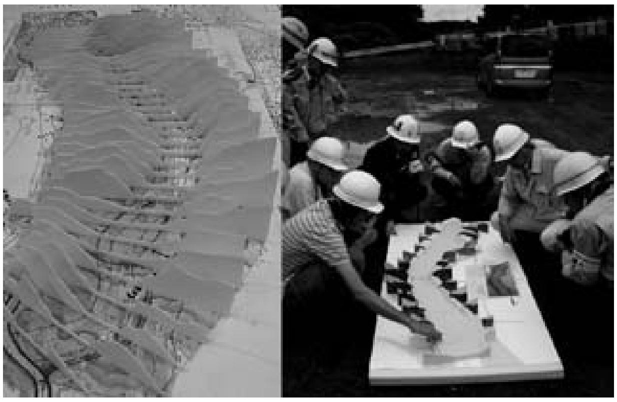

Fig. 5 The model and site management

A Landscape Investigative Committee was established for this project as it is large-scale and situated adjacent to a scenic spot, and an advisor was even appointed. Therefore, the system centered on the Landscape Design Progress Note was not a direct factor in improving the landscape, but rather offered a foundation to share with all the staff the importance of endeavors to improve the landscape. It is also the first example of operating the system consistently from the early stages to maintenance and management and to the post evaluation. In this actual Landscape Design Progress Note, "considerations and investigation points at the maintenance and management stage" are defined clearly as, together with the future use and optimization of the surrounding area, discussions on "the promotion of river maintenance in collaboration with the local area" which would be ongoing with residents, including attempts to regain recognition of its charms and optimize the attractiveness of the landscape for locals. However, in situations where the administrators change, there is a need to examine whether this description could be carried out successfully.

4.2 Minor landscape improvement example

4.2.1 Summary of the project

The improvement of an intersection in Tsunagi Town, Kumamoto, is featured as an example of a minor project. This intersection improvement project accompanies the road widening work on National Route 3, but this route had been a part of the Satsuma Highway from early modern times, and the Kameman Sake Brewery building, said to be the southernmost natural sake brewery, is situated adjacent to the intersection. There was a historic masonry retaining wall, and a problem was caused at the repair works by this retaining wall. It was reported twice to the Landscape Committee of the River and National Road Office Kumamoto, in No-

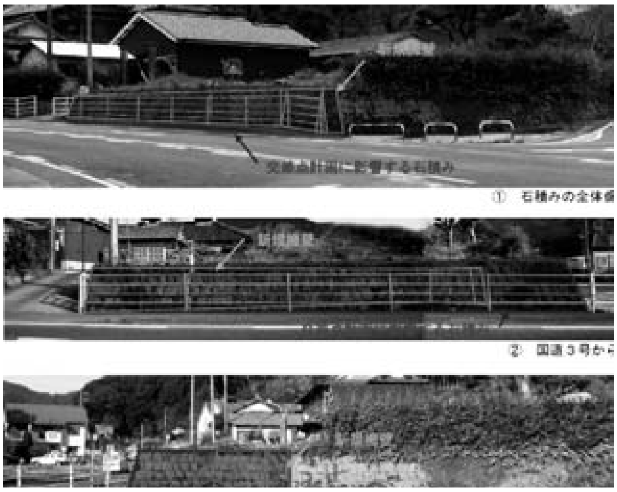

Fig. 6 Relation of new retaining wall (red) and the stone wall to be removed.

vember 2010 (Design Stage) and November 2011 (Construction stage (completion)).

4.2.2 Characteristics of the improvement

At the time when this project was first reported to the landscape committee in the office, the stone retaining wall was going to be partly removed and replaced by an ordinary concrete retaining wall. However, taking into account the landscape situation as mentioned, the opinion was raised that the new retaining wall should also be built by stonewall. There, the 'policy (intermediate item)' was proposed as: "reuse the existing wall stones (as it is the best in terms of landscape and environment)". As a result, with measures like "each existing stone is to be numbered for reuse in the new stone wall, ensuring the corner stones at the construction" and "obscure the borders between newly prepared parts and previously existing parts by laying the new and old stone materials alternatively and ensuring a firmly settled construction", the construction fully achieved realization of the policy.

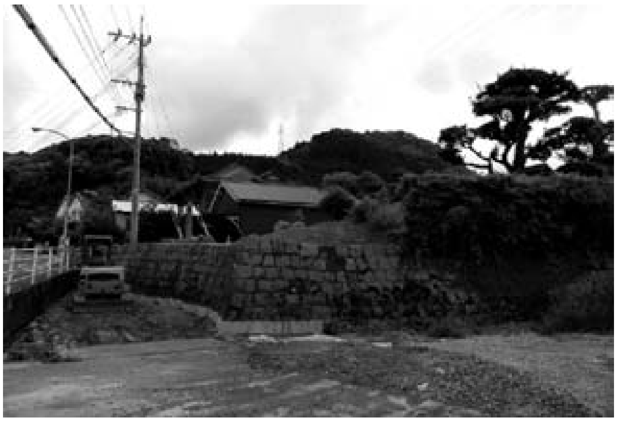

Fig. 7 Old and new stonewall settled without incongruity

4.3 Common effects seen in each case

The Landscape Design Progress Notes of each case were reported twice or three times: at the design and construction stages. In the Japanese government each stage has a different department in charge of it, so personnel changes are not the only issue. Both projects were cogitated on in the construction stage. So this means that the officials in the construction department further refined the concept of the design department by the Landscape Design Progress Note.

5. Conclusion

Finally, a summary is presented of the results of the 'LDMS' centered on the 'Landscape Design Progress Notes' and future challenges:

1) The 'LDMS' is believed to have succeeded to a certain degree in raising the awareness of all staff for landscaping. However, on the other hand, the impression of increased work is still strong and a reduction in the burden of making the Landscape Design Progress Notes is also needed. As one idea, digitalize and archive the Landscape Design Progress Notes, and build a search system easily accessed by staff.

2) With projects individually established by the landscape investigation committee like the flood diversion channel of Sogi Falls, it functions as a base to organize the contents of the landscape investigation, and to circulate around the staff. At the maintenance and management stages post construction, it is required to function in contributing to local promotion working with municipalities.

3) It is conceivable that this LDMS is more effective for minor projects like the intersection improvement in Tsunagi Town. However, in order to optimize the effects, the landscape committee at office level needs to be fully functioning and it is necessary to take personnel measures such as involving not only academics but also experts from the private sector.

Notes:

[1] http://www.g-mark.org/

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Barriers And Drivers For Collaborative Planning: The Need To Start New Educational Initiatives

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Abstract: While participatory forms of planning have been on the agenda for decades, barriers to collaborative planning within the public realm are widespread. Such barriers often prevent authorities from adopting more innovative approaches to planning. Barriers include a lack of awareness of collaborative potentials, a range of myths and prejudices regarding the cost and time needed to run collaborative processes, and a substantial low esteem for the layman's and other professional's knowledge. Based on experiences with collaborative planning in rural Denmark and in Germany, we observe how professional planners have acquired very few skills in communicative forms of planning that support more democratic and transdisciplinary decision making. Our experiences also show how carefully designed planning processes and the incorporation of knowledge sharing, social learning and formal education into planning programs might contribute to coping with barriers and development of new planning cultures. We conclude with suggestions to develop new planning cultures but also acknowledge that formal education initiatives which target planning professionals themselves are needed.

Keywords: Collaborative planning, rural areas, Denmark, Germany

1. Introduction

A planning process involving a number of different actors (citizens, organisations, and public authorities) and designed to seek commonly agreed directions for future development through communication, negotiation and sharing of knowledge and skills is called *collaborative planning*. If these agreed on directions have a framework character and a vision linked to development objectives, the product might be termed a *strategy* (Albrechts 2004, Healey 1997). This paper is about collaborative and strategic planning processes aiming at sustainable development. What can be learned from existing practices? And what educational initiatives are needed in order to promote the evolution of such practices? Worldwide experience has shown how collaborative planning efforts contribute to more effective and efficient solutions, enhancing the political legitimacy of planning (Healey 2007, Innes and Booher 2010). However, experience also indicates that there may be fundamental institutional limitations for further evolution of collaborative planning practices. Such limitations are linked to legislation, planning cultures, and to resource distribution (Healey 1998).

In urban spatial planning, collaboration practice goes back to the end of the 1970s. Here, such practice has been successfully developed and refined. In countryside and landscape planning, however, collaborative approaches that venture beyond obligatory consultations have been sparser. For example, there appears to be a common assumption that any planning related to environmental and natural resource management must be based mainly on scientific reasoning – rather than on local knowledge (Petts 2006 in Selman 2012).

However, general changes in society have also led to altered knowledge demands in countryside and landscape planning. Consequently, new planning approaches are called for. Such approaches include claims for more comprehensive and proactive methods that respond to issues of multifunctionality, aesthetics, health and quality of live aspects. By comprehensive and proactive planning we understand forms of planning that are development- and action-oriented, consider specific resources (humans and material) as their point of departure, and have their main focus on place making. This is in contrast to traditional forms of sectorial and interest oriented land use planning, mainly focusing of conflicts through a reactive balancing of interests (Albrechts 2004).

2. About collaborative and strategic planning

The notion of collaborative planning (sometimes termed communicative planning) may be seen as a supplementary or even an alternative to rational and positivist forms of planning (Sager 1994, Healey 2008). Changing emphasis in democracy ideals and new planning challenges associated with complex problems have generated a need for integrative thinking and decision making processes.

The main focus of collaborative planning theory is therefore the democratic integration of different interests and knowledge into social learning processes, thus making explicit the differences and diversity in the use of places (Healey 2007). Collaborative forms of planning involve a great variety of actors who are relevant to a specific planning issue. The process itself is carried out through cultivating the capacity for communication and learning about shared places and values (Healey 2007, Sandercock 2003). According to Healey (1997:294) "there are no standard answers to the specification of the systemic institutional design of governance systems for inclusionary participatory democratic practice". However, at least the following aspects should be included: establishing arenas for arguments, defining scope and style of discourses, sorting arguments, creating new discourses, achieving agreements while maintaining reflexive critiques (Healey 2003). Principles of collaborative planning as described above have been linked to a revision of strategic planning (Healey 1997 and 2009, Albrechts 2004), defining collaborative planning and strategy making as "public-sector-led socio-spatial processes through which visions, actions and means for implementation are produced that shape and frame what a place is and may become" (Albrechts 2004:747). Such a planning process is characterised by its focus on decisions and actions; the building of new ideas and social networks; making common sense among a diversity of actors about what is and what could be; an awareness of external trends and forces; and the capability of focusing on a limited number of strategic issues. The strategy in itself is defined as a framework for action and the coordination of action (Albrechts 2004). Based on urban planning experience, Healey (2009) suggests strategic planning processes to include four interacting dimensions: Mobilising attention, scoping the situation, enlarging intelligence, and creating frames and selecting actions. This framework can easily be applied to rural landscape planning contexts (Dias-Sardina *et* *al* 2012, Primdahl *et al* forthcoming) and in 4.1 and 4.2 we outline experiences from such processes. In the following sections we reflect on barriers and drivers for initiating and participating in collaborative and strategic planning processes, which may be seen by many professionals as a challenge because the approach differs substantially from the classic sector and expert-driven form of land use planning.

3. Barriers and drivers for collaborative planning initiatives

Barriers and prerequisites for successful collaborative planning have been rather systematically discussed in theoretical planning literature (see for example Innes and Booher 2010, Randolph 2004). Barriers and drivers inside public institutions for initiating and participating in collaborative and strategic planning initiatives have also been discussed, but mainly in relation to pros and cons about the substance and characteristics of collaborative planning. From these perspectives general barriers for initiating collaborative planning initiatives appear to be linked to both personal and institutional (negative) convictions about collaborative planning, and these seem to be related to ideological consideration, myths, or negative experiences. Examples include the following:

- too many conflicting interests and consensus cannot be achieved;
- public participation is too costly and time consuming;
- laymen's knowledge is not seen as useful in more science dependent planning fields like environmental planning;
- collaborative planning is seen as a naïve planning approach, consensus is not realistic.

On the driver side arguments for collaborative planning include:

- the democracy aspect will be deepened and enhanced;
- better solutions are produced with less conflicts and better implementation opportunities;
- the legitimacy of the planning process will be enhanced.

A recent Danish study of collaborative planning practices offers some empirical evidence concerning the barriers and drivers for collaborative planning (Sehested and Lund 2012). Findings are based on a Delphi study organised with two rounds of questions. Respondents are sampled from Danish municipal planning contexts comprising professionals, citizens, interest organisations, and politicians answering specifically in relation to planning experiences gained in their own municipality.

It is found that conflicting interests and self-interest, organizational issues, political leadership and the cultural practices within public organisations constitute significant barriers for collaborative planning. Also, the lack of resources is frequently mentioned. Conflicting interests and self-interest are seen as the greatest barriers and here all type of actors are criticized: "the citizens do not want changes, investors focus only on earning money and do not consider the 'whole', professionals do only see limitations and not possibilities, and politicians do not dare to make priorities and make frames" (Sehested and Lund 2012:12). From a professional planning point of view, planning has always had the task of coping with conflicting interests and handling spatial conflicts. However, the new issue for professionals within a collaborative planning context is how to handle *both* professional analytical and design tasks *and* mediate between conflicting interests and create common understanding and ownership of new solutions.

Inflexible planning cultures are seen as the most important barrier by planners, politicians and leaders, and as the second most important by citizen and interest organisations. Locked understanding of what is good and bad planning and planning solutions ('normally we do so'), together with lack of confidence and lack of respect of knowledge of external actors (citizens, interest organisations, etc.), are mentioned as the most important problems. In addition many professionals see planning as a technical/juridical discipline where compliance with legislations and guidelines in order not to make mistakes and receive complaints is seen as the essential task. Such an approach may also constitute an important barrier. This latter attitude raises the question of how new planning cultures can be developed and 'cultivated' and may also claim for more risk-willing leadership (leaving the 'zero failure culture').

Lack of political leadership is mentioned as the third most important barrier. By this people mean a lack of overall political guidelines, objectives and an economic prioritization regarding development. Closely related to the issue of prioritizations is the lack of resources. Without prioritizations and availability of resources it is seen as difficult to initiate collaborative planning processes, and less motivating to do so. It is also mentioned that political support is important because collaborative planning can be risky and lead to criticism.

The last issue mentioned in the study refers to organizational problems. All respondents in the study see lack of coordination between departments and administrations in the municipality as a problem. This problem is not strictly related to the question of barriers for initiating collaborative planning processes, but is more related to quality of the process and who is participating and representing the municipality in the collaborative planning process. Many professionals mention that collaborative planning process in order to take care of the 'whole' should be done in collaboration between different departments and administrations. This issue is obviously interlinked with the issue of leadership and planning cultures.

4. Experiences from Denmark and Germany

In this section we focus on barriers and drivers we have met in our own work as action researchers engaged in local collaborative and strategic planning, mainly in cooperation with different local planning authorities. Our experiences are based on observations made during planning processes. In addition, knowledge extracted from interviews and questionnaires with planners form part of our knowledge base. In Denmark and Germany there is a well-established tradition of collaboration between public and private actors both in spatial planning and in other policy fields. On this background, Danish and German spatial planning cultures may be expected to provide a breeding ground for learning about collaborative planning processes including applications of various forms of knowledge and skills.

4.1 Danish experiences

With the aim of developing new models for planning and management of rural landscapes, the University of Copenhagen (the Danish authors of this article), together with four municipalities in Denmark, took the initiative to start up a planning program on local collaborative and strategic planning. Four concrete planning projects were included and formed the experimentarium of the program. Learning and educational dimensions were integrated in the program, offering the involved municipalities lectures and workshops in various collaborative planning processes as well as room for common reflection and exchange of experiences. The learning and educational part was meant as an activity to support the on-going planning projects, but it was also used as an opportunity for the municipalities to enable a broader share of their employees to benefit from the program. Based on experiences from two of the planning projects we describe some of the barriers and general challenges we encountered and how we both successfully and less successfully tried to cope with these. The objectives of the two planning projects were to design and implement a collaborative planning process for the development of a regional 'Nature park' and a strategy for 'The future of sustainable agriculture', respectively. Both processes were inspired by the strategic planning framework proposed by Healey (2009) and described in section 2.

In the Nature park project several challenges were foreseen from the outset. The idea of the project was born in the municipal Department for Comprehensive Planning and Rural development (DCPR) and it was acknowledged that the project would require engagement from other departments as well. A challenge in this respect was that the DCPR had a lot of positive experience with collaborative planning project whereas some of the other departments were less experienced and had many reservations against collaborative planning projects (waste of time, we know what is needed, etc.). In relation to the involvement of the public (users and landowners of the area) it was seen as a challenge that the planning areas covered a large area with no social coherence (seven individual local communities) and no common understanding of the landscape as a coherent entity. To cope with these challenges the planning process was prepared with attention to Healey's first dimension of a strategy planning process: mobilizing attention and scoping the situation before entering the 'real' strategy making process (dimension 3 and 4). The aim was to create a common interest and understanding of the area and its potentials, both among the citizens and municipality staff. This initial part of the strategy making process was done through different types of disciplinary narrative events: A special arrangement for municipality staff only and some narrative sessions open for the wider public. Both events included lecture by external experts who, with the eyes of an outsider, gave their narrative on how they perceived and conceived the area. Specifically, this was done in relation to landscape history and heritage, geology, agriculture, natural history and habitats, cultural history (art and literature), and climate change. These events were supplemented by an excursion in the area, where citizen and municipality staffs were invited to tell their story about the landscape. The narrative session for the municipality staff was finalized with a common seminar on the future prospect of the area. The narrative sessions for the wider public were followed up by concrete strategy making workshops for interested citizens running over three evenings where staff from DCPR was also invited to participate.

In spite of great reservations from the outset, we learned that a narrative workshop where external experts and municipal officers from different departments mutually tell stories, listen and discuss functioned very well. By the end of the day all participants expressed that it had been an inspiring day with rich discussions on the future prospects for the area. However, despite this very positive start we did not succeed in engaging the different municipality departments in the subsequent processes in which only staff from the DCPR participated. This may be explained partly by a lack of support from the superior leadership, and partly by fundamental organizational changes leaving staff in an insecure situation. In the second project 'The future of sustainable agriculture' (within the municipality in question) the challenge from the outset was a high level of conflicting interests combined with the lack of a common understanding of what the future of sustainable agriculture was about. To cope with this, a theater workshop was arranged including all relevant stakeholders, facilitated by an external consultant and an actor. The future of agriculture was discussed with the point of departure being an interview with a municipal planner acting like he was in the year 2020, looking back at a planning process which had functioned as a good steering framework for the development of a sustainable agriculture. Also, a 'bank director' (the actor) received a 'phone call' during the interview about possible loans to an expanding farm. For many non-farmers this session was an eye-opener concerning the current financial crisis which is currently hitting agriculture hard in Denmark. The workshop was followed by a bus-tour focused on existing planning problems and conflicts. These events together with a comprehensive landscape analysis of two different agricultural landscapes, done by the planning staff themselves in cooperation with university staff, formed the input to the planning process. During the planning process several plan drafts were discussed with stakeholders. In spite of a high level of conflicting interests, this project showed us that a careful stakeholder and landscape analysis combined with a facilitated process of involvement, can contribute to new levels of understanding and consensus. The resulting plan is not a 'perfect plan' but a step in a desired direction of a common language and shared visions for the future.

From the educational part of the program we learned (based on an evaluation-oriented questionnaire filled out by all four project partners) that giving planning staff the possibility to get out the 'office', meet other planners coping with same or related challenges, and have the time for exchange of experience was motivating and stimulating for reflections on existing planning cultures and how these could be changed. We also learned that specifically designed education events targeting specific demands were effective when new skills and understanding in the planning process was needed. Collaboration between knowledge producing institutions and planning practice was finally mentioned as a highly productive way of fostered new ideas.

4.2 Experiences from Germany

In the following example new approaches emerge that are "active, result-oriented and project-driven" (Meijsmans 2010). These approaches are meant as drivers to co-produce ideas for future development, and to overcome communication barriers. The case example is part of the German Rhineland near the city of Cologne. Here planning processes of public discourse were monitored for several years (Peters 2011). Wishing to move away from the typically formal nature of decision making, authorities decided to include collaborative design approaches that simultaneously address landscape issues at multiple scales and levels of decision making. For example, a regional open space system would, from the outset, be conceived at a regional scale. Then, on the local scale, areas were identified that lend themselves to be included into project oriented design. To keep the strategic nature of the exercise, all designs remained "policy compliant" (De Zwart 2010:79). The example of designs for a C-shaped open space system, aptly named 'Grünes C' illustrates approaches to participatory planning and design at a regional scale. For the purpose of this paper, experience gained during one public meeting is highlighted. During this meeting four landscape architects were invited to explain their initial ideas. Since all of the competitors were present at the same time, the presenters were careful not to reveal many details. They were speaking vaguely of "new types of landscape" and "exploring the special qualities of regional agriculture". People took part in discussions in much greater numbers than one might have expected. For the process manager this great turn-out was a success. People were really interested. They all hoped to get a chance to influence the plans at an early stage, before the 'usual suspects' would make up their minds about what would be best. Expectations of municipal representatives and of the members of interest groups were also high. Apparently, none of these expectations were met when the designers went on at length describing landscape analysis (about landscapes that most people in the audience thought they know better than the invited experts) but spend little time on elucidating their proposals for the future. The landscape architects also returned to their offices disappointed. Nobody from the audience had supplied any helpful comments to their presentations. Three lessons might be learned from this example, lessons which support experience gained during decades of practical planning. First, to accommodate the needs of design competitions, all presentations must remain anonymous until the end. Second, even early presentations must include substantial ideas and design proposals; people will only ask questions about new ideas if they go beyond vague mottos. Designers must present details, including those that are meant to illustrate a strategy. People understand strategy and make comments in ways that designers can pick up and include during the next stage of planning. Third, the dialogue between politicians, administrators, landscape experts and members of the public must begin at an early stage. In this case, the public should have been involved when the landscape architects were selected and invited to take part in the competition. People would then have been able to insert questions into the documents of the competition for designers to consider from the beginning. As it turned out, in retrospect, all decision making remained inside the circle of people who were members of the jury of the competition. If the process had been more open from the start even more people would have participated.

5. Discussion and conclusion

Various barriers for collaborative planning processes exist; many of them can be coped with through careful process preparation and management, resulting in both efficient and effective planning processes. Careful management and preparation include (i) initial analysis of 'situation': the stakeholders (who are they), possible challenges, levels of conflicts, etc.; (ii) clearness about purpose, length of process and limits of collaborative procedure; and (iii) willingness to guide and facilitate the process. Effective and efficient planning processes may also demand broad and multilevel collaboration inside planning institutions (the engaging of more departments). This calls for internal leadership that motivates collaboration within planning institutions and leaves room for risk-taking, a subject which is rarely taught in schools. We can also conclude that learning within ongoing collaborative planning processes is important. Especially in pioneering projects concerning new planning subjects where full scale examples are rare or non-existing, the techniques and processes must be learnt from scratch. Therefore it may be a good idea to combine such pioneering projects with lectures, seminars and evaluations. University institutions have a potential role to play in enhancing the competence level of municipal planning administrations. Also, for citizens and community groups, fundamental insights must be gained before collaborative planning processes – involving the capacity to take collective decisions (and subsequent collective actions) concerning not only municipal interests but also private property rights (recreational access for example) – become mainstream practices. In socially fragmented communities this is a big challenge, but positive results may be rewarding; well functioning communities are as much the *result* of successful planning projects, as the reason. This is an important insight for collaborative facilitators to be aware of. When positive landscapes evolve as a result of inclusive processes, the power of the good example may be a key to follow. When rural people can see how successful their neighbouring parish has been, this may be an eye-opener and a lesson by itself. Full scale and successfully implemented examples are needed. Collaborative planning is, or should be, a subject of university planning courses. Here, good examples and theoretical frameworks function as introductory parts of curricula. However, real life (or close to real life) planning projects are essential. In cooperation with relevant stakeholders and (ideally) in close contact with public planning authorities, students should be given the chance to gain insights and hands on experiences of collaborative planning projects. Hardcore knowledge and analytical skills, sensitive imagination, and creative ideas are prerequisites for successful landscape planning. However, communicative skills, including the ability to promote enthusiasm, to talk openly about conflicts, to mobilise and confront external and internal knowledge, and to frame a common vision, are equally needed and they must be learned. Continuing educational programs are also needed, including those that are targeted at public planners. These should contain the abovementioned skills. But also courses focusing on leadership and how to overcome barriers in collaborative decision making are needed, including skills to overcome social, cultural and language barriers.

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University Supported *Machizukuri* Experimentations

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Abstract: Machizukuri experimentations led by Shigeru Satoh in its own laboratory at Waseda University are an interesting sample of collaboration between an inhabitant's organisation and university. These experimentations are the product of a bottom-up inclination of Japanese society and the influence of overseas experimentations. The case study chosen is the renewal of a neighbourhood of wooden houses in the north of Shinjuku in Tokyo in case of a large earthquake. Satoh's laboratory is invited by an inhabitant's association, as can easily found in urban areas. The experimentation is based on a series of workshops involving inhabitants organised by the graduate students. They are interesting opportunities for students to use the tools of architecture such as mapping, sketching and spatialisation to draw the future of the neighbourhood. Architects and, moreover, students in architecture can be seen as good experts for the community. This new function, like advocacy planners in the USA, can be seen as an interesting opportunity for architects to participate in the debates on urban landscape preservation.

Keywords: machizukuri, university, *chônaikai*, Team 10, workshop, advocacy planner

1. Introduction

This article is based on my experience when I joined the urban design laboratory of Shigeru Satoh at Waseda University in Tokyo. Shigeru Satoh appears to be the first one to define in English the concept of *machizukuri* (まちづくり, community planning):

"Litterally translating as "town building" or "community development" *Machizukuri* became an extremely active field in Japan during the 1990s, *Machizukuri* is essentially a method in which the local community itself takes the lead in effecting gradual environmental improvements to recreate desirable neighbourhood environments" (Satoh 2004). *Machizukuri* is a neologism created with the word *machi* (町, town) and the verb *tsukuru* (作る, elaborate). *Machizukuri* is an interesting and more and more recognised field in the urban planning process in Japan. Shigeru Satoh's work within his laboratory participates in a movement of Japanese society promoting bottom-up organisation as opposed to a traditional top-down vision. This includes decentralisation policy and a wide citizen's participation in decisional process. The main field of interest in Western research is the sociological and political aspect of *machizukuri*. French researcher Patricia Marmignon (2010) described how these organisations form Japanese cities. However, the influence of *machizukuri* on the way to conduct architectural and urban projects is quite unknown, particularly the evolution of the architect profession and changes in the way to built cities nowadays. However, Yann Nussaume (2004) led a really interesting work about the evolution of the architectural theory in Japan during the 20th century.

In Tokyo, Professor Shigeru Satoh pursues a theoretical and holistic research about *machizukuri*. With his laboratory's team, he conducts experiments which explore how to involve the community in urban process. These experimentations are conducted and lead by students and researchers following the required request on behalf of inhabitants. It is a really interesting example of collaboration for the renewal and the preservation of urban landscape.

2. Challenge tackled

Further research needs to be conducted to determine which role that architect can have in *machizukuri*'s process and particularly if a specific formation is needed. Our first hypothesis is that the experience of Shigeru Satoh is an interesting model because he has led such research for a long time and in different contexts. Moreover, our second hypothesis is that we can find new skills and methods in this collaboration between a research team and a group of inhabitants.

3. Approach applied

The method to carry out this research paper is an overall summary of two types of analysis: a historical one and a case study. The historical study's aim is to understand the background of *machizukuri* as Shigeru Satoh has defined it: the history of Waseda department of architecture, the career of Shigeru Satoh and also the bridge with some other experiments all over the world. One of the very interesting points is the relationship between Japanese teachers and some members of CIAM (Le Corbusier especially) and Team X (Giancarlo de Carlo, Allison & Peter Smithson, Christopher Alexander).

These analyses will focus on three points:

- The practice of workshops.
- Links between university and inhabitants.
- Pluridisciplinarity.

The case study is an opportunity to understand the apparition and the evolution of *machizukuri* at Waseda University. The choice of case study was directed by my participation and my knowledge of this experimentation.

3.1 Historical study

3.1.1 Waseda Department of Architecture

The Department of Architecture was created in 1910 at Waseda University. The first class of architecture in Japan was held by Josiah Conder (a young British architect) at the Imperial University of Tokyo in 1877 (Nussaume 2004). In this sense, the architectural discipline as well as the profession in Japan is young. The large earthquake which shook all the Kantô region in 1923 was an important event for architects and urban planners, since it was the first time that the modern city was injured. During this dramatic episode, one figure emerged: the professor of architecture at Waseda University

Kon Wajirô 今和次郎. He used to be close to folk-studies and the field of anthropology. Right after the earthquake, he started a survey of Barracks and also reconstructed community places such as a café with his group of artist friends (Gennifer 1998). In this experiences we can find that will be later the main principle of *machizukuri*:
– interdisciplinary collaboration between university and inhabitants
– statement of the city

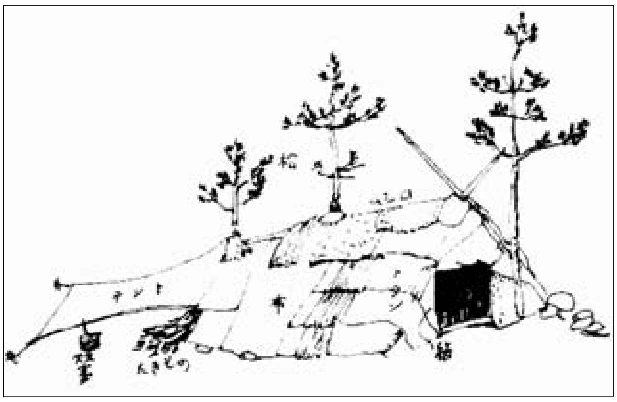

Figure 1. Kon Wajiro's survey after the Great Kantô earthquake, 1923.

All his studies of existing cities had a great influence on Department of Architecture at Waseda. He was professor there throughout his entire career, training many architects in this idea of mixing anthropology and architecture.

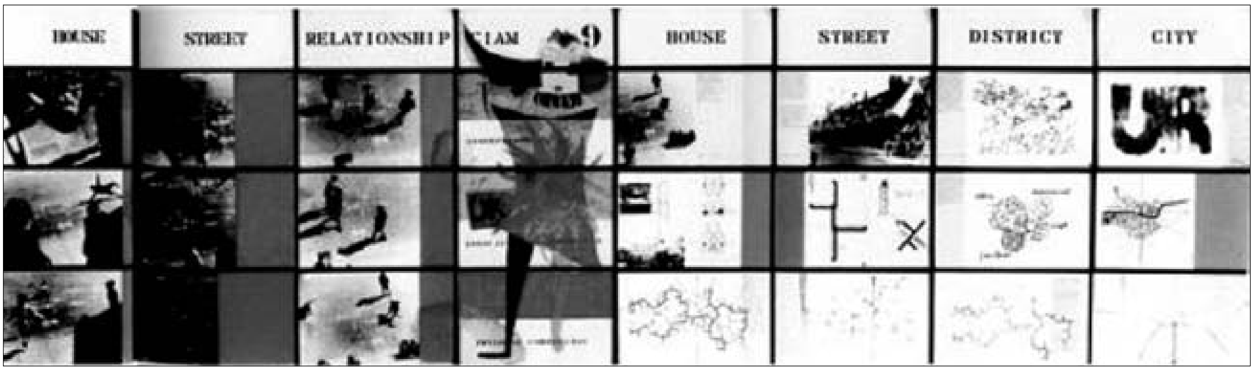

Fig. 2: Urban re-identification grid, Allison and Peter Smithson, 1953

In 1966 youth-led protest movements appeared at Waseda University against the Vietnam War and the rise of university fees. Furthermore, there was also a crisis of instruction in private universities, who were too far from the daily life. The necessity for university and intellectual to be more close to society explained the apparition of *machizukuri* experimentations at this time. *Toshikeikaku* (都市計画, bureaucratic urbanism) revealed at this time its own limits. The 60's Metabolism, which had its heart at the public university of Tokyo, is the well known aspect of Japanese architecture and urbanism. It was really close to this idea of bureaucratic and large scale urbanism. Private universities, in need of subvention, began to approach municipalities and sell their own expertise.

Nowadays, research in urban design is conducted inside the Department of Architecture in Waseda university by three teachers in their own laboratories: Takashi Ariga, Haruhiko Goto and Shigeru Satoh. All of them lead *machizukuri* experimentations with their team and students. Despite the fact that most of the students join large companies of construction after their graduation, urban design students from one of the most famous university in Japan are aware of the importance of community involvement and small-scale redevelopment in preserving urban landscape.

3.1.2 Shigeru Satoh's career

Shigeru Satoh is a teacher at Waseda University since 1990 and director of Waseda Research Institute of Urban Studies since 2005. Graduated as doctor from Waseda University in 1982, he was a fellow researcher in California University of Berkeley. This became an amazing opportunity for him to be aware of the experimentations conducted in the USA and especially those carried out by Christopher Alexander. We can consider that Shigeru Satoh's experimentation is inspired by the theory of this member of Team 10 who reacted to CIAM meetings. They consider that we can no longer think the city with the plan. It is now necessary to introduce the idea of process in the city project (Taylor 1975). Influenced by social sciences, the Team 10 members introduced the new word cluster, instead of the traditional world to define the city as house, street, neighbourhood, etc. In this way, it is also easier for non-Western architects to re-use those concepts. Japanese architects like Kenzo Tange, Kisho Kurokawa and Fumihiko Maki had the opportunity to join their meetings. Finally, with the re-actualisation of tools like the grid and photography, Team 10 members had a new look on the urban landscape and started to see it as something to be preserved.

The career of Shigeru Satoh was also affected by the large earthquake in Kobe in 1995. He started his research with the comprehension of castle town cities in Japan (Satoh 1999). He and his laboratory moved to Kobe for 18 months to record and research the recovery process of Noda-Hokubu district. But the Kobe's earthquake stressed the fact that the Japanese city with large area of wooden houses is in danger. So he began a study of these areas in Tokyo in order to preserve them from earthquakes and, especially, fires.

Due to this international experience, he and his laboratory joined the International Laboratory of Architecture and Urban Design (ILAUD). The ILAUD was founded by Giancarlo de Carlo, an Italian member of Team 10. Every year, groups of teachers and students from universities worldwide meet for a workshop with local communities. Due to his various and numbered overseas contacts, he and his laboratory are now making many researches in China, but also in Vietnam or in Italy.

3.2 Case study

3.2.1 Relation between university and community

Shigeru Satoh's experimentation in his laboratory is leaned on an evolution of Japanese society based on community, characterised by organisations like NPO (Non Profit Organisation), *chônaikai* (町内会), *jichikai* (自治会) or *komyuniti* (コミュニチー). Such kinds of organisation are the social statement of the neighbourhood. They take care of the welfare of elderly people, cleaning the streets, fire proofing and also prevention in case of earthquakes. Prohibited during American occupation, these organisations re-emerged during the 1960's. First, in the field of urban preservation, these organisations opposed the large bureaucratic urban plan. For example, they became really present during trials in response to large industrial pollution. They later changed from opposition to proposition (Watanabe Shun-ichi 2007).

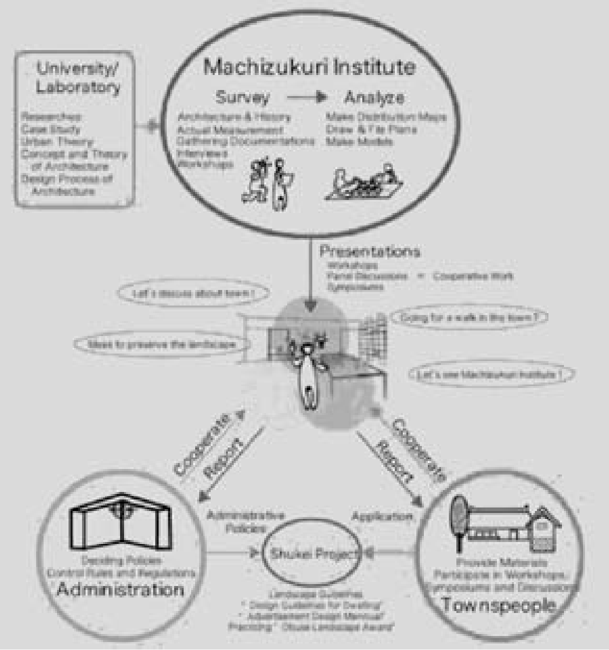
University/ Laboratory
Researches
Case Study
Urban Theory
Concept and Theory of Architecture
Design Process of Architecture
Machizukuri Institute
Survey
Analyze
Architecture & History
Actual Measurement
Gathering Documentations
Interviews
Workshops
Make Distribution Maps
Draw & File Plans
Make Models
Presentations
Workshops
Panel Discussions = Cooperative Work
Symposiums
Let's discuss about town!
Going for a walk in the town?
Ideas to preserve the landscape
Let's see Machizukuri Institute!
Cooperate
Report
Cooperate
Report
Administrative Policies
Application
Shukei Project
Deciding Policies
Control Rules and Regulations
Administration
Provide Materials
Participate in Workshops, Symposiums and Discussion
Townspeople
Landscape Guideline
" Design Guidelines for Dwelling"
" Advertisement Design Manual"
Practicing " Obuse Landscape Award"

Fig. 3. Diagram of collaboration between universities, municipalities and inhabitants' organisations

More studies need to be conducted to understand the financial and contractual link between all the partners.

The study case chosen is a long-term project of the laboratory. It consists in a series of neighbourhood renewals along the Kanda river, on the west-side of Tokyo, in the north of Shinjuku. Okubo's project is the third neighbourhood. The interesting point is that all of the projects are surrounding the Waseda campus. So the university is taking part in the renewal of its own urban territory. The request of the inhabitant's organisation is to elaborate a scenario in case of the "Big one", a large earthquake, from provisory housing to reconstruction. But this scenario is also an opportunity to renovate the neighbourhood with the perspective of preserving it. Okubo's neighbourhood is characterised by the high density of wooden houses surrounded by transportation infrastructure and high-rise building. It is a fifteen-minute walk from the Shinjuku railway station. Such kinds of neighbourhood are in peril due to a large speculation operation.

3.2.2 Methodology

The process of the project is divided into two parts. First, the laboratory members accompanied by the inhabitants established a diagnostic of the neighbourhood. Following this, they created a scenario for the reconstruction of the neighbourhood after an urban disaster like an earthquake. Finally, based on this scenario, they began some projects to immediately improve the housing. Shigeru Satoh and his laboratory elaborated all these workshops. The students of the graduate school are leaders in the organisation of the processes. They are supported by a pluridisciplinary team of researchers including architects, urban planners, sociologists, economists but also specialists in land-reajustment.

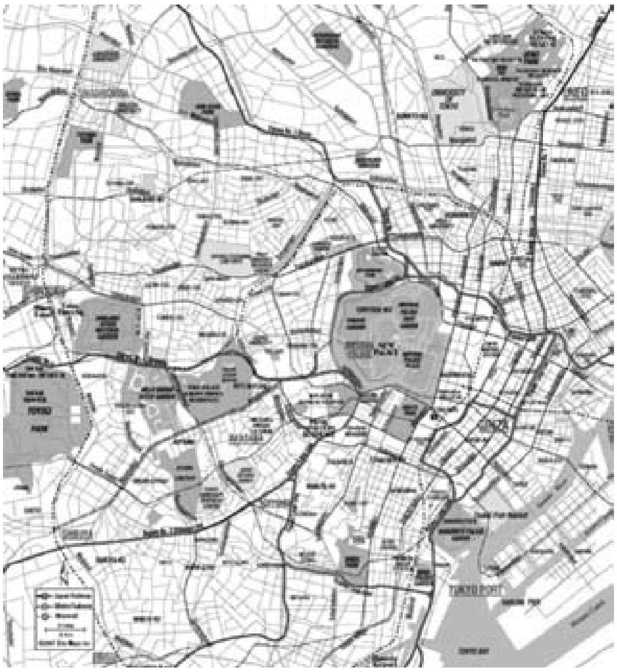

Fig. 4. Location of Okubo's neighbourhood.

The first stage consists of a visit of the neighbourhood with the inhabitants. Three groups with different itineraries walked, took pictures, made drawings and observations. The laboratory's members are in charge of collecting and issuing the results. At this stage, we can easily understand which type of specific tools architects carry with them: the tools of representation such as mapping. Students are able to produce a well-documented paper to communicate the results of the diagnostic.

The second stage is a series of workshops which was held on Sunday mornings in a classroom in the primary school of the neighbourhood. I will introduce as follows the different workshops held with inhabitants.

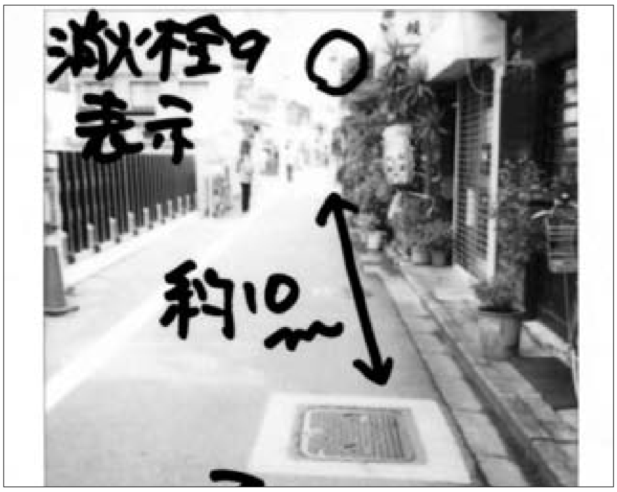

Fig. 5. Polaroid annotated by inhabitants during neighbourhood visit.

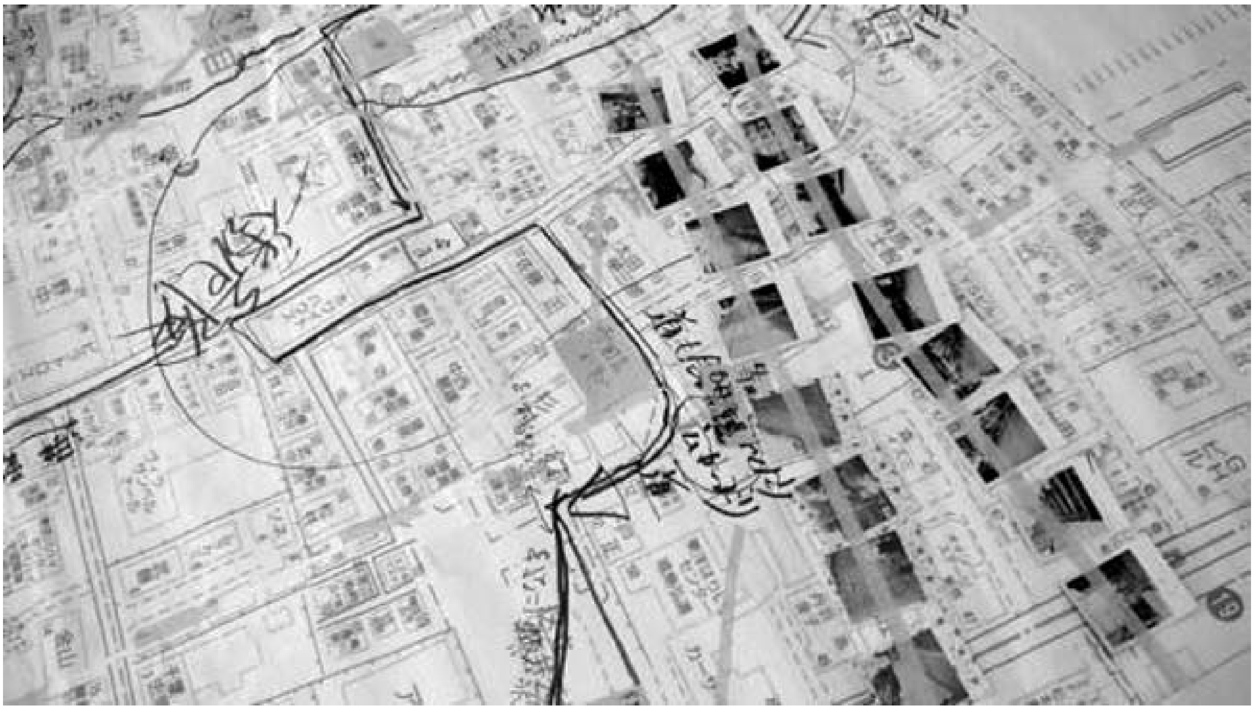

Fig. 6. Gulliver map

– *Machi-aruki* (まちあるき, walking in the neighbourhood)

This visit in the neighbourhood is an opportunity to collect a wide variety of information, like measurements of the width of a street, particular risks or dangers, interesting points, attractions, etc. To collect the required information, students and inhabitants used Polaroid cameras, sketches on maps or voice recording. With all these elements, students in the laboratory will put them together in a document. This document can be seen as a shared lecture of the city.

At the same time in the laboratory, students conducted a more "classical" study of the neighbourhood. Some of them analyse its history to understand the urban structure. Others are in charge of analyzing the current urban landscape. These analyses are made with the traditional skills and tools of architects such as maps, plans and sketches.

– *Gulliver map* (ガリーベルマプ)

The Gulliver map is a large map about two by five meters that is unfolded on the floor. Each participant (students and inhabitants) can freely scotch tape the Polaroid, draw the itinerary, and make comments with a post-it. This is a first opportunity to have an overall view of the neighbourhood.

– *Mekuri-mekuri game* (めくりめくりガーメ, card's game)

This workshop is a role-playing game where each inhabitant performs as a person who has lost his house after an earthquake. The game simulates the catastrophe and the re-housing with different situations: re-housing in high-rise building, renovation of his house, collaboration housing system, re-housing in another neighbourhood. First, the inhabitants are informed of how the recovery's program is planned. This is also a good opportunity for inhabitants to understand the multiple factors involved in conducting a re-housing policy. It is also a way to promote the preservation of the particular characteristic of a place by showing various urban solutions, from high-rise to small land readjustment operations.

– *Flag game* (フラグガーメ, flag's game)

For this last workshop, students first prepare some concrete solutions to improve the neighbourhood. They are symbolised on flags with different colours. After discussion, each inhabitant can choose and pick some solutions on the aerial photograph of the area. More than finding solutions, this is an opportunity to discuss. Students can bring some information.

– *Final presentation*

The final presentation is the only moment when the municipality government is invited. Based on the entire process carried out, students present some "archetypes" for the future of the neighbourhood. Those archetypes can be of different nature: building types, organisation of the streets, economical structure, etc. These are not defined projects but more like an opportunity for the future of the place. All these archetypes are presented to inhabitants and the local municipality.

The whole workshop process takes about one year to be fulfilled, including pre-meetings with the inhabitant's organisation, workshops and the final presentation.

This long-term discussion is an opportunity to create trust between inhabitants and the laboratory's members. This is a fundamental key for success.

3.2.2 Other projects

Shinjuku local government has asked Shigeru Satoh's laboratory to make a summary of all the projects around the Kanda river.

The large-scale disaster of the Great East Japan Earthquake in March 2011 provoked a new upheaval in research and education, comparable to the earthquake in Kobe in 1995. Universities like Waseda, where many researchers from different specialities gather, are ideal places for emerging interesting teamwork. Waseda University elaborated a multi-disciplinary team with sociologists, economists, engineers, architects, etc., who can construct together a shared vision.

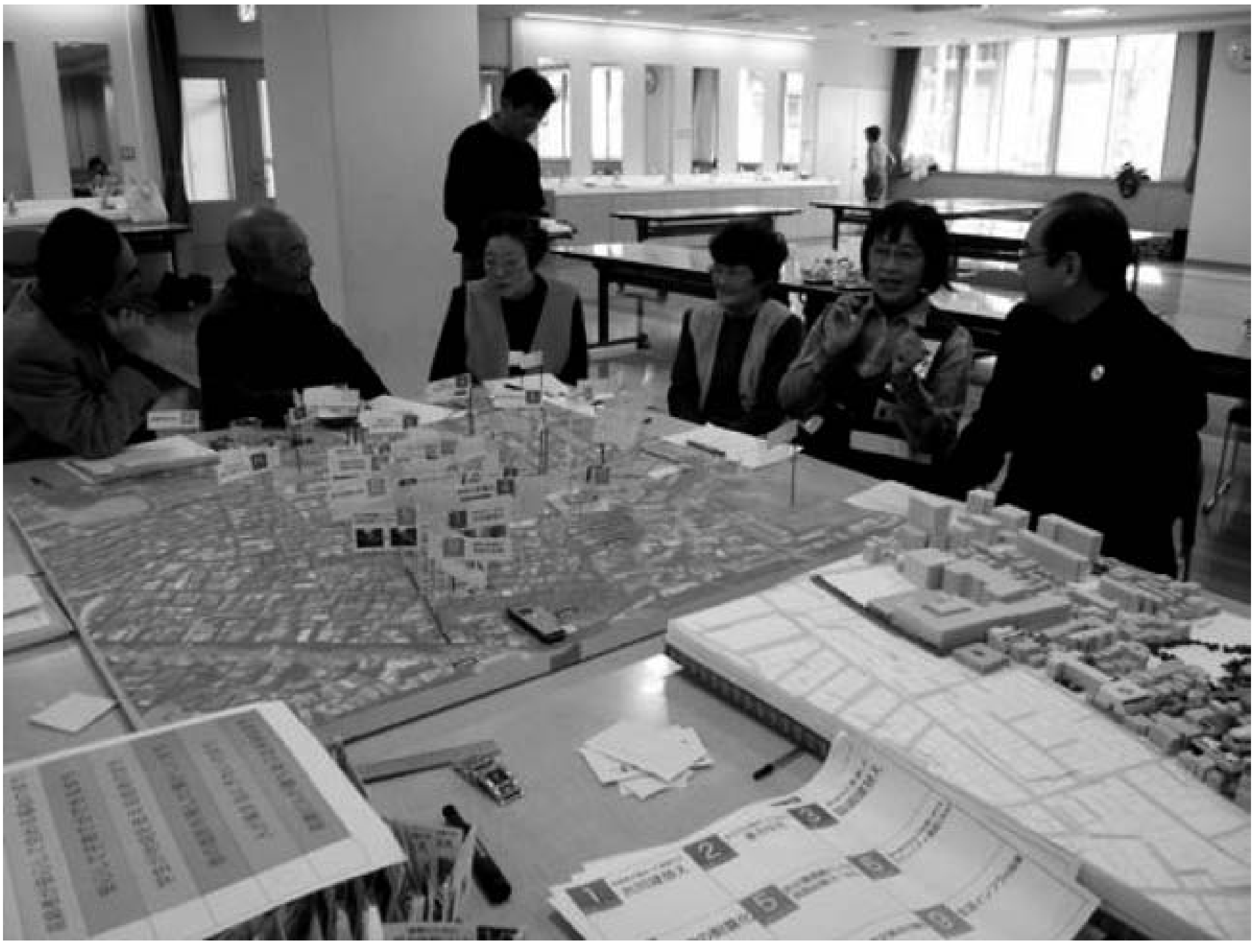

Fig. 7. Flag game

4. Conclusion

The purpose of this study was to ascertain that architecture can have a political and social role in the community. Advocacy planners in the United States of America serve as a good example. Moreover, the university and organisation laboratory can be a really interesting support for community. They can find a perfect expertise and a certain level of independence (especially in private universities).

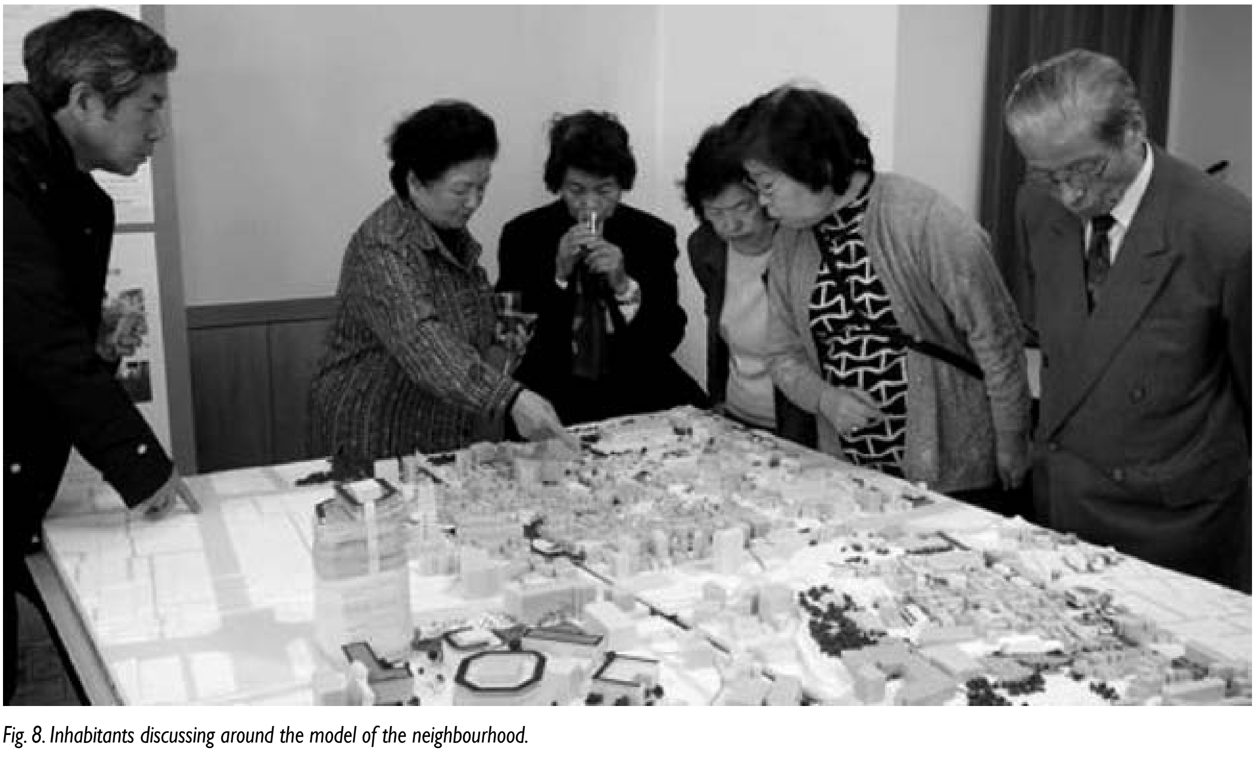

Fig. 8. Inhabitants discussing around the model of the neighbourhood.

Students and teachers can find in such a process an amazing ground for experimentations, as well as a way to raise awareness on the preservation of urban landscape to future actors in urban debates. The previous conclusions are subject to the conditions and limitations of this case study. Additional studies should compare other experience in different Japanese universities. We can cite, as an example, the experimentation lead by Tokyo University to create a "*machizukuri* laboratory".

This research is an opportunity to establish another history of architectural and urban projects in Japan, a rather new field of study in Europe. It is also an interesting way to renew the skills of European architects in urban projects and especially on the way to better integrate inhabitants in decisional processes to change their environment.

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Creative Experiences In Participative Territorial Management In Latin America

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Abstract: This paper seeks to elucidate ongoing debates amongst social thinkers in Latin America on the relationship between society and nature, and the influence of these discussions on initiatives in favour of sustainable territorial development. Based on experiences of rural development in Mexico, this article argues for the importance of understanding landscape management as a complex process, in which social participation is crucial to building sustainability. The challenges implied in creating participative mechanisms are addressed through practical examples from south-eastern Mexico. The paper concludes by arguing for the role academia can play in building long-term participative landscape management.

Keywords: Territory, participative landscape management, Latin America.

1. Introduction

Much before the arrival of Europeans, Mesoamerican cultures consolidated themselves based on a complementary philosophy of agriculture, as expressed in what is known in Mexico as the "milpa", a traditional poly-culture based on corn, squash and beans. When interviewed in his "milpa", an indigenous Maya Tzeltal producer stated: "This land was inherited to us by our ancestors. It is what allows us to survive. We must care for her, and think for our children". This phrase embodies the concept of sustainable development, as defined in the Brundtland Report as development which satisfies the needs of the present without compromising the needs of future generations (WCED 1987). Furthermore, this phrase represents the worldview that local communities mobilize in their relationship with their environment.

In facing the challenges of sustainable landscape management in a constantly changing world, a crucial point of departure lies in building pertinent concepts which inform intervention (the latter understood as development work, or academic research, for example). In this sense, this article proposes to build upon ongoing debates throughout Latin America on the relationship between society and its environment, along with experiences in participative territorial management, in order to contribute to the practical implementation of sustainable landscape management.

2. Conceptual debates: when nature becomes social

The European Landscape Convention has defined landscape as "an area as perceived by people" (Council of Europe 2000). Thus, space becomes landscape when appropriated by society. Underlying this definition is the complex relationship between society and nature, a relationship that marks academic discussions on sustainable development throughout Latin America.

The relationship between nature and society has historically been a point of contention. Debates have focused on whether it is nature that shapes society, as argued by ecological determinists, or whether society is ordained to dominate nature. Although this dichotomy, as presented, demands the control of one element over the other, worldviews which underline the inter-dependence between culture and ecology have been present in many indigenous societies, for example – even if it is only recently that these visions have begun to be acknowledged. According to Mexican geographer Arreola, the first within the Western theoretical debate to point out a mutual influence between society and nature were anarchist thinkers at the beginning of the 20th century (Arreola 2010). Thus, French anarchist Elisée Reclus criticized the ideas of ecological determinism, arguing for the need to recognise the intimate links between humans and nature. Around the same period, zoologist Piotr Kropotkin emphasized cooperation and mutual aid as the key factors of evolution, as opposed to the concept of competition put forth by social Darwinists.

The concept of mutual aid suggests a relationship of co-dependence between society and nature. Emphasizing cooperation over domination is what underlies ongoing discussions around the concept of "territorio" in Latin America (although many elements of the concept may find themselves lost in translation, we will use the literal translation "territory" throughout this text to simplify our References: to the concept of "territorio").

According to Brazilian geographer Santos (2000), territory may be understood as the rendering of meaning and content to nature on behalf of society. In this manner, space becomes territory when it is transformed, structured and appropriated by society. Territory emerges as a social product: "territoriality does not exist without processes and subjects that institute it" (Porto Gonçalves 2001:46; personal translation). Territory is thus the product of a complex construction process which implies a political-economic dominion and a symbolic-cultural appropriation of spaces by social groups (Haesbaert 2004).

Central to on-going debates on sustainable development in Latin America, the concept of territory as the social appropriation of nature thus expresses the relationship of mutual aid between society and nature. Influences are shared between one and the other in a constructivist and dialogic relationship.

This is a complex relationship which goes beyond lineal cause-and-effect, where extremely diverse elements are at once mutually influencing and inter-dependant. The diversity of agents in society, with their diverging interests, backgrounds and worldviews, constitute the multicoloured fabric of a society marked by conflict and power relations. At the same time, we continue to discover the diverse environmental services that nurture the resilience of ecosystems. Analysing the interaction between such heterogeneous elements (basically, cultural and biodiversity) requires the pooling of research methods that derive from a diversity of academic disciplines.

Argentinean biologist García, a fierce defender of the need to go beyond the fractioning of knowledge in specialised departments, argues that reality is complex: "in the 'real world', situations and processes do not present themselves in a manner that allows them to be classified according to a particular discipline" (García 2006:21). As Chilean sociologist Zemelman states, "behind academic disciplines lies real reality" (2011). The complexity that underlies territory, in which processes refer more to resilience, flexibility and adaptability than to lineal causality, calls for the interdisciplinary integration of diverse forms of knowledge. Not only perspectives originating from diverse academic disciplines but, especially, local knowledge and know-how.

Theoretically, the concept of territory put forth by the Latin American social scientists referred to in this writing establishes the bases for what van Paassen *et al* have denominated "sustainable landscape development", understood as "an informed, ethical and locally-valued balance between ecological resilience and societal pursuits" (van Paassen *et al* 2011:277). According to these authors, the main challenge lies in building "the capacity for co-ordinated adaptive development of the involved stakeholders, multilayered polycentric organisations and institutions" (*Ibid.*). In order to build a long-term, flexible relationship between ecological integrity and human aspirations, mechanisms of participative democracy that recognise a multi-actor scenario are fundamental.

Defining territory as the social appropriation of aspects of nature establishes its participative character. This understanding of the relationship between society and nature implies a change in the focus of education, towards working with local social systems (e.g. community groups, local authorities, civil society) to conserve and improve landscapes. Local knowledge about the environment becomes the founding pillar of landscape management. Participation thus emerges as a central element. Faced with the challenge of consolidating agreements amongst heterogenic actors, a look into experiences of ongoing territorial management in Mexico may provide insight into lessons learned and obstacles encountered.

3. The emergence of territorial development

Public policy in Latin America has recently turned towards territoriality in seeking to recognise the ecological diversity of its regions. In the early years of the 21st century, the concept of "territorial ordinance" ("ordenamiento territorial" in Spanish) emerged as a key element in development planning and governance in Latin America. In fact, territorial ordinance has become a mechanism for planning the use of space, employing natural resources, population settlements, and economic activities as key indicators. In Mexico, the concept of territorial ordinance as a tool for development planning was integrated into social policy through new laws, institutions and government programmes. Institutionalized as government policy, territorial ordinance was defined by the Peruvian environmental ministry as "a technical-political process oriented towards the definition of environmental criteria and indicators for the designation of territorial uses and the ordered settlement of territory" (Presidente de la República del Perú 2005, personal translation).

This first wave of integrating territory in development planning was carried out "with a certain degree of haste", according to Arreola (2006:72, personal translation). Not only did territorial ordinance face the obstacles of coordinating diverging sectoral policies, but the concept itself of territorial development left out the social aspect of territory. Local participation, if mentioned at all in territorial ordinances and land-use plans, was present as a simple signature of a local authority obtained under the guise of "consultation".

In practice, the policies of territorial ordinance have failed to recognise the social nature of territory, limiting themselves to the external design of innovative development projects in specific regions. Local populations and their knowledge of the environment remains marginalised. This vacuum in the initial concept, and the silencing of local voices in the process, has led territorial development projects to failure.

An illustrative example of the debacles of this model of territorial development lies in the "Sustainable Rural Cities" project, promoted in the state of Chiapas, Mexico, under governor Juan Sabines Guerrero (2006-2012). The project sought to counter the lack of access to public services in small and remote rural communities by concentrating these populations in newly constructed "Rural Cities". The new cities would provide employment and secure access to basic services, thus improving the regional human development indexes.

This project of "development-induced displacement" (McDowell 1996) led to the design of idealized new cities, abstract space hypothesized in offices in the capital or other cities far away from the territories in question, and even further from the people affected. The lack of inclusion of local knowledge led to blatant errors in development planning, as illustrated in Nuevo Juan del Grijalva, the first Sustainable Rural City, inaugurated in 2009. Amongst other mistakes, government officials proposed plantations that are inapt for the specificities of the local environment, planting litchis, for example, which are fruit trees that are unable to blossom in the hot winds that blow from the south at springtime. Promised employment opportunities failed to materialise, and many of the displaced inhabitants eventually decided to return to their communities of origin. As an inhabitant of Nuevo Juan del Grijalva pointed out: "If it were sustainable, the projects would be designed based on consensus with the people. It would be with dialogue… listening to the people more than anything. They say the devil is wiser due to his age than due to the fact that he's the devil. The people here, we know what can be done in this land" (Libert 2012, personal translation).

Impressive development plans proved unable to go beyond paper. Errors in government planning and the lack of inclusion of local territorial knowledge led the project to fail to achieve its established objectives. With the change of government in late 2012, the "Sustainable Rural Cities" project has passed on a large public debt to the new administration, while the unfinished "Rural Cities" are marked by empty houses, unemployment, and social discontent.

This form of external imagination imposed upon space without the participation of local actors reproduces what Scott has denominated "authoritarian high-modernism" (1998), illustrating an erroneous vision of territorial development which is destined to fail.

4. Participation is the key

In light of the failures of government planning based on the concept of territorial ordinance, new actors have taken the forefront to point out the misapplication of the concept of territory in leaving the local actors out of the picture. Initiatives put forth by conservation agencies, research institutes and non-governmental organisations have sought to demonstrate, through practice, alternative forms of community-led natural resource management.

Inspired by Latin American processes such as popular education and participative rural evaluation, non-governmental organisations in Mexico have mobilised creative strategies in sustainable landscape management. These strategies seek to render accessible to local populations the tools of territorial management, practical tools that have for too long remained in the hands of a scientific elite.

This is the case, for example, of the Mexican non-governmental organisation IDESMAC (Instituto para el Desarrollo Sustentable en Mesoamérica, A.C.[1]), which applies the concept of community ecological territorial ordinance ("ordenamiento ecológico territorial comunitario" in Spanish). IDESMAC has used to its advantage the institutional framework provided by territorial ordinance laws to implement long-term processes of territorial management, facilitating the creation of community institutions recognised by law, with concrete decision-making powers on the local level.

Not only does this environmental organisation facilitate processes of participative planning, monitoring and evaluation, but the socialization of geographic information systems (GIS) has proved fundamental in empowering local decision-making. For example, geographers have trained local communities in global positioning systems (GPS) technologies so that they can design their own environmental risk atlas in order to implement mechanisms of disaster prevention and adaptation.

This work in participative geographic information systems (PGIS) has highlighted key debates in the relationship between researchers and local communities. In generating maps based on local territorial knowledge, the promoters of PGIS have emphasized the importance of building long-term relations of trust with involved actors. This proved to be particularly pertinent when dealing with the generation of geo-spatial information, in a context where maps have historically been created by hegemonic actors to depict distant territories and exert control over them. Maps can often contain sensitive information which can be used to serve many different interests.

These discussions led the "Mapping for Change" international conference in 2005 to emphasize the concept of the "three Ts": 1) transparency, which refers to questions of clarity and accountability; 2) time, since limited time-frames imposed by external agendas can undermine a project by failing to recognise the need to dedicate due time in order to build meaningful relationships; and 3) trust, which is to be earned in fulfilling the first two conditions (Rambaldi *et al* 2006). These values apply for assuming the challenges of placing knowledge to the service of action in the construction of sustainable development.

According to IDESMAC anthropologist Armando Hernández González, participative territorial management strategies are fundamental since "the concept of development, like that of sustainability, may not be defined in a concrete and universal method. These are concepts open to interpretation, and the latter must be in accordance with the society that promotes and implements it. In this sense, [territorial management] becomes a constructive process, full of creativity, in accordance with the needs of those involved" (personal communication, 5/11/2012).

5. Conclusion

Ongoing initiatives of participative territorial management in Latin America shed light on the challenges faced when discussing sustainable landscape planning. More than an abstract space awaiting redesign by specialists, the concept of territory emphasizes the importance of collective participation in landscape. Beyond superficial consultation, the task of inventing creative mechanisms for participation sets the building blocks for community empowerment.

A key role can be played by academia and researchers in building truly participative mechanisms for long-term sustainable development at the local level. In assuming the complexity of landscape management processes, building upon a solid conceptual base which understands the mutual relationship between human societies and their direct environment, and practicing creative and ethical forms of knowledge dialogue with local actors, prove to be more than urgent endeavours in an ever-changing world.

Notes:

[1] http://www.idesmac.org.mx/

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Exercising Landscape Character Assessment: Providing Context for Involving Stakeholders

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Abstract: In the framework of the implementation of the European Landscape Convention and the arising need to train students to contribute to it in their professional life, this papers aims to present successes and drawbacks concerning the integration of different stakeholders' perspectives for an improved Landscape Character Assessment at local scale in the academic context. It reports on four exercises in Portugal (Almada, Castelo de Vide, Setúbal and Tomar), focusing on three aspects: firstly, the integration of the public using different approaches, secondly, on the views of local authorities on the usefulness of LCA in local planning and urban management, and ultimately, on how students benefited from the various kinds of processes that were carried out in each municipality. The processes are presented and critically analyzed in order to identify strengthens and weaknesses in proving a context for students to meet with stakeholders.

Keywords: Landscape education, Landscape Character Assessment, Stakeholder Involvement, Municipal Master Plans, Portugal

1. Introduction

The European Landscape Convention (ELC) calls as its first step towards its implementation that signature states commit themselves to identify and characterize their landscapes, as a basis for further action concerning its evaluation, definition of quality objective and, ultimately, the integration of landscape into policies and planning (COE 2000). Even though previous experiences in European countries and regions on identifying and mapping landscapes already existed, the spectrum of approaches is wide, notably according to the conceptualization of landscape in place (Eetvelde and Antrop 2009, Wascher 2005). Within this context it becomes essential in signatory countries to provide education on how to integrate landscape with spatial planning at local level in a way that the identification of landscape's integrating natural biophysical features, human activities and cultural features, as well as perceptive ones, is found to be useful in the general planning framework. The European Landscape Character Initiative (ECLAI) was instrumental in providing a systematic and comprehensive overview on concepts, approaches and methods used at European scale and throughout European regions (Wascher 2005). Groom (2005:39) structured the approaches to identification and mapping of landscape into four types along to two axes: "the degree to which the methods used rely either on human interpretation or on analytical approaches", and "the degree to which the methods use either interactive procedures or automated procedures". Parametric approaches with varying forms of automatism based on the overlaying of thematic maps became "very popular when GIS and digital maps became available" (Eetvelde and Antrop 2009:162), sometimes on the expenses of underrepresentation of socio-economic data and of the integration of dimensions that are not as easily represented on a map, as for instance, perceptions. Different conceptual and methodological approaches have also led to a variety in terminology used when mapping landscapes, both concerning the process and what is represented on the resulting map. The process is often referred to as landscape classification but it seems that Landscape Character Assessment (hereinafter LCA) has been progressively used based on the holistic nature of the work carried out in the UK and Scotland (Swanwick 2002). The polygons represented on the resulting map have been called landscape units, landscape classes, landscape types, landscape areas, but also landscape character types and landscape character areas. Accordingly, LCA focuses on "identifying distinct, recognizable and consistent patterns of elements in the landscape that makes one landscape different from another, rather than better or worse" (Swanwick 2002). Participation is also a corner stone of the ELC in line with other policy documents such as the Aarhus Convention. Even though it stresses the need to establish procedures for 'participation of the public', it is neither clearly defined which public should be addressed nor to what extent it is expected to be involved. The local scale seems particularly suitable, as landscape changes affect the local public's personal living conditions, creating conditions to favour the participation. The local public is diverse in itself and methodological approaches pursued are either more analytical, addressing a representative sample or more operational, focusing on stakeholders (Ramos 2011). The subsidiary principle that guides the ELC does not foster the development of a united approach to landscape identification and mapping. Countries and regions that more recently engaged in this process could draw on a vast array of literature and customize an approach that would best fit their landscapes, their institutional and cultural framework, and their resources.In Portugal, LCA was identified at a national wide scale, characterized of the main processes and trends determined, and orientations given for future management of each unit. Methodologically these landscape units combine data such as geology, landforms, land use, farm structure, settlement pattern, climate, proximity to the sea, presence of important structures or infrastructures, combined with satellite imagery and aerial photographs and extensive fieldwork, as well as direct contact with key informants. The latter provided for sensitive judgment on the local and regional culture, identity and the character of the landscape. The characterisation of the units also combines the available information with the temporal dimension: the past influences, the most relevant historical features and, for the future, the factors and perspectives of change (Pinto-Correia et al 2004, Abreu et al 2004). The final map shows 128 landscape units (Fig. 1) that are clustered into families of landscape groups. This approach at 1:250.000 scale did, according to Groom's classification (2005:39-40), fit into method type M4: "automated analysis, together with some interpretative refinement". The latter was achieved by the integration of expert knowledge and selected stakeholder contribution for each landscape. This paper deals with the follow-up of the national wide mapping in an academic context, notably how it has been put into use in local planning instruments. The guidance provided by the Portuguese institution responsible for spatial planning and urban development calls for the integration of LCA in Municipal Master Plans. As at present, many plans are undergoing a review process and that will guide the development over the next decade. There is now the opportunity to introduce LCA in planning in a more integrated way (Abreu et al 2011). Thus, the focus of the present paper is concerned with different ways of exercising the assessment of Landscape Character Areas in practice at local scale. It aims to present insights into challenges related to participatory approaches and to integration into local policy and planning. Successes, pitfalls and opportunities are presented reporting on case studies carried out in different educational contexts in four municipalities in Portugal (Tomar, Castelo de Vide, Almada and Setúbal).

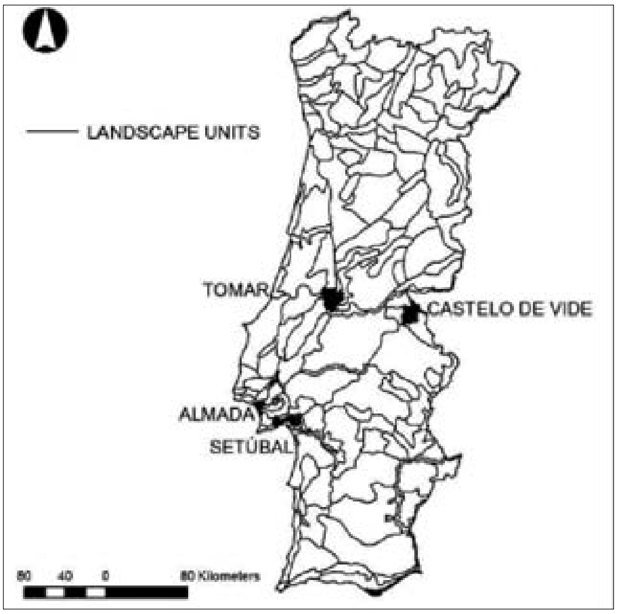

Fig. 1. Geographic distribution of the case study areas in relation to the nation-wide LCA map.

2. Selected Case Studies

This paper builds on experiences in engaging students in LCA at local scale. In the cases of Tomar and Setúbal, the exercise was carried out with all students of the course of Landscape Ecology in the Masters of Urban and Land Use Planning at the Technical University of Lisbon. The two other (Castelo de Vide and Almada) were integrated in academic research in Landscape Architecture at the Technical University of Lisbon and the University of Évora (Fig. 1). Setúbal and Almada are located in the south part of the Metropolitan Area of Lisbon, presenting a very high population density, circa 730 and 2470 (inhab./km^2), respectively. Castelo de Vide is located in marginal rural areas in the Alentejo Region showing very low population density (14 inhab./km^2). The municipality of Tomar shares both rural and urban characteristics. Tomar and Setúbal show a very high diversity of landscapes. They are the meeting points of very contrasted landscapes, for instance mountains and marshland in Setúbal, or closed forest and open agriculture valleys in Tomar. In the cases of both Castelo de Vide and Almada, the diversity only becomes evident at the local scale. The methodology used for the approaching the LCA was basically the same in the four municipalities, through downscaling of the nation-wide units from the 1:250 000 scale to the 1:25 000 scale. The methodology used at the local scale emphasizes the perceptual dimension. In the presented case studies, this dimension was addressed differently in each case, ranging from experts groups of varying disciplinary compositions, participation of local administration, to public surveys. The overall methodological approach followed a six-step approach adapted to the specific nature of each case study area and the institutional arrangement with each local administration: (1) Collecting of information of the municipally and the LCA identified in the nation-wide scale present in the area of the municipality; (2) mapping of the 1st draft of LCA based on exploratory overlay of thematic maps (biophysical and socio-economic) and use of aerial photographs; (2) identification of perceptual dominance of character elements on field work in expert groups based on the ECOVAST (2006) landscape matrix; (3) mapping the 2nd draft of LCA based structured overlays of selected thematic maps resulting from the previous step – focus on identification of boundaries; (4) characterization of LCA and naming within the expert group; (5) surveying the local public using the 2nd draft; and finally (6) mapping of the final LCA map through the integration of contributions of local public and refinement of boundaries and names.

3. Integrating the Local Public into LCA mapping

The integration of the local public into Landscape Character Areas mapping was addressed in different forms in the case studies: extensive public survey in Castelo de Vide and focus groups within the administration of the municipality (decision-makers and technical staff from different sectors) in the cases of Almada and Setúbal.

3.1 Public Surveys in Castelo de Vide

In the municipally of Castelo de Vide the local public was surveyed concerning their landscape perceptions. A public survey was designed in order to understand whether the expert's judgment was in consonance with the public perception of what was determinant of landscape character in this municipality (Menezes 2007). The second draft map was the basis for this survey. In regards to the survey design, six photographs were taken, each representative of the Landscape Character Areas and sub-areas identified (Fig. 3). Printed photographs were shown to people who met in a public place in the area of municipality. These had been previously edited in the sense of homogenizing sky and light conditions, in order to facilitate the focus on the landscape itself. The first two questions in the questionnaire aimed to establish a baseline. They aimed to understand whether the public would locate the photos with within the area of the municipality: Question 1 - do you recognize the places on the photographs?; and Question 2 - can you locate, more or less, these places within the municipality? Question 3 aimed to understand to which extent the public would identify the photos according to the areas on the second draft map: "Can you group the photographs according to what you feel are similarities? Facing all photographs the responded could create how many groups of photographs they wished based on the similarity they observed. The survey was randomly applied to the population of Castelo de Vide's municipality (n=30). A sample was built by share making the effort to adjust age and gender to demographic statistics. The surveys were analyzed by comparing the recording frequency on which people grouped and differentiated the six photographs from the second draft map (Fig. 2). The upper graph shows the way in which respondents grouped the photographs from the second draft map and the graph below shows the frequency in which each photograph was attributed to the corresponding LCA on the second draft map with one photo only. Results provided information for reviewing the draft map. The respondents were clearly able to recognize very well some LCAs as 'A-Shist'. This LCA is strongly based on its geological and lithological characteristics and with strong influence in the land cover. Others were not that that clear to the respondents. While the experts did put emphasis on differencing degrees of openness of the "montado", the respondents did not differentiate these areas (B1, B2 and B3) viewing them rather as variations of the same pattern – an agro-silvo-pastoral system with variation of rock outcrops, shrubs, black-oak and open areas. Also where the expert perceived relief as dominant character elements joining the urban area and surrounding olive grove mosaic with the mixed forest, based on elevation data, the respondents did not perceive the same. For them the dominant feature differencing landscape character was human presence. Therefore they strongly perceived the village and surrounding olive groves as one LCA and the mixed forest as a completely different one. As Fig. 3 shows, the main result is the final Landscape Character Areas with the public integration, for the Castelo de Vide's municipality, where the 'Agro-Silvo-Pastoral landscape area' (B) was simplified into one differentiated landscape where variations do not justify creating sub-landscape areas; and the 'Olive Grove Mosaic landscape area' (C) and the 'S. Mamede Hills landscape area' (D) were differentiated into two landscape areas and not two sub-landscape areas composing one landscape area. Fig. 3 shows how the results were incorporated in the LCA final map.

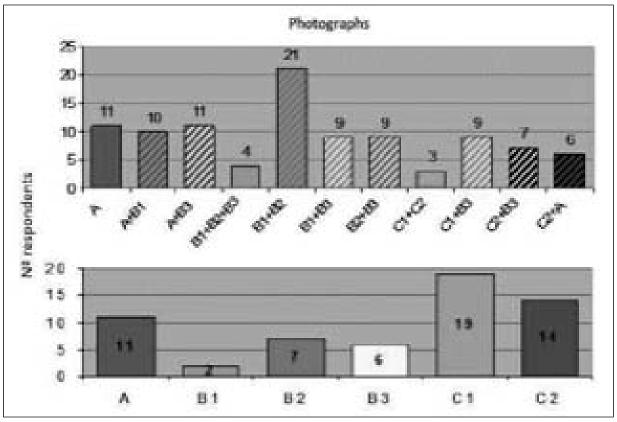

Fig. 2. Frequency of groups of photos (on top) and isolated photographs attributed to each LCA area (below).

3.2 Focus Groups in Almada and Setúbal

In the case of Almada four groups of local stakeholders engaged separately into the discussion on their perceptions on the second draft of LCA for the municipality: the technical staff of the urban planning department (7), elected representatives of the municipality executive (6), technical staff of the environmental department (4); and the technical staff of the urban management unit (23). The main alterations to the final map related to the usefulness of LCA for urban and environmental planning. Thus some landscape areas were considered for redefinition. Landscape Area F (Fig. 4, to the left) was sub-divided into F1 and F2 (Fig. 4, to the right, colored in shades of blue) having planning objectives in mind. Thus, two catchments were isolated, as F2 was found to more related to the Atlantic coast and therefore had to be managed to respond to pressure from tourism activities. Also the names were proposed to be changed as it was felt that the name should communicate better the landscape objectives as stated in the Municipal Master Plan because it was expected to be more mobilizing for the administration and the population towards future action. In the case of Almada it was implicitly intended by local authorities to use the LCA process to embed pre-defined landscape quality objectives (LQO). In Setúbal only one meeting with the students took place. The group was formed (35) by respondents to a call sent out to the municipal bodies. To make this meeting more operational, four second draft proposals were shown carried out with the same methodology but by different expert groups. This made a comparative discussion possible where the participants verbalized what they thought would better accommodate their own perceptions. The preferred map turned out to be the one with the smallest number of areas, because it was found to be more clear and "manageable". The landscape boundaries generated most of the discussion, notably those at the urban fringes, on whether they belonged to the urban landscape, to the rural, or if they should be a landscape area in its own right.

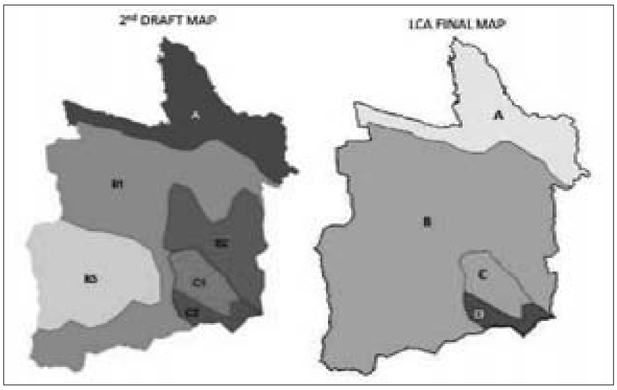

Fig. 3. Initial (second draft) map (to the left) and final map (to right) incorporating by the simplification of the B area and the individualization of both C1 and C2 areas.

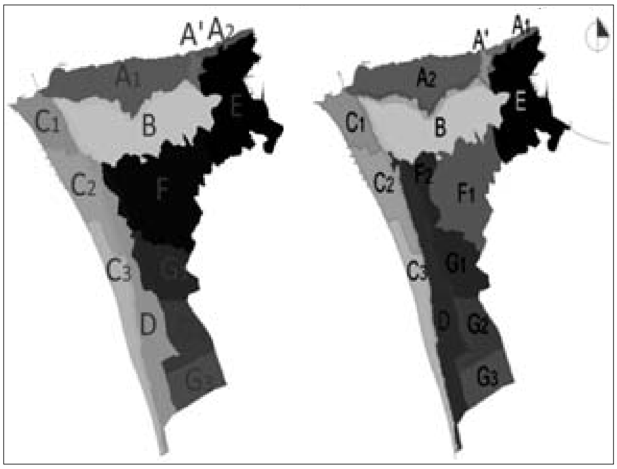

Fig. 4. Integration of results of contributions of focus groups to the final LCA map in Almada (to the right) based on the 2nd draft map (to the left).

4. Linking of LCA to Local Planning and Management Tools

In the past Municipal Master Plans in Portugal did not give much consideration to landscape in general. And when so, only exceptional landscapes were noteworthy. In the light of the ELC the more democratic approach to landscapes – it is everywhere and belongs to everyone – has only more recently being considered. It seems that municipalities are still struggling with this new concept and how to deal with it. It seems more straightforward to manage only single landscapes than all the landscapes. Municipalities also seem to be uncomfortable on how to use the LCA. It comes more natural to those more urbanized and more densely populated areas (Almada and Setúbal) than to rural areas (Tomar). This can eventually be better understood in the framework of the urban/rural division that has overwhelmingly marked the planning paradigm. Municipal Master Plans in Portugal (and elsewhere) are mainly concerned with urban areas and infrastructures leaving aside rural and natural areas. This has very much to do with the fact that they are less interesting in terms of revenue for the municipality and also because municipalities have less power in rural areas, where other policies, sectors and actors play a dominant role. Almada's strong urban character facilitated the assimilation of LCA and allowed the evolution of a perspective towards a policy based on the quality of the entire environment where LCAs were recognized as instrumental. This became evident during the discussion in the focus groups, notably during the discussion with those involved in urban management. Even though the participants were not familiar with the landscape concept, it seemed quite straightforward to them to use LCA as urban management units. They expected that changing urbanization rules in management units could be better communicated if the public themselves would perceive the area as different. In the same way the discussion in Setúbal was directed by the participants to the urban fringe areas were urban sprawl was taking place and where there is a greater need for urban management. The case of Tomar is included in this set of case studies because it represents (until now) a missed opportunity. Despite policy guidelines for integration of LCA in the Municipal Master Plans, local administration of Tomar never showed interest in participating and did not provide any comments on the presented LCA map. The rationale behind this option can eventually be related to the characteristics of the urban area of the city of Tomar, which is relatively small in comparison to the vast surrounding rural area. Local authorities are therefore not being sensitive to the meaning of the LCA for urban management as it was the case in Almada and Setúbal. Nevertheless, this seems unfortunate as the new Municipal Master Plan identifies tourism as one of the main strategic development goals. For this purpose local administration is counting exclusively on two main assets – the historical and cultural heritage (Convent of Christ and Aqueduct of Pegões) and the lake of the Castelo de Bode dam - not taking into account the contribution of landscape as a whole to its attractiveness. For instance, the Aqueduct of Pegões is marked by the regular pattern of the surrounding olive groves. Some of it has been in recent years replaced by forest and a plan has been approved for the construction of a golf course in the valley. The question arises if it will still be as attractive when the pines have grown and the most iconic views from both tops (Fig. 5) over the valley 'disappear' behind canopies; or how tourists will react if in the future they will have to cross very degraded landscapes in order to reach the World Heritage Site in the city itself.

5. Conclusion

From the experiences of working with the students in these four case studies it can be concluded that it is worthwhile, including local perspectives into Landscape Character Assessment. Experts, even though holding the knowledge and the tools for LCA are themselves biased by their field of expertise. This became notoriously evident in the case of Castelo de Vide where experts overrated the role of 'montado' densities, because for them there was an obvious difference in ecological and in scenic value much due to this land cover element. The local perspective can provide valuable insights in what really matters to people in the landscape and shapes their local identity. Furthermore, asking people about their perception of landscape character and landscape differentiation, also leads them to a new level of landscape awareness, required for their further involvement in decision processes and in planning mechanisms. This message and the benefits of transdisciplinary approaches are considered to be fundamental for the students in order to foster their use in their future professional activity. Another conclusion is that it is important that by including local administration it becomes more evident that it is necessary to keep LCA useful and operational. It is fundamental to introduce the landscape in policies and plans as requested by the ELC. In this context, the cases of Almada and Setúbal showed promising results, whereas in Tomar awareness for landscape needs to still to be raised. Further research and practical exercises in academic contexts are needed on assessing alternative methods of public involvement, but also, on clarifying how the character and identity of the landscape relates to the identity of the people; on understanding which landscape features reinforce collective identity, and where are the thresholds of change until it disconnects from its people, causing loss of identity. Deeping this knowledge would be expected to contribute to raising the interest of local authorities in landscape and also the interest in communicating with landscape professionals.

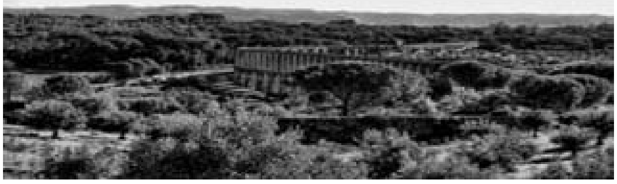
Fig. 5. Landscape of the Aqueduct of Pegões in Tomar

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Environmental Panarchy. The Process of Inclusive Landscape Planning

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Abstract: Challenged by modern territorialization, the linkage that consolidates civil societies underwent a considerable change in the 20th century and today their foundation is largely questioned. Particularly in the countries where the exploitation of landscape took precedence over its comprehension, to address an environmental justice with ecological ethics stimulates the societies to reconsider the use of spaces. Today the re-appropriation through education on the environmental construction process of landscape by people conscious of these abuses allows for recreating the social linkage. This is what is observed as analysing the grounds and projects of a Design Community led by a Japanese landscape architectural team, Studio L.

Keywords: Just sustainability, environmental education, panarchy, collaborative planning, resilience, japan, ethno-methodology

1. Introduction

One of the major issues currently faced by planning experts is how to transmit the knowledge conveyed by new forms of citizenship and solidarity. The exchanges undertaken in territorial communication by landscape architects, urban planners, and politicians reflect the fact that new designs of "tangible" public space alone cannot resolve the societal problems that are produced. Besides the contested phenomenon of "green growth" embodied by the concept of sustainable development, the will of experts has emerged to re-learn the relations of nature and culture from a new environmental ethics within projects that deal with non-economic values such as social linkage.

Internationally, the processes of creating spaces where the social contract is legible are explored within new sociologies of the environment. The procedures of participative democracy in territorial planning attempt to understand what establishes social linkages that abruptly fall apart at times. In Japan, the revision of the Planning Act of 1992 allowed an evolution from participative workshops with a citizen methodology on the "environmental inspection's cartography", to a real, legislatively managed prospective (Horita 2009).

In the first part, in positioning the study among other research projects in political science, management, and sociology of consultation mechanisms, this article discusses how local practices are organized by themselves within different customs and political codes. In so doing, it discusses the principle of panarchy developed by the theories of environmental resilience which can provide a structural foundation to the variety of projects around the world. Subsequently, the paper looks at the relevance of the environmental pragmatism of Studio L. based in Osaka, Japan. Its philosophy, as implemented with the community management of the Ama Island, enables us to perceive the environmental education of planning experts by indigenous inhabitants with their awareness of their own milieu; i.e. a genuine inversion of ecological acting in Japan.

2. Inversion of Ecological Acting

2.1 Political, Social, and Temporal Ecology

The development of citizen's engagement and recognition of their role in environmental construction is constantly increasing in contemporary Japan (Hasegawa 2004). However, the diverse intentions of various stakeholders and perceptions are very complex to combine in a design community project (Hirakawa 2004). Knowing which communities a society is composed of and what image it wants to transmit is one of the major issues of social ecology in which land planners are engaged today. Accordingly, the territorial mediation (Gardere and Gardere 2008) aims to capture what builds the communities by taking the civilian trade to seize the sociology of a community, its challenges, obstacles, strengths, and assets.

2.2 Panarchy

Among the guidelines taken in community management, the resilience theory of Crawford Stanley Holling is particularly relevant in term of environmental governance, particularly when he redeploys it with the principle of panarchy (Gunderson and Holling 2002), originally coined by the Belgian botanist Emile de Puydt (1860). Drawn from his observation of the natural biotope, De Puydt studied the societal capacity of mankind, who is fit to live in the center of multiple strategies and policy frameworks. In the midst of emerging thought on ecology, he combined an environmental conception with the premise of a social ecology. Observing that the plants have the ability to adapt to different biotopes and evolve according to the variations of each entropy while maintaining their own internal structures, he argued that human beings are equally able to reformulate themselves in their own territory, which the educators call multi-scalar: space where each social structure interlocks at each other's heart (e.g. families, communities, nations, and world).

The environmental panarchy is a powerful instrument in implementing resilience, reinforcing the theories of ecological democracy (Hester 2006). In environmental ethics and territorial planning, which raise the delicate question of respect for local communities according to their platform, the panarchy allows decomposing and respecting each political mechanism which manages the local communities. Most importantly, it leads experts to learn "local sustainability" practices from the inhabitants by associating the resilience of Holling to the serendipity in ecology - hazard management - developed by Fikret Berkes (Berkes 2007).

2.3 The Social Linkage: Civil Infra Political Order

In a hope to answer the incessant criticism toward the lack of pragmatism in environmental ethics characterized by the difficulty to establish itself differently than rigid frames (Light and Katz 1996), thus incapable of renewal through the processes of development and socio-economic structures, the panarchy approaches dynamically the spine of civility which models societal practices in landscape planning. This is because civility, if it exists, lies outside of the main homeostatic patterns (Duclos 1993). In order to make this dynamic sustainable, it needs to be managed by people who are the initiators and inhabitants. It is, therefore, essential to strengthen self-management communities within interlocking cycles, as each community is engaged in a larger degree of sociability to ensure the resilience of socio-ecological systems.

This idea of the interlocking of natural and political systems helps to capture the correspondence of many complex situations. On the one hand, it is the ability of an individual to emancipate oneself from these multi-scalar structures. On the other hand, it is the steps that are induced by the correspondence of all these political structures managing, mutually adapting, and leading to the resilience of a community in fragile situations. It seems obvious for the individual that an expert has everything to learn about its customs to seize the challenges of landscape construction, that he should reveal, thanks to his specific knowledge, a manner (mediation) in terms of prospect.

This adaptability of cycles helps to visualise the actions that move socio-ecological systems and thus consider the power to treat this infra political order, i.e. the social linkage that deals with the parameter of other cycles as a daily practice of proximity landscape or work to embrace the transitive landscape. While landscape planners now understand that human beings and geography are integrated in a same milieu, they need to think, within social ecology, the individual and the social as mutually creating, defining themselves and containing one another. It is a work of civility development where the place of intimate lies in the social.

In order to address the dynamic interdependence of local community components (Fig. 1, 2, 3) which maintain the sustainability in the *construction* process of its own environment, a community and landscape management project is observed. It reveals on one hand, the adaptability of economic, social and ecological structures in mutation, as revealed by the environmental panarchy, and on the other hand, interlocking cycles between community and environment by involving the multitude of local stakeholders, directly mobilized in the management of their proximity landscape.

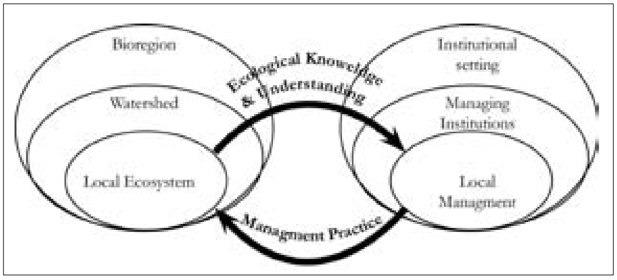
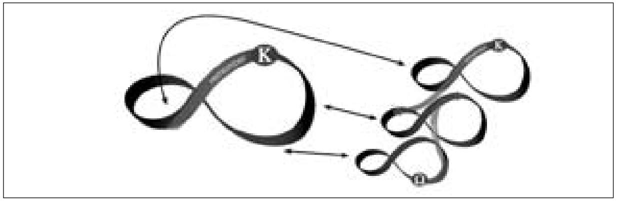
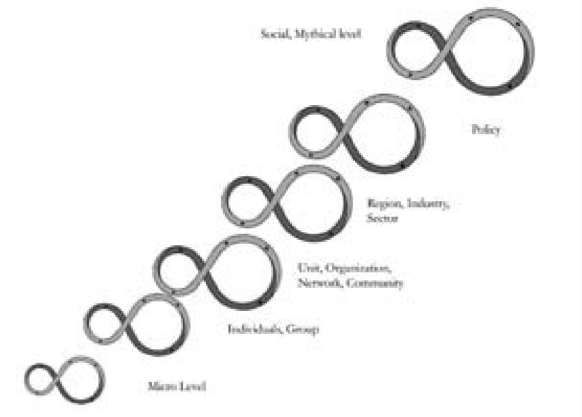


Fig. 1. Interdependent Systems



Figures 2,. Nested set of adaptive cycles



Figures 3. Nested set of adaptive cycles

How to implement this panarchy to contribute to the evolution of communities destabilized by the social transition in Japan (Hasegawa 2010)? Many resilience theories are being developed today (Redman and Kinzig 2003). Here, we focus on a practice of resilience by Studio L in Japan.

3. The Sociological holism of Studio L

Community design implemented in England and the United States since the late 1970s has been put in place to solve the inherent problems in the management of Japanese communities in transition. This technical democracy within landscape management experts and various stakeholders relegates the practice of Community building (chiiki-okoshi 地域 おこし- Local Community Revitalization) in Japan which appeared in the 1960s with the drastic evolution of community structures (kyôdôtai) in remote areas. Industrialisation and rural migration weakened the communities as observed in Ama Island (Kimura 2005).

3.1 Resilience rather than resistance

The sociological holism of landscape management is carried out by Studio L., which operates throughout Japan. Studio L. is led by Ryo Yamazaki (Yamazaki 2011).

While previously working in agencies, Ryo Yamazaki made a choice between two practices he came across: one was the "traditional landscape design" which develops tangible projects such as parks and public squares, and the other consisted of developing the links of communities without processing a "tangible" design of landscape. With his latest practice developed in his own agency Studio L.[1], the transitive process of landscape is considered as an integral component of an Inclusive Design. The genesis of environmental actions of a society on a given space is part of the protocol of any landscape management project. It is in this sense that the principle developed by Studio L. reflects the dynamics theory specific to the serendipity of resilience.

3.2 Ecology without Nature

The team takes a project that builds within a resolutely ecologic, flexible, and dynamic process. Embracing the non-finitude of the landscape process engaged in the continual community adaptation to their environment, the team works on what leads to a landscape. In other words, how a society deploys itself on a space generating tension that connects the society to the space and creates the social linkage. This has required a drastic change in the expert culture in allowing mediators such as The Studio L. to reconsider the resilience of sociality disturbed by the major modernity failure without any reactions of construction projects. These steps are those of the environmental movements (Hasegawa 2004) which reassesses the values of Japanese social development since the major ecological terrors revealed by the trials of the Minamata pollution in the 1970s which lead to the recognition of the plaintiffs "inhabitant movement".

Traditional landscape planning today argues that the site precedes the project, and that the attitude of community management promotes listening to people as a prerequisite for any landscape modelisation. It is not about involving people to be a part of project for which they are already its fundamentals stakeholders. It is to recognize them and have them recognized at the center of their own environmental construction.

The Ama Island project held in 2008 provides further understanding on the complexity and importance of this practice.

4. Ama Island - Temporal Ecology Practice

In the corner-end of the Japanese archipelago, the location of the Ama Island offers the source of its strong identity, but also the cause of the high anxiety of its aging population (38%) who feel excluded from globalization.

Faced with unification, which alters throughout the whole territory traditional landscape practices, this adds to the disparity between the main island and its provinces. This disparity, accelerated in this culture in transition, causes an emigration of young people (10%) to the mega-cities (Tokyo/Osaka). Studio L addresses this Local Temporal Ecology to reconsider the relationship and sustainability of future generations.

4.1 Narrative and Aporia: I-Turn

Since the citizens' movements in the 1970s and the 1980s, the "local returns", called "I-Turn" by Japanese (derived from U-Turn), go to live in provinces. It is largely appreciated by residents and local governments. The relationship between the indigenous and the endogenous are nevertheless paradoxical. During the audience with Studio L, each discovers the hidden driving force of the community and understands their social construction of reality (Berger *et al* 1966). Against their intimate beliefs, the indigenous discover that the I-Turn immigration does not offer the renewal of the population. What has unfolded is due to narrative and the deadlocks to which these beliefs in the representation of environment lead. The discussion sessions allow everyone to rethink their fundamental beliefs and to understand, with the help of the landscape management team, why the orientation of tangible landscape planning is decisively inoperative for the particular problems of the Ama Island. Rejecting the common "green economy" philosophy, people undertake with the Ama Comprehensive Town Planning (海士町総合振興計画) a resilience project illustrating Murray Bookchin's aims: "Social ecology is based on the conviction that nearly all of our present ecological problems originate in deep-seated social problems" (Bookchin 2007).

4.2 The Local Sustainable Development

The collaborative management plan is elaborated through sixty workshops organized with sixty participants aged from 15 to 70 years old (Fig. 3). Four differentiated groups are created: "environment / 環境", "industry /産業", "Life /人生", and "person / 人". The mechanism allows the teams consolidated around different themes to decide on extremely temporal actions that have value and utility to the individuals of communities when the project is established, with no global protocols from supposed omniscient environmental

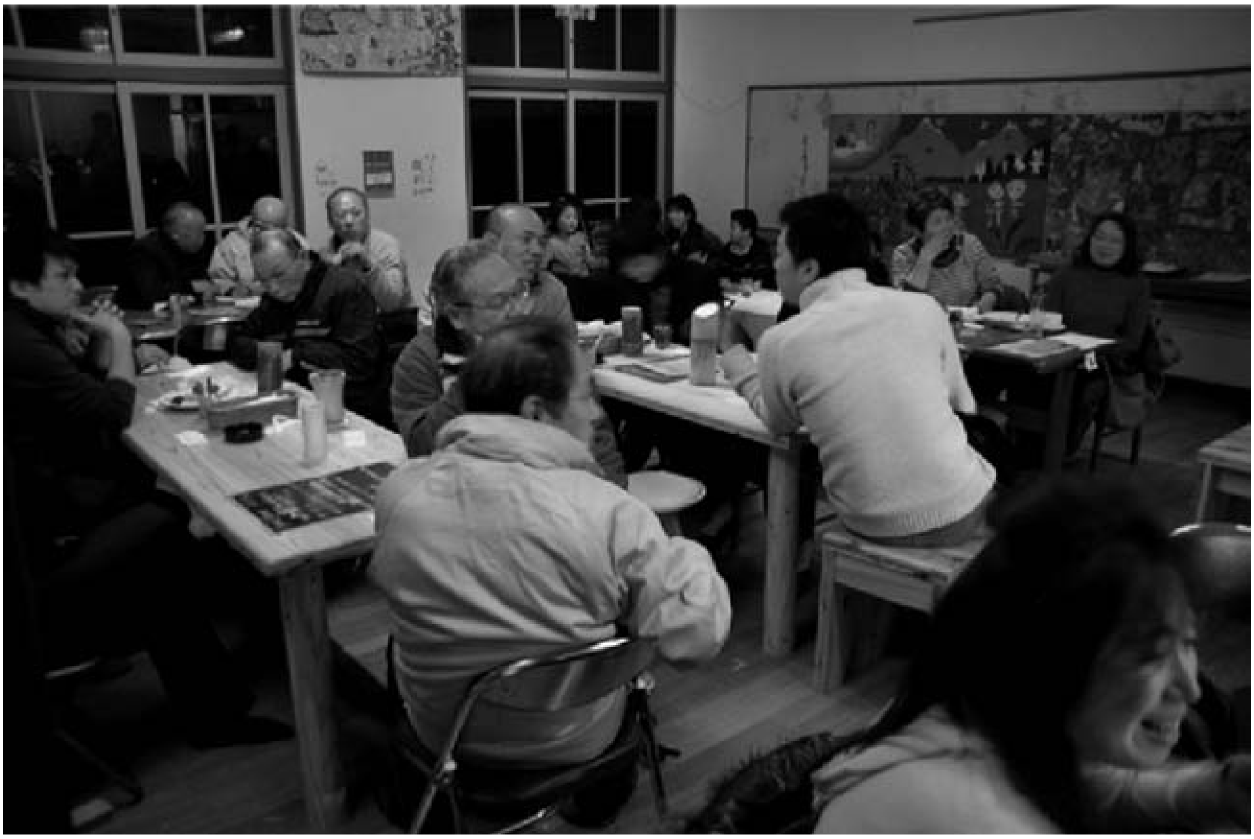


Fig. 3. One on the many community workshops

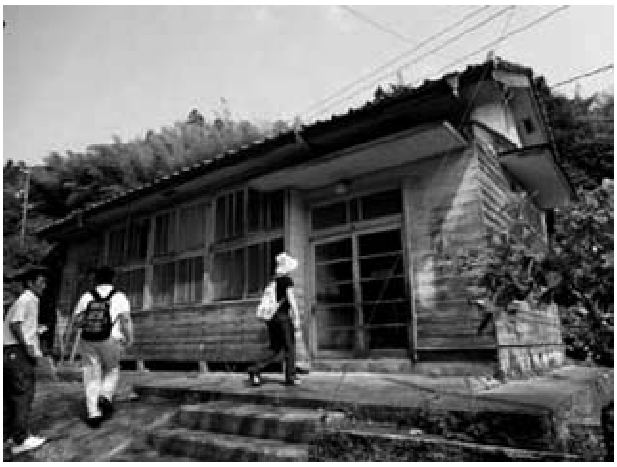


Fig. 4. Visiting abandoned houses

governance. Studio L. also provides the opportunity for communities to incorporate new participants at any time to avoid communitarianism.

Three main projects emerged in which the indigenous population can carry out in order to impact their own environment. In terms of housing, a series of inspections of old houses often abandoned are implemented to evaluate their use. The old objects from life objects were first listed, then brought into new civil commerce in the form of antique or second-hand shops.

The "environment / 環境" group realised how much I-turn people, although living in the island, are not connected to the land management practice. All together they decided to resume the modes of resource management such as bamboo forest maintenance – which has proliferated on the island without management. The mowing of bamboo grove, the use of bamboo canes, and the production of bamboo charcoal ('zumi') – widely used for tea production and purification of water and air ('Sado Technique ') – are updated.

The concrete steps of the comprehensive plan can be summarized as follows:

1. Meeting and discussion with the multiple stakeholders to express anxieties and wishes,
2. Deconstruction of the understanding of the source of environmental chimeras (socio-ecological problems); Regeneration of the community,
3. Organisation with local leaders of group activities,
4. Revitalization from the community desires and behaviours of future activities,
5. Publication of the Comprehensive Plan to manifest the aims of the Ama Island for the next generations, and future arrivals.

All the initiatives of the population are listed in the comprehensive plan prepared by Studio L (Fig. 6). It allows landscape planners to understand the overall knowledge that is not captured by the financial prospective of the "green growth". As a result, the environment and the social aspects that form its basis take on a new meaning.

This is what may be called an inversion of the ecological acting. Landscape management is no longer a goal of the production of man on the environment but, like a mirror, the way to restore societal systems that no longer work.

5. Conclusion

We have seen that the theories of resilience and environmental panarchy provide us with the very first lesson: learning from mechanisms shared by all, the harmonious relationships with the environment, i.e. a form of cultural globalization from the grassroots.

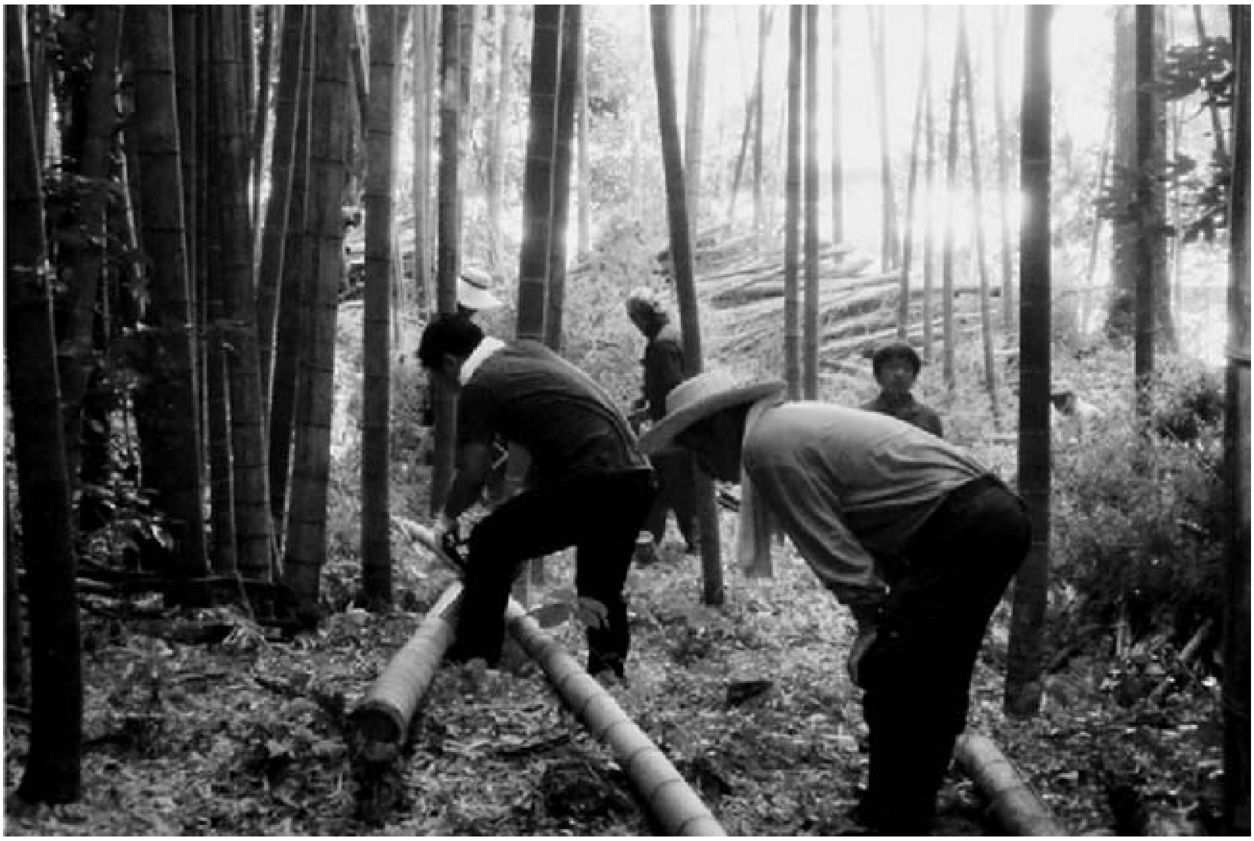


Fig. 5. Bamboo Forest Revitalization

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Fig. 6. Comprehensive Plan of Ama island

This takes us to a second phase of knowledge: each environment is the result of socio-ecological processes which must be revealed by local communities to ensure biosphere sustainability. In sum, the practice of the landscape planner should consist of mediation to reveal a knowledge re-emerging in the encounter between civil society, experts and politicians.

The case of the Ama Island offers a good example of the local updating of a global mechanism. It suggests a positive focal point for the environmental governance beyond incessant criticisms of cultural hegemony (Guha 1995) and cultural homogenization (Bowing 2007).

The development of new environmental sociologies (landscape ecology, landscape managing, social ecology, environmental ethics, etc.) demonstrates what environmental panarchy means in *action*. At the same time, this practice serves to update the Local Community Revitalization (Kiichi-Okoshi) with new thoughts of social ecology, thus improving Article 12 of the Nagoya Protocol (Nagoya Protocol 2012) which advocates for the reuse of autochthonous community practices.

Furthermore, in order to realize the potential of this tremendous step forward which integrates ecology into democracy (Latour 2004) through social linkage, by reversing the principles of environment education, we still need to be particularly vigilant and monitor where the ecological acting lies, as viewed from the local perspective.

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[1] www.studio-l.org

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Local Perceptions of Landscape Value: Implications for Decision-Making Processes and Participation

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Abstract: Drawing on long-standing theoretical concepts from the field of urban and regional planning, this paper teases out the validity of arguments about community engagement and locally-derived expressions of landscape value when set against the need to make robust decisions at strategic and local level about land use and development on a day-to-day basis. By focusing on existing planning ideas - and how they allow citizens to articulate landscape issues of various kinds - the paper aims to develop a workable understanding about how statutory planning thinking in EU member states can address, in more meaningful ways, the challenging participatory principles set out in the European Landscape Convention. It also explores the implications for professional formation and education.

Keywords: landscape value, perceptions, public engagement, participation, land use planning, spatial planning, urbanism, power, European Landscape Convention, communicative rationality

1. Introduction

The definition of 'landscape' as articulated by the European Landscape Convention (ELC) is a challenging one for decision-makers. This is particularly true in situations where ratification of the Convention by the various signatory countries finds expression in the kind of legislation that governs land use planning or other regulatory processes.

By describing landscape as "…an area, *as perceived by people*, whose character is the result of the action and interaction of natural and/or human factors" and by setting out a series of obligations concerning the *'values', 'identity'* and *'aspirations'* of citizens in relation to landscape (Council of Europe, 2000; italics added), the ELC repositions the way in which landscape is dealt with at an official level and raises expectations among the public about the prospects for genuine participation and engagement. In doing so it also opens up for landscape a series of discourses about power, participation and communication that have been familiar in the field of planning for some four decades and longer. Another theme that resonates with postmodern planning thinking is the way in which the language of the ELC begins to re-define the relationship between the 'expert' and the 'citizen'.

The first starting point for this paper, then, is the holistic, all-encompassing concept of landscape as presented by the ELC which encompasses not only land form, land use, mapped representations of landscape change, biodiversity and natural processes in rural and urban areas but also less tangible assets such as cultural and spiritual associations with land as well as considerations of those values and levels of meaning held by citizens in relation to landscape. Seeing the landscape in this way as a vast, complex, integrated system of interrelations between the physical, social and environmental spheres resonates with an earlier 'systems – based' paradigm within planning theory (e.g. Wildavski, 1973) which may be worth re-exploring.

The second starting point – the idea of public participation – has been brought into more direct focus by the emerging national landscape strategy for Ireland, a preliminary version of which has begun to modify the definition of landscape to prioritise local interpretations i.e. landscape as "…an area, as perceived by *local* people, whose character is the result of the action and interaction of ...factors" (Department of Arts, Heritage and the Gaeltacht, 2011). This also has echoes of other long-standing themes within planning theory: the promise of participation and the role of the expert (especially Arnstein, 1969).

It may be useful to examine these ideas in the light of day-to-day planning practice. In an 'ordinary' landscape at the edge of a city (Fig 1), strategic planning decisions about 'sprawl' may have to be made in order to maintain undeveloped gaps between settlements which are in danger of merging into one another in ways that erode identity and raise a whole range of other sustainability issues in relation to individual settlements and their viability. This analysis of development needs (at sub-regional scale) may not be appreciated at the local level where people may be more concerned with individual land values, retention of open space, local cultural issues and so forth (O'Sullivan and Ray, 2012). Whilst strategic plans generally go through some form of public consultation processes (exhibitions, calls for written submissions and observations etc) – all with specified timeframes – the scope for genuine engagement with strategic issues can be limited

These everyday landscapes are also the arenas within which individual development proposals are assessed – often with powerful interests involved - in highly contested regulatory processes (Forester 1989, Healey, 2006). Here, landowners and development interests propose development schemes of various kinds and expect timely decisions in order to underpin the commercial viability and certainty they require. In most European countries there are ways in which citizens can make their views known about these projects before a decision is made but again, these are formal arrangements which are set out in statute. In Ireland the scope for participation goes even further with an appeals process which allows third parties (the public) and developers themselves to seek independent review (Clinch, 2006). With high stakes at play in these appeals, they invariably produce both a winner and a loser. In some cases, the deciding factor (such as with a wind energy project) could pitch one environmental objective (minimising greenhouse emissions) against another (preserving local scenic beauty); clearly this can pose significant challenges for landscape.

2. Critiques of 'Systems' and 'Expert' thinking

In the following sections, some key ideas in planning scholarship

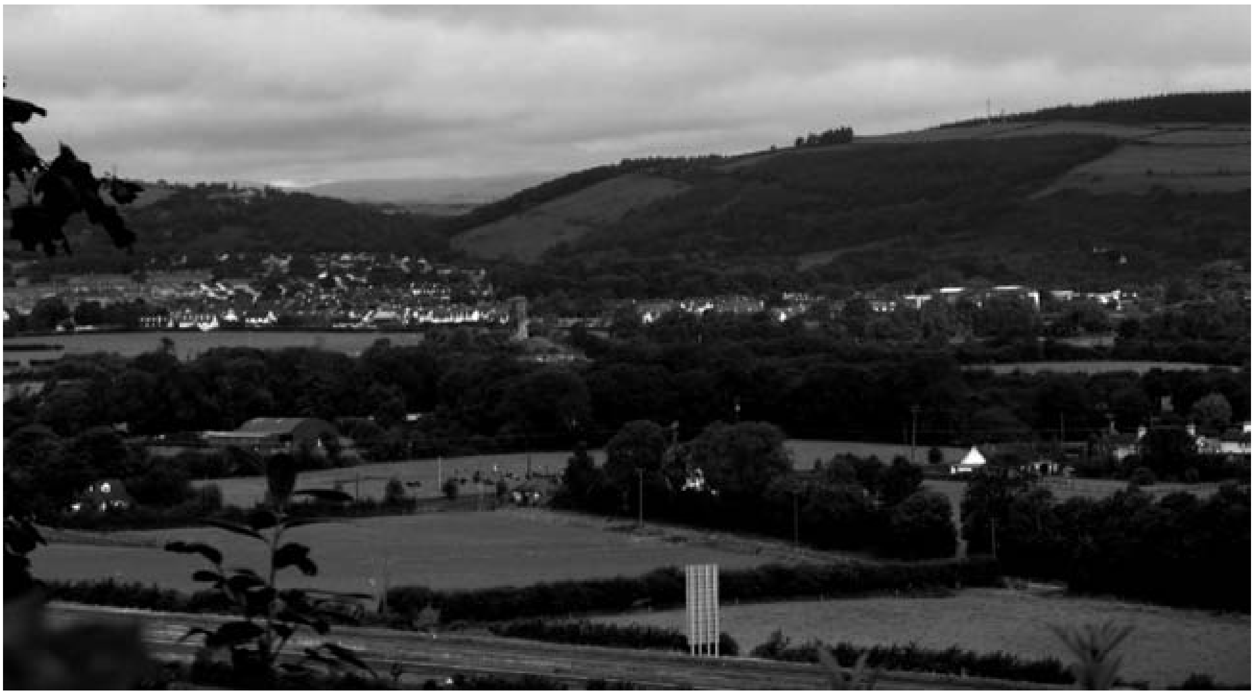

Fig 1. A strategically important green belt gap at Ballincollig, located at the edge of Cork city, Ireland: The European Landscape Convention addresses not only high quality or 'special' landscapes but also those ordinary or everyday places with a landscape character that is very well understood at the local level. Where such places also have strategic importance - say for a metropolitan area – a number of challenges may arise which, because they are often highly contentious and driven by powerful interests, may not be possible to resolve simply through public participation or community engagement.

(from the last four decades or so) are presented as a lens through which current landscape issues can be examined.

For example, the comprehensive, all-inclusive approach to landscape (such as that implied in the ELC) has echoes of earlier systems-based critiques of planning as a field of environmental action. In the post-war period and up to the 1950s and 1960s, the planning of cities in particular was seen as a bounded, manageable project that could be addressed in scientific, rational and comprehensive ways. Systems theory, which used analogies of inter-relatedness of parts (much like the human body) as ways of seeing the city, was in some ways, a reaction to earlier city planning ideas which were more concerned with urban form, design and aesthetics (Taylor, 1998). The focus here – like medical science – was on rational process, on information gathering, on feedback and monitoring and, in this way it mirrored the rise of scientific thinking evident in other environmental fields such as geography.

Contemporary tools such as Environmental Impact Assessment and Strategic Environmental Assessment – both of which are used in the field of landscape – have many characteristics of this way of thinking: the scientific gathering of data about selected indicators and rational frameworks for assessment, monitoring and choosing between alternative ways of proceeding.

In the field of planning theory and practice however, this holistic systems way of thinking began to shift quite dramatically from the 1970s onwards. One of the most famous critiques is found in Aaron Wildavski's seminal article with the memorable title, "If planning is everything, maybe it's nothing", which de-constructs this logical, comprehensive approach (Wildavski, 1973). Building on this, and by drawing on a range of other theorists including Wildavski, Altshuler and others, Innes (1995) characterises what she calls *the dilemmas inherent in instrumental rationality* as being unable to resolve 'wicked' or entrenched problems the parameters of which 'kept shifting'; the frequency of unsolvable problems like the 'prisoner's dilemma' or the 'tragedy of the commons'; the 'limitations of cost-benefit analysis' and other scientific methods in dealing with issues of social life; and the 'impossibility of aggregating the public interest so that its optimisation could be amenable to rational systematic analysis'. All of these issues have resonances in current landscape issues in the planning arena. In Ireland for example, current draft guidelines on landscape character assessment have addressed the systematic gathering of information on land form, land cover, and tangible landscape assets as well as perceptions of landscape value from local or 'users' of landscape (Department of the Environment, Heritage and Local Government, 2000).

However, nationwide coverage of landscape character assessment is now seen to be very uneven (Heritage Council, 2009) and there is limited evidence of these systematic studies having either been validated through local engagement or having been incorporated into formal, politically-endorsed planning policy (O'Sullivan and Ray, 2013).

Rational-comprehensive approaches have also tended to be seen as the domain of the 'expert' and as such there have often been concerns about how they are driven from the 'top'. In the social sciences there has long been a critique of the expert (see Illich, 1977 for example) and in planning, the most famous perhaps is that of Jane Jacobs who led a determined charge against the master-builder planners of the early 20th century for their arrogant approach to communities. By calling for a proper understanding of how dynamic, vibrant and mixed neighbourhoods can thrive and be successful in spite of what master planners might have in mind for them, she shifted the discourse towards community, human scale planning work and a new kind of urban democracy (Jacobs, 1961). Also in north America, the 1960s saw a growing dissatisfaction with professionalism in the environmental arena and, through concerns with social equity in large urban centres, a radical strand of the profession called for more direct political action on behalf of the citizen (see for example the planning advocacy movement in Davidoff, 1965).

Whilst Jacobs's arguments in particular have been significant –especially in terms of reducing the influence of high minded master planners of the period in promoting urban motorways in historic city centres for example – they have not been able to address landscape and urban issues other than at the neighbourhood scale. A strikingly relevant debate between Jacobs and the celebrated urban thinker Lewis Mumford from the early 1960s might indeed have some resonance for current thinking about landscape management at various scales (see Mumford, 1962).

Where community concerns remain local – as opposed to strategic - there are also some regressive, though understandable, phenomena such as NIMBY-ism (not-in-my-back yard), local clientelism (see Aalen 1997 for some examples in the Irish landscape context) and conservative localism which is a significant issue at present in British planning and environmental circles (Crawford, 2011).

3. Participation, Collaboration and Power

There is also the question of how rationally-derived solutions to environmental and other issues survive when faced with the everyday power struggles in the real world of landscape management or of city planning. Bent Flyvbjerg, an influential planning thinker, makes the argument in philosophical terms that power, by its nature, is not only antagonistic to rationality in environmental argumentation, but actively seeks to undermine it (Flyvbjerg, 1998). Instead it seeks to 'post-rationalise' outcomes which were pre-determined in order to sustain the relevant balances of power involved. This is a salutary lesson for those who would naively call for simple community participation as a means of ensuring balance in environmental (or landscape) discourse.

Indeed, planning practice in the USA has long been distrustful of empty calls for participation. In a famous essay in the Journal of the American Institute of Planners, Shelly Arnstein in 1969 set out a very challenging typology which she calls the 'Ladder of Citizen Participation'. Having studied participatory programmes of various kinds and the power relations at play there, she described the bottom rungs of the ladder as degrees of non-participation which amount to 'manipulation' or of 'therapy' or a substitute for genuine participation: 'their real objective is not to enable people to participate in planning or conducting programmes, but to enable power-holders to "educate" or "cure" the participants" (Arnstein, 1969). On higher rungs of the ladder, she describes levels of "tokenism" which allow people ('have-nots') to hear and to have a voice described as 'Informing' or 'Consultation'. These (and a higher level called 'placation') are described by Arnstein as being the levels which power-holders generally proffer as the ideal extent of participation. In these circumstances, '...citizens may indeed hear and be heard. But under these conditions they lack the power to ensure that their views will be heeded by the powerful. When participation is restricted to these levels, there is 'no follow-through, no "muscle," hence no assurance of changing the status quo'. At most, people may have some role in giving advice, but '...retain for the power-holders the continued right to decide' and there is a negligible shift towards genuine participation and citizen control of decision making.

For planners then (or, in the current context, landscape practitioners), the challenge – or battle ground - would appear to be that of 'speaking truth to power' (a term used by Wildavski) or in the later bare-knuckle language of the planning theorist John Forester: planning *in the face of power* (Forester, 1989). Whilst other strands of contemporary planning theory have tended to emphasise the role of the planner in developing consensus, or in a communicative practice that brings together disparate voices in deliberative processes (Healey, 2006 and others) there is little evidence in the literature that participatory processes result in better environmental outcomes than ones that are driven 'from the top' (see Lawless and Peason, 2012 for example). This is consistent with a postmodern mind-frame, where the outcomes are less important than the nature of the processes that are at work and the levels of meaning derived by participants.

However, given that many of the landscape assets that we hold most dearly (areas of high amenity, world heritage sites of various kinds, woodlands and historic city cores did not come about 'from the bottom up' - but through decisive non-participatory action throughout history – the planning literature may be a useful source of critical thinking for those who would advocate an approach to landscape that is based primarily on local and community perceptions and understandings. The difficult terrain is that middle ground where strategic and rationally-based landscape strategies can engage with the rich understandings of meaning that can be articulated at a local level through appropriate processes (such as O'Regan, 2008). There is a need for decision-making frameworks both to speak to and listen to community driven landscape initiatives for progress to be made.

4. Ways forward for landscape: beyond inter-disciplinarity

In the public and political arena, decisions about the landscape are made every day. Land is zoned or de-zoned for development, beautiful areas are designated for protection (or protected status is removed), permissions and consents are issued or denied by various authorities, boards, commissions or courts. In many cases, information about landscape issues is sparse, incomplete, non-existent or unspoken. Some of these settings to a greater or lesser extent allow a certain amount of citizen involvement even in the face of powerful interests. This is the imperfect world in which planning and members of the planning profession practice their disciplinary craft.

Among the challenges presented in this paper then are the implied dangers of a landscape approach that promises too much and raises expectations too high; especially among members of the public. It should be possible however to offset the need for a future Wildavski-like critique ("If landscape is *everything*, then maybe it's *nothing*?").

It is suggested that the primary focus in this regard is in the way in which different disciplines might work together to define a framework in which landscape can be addressed properly and sensitively in the politically-charged and contested settings of public policy formulation and land use regulation. What is meant here is not a simple joining together of the expertise and knowledge of the different disciplines (which might be termed 'landscape as an inter-disciplinary space'), but a much more radical and nuanced *transcending* of disciplinary boundaries into a space which could be described as a 'trans-disciplinary' one (Davoudi, 2010). This would be a synthesis of landscape knowledge across the hard and social sciences, the humanities, the law and the political sciences that would bring with it the prospects of a rich pedagogy not just for the formation of specialists but also for decision makers, politicians, and citizens generally. Planners, who have a track record of operating in these trans-disciplinary spaces, along with planning schools focused on forming reflective practitioners have a particular role to play in this effort.

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Visualization of Regional Landscape and Planning

An Interactive Learning Field for Students and Residents

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Abstract: The Landscape Act was passed in 2004 in Japan. It is the first legislative act to encourage planning and management of the overall regional landscape by local governments. Landscape planning should not only control the height and colour of buildings but draw the vision of a region which encourages the community to repair and revive deteriorated landscapes in our changing world. We have organized workshops, surveys and other activities to improve the landscape of Ena City, Japan. The process is distinguished by its collaborative management by four universities and simultaneous progression in four districts. Birdseye illustrations and a landscape catalogue were introduced as visual media tools for describing images. These methods activated the discussions among local residents, facilitated by students. A creative learning chain was formed for students, local residents and administrations through the multi-stage practical activities for landscape improvement.

Keywords: Landscape Plan, On-site Learning, Birdseye Illustrations, Visualizing Landscape Images

1. Introduction

This is a report about sequential learning and the repair of landscapes that we have promoted in Ena City, a provincial city with a population of 53,000 and an area of 504 km^2, in central Japan.

Japan's landscape has been transformed by economic and cultural globalization and changes in industrial infrastructure since the end of the 20th century (Sorensen 2007). The negative impact of low economic growth since the 1990's is clearer in small cities, suburbs and rural areas than in large cities, leading to various problems such as the closing of shops in city centres, an increasing number of vacant houses, and the abandonment of cultivation (Yokohari 2006). These social conditions have led to the deterioration of both the landscape and communities (Miura 2004, 2005). People have not found a way to address these difficulties. The young people who have grown up and live in such landscapes should create the landscape for the next generation, but they don't seem to have a steady grasp on landscapes. How can we teach them landscape planning and design? Of course, there is a trend of community improvement called *machizukuri* that has borne fruit nationwide with citizen participation since the 1980's. But we still have many problems to be solved (Evans 2002) (Sullivan 1997) (Schebath 2006). Excessive dependence on administrative agencies has taken away their ability to preserve and pass on the local landscape. Administrative offices have also experienced changes, such as the substantial trend of consolidating municipalities in recent decades, stricter regulation of organizations, sectionalism, excessive services for citizens, and paternalism (Rausch 2012) (Nakagawa 2010).

Depopulation and economic recession have reduced energy levels in all aspects. Under these circumstances, the repair and rebirth of landscapes is needed for social goals such as the well-being of individuals, a sense of community, a peaceful society, stable livelihood, and the healthy growth of children. This is different from aiming for attractive and beautiful photogenic views. We need it for the recovery of sustainable livelihoods rooted in the region and to preserve the attachment to place. The authors, with such an awareness of the issues, have been active in landscape surveying, planning and design in the provincial city of Ena since we met by chance a few years ago. The activities did not follow a pre-planned process. We keep thinking while acting and interacting with the people we encountered. It could be said that there was a sequence connecting the main sectors (i.e., residents, students and authorities) in order to repair landscape deterioration and to provide them with opportunities for learning. Of course, we ourselves have learned the most.

2. Deterioration of landscape

The Landscape Act[1] was established in 2004 in Japan. It seems to have encouraged an interest in landscapes all over the country. The operation of the act is left to local governments. Out of about 1700 municipalities in Japan, 562 have started landscape planning under the act so far. The act has the advantage of enabling the making of a spatial plan for views, which cross different land use areas, while existing systems and tools are vertically divided according to land use. In reality, however, most of the plans are set up as very vague aims for the whole area or as controls on height and colours of buildings in very limited zones. We already have some tools to preserve and improve the historical townscape, outstanding natural landscape or cultural landscape and urban centres. On the other hand, landscapes that are difficult to evaluate using these explicit features, such as ordinarily urban and rural areas, have considerably deteriorated without being noticed in the economic recession and the transformation of the industrial structure.

For example, sprawling areas where many people live are rarely discussed as important targets for landscape planning because the value of their landscapes is difficult to measure (Sieverts 2000). While those areas, as mosaics of nature and built environment, are ecologically significant, the landscape of these areas, called "middle-landscape" (Rowe 1991), is not of much interest to citizens. Depopulation and changes in industrial structure in recent decades has caused the landscape of these areas to gradually deteriorate. We have not yet used the act to the maximum to solve the deterioration of the landscape, but it may be said that the act provides a chance for local governments to take the lead in discussing landscape.

Our activities started when a municipal officer of Ena City requested Sasaki to join the committee for discussing the landscape plan, a typical procedure of local government. Then, Sasaki asked some academic colleagues to join in field studies in Ena City as an independent research activity.

3. The subjects presenting problems

The condition of the landscape and the people who live on the land are inseparable. If the livelihood of the people is affluent then the landscape of the region is fine and might be a good environment, both for children to grow up in and for adults. It is a virtuous circle. But there may also be the opposite case. Economic depression and drastic lifestyle change in recent decades in Japan have negatively affected both the landscape and the sectors that manage it (Miura 2004). We must pay attention to the sectors presenting problems. Three sectors concerning our activities in Ena face some problems.

Local residents

Planning with citizens' participation, and/or community-based planning has long been the mainstream, but in reality most of the activities have been supported by subsidies and assistance from local governments (Hashimoto 2007) (Sugisaki 2010). People who undertake community activities are limited, so that gaps in residents' attitudes and interest levels have increased. Leaders are aging. The economic recession, which is notable in provincial cities, causes activities to be discontinued. Under such conditions, the residents tend to demand explicit and remarkable landscapes such as historical or unified in colour and height. For example, the Akechi district in Ena city, with 6000 people, succeeded in promoting the area as "Taisho-village" in the 1980's. Taisho is an era of modern Japan from 1912 to 1926. Many tourists visited Akechi to enjoy the atmosphere of the Taisho era. It is a kind of theme park that boomed in the bubble economy, but today, the number of tourists has greatly decreased. Is spite of this change, residents still maintain the illusion of identifying their townscape as Taisho-village. Our survey makes clear that there are few structures built in the Taisho era and the townscape is composed of various types of buildings. Residents tend to understand that their town has a notable character, in the context of commercialism (Relpf 1987) (Shibata 2008). This means that there is a separation of the image of the landscape and the life of local people.

Students

Today's university students were born and raised in the period of the stagnation economy called the "lost decade". In addition, they grew up under a more relaxed educational program which respected the freedom and personality of each child. There is some criticism of Japanese education and social conditions that have produced many over-indulged youth (Uchida 2007). Of course, there are nice aspects: they are friendly, carefree and good at evading conflict. They can easily have a friendly talk with residents the first time in the survey or workshops. They can always freely and easily choose what they like amidst overflowing information, because they were brought up in an information-intensive society, but they have much less chance to experience the real field. There are some educational programs on-site but they just trace the surface and imitate. With these trends, their way of seeing landscapes is very poor. For example, when they look at the scenery, they cannot imagine a water system or farm work, or the physical activity of farm-product processing that forms the rural landscape. For them, the view of the landscape is just a picture.

Local Administration

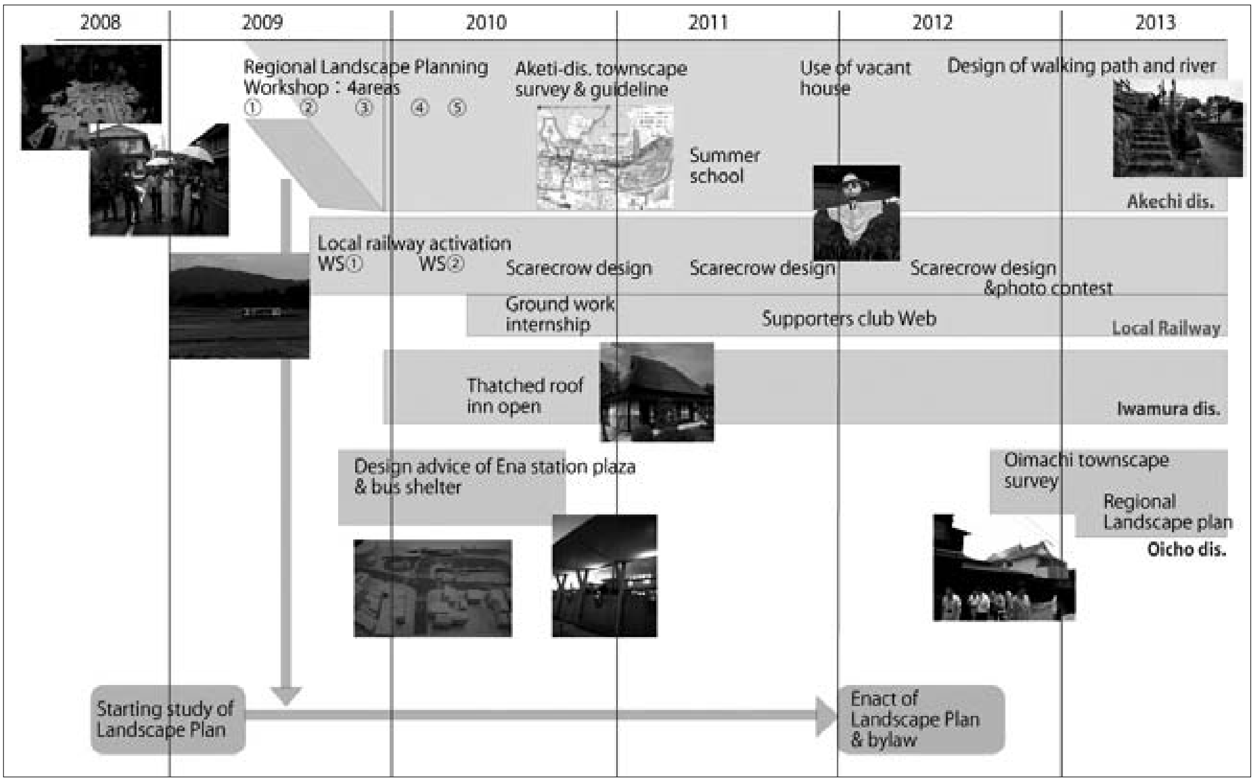
The big changes in recent decades in the local administration of Japan are the large-scale mergers of cities and towns, and decentralization. These idealistic policies and trends have not yet borne fruit. Exceptional Local Government Bonds for mergers make regions rich, but this is quite temporary. The merged municipalities widely combining district centres and hilly rural areas make it difficult to draw a vision for the region as a whole. The shortage of budget and manpower prevent the decentralization from working well. The general trend of improving public services for citizens sometimes leads to unnecessary humility or is used as an excuse for administrators not to concentrate on the work they should accomplish. However, there is a basic flow to confirming the partnership with residents and various support policies for active sectors that should be welcomed for the field of landscape planning and design, whose approach varies largely in places.

4. Multi-stage practical activities for landscape improvement in Ena

Under the above conditions, we have been continuously active in the southern part of Ena City since 2009. Our activities are as follows: support for the development of the landscape plan based on the Act, design survey of townscapes and making guidelines for them, reversing the decline of the local Akechi line railway, creating design concepts for open spaces, supporting small businesses, holding a summer school for students, research for graduation and master's degrees. These are shown in Fig.1. There is no space to introduce each activity here, so we introduce some visual media expressing the local landscape image and the learning influences in the three subjects.

4.1 Drawing the regional landscape image as a vision

In the process of discussing the landscape plan in Ena, we were going to utilize the merger as an advantage, in that the different parts of the new city, each with its own character, could play complimentary roles in cooperation. Therefore, we decided to develop the landscape plan using the units of the pre-merger jurisdictions. In 2009, four universities performed field surveys and workshops with residents concurrently in four areas. These were two areas of small local cities, and two rural, agricultural areas. The characteristics of the landscape and the problems were different but a common workshop program was introduced. We started by identifying the present landscape's resources and problems, then sorted them visually; we talked about the future visions of their life and landscape in the area, and finally we proposed some actions to improve and sustain the social and special environment and views. In the process, there was a continuous exchange of the discovery of aspects or values in the landscape from different perspectives. In other words, the residents explained the views that students noticed from the naive eyes of strangers, about their background, history, and functions. Occasionally, almost-forgotten memories and narratives were drawn out. The environmental values and problems, of which local residents were not conscious, were in this way brought into the landscape planning. We were able to grasp part of their local image by getting place names not listed on maps and some vocabulary they use in talking about their home and life. However, these fragments of images were not necessarily structured or clearly visualized as a landscape for them. The members of the university tried to read the structures of their image of the region and visualize it in a map showing the route and elements as a clue to recognizing the region. This result made it possible for the residents to imagine


2008
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Regional Landscape Planning Workshop : 4areas
① ② ③ ④ ⑤
Aketi-dis. townscape survey & guideline
Summer school
Use of vacant house
Design of walking path and river
Akechi dis.
Local railway activation
WS① WS②
Scarecrow design
Scarecrow design
Scarecrow design &photo contest
Ground work internship
Supporters club Web
Local Railway
Thatched roof inn open
Iwamura dis.
Design advice of Ena station plaza & bus shelter
Oimachi townscape survey
Regional Landscape plan
Oicho dis.
Starting study of Landscape Plan
Enact of Landscape Plan & bylaw

Fig.1 Multi-stage practical activities for landscape improvement in Ena City since 2009.

their own area as a landscape. The map was finally expressed as a "regional illustrated image" (*Fig.2*).

The regional illustrated image is the expression medium that integrated the different modes of the landscape image, such as the frame structure of the space, an overall tone, landmarks, small elements with text and details. This is considered to be a future vision of the region, as well as the image of the landscape (Sasaki 2010). The other visual medium we call a "landscape catalogue" was also developed. That is a collection of elements of a landscape or townscape with common styles.

Design guidelines tend to provide shape and colour regulations, but this sometimes results in formal control only. We think the landscape catalogue gives the image of the elements intuitively as a basic tone in design (*Figs. 3,4*). These visual fruits of the workshops in four areas help the local residents shared a common image of their landscape.

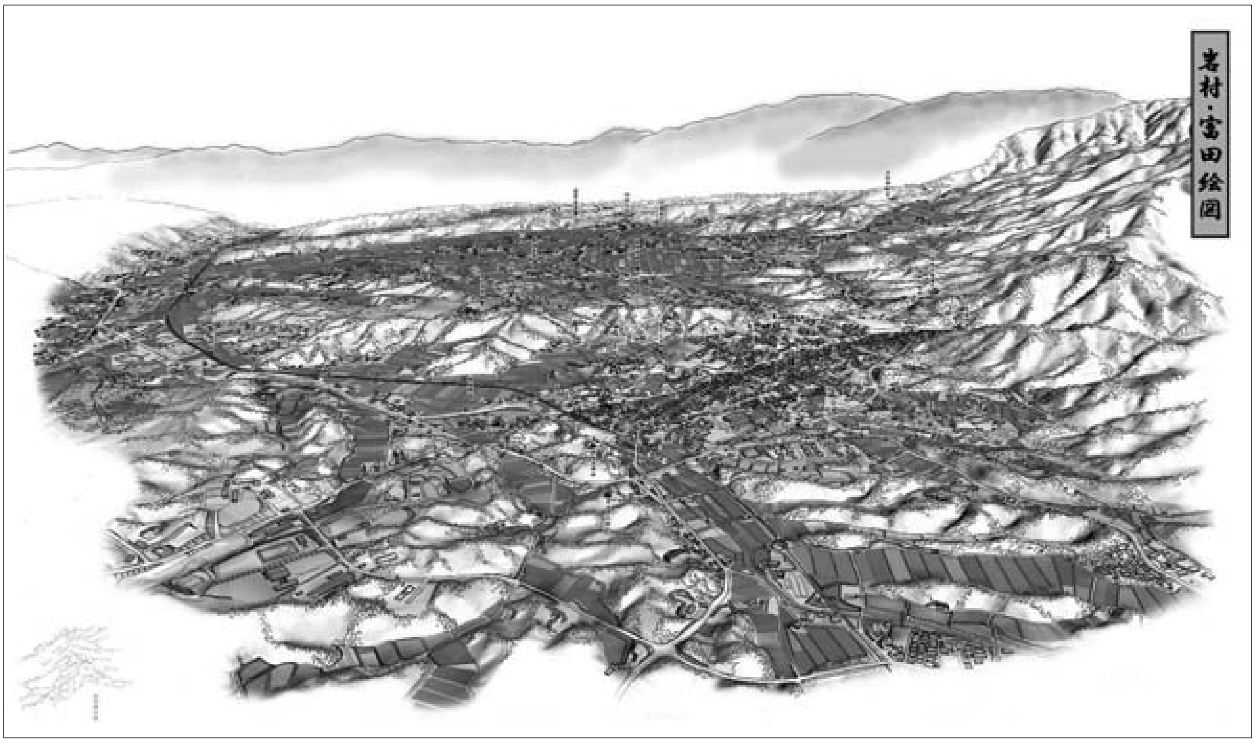

Fig.2 A regional Illustrated Image – Birdseye Illustration of Iwamura district.

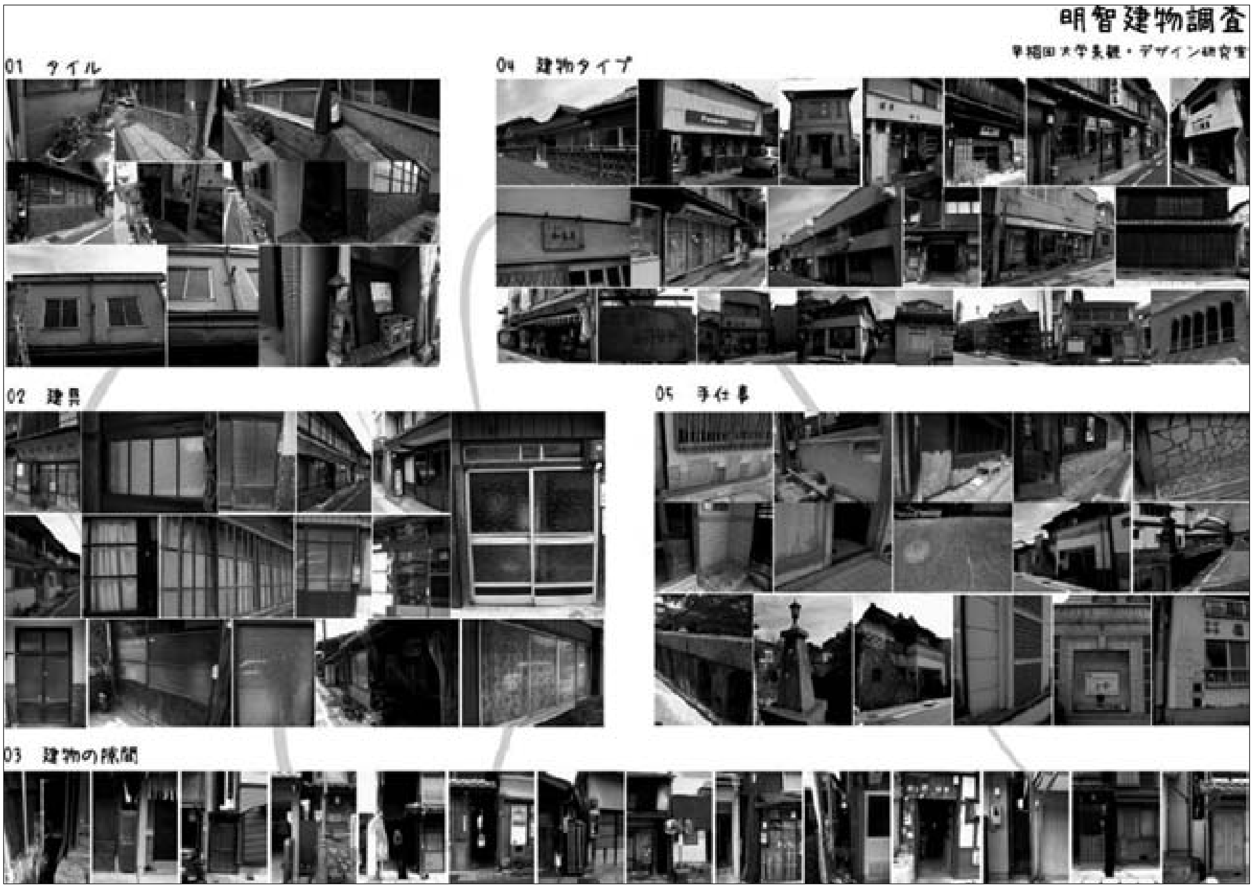
明智建物調査
早稲田大学景観・デザイン研究室
01 タイル
04 建物タイプ
02 建具
05 手仕事
03 建物の隙間

Fig.3 Landscape Catalogue for Townscape in Akechi dis.

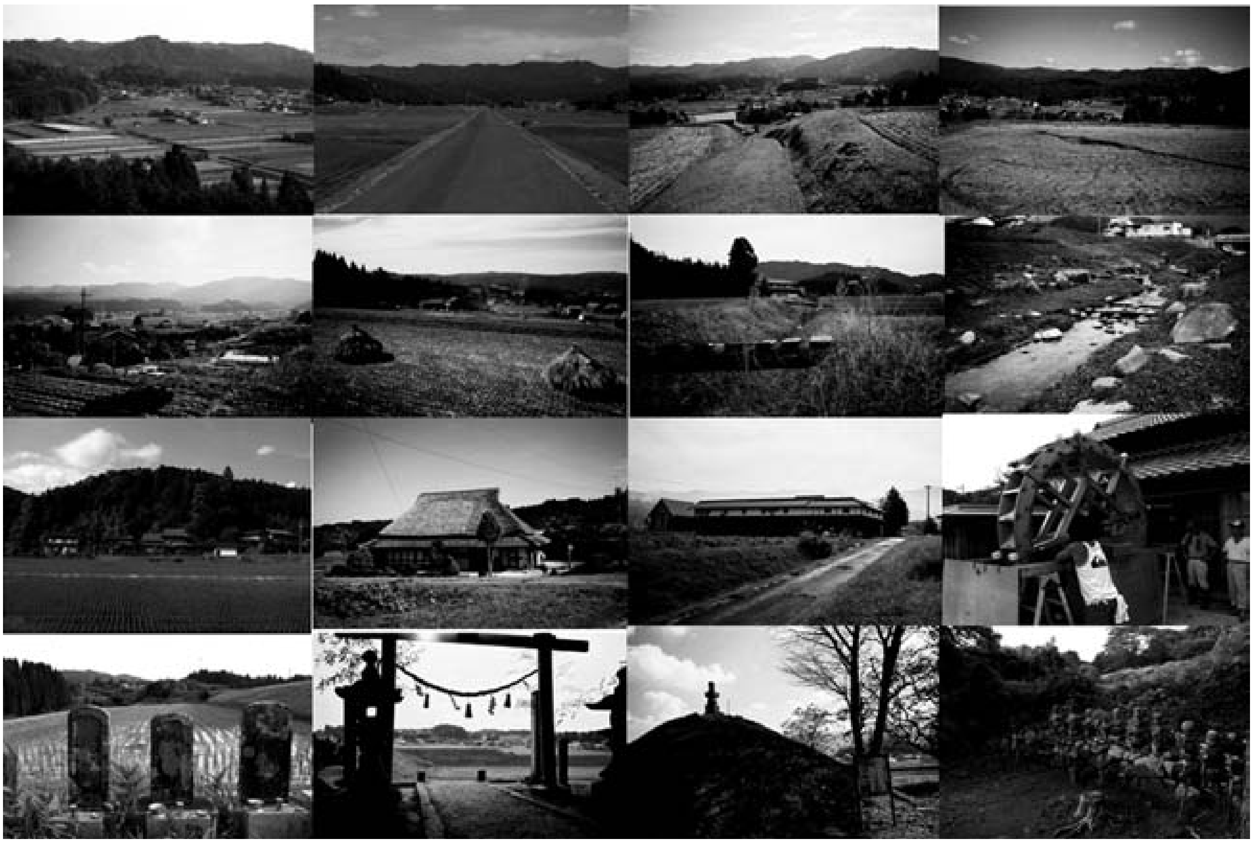

Fig.4 Landscape Catalogue for Rural Landscape in Tomita dis

4.2 Learning through the activities of three subjects

Local residents learning

Generally speaking, local residents have little chance to awaken or express their perception of their living environment as a specific landscape in daily life, even though they have deep knowledge of it. Taking photographs and talking about the photographs taken by them and by students through the workshops will give them an opportunity to develop an eye for landscape. They become aware of the actual situation of the townscape, of which they had just a vague image of historical features, after they see the results of a strict survey of building facades by university members. The actual situation that became clear seemed to gradually give them both a sense of crisis and pride. For example, the ordinary living environment of the life that has been unconsciously handed down is becoming considerably impoverished. The fashionable facilities made as symbols in the near past cannot maintain such important value now.

On the other hand, even after a long absence, they remember the places they visited for school excursions and find that the place gave them a really attractive scenery experience, and feel attachment and pride there. Such awareness leads them to refresh their way of seeing their present environment. Of course, how this sense leads to future action depends on the person. Some people try to take on a challenge and other people remain in the existing situation or only talk about past glory. We could find cases of the former type starting a small local business, such as opening accommodation that was formally utilized as an old farmhouse with thatched roof, a cafe in the community space in front of the local railroad station. Local residents themselves develop new activities utilizing regional landscape resources that support both their livelihood and landscape. The practice can expect a steady effect in the restoration of the deteriorated landscape.

Students learning

"There are accumulations of the lives behind the scenery." "It is complicated and not so simple." At first it is a significant learning experience for the student to know this concretely. They may be surprised to have to learn such things expressly. However, the reality looks like that. Products, services and the related information are innumerable, and they receive them on appearance, without the background or context. This habit makes their sense extremely naive, so that their evaluation of scenery and the improvement of ideas are not subtle. Such an evaluation and suggestion are criticized by residents who live realistically as "it is easy to say, but it is nearly impossible to realize". This experience itself is valuable for them. The students concerned with activities as staff members of universities continuously encounter this kind of shock so that they can develop and mature their stance and imagination concerning landscapes. The students finishing the summer school were only just realizing their over-optimistic recognition. It is left to each student whether he or she makes use of the experience in another field. However, it will be better than not to experience it once. Anyhow, students can learn through the on-site activities that they need to acquire a sense of the value of landscapes in the present age, rather than the attractiveness or beauties of the visual scenery. This learning experience will have a more important influence on the phase to create the images of landscape design. *Local administration learning*

The officers of the local administration work in vertical divisions. However, the problems appearing in the landscape are caused by complex factors. In the case of Ena City, we have considered that the landscape plan was not merely aimed at visual environmental order and control, but also at a representation of the vision of the region in the future. Under such an understanding, many unexpected topics were born during and after the sequence of the workshops, e.g., the use of vacant houses, reforming traditional buildings with out-of-date functions, design of public open spaces and their usage. The local administration has followed up on these topics one by one, by discussing them with university members. This was made possible by the efforts of the key person, who had a good understanding and good skill of coordinating various methods across the sectors. The efforts of this key person, who received the trust of the citizens, should have been stimulated in other staff members.

5. Conclusion

We have been thinking about the plan, even while rushing to connect the different sectors and objects and to make various events correspond with each other. This was made possible by the participation of multiple universities and by a supply of funds. Two of the four universities making up the team were in charge of the parallel operation of workshops in four areas. This system achieved a much greater effect than if a single university had committed itself to a single area. Some aspiring feelings among students, and the building of complimentary relations brought a good result. As to the areas, carrying out local activities in the neighbourhoods in parallel became a stimulus. At the final joint presentation, the community leaders of each area met for the first time and exchanged business cards. It was an interesting scene. As to the support we found for our activities, in the beginning we started on a volunteer basis, but soon Ena City received a national subsidy for the model research project for local activation, so that we could afford to hold many workshops with many students. Ena City has research contracts with the universities individually. In addition, we got three years of public research funds based on these results in 2011. The sequential activities for improving the landscape in Ena are starting new action in another area of the city, Oicho, at the autumn of 2012. The site, located in the centre of the city, has a long history as a post town on the historical highway, so some traditional wooden buildings and a small waterway remain, but the urban area is hollowing out. Another viewpoint and different action in investigation will be required while making use of past experience, because a station of a nationwide super-high-speed railway will soon open nearby. The series of activities was not particularly coordinated as an educational program for local residents or students. However, upon reflection, it may be said that it became a place for multifaceted learning.

The conditions unique to the region of Ena may have largely influenced our activities, but this practical experimental approach to problems in the environment and other subjects through a focus on the landscape will reveal several suggestions about what the landscape is in our age, as well as how to learn about it.

This work was supported by JSPS KAKENHI Grant Number 23360229.

Notes:

[1] The English text of the Landscape Act is available on the website: http://www.mlit.go.jp/crd/townscape/keikan/pdf/landscapeact.pdf

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Workshops and Technical Committees: Participation as a Continuous Instrument for Understanding and Designing the Landscape

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Abstract: The paper presents the experience carried out by some researchers of Sapienza, University of Rome, in the context of euro planning (2008/12) and national planning. This work was developed with universities, public administrations and foundations/research institutions based on the different implementations of the instrument of participation: from cultural landscape of the Val d'Orcia in Tuscany and the Province of Belluno, to landscape planning in Alta Tuscia and the experiences of urban design/landscape in Rome, Moscow and Kiev. A path of research *in itinere* focused on innovative design tools and moving between considerations and didactic-pedagogical and professional proposals, with the two approaches overlapping in the common denominator of participation as a determinant factor of any project.

Keywords: Participation, workshop, knowledge, teaching, creation of consensus, design/landscape planning

1. Introduction

This text presents a number of results and considerations on the tool of the workshop as a moment of participation in the practice of design in terms of training, decision-making and research.

This work brings together various experiences in Italy and abroad, developed as part of European projects, academic teaching and professional practice: a *path of research in itinere* focused on innovative design tools and moving between considerations and didactic-pedagogical and professional proposals, with the two approaches overlapping in the common denominator of participation as a determinant factor of any project.

Almost all of the examined academic workshops pursued the objective of public space as an opportunity for design to connect/reconnect/recover abandoned urban areas in the city, to recuperate and valorise 20th century architectural and urban heritage, to propose new uses and spaces in critical contexts of important landscapes.

The professional experiences, instead, dealt with the planning of the territory at inter-municipal, provincial and regional scales, focusing more on process than product. The interest for research lies in these two declensions.

2. Challenge tackled

The fundamental question addressed in the university workshop has been twofold: on the one hand, we wanted to mobilize students to discuss, in a short period, with the demand for planning of territories through a comparison with the demand coming directly from the local government and, at the same time, we wanted to encourage them to dialogue, through a participatory process, not only within the team but especially with the inhabitants of the territories and local actors.

Secondly, we wanted to simulate professional operations, as part of supplementary teaching, relying on the equity instrument as a basis for a project that was a response to the issues raised by the land and not just the result of that theoretical and abstract knowledge away from real contexts that, many times, is built in university classrooms. In professional experiences, however, the key issue was to verify the role of the workshop in its interpretation of the technical panel, as a means of co-planning, in two different processes: a process of planning encoded in the body of the national law, such as the Territorial Coordination Plan of the Province, and an optional design as part of a European program. It is important to emphasize this because the first case is a measure of routine in the planning of public body, while the second case is a voluntary act where the participatory process and technical tables do not respond to a legal obligation.

The objectives are different and substantial: prescriptive, in the first case, and indicative in the second.

3. Approach applied

The methodological approach adopted in university cases was the fundamental *teaching-bridge*, while in professional cases it was a co-institutional planning. In both cases, local knowledge and dialogue were the two fundamental tools of the experimental process.

3.1 Participation and Workshops in University Experiences

The first experiences described were developed as part of the European programmes TACIS/IBPP 2007: "Moskonstruct", Ciudad: "RKM_Save Urban Heritage" and Interreg IVC "Euroscapes", together with colleagues in Russia and Ukraine. Two primary themes were examined: a) the valorisation of Russian avant-garde and Constructivist Architecture in relation to their urban contexts; b) landscape design in critical areas of important landscapes such as the Val d'Orcia in the region of Tuscany.

3.1.1 Moskonstruct

Moskonstruct raised public awareness about the historical and cultural value of Constructivist architecture. The project directly involved local administrators, stakeholders and citizens, activating a series of meetings and workshops to increase an understanding of this heritage.

The project was enriched by the participation of Italian and Russian students (Sapienza University of Rome and Moscow Institute of Architecture). Workshops focused on the urban and landscape requalification of an area along the Moscow River comprised of various homogenous environments: industrial-manufacturing, both active and decommissioned; facilities for sport; residential; and open public space.

This collection of polarities, resources and environments generates a highly fragmented system that exists in a mute relationship, incapable of expressing and conserving the signs and characteristics of the site. The latter appears to exist in a purely self-referential condition, without renouncing the valorisation of the various tiles of its mosaic, presenting the image of a disoriented and inorganic patchwork.

A work of late Russian Constructivism situated at the centre of the site served as the hinge of the various design proposals. Students were invited to develop a project focused solely on the unitary organisation of the site: a master plan for its open spaces, waterfront and the internal and external edges of its residential compartments, together with proposals for the reuse of various buildings present on the site. A cultural exchange took place between two design schools and two different philosophies of approaching urban design: the Italian group with a focus on the signs of history and context as a means of understanding and supporting urban design, and the Russians with a predominance of architectural signs serving as new landmarks for the contemporary city.

The comparison, conflicts, dialogue and interaction between Italian and Russian teaching staff and students represented the added value of this experience. The use of seminars and group work by the Italians, and the more individual approach adapted by the Russian school, represented the two elements of comparison/conflict in relation to the common organisation and implementation of the work, in all likelihood also resulting from the aforementioned different approaches to design. The different approaches and attitudes towards architectural design came together in a moment of combining, monitoring and verifying the design proposals.

An attempt was made to identify an approach to dialogue designed to overcome internal conflicts within the general master plan or, more precisely, to identify a common idea capable of expressing strategies and opportunities for the realisation of specific interventions and action: in practical terms, the common terrain of dialogue and comparison onto which to place each work of architecture. This process produced a unitary, shared and participative project.

3.1.2. RKM_Save Urban Heritage

RKM_Save Urban Heritage was for the most part a continuation of the Moskonstruct project, broadening the partnership to include the Municipality of Kiev and the KNUCA University of Kiev. The experiences presented reveal different approaches to design, the organisation of the workshop and the evaluation of single and/or collective results, as well as the very idea of the workshop itself. In many cases input from local administrations or derived from applicable urban planning regulations placed students in a condition to feel that they were part of a process/project based on common interests, framing the academic experience of the workshop within a participative process focused on "designing together" to pursue a common goal, against a backdrop of shared social commitment.

The work was based on the two key terms of "flexibility" and "integration", around which to construct a common project in which the differences of the diverse schools became a benefit to the project. *Individual consolidated approaches* should, though this was not always the case, allow for the critical acceptance of dialogue between the multiple disciplinary contributions offered by each partner.

Some of the rigidities imposed by a group of professors exalted existing conflicts, in particular during the workshop in Moscow: this created a difficult situation that placed the authors of this text in quasi-professional situations. The natural evolution of the problem/conflict/solution was repurposed on multiple occasions within each group, creating one of the strong points in the process of dialogue/comparison and participation, re-proposing on an almost daily basis questions of debate and confrontation. Once again, these problems were resolved through design at the urban scale: a true occasion for a participative development of process/project.

Beyond the results obtained, to some degree influenced by the brief duration of the design phase and in part by linguistic difficulties, it is necessary to highlight this final aspect: the acquired capacity for synthesis demonstrated by students and the relative experience in communication. The presentation of the projects revealed the *ability to communicate* a proposal and its explicit and implicit meaning, not only through the well-managed use of graphic and communications tools, but above all an *ability to communicate* and an important capability to critique structural elements, material and immaterial characteristics and the richness of the project site, proposing innovative ideas and demonstrating a shared condition achieved and sedimented within the overall design process.

3.1.3 The Euroscapes Project

The Euroscapes project, part of the European Interreg IVC Programme, focused instead on a comparison and consideration of the methods for managing landscape transformations. The study examined a series of natural and cultural landscapes in urban and peri-urban areas, analysed through a strategic approach capable of defining short-, medium- and long-term scenarios for the promotion of the landscape and its economic value, as well as triggering dynamics of sustainable tourism, in harmony with existing agrarian and historical-natural resources. The areas selected by the project partners differed in nature and scale and offered stimuli for widespread experimentation with a common theme, what is more in relation to the diverse structural components of the landscape, as well as the different methodological approaches and legislation of reference in each nation. This scenario served as the backdrop to the landscape design workshop: "Progettare la trasformazioni nelle criticità della Val d'Orcia", in the region of Tuscany.

The five-day workshop consisted of: a one day presentation of the project sites and site visits guided by local experts, professors and tutors; a three-day working session; and one morning to present the final results.

The teaching staff served as guides for the entire operation, stimulating an understanding of the territory, offering repeated site visits and a reading of context in light of the elevated cultural and landscape value of the site. Students were left free to express their proposals, which were more guided by dictates and desires expressed by the host administration and applicable master plans.

The proposals responded in different ways to the input provided by local administrators.

Having thrown the students into the site as part of guided visits in individual groups led them beyond the direct comprehension of the area; it allowed them to interpret the site and, notwithstanding the brevity of time available, to seek to understand its strengths, signs and values in order to respond to the demand for territorial design with a landscape component, even in such an iconic territory as that investigated here.

Read in this manner, the participative didactic experience created an opportunity for reflecting on method and stimulated research to experiment with and verify a methodological approach consolidated by the team of professors participating in the workshop for a possible declension within the Euroscapes project responsible, together with its European partners, for preparing a set of guidelines for the management and transformation of the landscape.

Precisely the on-going verification with local actors and operators permits a relationship between design investigation and suggestions, calibrated within a local reality to respond to the demand for design that emerges from the territory, in the three-dimensionality of the landscape, in an explicit form for correctly realising and communicating design actions and norms together with intelligent rules for managing daily activities. A landscape project conceived in this manner is of great importance to the territory and may assume multiple meanings: forms of rediscovering values and traditions, reinforcement where territorial identities are weakly expressed, the valorisation and re-affirmation of hidden identities or reinterpretation according to needs and demands that emerge in response to phenomena of rapid social and physical transformation.

One common denominator appears in all of the projects presented, other than the positive experimentation with a method in a short period of time: the desire to reappropriate and manage local landscape heritage as a public good. This is also the result of working in the territory and speaking with those who inhabit it.

3.2 Professional Experience

This section presents two different experiences: the first, which is another face of the project described in section 3.1.3, refers to the technical committees organised as part of the Interreg IVC European programme, pursuing the initiative of instituting dialogue with local actors in interested territories. The second addresses the development of a workshop in an institutional co-planning between the Province of Belluno and the Veneto Regional Government. The first experience relates to an intentional instrument, while the second was promoted as part of a voluntary and strategic form of programming.

3.2.1 Interreg IVC European programme: Euroscapes Project

To a different degree, the Euroscapes Project focused on a portion of the territory in the *Alta Tuscia*, the northern area of the Region of Lazio.

The project proposed a participative process focused on sharing strategies and actions of intervention with local actors through the definition of technical committees working with the primary issues that emerged during a first phase of work, organised according to the following themes.

Landscape and Agriculture - Agricultural production constitutes an indispensable element for safeguarding and conserving the landscape, in all of its various definitions, as well as its continuous and slow construction/transformation according to methods of daily, and not extraordinary management, capable of transferring the know-how of rural society and remodelling territories/environments.

The binomial relationship agriculture-landscape imposes a reflection on *traditional practice* and *innovation*, with a focus on the methods of dialogue between tradition and experimentation, fully respecting the vocations and potentialities of the territory.

General Objective: exploring the dynamics at work in the consolidated agrarian landscape and *new forms/rules* for ensuing quality in this sector.

Specific Objectives: incorporating the needs of local stakeholders, the problems present in the territory inherent to historic and new cultivations, incentives for agriculture and the principal actions of the PSR, the desires of local associations and individual operators, constructing a schedule of resources, critical elements and desires, examining the need for planning in the territory; identifying new planning strategies.

Landscape and Sustainable Tourism - The development of sustainable/responsible tourism must be linked to consistent dialogue with policies of landscape conservation, valorisation and transformation. It is one of the principal actions for approaching landscape planning and design. Focusing on sustainable tourism means evaluating the load capacities of a territory and adopting a long-term development policy, consenting the realisation of low-impact and profitable systems characterised by respect for the relationship between nature/culture, the level of biological reproduction, the respect/defence/valorisation of specific local conditions, the conservation of socio-cultural identity, the involvement of autochthonous communities and economic sustainability.

General Objective: exploring possible actions and interventions for the creation of sustainable/responsible tourism designed to valorise a territory's economy and landscape.

Specific Objectives: incorporating the needs of local stakeholders, the problems in the territory that hinder the development of sustainable tourism, proposals for forms of sustainable tourism and the need for sustainable mobility, proposals for activities integrated with an area's natural and landscape historical-cultural resources, and the desires of local associations and individual operators.

This material can be used to construct a schedule of resources, critical elements and desires, and examine the need for planning in a territory; identifying new planning strategies.

Landscape and Renewable Resources - One of the primary obstacles to the proper development of renewable energies in Italy is represented by the often conflictual relationship between energy requirements and environmental protection, on the one hand, and the safeguarding of important landscape heritage, on the other. In short, while the safeguarding and valorisation of the landscape does not always move hand in hand with clean energy, it is also true that – in perspective – only a reduction in CO_2 emissions can halt damaging processes of global warming. In the short-term the introduction of forms for procuring alternative energies may contribute to reducing the costs supported by "those who construct the landscape each day" (i.e.: farmers). In fact, assuming a *landscape point of view* together with a focus on energy entails affirming a model of energy development sensitive to the vocations and characteristics of diverse territorial contexts. It implies seeking to develop methods of designing renewable energy sources more attentive to relations with their territorial context, the social acceptance and characteristics of supply and demand (current and planned).

General Objective: exploring the relations between the development and diffusion of renewable energies and landscapes of reference.

Specific Objectives: incorporating the needs of local stakeholders and the desires of local associations and individual operators; analysing the problems present in the territory generated by diverse sources of (renewable) energy; constructing a schedule of *resources*, *critical elements* and *desires*; identifying operative solutions capable of guaranteeing a concrete *coexistence* and *acceptance* of energy-related projects in economic, territorial and social terms.

Each committee guaranteed the achievement of specific objectives: incorporating the needs of local stakeholders and the desires of local associations and individual operators; the analysis of problems present in the territory; the identification of operative solutions capable of guaranteeing a tangible coexistence and economic, territorial and social acceptance of energy-related projects. In terms of landscape transformation, primary stimuli were provided by the technical committee on Renewable Energy Sources that highlighted the shift in debate at the local level from a vision focused solely on the quantity of energy produced toward questions tied instead to the economic and social effectiveness of means of producing energy that actively and responsibly involve local citizens, viewed as a form of coexistence. A study of the results produced by each committee clearly revealed how, within a context such as that selected for the pilot project, the identification of strategies and actions must be guided toward the construction of a scenario of small material and immaterial networks, the diffusion and mixture of diverse practices of "inhabiting" the landscape, as well as the capacity to implement processes of economic reterritorialisation capable of producing quality by pursuing strategies of *recovering, valorising, retraining*.

3.2.2 Province of Belluno: the Provincial Territorial Coordination Plan

With regards to the Provincial Territorial Coordination Plan (P.T.C.P.), the design-oriented definition of the workshop as a *technical committee* refers to the experience of territorial planning in the Region of Veneto, specifically for the elaboration of regional (P.T.R.C.) and provincial instruments. These focused on protecting and disciplining the territory to improve the quality of life according to an idea of sustainable development in coherence with the process of integration and development of European space, working to implement the European Landscape Convention, contrast climate change and increase competitiveness. The workshop/laboratory assumed a twofold institutional role, structured in accordance with two keywords from the past two decades of urbanism: participation and concerted action. These terms embody the concept of co-planning that involves the full range of institutional subjects, the intent to achieve shared objectives, concerted projects and above all overcoming individual interests and localisms that often hinder the correct vision and management of the territory. The technical committee becomes substantially a laboratory/workshop for comparisons and collaborations between regional and provincial representatives, for the preparation and monitoring of urban planning instruments, reciprocally assuming the indications shared between these two levels of governance.

The first step is thus the identification of the themes inherent to the contents of the PTRC and PTCP to be treated at two scales, highlighting possible relations between strategic regional choices and provincial territories to be planned at the intermediate scale. In this case the workshop established a horizontal connection between the regional and provincial governments, revealing the latter's role as a hinge between regional and local planning, linking the subject with municipal and/or inter-municipal planning. As part of the relationship between the provincial government and local planning, the tool of the workshop assumed for the most part the form of participative and concerted seminars, held in government offices and the territory itself. A structure created in the region thus found its declension at the provincial scale. With the contemporary development of the Strategic Plan (PS) and the P.T.C.P., the Province of Belluno anticipated the Region's *work in progress*, using the two aforementioned instruments *in itinere* to test innovative forms of participation and concerted action of significant interest that also included the regional technical committee within the overall system of concerted action.

The intent was to link decisions to the territory; for example identity and the sense of belonging or, more topical, the relationship between the local and the global.

While the workshops for the Strategic Plan could be managed and divided in relation to the axes of the Plan, involving different subjects related to various themes and projects, the encounters for the PTCP focused on territorial differences. This distinction served as one of the principal objectives of the PTCP: territorial cohesion made possible via networks and systems, constructing territorial platforms for the resolution of nodal, thematic and design issues for individual territories. The process as a whole, together with the approach to participation and concerted action guaranteed the so-called *social focus* of the PTCP.

4. Conclusion

The reflections and results of these experiences with workshops allow for a number of considerations and perspectives, on the one hand didactic-pedagogical and, on the other hand, professional, in which the two parts overlap in the common denominator of participative planning.

From an academic point of view, students leave the classroom and confront reality and highly particular problems linked to practices that can be understood only *in situ*. This requires a global approach and a total commitment of resources, seeking to consider and examine all of the variables at hand. Working in context signifies moving away from abstract understanding and entering directly into the design process. The process of learning/participation activated by a workshop is extremely effective: students' acquisition of knowledge leads to active learning, capable of connecting new understandings with individual cultural backgrounds; students are invited to respond globally, and not specifically.

The need to collaborate and work not only as a team, but as part of an on-going relationship with clients/administrators develops capacities for interaction and mediation. For participants it is indispensable to be able to establish, manage and maintain positive relations and thus learn to respect others, to collaborate by balancing personal needs and priorities with those of the group.

Equally important is the capacity to manage eventual conflicts, to recognise and attempt to resolve them. For the international workshops the students' diverse methodologies and different skills offered multiple occasions for discussion. This comparison expands to include the needs of cultural interaction. Contact with different practices, mentalities and ways of working leads to a reconsideration of methods and approaches that, in some cases, leads in turn to confrontations between mentalities, erecting true cultural barriers.

Another essential aspect has to do with the communication of a project: students must be able to speak about their ideas not only to professors, as part of a normal project review, but also to the client, simulating a professional situation. This requires the acquisition of a technical language and an appropriate and specific vocabulary, a capacity to work with diverse languages and different supports, an ability to identify the most suitable and captivating means of representation, without ignoring the communicability of the underlying message.

Thus intended, the workshop potentially becomes a true didactic project: an "approach to teaching/learning focused on the development of skills pursuing a situation-problem to be resolved that represents the framework of meaning within which to position the diverse actions required by the project itself" (Castoldi 2011).

It is based on an inductive strategy, beginning with real experience, requiring the consideration of reality in its global condition, to be confronted according to a multi-disciplinary approach utilising know-how as a tool of interpretation, orientation and participation in a complex situation. The situation-problem becomes the point of origin and destination along a path of learning founded on concrete problems, inserted within an operative context defined by specific resources and restrictions. The workshop is thus presented as a teaching-bridge focused on the student, in which the group becomes "a resource and not the container within which to place the process of individual learning, but instead the amplifier and collector of individual potential", and in which "knowledge moves from and returns to real contexts, in a recursive relationship between experience and learning, theory and practice" (*Ibid.*).

This model of teaching is structured, as demonstrated by the metaphor of the bridge, on processes of continuous passage between experience and reflection, between practical and theoretical know-how. According to this method, "teaching assumes knowledge as a complex, global, sited and multidimensional event that must be tied back to its relations with the whole" (*Ibid.*). The role of the teacher changes: educational staff support and facilitate the work, leaving the direction and orientation up to the student who, finding him/herself in direct contact with the reality of the site and local actors, inserts and develops the aspect of participation inherent to a direct relationship with local actors/context as an ordinary and not extraordinary moment in the life of a project, a condition often extraneous to academic learning. Activating a method of teaching that employs projects that render the workshop an offshoot of participation, a significant and mandatory part of the learning process that may lead to a reconsideration of the teaching model and contribute to overcoming the opposition between curricular and design activities, eliminating the episodic character of design experiences.

Thus design innovation in teaching and research would be presented as innovation and the construction of an approach to design would be less tied to the self-referentiality of teaching staff and the student, making room for the flexibility of a circular approach to design related more to people, places and territories.

Many of the concepts described in this paper are also of value to the professional environment where the workshop proves to be a valid instrument for sharing and participating in the design process. Naturally, reference is made to institutional processes of participation between various entities, where the starting point is, in many cases, the result of a local process, developed over time.

Here the workshop assumes the different characterisations of participation, ably serving as a hinge and point of comparison between territory and institution. This double function, at different levels of planning, makes it the point of contact within the multiscalar process of urban and territorial planning, where participation, rendered explicit in the workshop, provides the hypothetical answer to the needs of the city and, above all, a flexible and shared response for its consideration of individual, collective and general interests according to rules of transparency and legality.

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Exploring Forest Landscape Governance: Practice, Institutions, Societal Learning and the Role of Education

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Abstract: Forest landscape governance represents an integrated approach that has helped the shift from sector-based and fragmented forest management to a more integrated one, which looks at forests as part of larger spatial units, integrating ecology with economy and socio-cultural identity of place. It differs from decentralised forest governance in the sense that it does not necessarily follow decentralised state administrative structures. Instead, it follows the socio-ecological boundaries of landscapes, as domains for spatial decision-making. It sees forested landscapes as a more appropriate scale for forest governance than decentralised state structures, as they allow land use options to be harmonised, competing claims reconciled and trade-offs negotiated within their spatial setting. The global shift from government-steered to society-steered governance has weakened state control over spatial decision-making, and therefore offers new opportunities for forest landscape governance to emerge. Where forest landscape governance is taking shape, it is characterised by governance arrangements with a strong practical base, built upon multi-stakeholder coalitions and informal in nature. The question is whether or not such informal multi-stakeholder arrangements are able to bridge the gap between decentralised state structures and the nature-human interaction in landscapes as a "system to be governed". A second question is whether these arrangements comply with juridical frameworks, and principles of participation and accountability. It is society itself that has to learn how best to govern its forested landscapes through multi-stakeholder arrangements across sectors, levels and scales. Universities that are able to engage in such societal learning must redesign their curricula to offer more practically based "knowing-in-action". This will provide students with the skills needed to actively take part in social experiments, learning networks and communities of practice aimed at shaping forest landscape governance on the ground.

Keywords: forests, landscapes, governance, land use, planning, decentralisation, societal learning, knowing-in-action.

1. Forest landscape governance

In international forums on forests, there is increased recognition of the importance of area-based or landscape approaches. This response acknowledges the complexity of sustainable forest management and the ineffectiveness of many sector-based programmes that ignore the cross-sector linkages between forestry, agriculture, nature conservation and economic development. The concept of forest landscape governance is currently being developed to stimulate such integration. It aims to preserve and restore degraded forests in human landscapes, not with the aim of preserving naturally created wilderness areas reflecting traditional conservation interests, but rather to give more attention to forging sustainable human-nature relationships in areas with degraded forests, emphasizing human interests. Forest landscape governance is regarded as a way of bringing spatial decision-making closer to those directly affected by spatial decisions; it considers landscapes as the ideal space for stakeholders to negotiate options and work on collective decisions about the organization of their space.

A first important driver of forest landscape governance has been the global concern about biodiversity loss and climate change. This debate has stimulated policy makers to restore ecological connectivity by scaling up scattered local conservation initiatives to larger spatial units, strengthening their resilience and increasing carbon stocks. A second driver has been the global agenda on food security, social resilience and sustainable land use. This has highlighted the complexity of forests as elements of anthropogenic landscapes. It has also highlighted the point that productive land-use systems do not necessarily reduce the biodiversity of natural ecosystems, but rather increase the bio*cultural* diversity of landscapes – something that is valuable in its own right (Wiersum 2003). Biocultural diversity refers to the complexity of anthropogenic landscapes, ranging from more or less natural to more or less domesticated areas. It results from the co-evolution of environmental and social systems, and is reflected in multi-functional mosaic landscapes, made up of patches of natural and human-influenced vegetation, and managed through social and institutional practice (Wiersum 2003; van Oosten and Hijweege 2012). Restoration of bioculturally diverse landscapes thus offers scope for both production and biodiversity functions, through more ecologically sound and economically productive land-use patterns (Van Noordwijk *et al.* 1997; Hobbs and Morton 1999). "Good" forest landscape governance hence implies restored connectivity, multi-functionality and biocultural diversity, leading to a stronger resilience of forested landscapes.

But how does forest landscape governance work in practice? How do landscape inhabitants manage to bridge the gap between natural and social conditions of place? And how do they arrive at decisions that are satisfactory to the various landscape actors involved, while in line with the formal planning structures of the state? In the following sections, numerous examples will be looked at. Most of them are from Africa or Asia, where forestry sector reform is ongoing and decentralised institutional frameworks are in the making. This contrasts with Western Europe, where longstanding, formally established forest governance institutions are faced with reduced government spending, privatization and the need for greater public engagement and private support. Both worlds meet in their search for new forest governance arrangements, less dependent on political-administrative state structures and more embedded in landscape-based practice initiated by landscape actors on the ground.

2. Forest landscape governance as local practice

Forest landscape governance is nothing new. Across the globe, people have always been constructing, reconstructing and restoring their landscapes – a normal local practice for safeguarding lives and livelihoods. Practice as defined by MacIntyre (1984) is "any coherent and complex form of socially established cooperative human activity through which internal goods are realised in the course of trying to achieve those excellence standards which are appropriate to that activity". Applied to forest landscape governance, this means that forested landscapes' inhabitants organise their productive lives in a way that satisfies their needs, without destroying the forest resources they depend on. Forest landscape governance practice is thus the "spatial-temporal metabolism between nature and society" (Görg 2007), which is reflected in locally practiced agroforestry systems, land management techniques, soil erosion control and local protection mechanisms such as sacred forests and spiritual shrines. These local practices are typical for bioculturally diverse landscapes with strong values, reflected in systems of practice built upon the synergy between people and place, cultural heritage and natural environment (Cocks and Wiersum 2012).

Although increasingly under pressure, there still are many examples of strong local "value-practice" systems. Good examples lie in the Kaya forests in Kenya's Coast Province, where biodiversity hot-spots are protected by local rules and regulations restricting exploitation of forest reserves, respecting the spiritual value attached to the Kaya forests (van Oosten 1987; Githitho n/a). Or, on a larger scale, the complex transhumance system of Northern Burkina Faso's Fulani herdsmen and their annual journey leading their cattle along recognised routes, searching for grasslands, water and salt in the north (Niger and Mali), or moving south to fertilise the croplands of neighbouring farmers, or selling the animals at markets in Central Burkina Faso (van Oosten 1994). Such historically evolved value-practice systems are not exclusive to traditional governance regimes; they also apply to hybrid and modernised governance systems. An example is given by Cocks and Wiersum (2012), who describe local practice in the former Ciskei Homeland in South Africa, where despite rational modernization of land use, inhabitants have maintained their associative cultural landscapes. They managed to combine peri-urban settlements creatively with materially and culturally valuable grazing land and reserved forest areas for maintaining spiritual identity (*ibid.*).

All three African examples are illustrations of value-practice systems as the outcome of co-evolution between nature and society (*ibid.*). They show forest landscapes as open and on-going productions along the nature-culture continuum, governed by locally evolved practice, embedded in local institutions regulating distribution of land and water rights, and spatial decision-making. They are local institutions that add meaning to life, shape beliefs and add value to the landscape, creating a drive for sustainable behaviour, production and control (Woodhill 2008).

3. Institutionalizing forest landscape governance through decentralised forest governance and land use planning

The decade of the 1990s was characterised by a wave of decentralization across the globe. Decentralisation aimed at "bringing the state closer to its people", as an important step in democratising environmental governance. And indeed, the distribution of state administration and devolution of decision-making power to lower hierarchies of government certainly contributed to better governance in some countries.

Community forestry, particularly as practiced in Southern countries, has been a direct response to this trend, encouraging local autonomy in natural resource management and governance (Wiersum 1995). Community forestry recognises and values local practice and engages communities as co-managers of forests. This is done by using existing community-based institutions (chiefs, elders and other local leaders) or creating new institutions (committees, user groups, NGO/CBO's), offering local communities within their territories and local institutional frameworks the chance to act as the primary "change agents" (Ribot 2010; Wiersum 1995). It recognises local institutions as natural bearers of forest landscape governance, as they regulate distribution, management and monitoring of forested landscapes at the local level. But where it fails is the linkage of communities to decentralised local administrative government offices or locally elected governments, which have become the new representatives of government power. Decentralising the administration of complex management plans, issuing licences, permits, and other regulatory instruments to lower levels of government have instead increased central government control and restricted access rights for local forest users (Ribot 2010, Edmunds and Wollenberg 2003). New institutions, crafted along the lines of political-administrative structures, have more than once favoured privileged land use groups and increased the control of natural resources and land by national elites. Moreover, since the political-administrative structures of states often do not tally with the natural boundaries of forested landscapes, the representativeness, legitimacy and accountability lines of decentralised forest governance are open to questions (Diaw 2010). In many cases, decentralised governance structures are simply not appropriate for governing landscapes. Instead, they lead to fragmentation of landscape institutions, dual tenure arrangements and unequal benefit sharing. Moreover, it is increasingly recognised that globalised value chains and production systems create complex challenges at the local level, which cannot be solved by local actors alone. Therefore, local communities alone cannot be held responsible for coping with the rapidly changing contexts and increased complexity of forested landscape dynamics (Budelman and Huijsman 1991; Bäck 1991).

Land use planning offers an opportunity to overcome this problem. The participatory or integrated land use planning stream in particular aims to consolidate local land use systems, recognising local institutions and scaling them up to a wider spatial context, through a nested structure of land use plans. Land use planning gained ground during the 1980s, following the same trend of decentralisation, public participation and recognition of the value of local knowledge. And indeed, more than community forestry, integrated land use planning has emphasised the need to integrate processes, sectors and scales within the setting of the decentralised state (Duchhart *et al.* 1990). Watts and Colfer (2011) therefore regard land use planning as the most appropriate policy domain for forest landscape governance, as it provides an instrument for identifying and reconciling competing values about resources and mitigating trade-offs between conservation and development. Its nested structure allows for national objectives to be scaled down, or local priorities to be scaled up to higher hierarchical levels of spatial decision-making. However, these inter-scale linkages are often problematic, especially where landscapes extend across the boundaries of state political-administrative organisations. It is this lack of compatibility that has been highlighted as hindering the effectiveness of land use planning. Van den Hoek (1992), studying landscape planning in Indonesia, observes that local planning processes are not sufficiently embedded in institutional frameworks at national levels, while local actors lack the political power to lobby for changes in institutional capacities of the state. Jansens (1990), describing landscape planning in rural Kenya, states that integration of local plans with district and national development policies and plans is difficult, as the explorative and open-ended nature of bottom-up local planning outcomes does not match with top-down state institutions of regulation and control. Duchhart (2007) relates these problems to the fact that colonially designed governance mechanisms do not tally with the ecological and socio-cultural networks characterising landscapes, and she confirms the theory of Kleefmann (1984) on the complexity of socio-physical organisations and the incompatibility of the socio-administrative government structures and the natural-spatial forces of the system to be governed.

4. Institutionalising forest landscape governance: a process of bricolage and societal learning

The previous sections show that institutionalising forest landscape governance through decentralised forest governance and land use planning has been rather disappointing: instead of institutionalising local practice, it resulted in stronger central state control and a decrease of local access to natural resources (Edmunds and Wollenberg 2003). In political terms, this "art of recentralising while decentralising" (Ribot *et al.* 2006) has allowed central governments to exercise more control and derive more revenues from locally extracted resources. Newly crafted administrative institutions often replaced customary institutions at the landscape level. These new institutions do not represent local values in terms of meaning and livelihoods, but they rather represent national values, such as generating national income, accumulating wealth for national elites or newly emerging local elites (Ribot *et al.* 2006; Diaw 2010; German *et al.* 2010).

In spatial terms, it is the disparity between the socio-ecological nature of landscapes and the political-administrative structure of states that causes a disruption between *governance* and *place*. National land use planning systems developed within administrative structures have led to the creation of new administrative institutions, which seem to serve political objectives rather than landscape objectives. The resulting spatial land use zones do not necessarily reflect the biocultural diversity and multi-functionality of local value-practice systems, but reflect larger production and conservation units, based upon mono-functional and rationalised land use. More critical authors even state that these identified land use zones formalised in maps, plans and land registries have generated new systems of restricted land use and enclosures, denying the landscape's inhabitants access to valuable resources and land (Sato 2000; Sikor *et al.* 2009). MacIntyre recognises this phenomenon, which he considers intrinsic to the way in which institutions behave: "the ideas and creativity of local practice are vulnerable to the acquisitiveness and competitiveness of formal institutions which, although created to sustain the practice, tend to turn into structures of power and status in itself" (MacIntyre 1984). Woodhill also confirms this, saying that institutions can lock societies in a particular frame, develop their own goals of administration and political control, and no longer sustain the practice of meaning and association that they were originally built upon (Woodhill 2008).

It is this disconnection between institutions and practice – or governance and place –that makes Görg (2007) conclude that governance structures, as they have developed in many countries, are unable to govern space. Instead, he pleads for a return to governance as an expression of place-bound human-natural relationships; a reconnection between governance and the socio-ecological nature of landscapes. He calls this return "spatialisation" of governance, as a means of reconnecting governance to landscapes and reconnecting citizenship to place. While analysing the landscape dynamics in Germany's Südraum, he concludes that institutionalisation of landscape governance is not done through its uptake into political-administrative structures, but through social networks across politics of scale – social networks that are built upon landscapes' identities, expressed in the dynamics of production, protection and restoration, reflecting the natural bond between citizens and their place. Being rooted in place is what gives these networks their power or agency, as it appeals to landscapes' inhabitants' sense of ownership, and responsibility. Spatial planning should therefore not be 'just' a technical instrument mastered by professionals and used by governments to rationally plan their territories, but an expression of place-bound human-nature relationships, appealing to local values, identities and senses of place (Görg 2007; Massey 2005).

Landscapes should not be considered as an additional administrative scale, but seen as sets of (partly) overlapping networks constructed through human interaction over time and space, governed through formal or informal arrangements. These arrangements are constructed by a combination of private and/or public actors who are driven by a common purpose, able to shape commonly agreed rules of the game, and able to generate the necessary resources to make them work (Arnouts *et al.* 2012). They are arrangements that should be regarded as processes or temporal 'events', born out of collective agency, built upon a landscape's identity and a collective sense of place. Arrangements which are not planned or designed, but which are the outcomes of "bricolage" (De Koning and Cleaver 2012, introducing the French word "bricolage" which means "do it yourself" or patchwork), practiced by landscapes' inhabitants in their creative process of adapting and modifying their historically evolved institutions to respond to the challenges of today. They often have temporal aims and are as flexible and changeable as the forested landscapes themselves. They enable landscape actors to "navigate" through complex processes, and flexibly "muddle through" forested landscapes and their ever-changing dynamics, linking the multiple socially-constructed levels of governance to the actual conditions of place (Watts and Colfer 2011).

An example of bricolage is given by Hennemann (2012), describing the way in which farmers in Indonesia's Halimun Salak National Park have adapted formal rules restricting farming, and "bricoled" more-or-less informal agreements with park management to sustain their farming practice within the park. Another example is given by Rantala and Lyimo (2011) who describe how rural communities in Tanzania's East Usambaras have managed to formalise customary management practice on land, forest and tree rights, showing that customary institutions can be embedded into modern day legislation, responding to local villagers and their believes, without having to turn back to tradition.

This notion of forest landscape governance coincides with the more critical interpretations of governance, which acknowledge that governance no longer is a monopoly of states in which citizens are to participate. It rather goes beyond the confines of the state and includes public-private partnerships, corporate social responsibility and policy networks (Arts and de Visseren 2012). Unlike traditional governing mechanisms such as laws, regulations and plans, these 'new' governing mechanisms operate more flexibly across the complex nature of forested landscapes, through multi-actor and multi-sector arrangements, "bricoled" across levels and scales. Examples of such arrangements can be found in multi-stakeholder alliances, public-private partnerships, citizens' initiatives, value chains, and "glocalised" learning networks linking local practice to global policy (*ibid*.).

The current global political climate is one of reduced government spending, deregulation and central state withdrawal from direct involvement in spatial planning. This may offer new space for private sector initiatives and civil action, giving opportunities for new landscape arrangements to emerge. Much can be learned from Africa and Asia, where forest landscape governance is still being practiced through complex arrangements built upon tradition, and further evolved by changing conditions over time and space. Attempts to institutionalise these along the lines of decentralised state structures and land use planning have not been very successful, indeed achieving rather the opposite. Innovative institutional arrangements will have to come from outside the governmental structures, based upon private initiatives within landscapes.

It is however not always clear how such new arrangements emerge, how they comply with juridical frameworks, what is their implementation capacity, and to whom are they held accountable (Arts and Goverde 2006). It is society itself, within its specific spatial context, which has to learn how new forest landscape governance arrangements can evolve. This can be done through a process of societal learning, in which planners, managers, local inhabitants, artists and scientists collectively explore environmental problems and experiment with new institutional arrangements. Such "landscape learning" can be supported by learning networks, deliberately created to connect stakeholders involved in landscape dynamics to share good practices, mobilise knowledge, and contribute to informed policy-making. Such learning communities reflect a "specialisation of societal learning", as they contribute to stronger interaction within and between landscapes, stimulate the formation of alliances, and create those shared identities and concerns which are needed to re-establish the connection between citizens and the landscapes in which they live.

5. Societal learning and the role of education

Societal learning is "data demanding", offering various opportunities for scientists to get involved. They can provide the expert knowledge that is needed to explore landscape dynamics and alternative policy options, develop scenarios, and provide input for negotiation processes and spatial decision-making. This role requires robust knowledge, which is generally developed and taught in universities. Scientists can also act as facilitators of societal learning processes on the ground. This requires more than robust knowledge: it also requires a set of social skills that enable stakeholder interaction, creation of space for deliberation and debate, facilitation of principled negotiation, and conflict mediation. These kinds of skills are not generally part of a university's curriculum. Nor does the classroom setting of a university offer opportunities for students to engage in societal learning in practice and discover their role as facilitators of change (Vandenabeele 2009). University teachers are generally not selected for their practical involvement, and participatory and action research is not common practice amongst MSc or PhD students, who are predominantly assessed on their academic output.

Wageningen University and Research in the Netherlands has recognised this gap, and has been experimenting with transdisciplinary research as a way to co-construct knowledge through active engagement with practitioners, policy makers and the general public as 'knowledge-developing actors' on the ground (Buizer *et al*. 2011). It has also experimented with practice-oriented education programmes, which are taught by academics who take part in communities of practice in order to be able to ground their lessons in practice, and develop a pedagogy of "knowing-in-action", motivating their students to become part of the process they study. This type of teaching transcends traditional educational boundaries, and prepares students for participation in shaping forest landscape governance in practice (Hart 2009). It prepares students to become "landscape leaders" in their future role of planners, policy makers or business innovators.

An interesting example of 'knowledge-in-action' is provided by the Wageningen UR Forest and Nature Conservation Policy Science Group (FNP) in collaboration with the Wageningen UR Centre for Development Innovation (CDI). The latter is a more market-oriented part of the university, engaged in consultancy work related to societal learning processes and governance worldwide. Scholars of FNP work closely together with consultants from CDI on the conceptual design of projects and professional training for practitioners. Many of these projects and trainings incorporate students to contribute to their implementation, for them to acquire the skills needed to facilitate processes of landscape governance, river basin management, coastal zone management, water stewardship, landscape leadership, food chain development, market development and the like.

Students are currently deployed in CDI projects and trainings in three modalities: 1) students carry out action research and provide the knowledge needed by stakeholders engaged in complex negotiation processes; 2) students are deployed as interns to carry out specific roles in facilitating multi-stakeholder processes; 3) students are engaged in *Academic Consultancy Training*, where they practice their consultancy skills and learn to identify demands, implement or provide tailor-made advice upon request. All three activities are focused on acquiring skill that are not covered by the formal curriculum, but which are very much needed if they are to become professionals in the field of forest landscape governance.

An example of a joint FNP-CDI project is the online learning community of the Global Partnership on Forest Landscape Restoration, which is a global coalition of partners promoting forest landscape restoration worldwide. The learning community is co-constructed by FNP scholars and students, CDI consultants, and a large group of practitioners in more than 60 countries. The learning community is directly connected to FNP teaching and research, as well as to CDI projects and trainings1.

6. Conclusion

Forest landscape governance is nothing new: it has always been practiced by forest landscape inhabitants across the globe. Its institutionalisation however has proven to be problematic. Institutionalising forest landscape governance through decentralised forest governance or land use planning has proved not to be very effective, because state political-administrative structures do not tally with the socio-ecological reality of forested landscapes. This leads to institutional frameworks that do not serve the objectives as they have been defined by landscape actors. There is an urgent need to reconnect governance to the specific dynamics of landscapes. Such "spatialisation of governance" can happen through new types of forest landscape governance arrangements, built upon temporal and informal multi-actor networks across levels and scales. These arrangements are "bricoled" by landscape actors who are able to formulate shared objectives, create rules of the game, and generate resources to perform. The current political climate of state withdrawal from spatial planning offers opportunities for such new arrangements to emerge. How these arrangements emerge and what their impact is on forested landscapes, is however largely unknown. It is society itself that has to learn. Universities have an important role in feeding and facilitating such societal learning processes. Students in particular can become actively engaged and learn the skills required to do so effectively. This requires a new sort of knowing-in-action, a concept that Wageningen University and Research is actively experimenting with. Collaboration between the Wageningen UR Forest and Nature Conservation Policy Group and Wageningen UR Centre for Development Innovation has vivid examples of how students are effectively engaged in shaping forest landscape governance processes on the ground.

Notes:

[1] The learning community can be found at: http://www.ideastransformlandscapes.org/

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Participatory Approaches to Assess Landscape Values in Florianópolis, Brazil

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Abstract: After the implementation of the City Statute in Brazil in 2001, the city of Florianópolis started to develop its first Participatory Urban Plan. In order to give attention to the need to discuss landscape, the proposal of this study is to simulate a Participatory Landscape Budgeting process. The first part of the study aims to analyze the importance of the landscape for the local community within Urban Plans. The second practice is the comparative measurement of the values aggregated to landscape in order to know which aspects have more influence on the value that people attach to landscape. It is expected that these measures may contribute to the sustainability of the landscape, to the social learning of the local population and to minimize the lack of communication between stakeholders.

Keywords: Participatory Urban Plan, Landscape approach, Landscape values, Florianópolis, Brazil.

1. Introduction

The ongoing transformation of landscapes in Brazilian cities – due to increased population density, massive urban growth, economic pressures and limited opportunity to expand the protected areas – represents a challenge for our landscape management. This study is motivated by the need for strategic focus on public assessment of the landscape to assist in its planning and in urban decisions that promote sustainable development.

This paper summarizes the intentions of an approach which is being studied in the author's master thesis that aims to propose the 'Landscape Budget' (LB) instrument as an operational tool for the public interpretation of landscape. It is focused on the analysis of the role of landscape in public urban management and on the study of landscape values through performance evaluation scenarios.

This paper proposes to explore and evaluate landscape in order to contribute to its discussion, development, preservation and/or conservation. It is necessary to increase the public debate of landscape as a way of understanding and protecting the environment in which we live in.

2. Florianopolis Context

The island under study is located in the southern region of Brazil, belonging to the state of Santa Catarina (Fig. 1). Developing its first Participatory Urban Plan, Florianópolis has been undergoing a process of transition. To include the participation of the population on urban matters represents a change in the management policy of the city which also brings alterations in social scope.

In the late twentieth century, the development of Florianópolis substantially altered its urban landscape. The current situation of the study area, both with regards to land occupation and population growth, is due to a strong momentum of urban expansion (Fig. 2) which led to the high valuation of the soil and its speculation.

According to the Brazilian Institute of Geography and Statistics (IBGE) 2010 Census, Florianópolis consists basically of urban population[1]. The city's economy is concentrated in the tertiary sector, being the only capital of the South and Southeast region that is not industrialized and is directed to the provision of services, trade, tourism and construction.

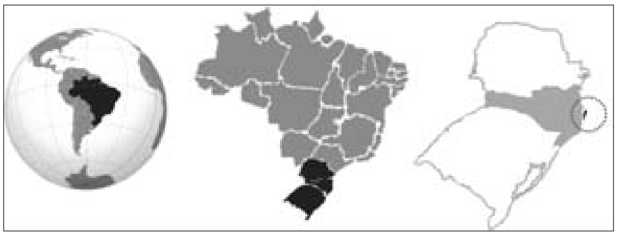

Fig. 1. Location of the Island of Santa Catarina (Brazil, South Region, State of Santa Catarina)

Driven by the fast urban growth of the city and supported by the approval of the City Statute of Brazil, Florianópolis has been trying to develop a participative process in order to achieve a Sustainable Urban Plan. Unfortunately, (i) the insufficiency of institutional, technical and resources support of the participatory procedures performed in Florianopolis, and (ii) the lack of understanding between the intentions of the population and government, resulted in the continuous postponement of the municipal urban project[2] and also in the production and proposal, by independent districts of the island[3], of alternative plans.

3. Building Democratic Cities

The City Statute – a Brazilian law approved in 2001 – brought to the population a new possibility of thinking and acting in the city. This instrument intends to conduct a democratic management of cities (Art. 2)[4], enabling public participation for the entire process of development of municipal master plans. It compiles a set of guidelines and new urban instruments and describes which cities must develop these master plans (Art. 41). Moreover, it foresees the realization of a participatory municipal budget (Art. 44) and states that Administrative Entities of metropolitan regions and urban conglomerations must "assure the compulsory and substantive participation of the population and of associations representing different segments of the community in order to guarantee to them direct control of administrative activities as well as assuring the population a complete exercise of citizenship" (Art. 45). The desired participation is still growing and adapting itself and, as any change in social and political behavior, needs time to evolve.

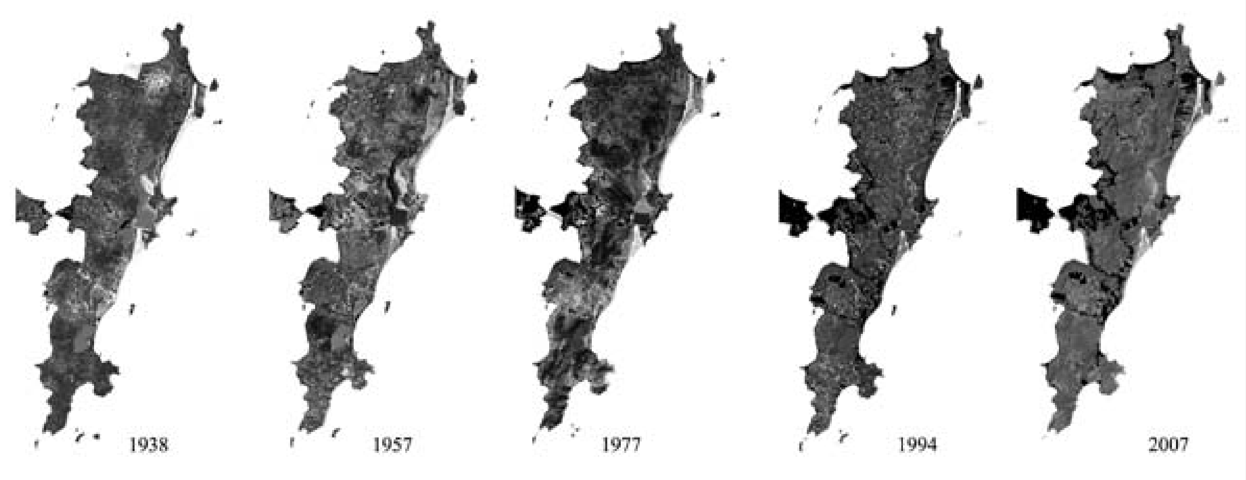

Fig. 2. Growth of built area in Florianopolis 1938-2007. Graphical representation based on ortophotos by the Institute of Urbanization and the Planning of Florianopolis (IPUF).

Innovative governance has the fundamental role of promoting creative activities and sustainability through initiatives in local economic development and planning (Girard *et al* 2011). The City Statute shows the intentions to do so. It intends to regenerate Brazilian democracy by integrating participative processes in urban decisions. Public participation becomes a tool of awareness and training for a critical and responsible thinking, insofar it is revealed as an education instrument for citizens. By participating in decisions, the population begins a process of accountability for projects and, consequently, is expected to be more careful with its heritage. Therefore, public participation not only makes the urban planning process more legitimate and effective, but also causes the growth of all actors involved (Pereira 2008).

3.1 Communicative instruments

One of the main goals of a responsible urban planning is to ensure that a project of a particular place is done in a sustainable manner and an essential feature to this process be carried out is the opening of the studies for citizen participation (Girard and Nijkamp 2004). As Brazilian urban planning aims to become more democratic, it is necessary to develop evaluations open to the public.

Evaluations are necessary to habilitate the population to engage qualitatively in urban discussions. These approaches can result in a public approximation to urban scope signed as a communicative planning (Innes 1998), where information becomes gradually embedded in the understandings of the actors in the community. It happens through processes in which participants, including planners, collectively create common meanings by the discussion of several types of 'information', like tables, photographs, drawings and other representations. Planners/researchers should make good use of the increasing interest that people spend in discussing plans, schematics and representations towards a collective growth.

4. Landscape Approach

The City Statute (Brazil 2001) and the European Landscape Convention (Council of Europe 2000), both documents approved at the same time, gave priority to the need of public participation in the development of the city. One, discussing the municipal master plans in Brazil; and the other, focusing on the landscape in the European territory. Undoubtedly, the focus on democracy highlights the urgent need to include the people's opinion in public management measures.

Landscape approaches can be one of the instruments of public assessment which seeks to establish a connection between the needs of the population and urban proposals. These approaches stimulate critical thinking and become essential for supporting the protection of natural and cultural heritage (UNESCO 2010). The evaluation of landscape as a public policy is intended to: (i) enhance landscape attractiveness; (ii) protect local resources; (iii) restore the character of places; and (iv) preserve the identity and natural vocations of the areas (Girard and Nijkamp 2004).

In the present study, the landscape is addressed as a tool to access the population's opinion. Landscape is a concept much discussed by experts, but it must be more assessed publicly. Landscape assessments should become frequent and with broader capacity, so that the population become accustomed to thinking about 'landscape'. Greffe argues that once the conservation of cultural landscapes is recognized as an important element for reinforcing the economic base of a territory, new quality assessment criteria and instruments will be needed (cited in Girard *et al* 2011). Also Mourato and Mazzanti (2002) state that, for the future, the task is to develop and establish a comprehensive multi-tool and multi-disciplinary framework for the measurement of cultural values, as a response to the complex, multi-faceted and multi-value nature of cultural heritage.

4.1 Landscape Values

Considering landscape as a cultural, economic and common good, should be widely assessed. The analysis of its cultural values (Throsby 2002) might include: aesthetic properties, spiritual significance, role as purveyors of symbolic meaning, historic importance, significance in influencing artistic trends, authenticity, integrity and uniqueness. In addition to the values related by Throsby, Riganti and Nijkamp (2004) foster the necessity of a valuation process based in a socio-economic analysis, because, besides being an economic good, the cultural heritage is also a social and irreplaceable good, in the sense that, once lost, the original cannot be recreated.

In a previous study conducted by the author in the city of Florianopolis[5], the residents were asked to draw a representation of their daily lives landscape. The examples presented below illustrate the attention that residents pay to the environment in which they live (Fig. 3). Certain features stand out, such as the presence of urban landmarks like the 'Hercilio Luz' bridge; activities on the outside, as well as traditions and emotions; and also changes in urban nature as the integration of new buildings into the natural environment.

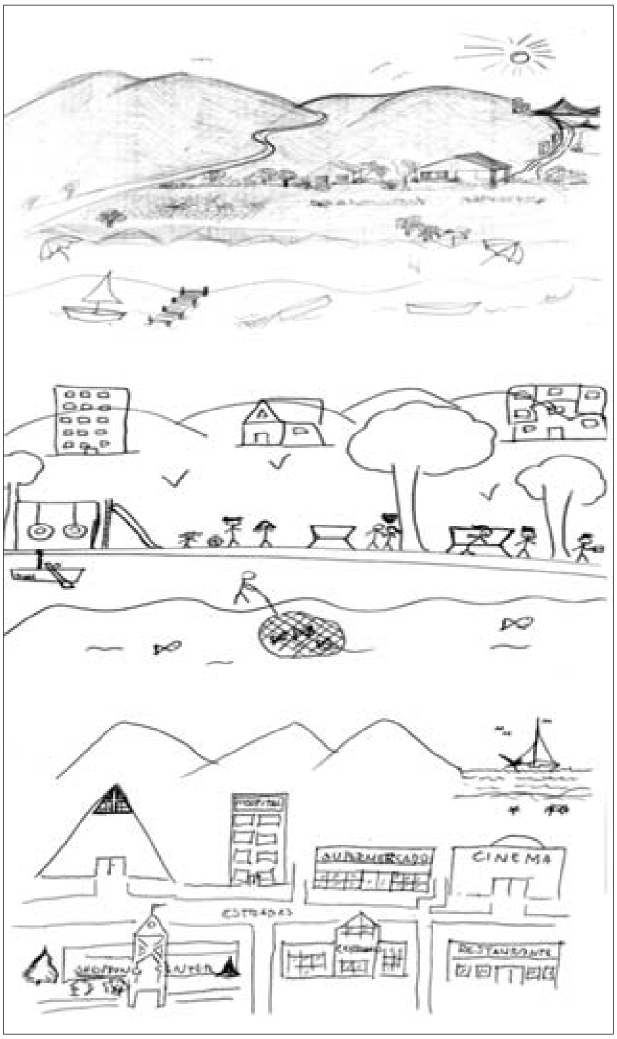

Fig. 3. Examples of landscape representations

Every time society changes, the economy, social and political relations also change in varied rhythm and intensity. The same thing happens in relation to the landscape, which is transformed to suit the changing needs of society (Santos 1986). Thus, the landscape being a historical witness of the culture of a people (Veiga 2010), it manifests its common values. Therefore, by involving the continuous change of values and adapting itself to each period, the management of the Brazilian landscape should receive greater public awareness.

5. Transforming Potentials

The well-known instrument called Participatory Budget (PB), explored by Allegretti (2003), is a potential tool that enables people to directly participate in urban decisions. This instrument, involving citizens in choices of economic-financial nature, represents one of the most significant and visible forms of democratization of local government (Pereira 2008). The Brazilian experience characterizes it as an innovative tool based on co-management (*Ibid.*), allowing both municipal and state governments as well as new forms of self-organization of civil society to approve decisions of territorial transformations. It is an innovative tool able to stimulate the coordination of actions, cooperation, trust, citizenship and, at the same time, the satisfaction of private needs (Girard and Nijkamp 2004).

The way of thinking of the PB not only enables financially the priorities of the population, but also serves as an educational policy. In the long term, its effects could be the awareness of rights and duties and the self-confidence of citizens. Besides, allowing the budget debate, this process serves as an attraction and stimulus to the discussion of urban space and its method of evaluation could be used as methodology for future discussion of city values.

5.1 Landscape Budget

The moment that Florianopolis is experiencing, of political transition, but also of social change, is an opportunity to discuss the future of its landscapes. The intention of this research is to propose activities, which would be part of the process of development of the urban plan that could clarify the way landscape is perceived by the local population.

Bearing in mind the need to create public awareness and new evaluation instruments that listen to public opinion, the intention emerged of using a variant of the PB tool, the 'Landscape Budget' (LB) instrument. The approach proposed would be used to analyze the reaction that landscaping scenarios generate in the local community. The study will be conducted through the analysis of the score differences generated by the suggestion of spatial transformations. Thus, by modifying a particular landscape, the perception of the values connected to it will be altered. Understanding how users of this landscape react to the performed modifications assists the foundation of future proposals supported on community values.

For this analysis, the author uses photographs adopted as "representations of the landscape" in which components of the landscape that will be analyzed are selected (e.g., volume of constructions, slums and vegetation, new activities and interventions in the city).

5.1.1 Construction of the Questionnaire

The first part of the questionnaire is based on the analysis applied in the PB of Porto Alegre[6]. This approach presents urban topics for public voting and, as a result, people can order their priorities for public investments. Within the topics to be evaluated by the population, the present research added the concept 'landscape' amongst the concerns in order to clarify its influence.

This analysis is important for understanding how much the landscape matters in the opinion of the population. It encourages a critical reflection on the landscape subject. The proposed ballot allows choosing between sixteen topics, where people should vote in only six options according to their priorities. The topics are[7]:

- Culture
- Economic Development and Taxation
- Education
- Health
- Housing
- Leisure Areas
- Paving
- Public Lighting
- Sanitation

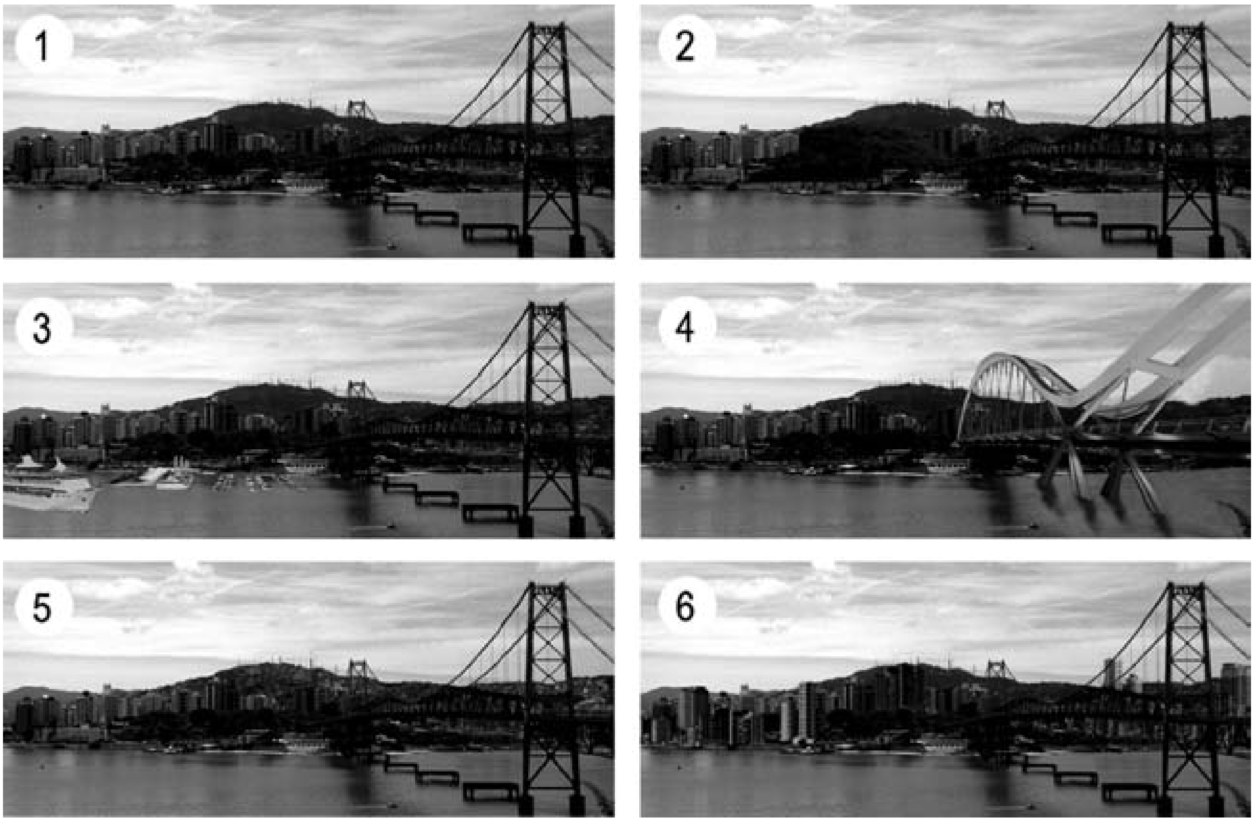

Fig. 4. Example of landscape scenarios, Landscape 1

- Social assistance
- Sporting Goods
- Tourism
- Transportation and Circulation
- Urban Mobility and Accessibility
- Youth
- Landscape

The second part of the questionnaire approaches the values of the landscape to be studied. In this analysis, the population would be asked to perform a 'rating' of the six studied values represented in scenarios. The landscape values that summarize the arguments needed for this evaluation are:

- Aesthetic/scenic – for the attractive scenery, sights, smells or sounds;
- Economic – for economic benefits such as agriculture, tourism or commercial activity;
- Heritage – for natural and human history;
- Intrinsic – for their existence;
- Life sustaining - for their help to produce, preserve and renew air, soil and water;
- Recreation – for providing recreation activities;

This part of the study comprises the integrated interpretation of landscape (Mitsche *et al* 2009) by measuring its values using a multi-attribute evaluation. Following the rules of isolation of variants, six different scenarios were created for each of the five selected landscapes to be studied. Featuring an experimental method (Miller 1984), the alterations on each scenario were done through the virtual manipulation of isolated elements (independent variables) of those landscapes.

In this analysis, the population of the city that is being studied is invited to rate the scenarios created. As this is a participatory activity, the population is able to vote, showing their landscape pReferences: by scoring them. By studying the difference between these scores it is possible to analyse and quantify the values that have priority for them. The comparison of the scores given to the created scenarios happens depending on each manipulated element and allows understanding how people value it, that is, it generates knowledge about which proposal affects more markedly the value people attach to landscape. The issues which receive more points, being the most valued by the public, should have priority in the planning approach, and the proposals with lower scores should receive a different approach, since it was not well accepted.

To make this research more realistic, we tried to select some alterations in landscapes of Florianopolis through current urban trends. The scenarios for each landscape were created taking into account macro alterations that represent a possible relation to the values of the landscape to be studied.

The six scenarios proposed (example on Fig. 4) and its related values are:

(1) Status Quo – Intrinsic value;
(2) Green Area alterations – Recreation value;
(3) Proposal of alternative transportation – Life sustaining value;
(4) Proposal of activities and/or interventions on built or environmental heritage – Heritage value;
(5) Increased area of constructions on the hills – Aesthetic/scenic value; and
(6) Increased height of constructions – Economic value.

The total of 30 scores given to the scenarios would be systematized in a semantic scale associated with numbers (0: Terrible / Unacceptable; 3: Insufficient; 5: Regular/Indifferent; 7: Good; 10: Excellent). This scale provides a reference that makes sense to people, helping them understand the proposed scale and also to standard-

Table 1. Example of the early results[8].

	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6
Landscape 1	5,4	8,4	7,9	2,5	0,9	1,4
Landscape 2	5,1	8,4	8,3	3,7	0,9	1,5
Landscape 3	5,5	8,5	8,7	4,8	1,2	1,6
Landscape 4	5,9	8,5	8,4	1,8	0,9	2,1
Landscape 5	5,5	7,7	8,3	1,8	1,1	2,2
mean	5,4	8,3	8,3	2,9	1	1,7

ize the answers. By using this method, the comparison between criteria is also more accurate. In the end, the comparison would be systematized in a table (Table 1) containing the scores of the scenarios presented.

Considering the score of the status quo scenario as the reference point for the assessment, a comparison to all scores obtained by each intervention/element in the landscape can be carried out. In this way, each modified element will be assessed individually, along with the value connected to it. Thus, it will be possible to find out people's preference for landscape elements; that is, to find out if they prefer with or without the element "x" and with which intensity they prefer or do not prefer this element. Discovering and quantifying pReferences: between these scenarios, the pReferences: among the values aggregated to that scenario will consequently also be discovered.

5.1.2 Research expectations

As a result, interventions in landscape could be justified by the assessments of the priorities voted on the LB program. This approach could also be a way of testing the public's acceptance of new municipal proposals. In summary, the knowledge obtained by the research could be used to improve urban policies and also the city's Master Plan.

We hope that these measures can contribute to social learning and to minimize the lack of communication between stakeholders in the development of municipal master plans. The research on landscape values could serve as useful information for urban planning policy that seeks local people's consultation and participation.

6. Final Remarks

The present paper presents a possible application of a multi-attribute methodology as a means to achieve a landscape plan which respects the opinion of the population. The research requires deliberation on behalf of the residents of Florianopolis, Santa Catarina, Brazil, and consists of a tool for promoting citizen involvement in a democratic urban policy process.

This study attempts to understand and communicate landscape pReferences: in an experimental manner, so long-term policies could build upon this information and guide society towards desired and effective – in terms of a sustainability objective – future urban development.

To safeguard the landscape it is important that people understand that their landscape reflects who they are and also their social, environmental and economic interests. The purpose of a landscape approach is the acquisition of cultural awareness of a place. Thus, it is intended to introduce the analysis of landscape into participatory processes in order to understand it, but also to preserve and manage our heritage. This is an important step towards a solid project of landscape management.

Notes:

[1] 96.2% of its 421,240 inhabitants reside in urban areas.

[2] The process was initiated in 2005 and is not yet finished.

[3] Campeche, Ingleses Sul and Santinho District (Pereira 2008).

[4] Art. 2, section II: "democratic administration by means of participation by the population and the representative associations of the various sectors of the community in the formulation, execution and monitoring of urban development projects, plans and programmes" (Brazil 2001).

[5] Interviews conducted in May 2011.

[6] www.portoalegre.rs.gov.br/op

[7] During the realization of the pilot survey conducted from January 19 to 26, 2013, with the analysis of 30 respondents, the topic 'landscape' obtained 10th place in the ranking. This reveals that the landscape is not a current public concern.

[8] According to the previously mentioned pilot questionnaire.

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Communicative Planning in Cultural Landscape Management

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Abstract: The familiarity of everyday life is an important topic in landscape planning. Cultural landscapes should be managed in consideration of the dynamic changes in our understanding of them, including appreciating and sharing value, and with both tacit and deliberate practice. Along with a student team, we have proceeded with practical communicative landscape planning specialization, for educational purposes, by focusing on Iba, a water village in Higashiomi City in Japan. Our research on cultural landscapes includes restoring the historical landscape and clarifying comparisons to the remaining landscape elements of today, as well as collaborative planning through workshops. Our team and local inhabitants discussed the landscape element that remained and its use possibilities, and we proposed a draft landscape plan based on information collected in workshops to encourage future discussion.

Keywords: Landscape Management and Design, Cultural Landscapes, Water village of Iba in Japan, Lake Biwa

1. Introduction

1.1 Cultural landscapes and landscape management in Japan

"Cultural landscapes" and their conservation and management have been important topics in Japan since the Law for the Protection of Cultural Properties was reformed in 2005. The reform changed not only cultural properties governance but also the landscape planning and regional planning fields. Cultural landscapes are defined in the Law for the Protection of Cultural Properties (Article 2, Paragraph 1, Item 5) as "landscape areas that have developed in association with the modes of life or livelihoods of the people and the natural features of the region, which are indispensable for the understanding of our people's modes of life and livelihoods". Currently, 34 Important Cultural Landscapes have been designated by the National Government.

Cultural landscapes are rooted in everyday life, and thus, their significance is not always clearly recognized by local inhabitants. Since they are easily indifferent to this kind of landscape, it is important to raise awareness of its value and share it in each planning process. The designation of Important Cultural Landscapes, indeed, does not guarantee their conservation but becomes a trigger to activate local inhabitants and raise awareness. In the designated areas, local municipalities and inhabitants working on the landscape make efforts to conserve the landscape. In other areas, where concerned parties are aiming at designation as Important Cultural Landscapes, they grapple with enhancing landscape values through academic research or social activities.

As a cultural landscape planning team at Kyoto University, we have collaborated with the municipal government for three years on a conservation project in Iba, an old water village on the banks of Lake Biwa, in Higashiomi City (Fig.1). We have been conducting (1) research based on primary sources, such as historical administrative documents; (2) an investigation into water use by local inhabitants during last 80 years; and (3) dialogues and collaborative workshops of what people want the village to be like in the future. Students are involved in the process as a part of education through practice, and they sometimes take leadership roles. This paper aims to report our educational method manifested through practical cultural landscape planning and management.

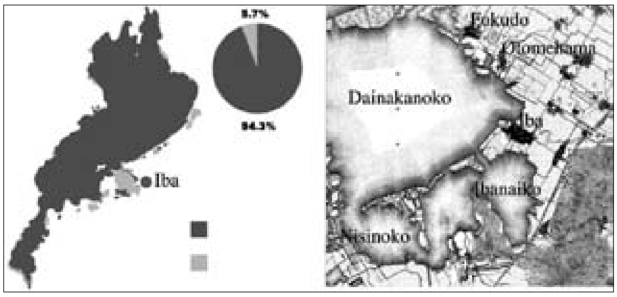


Fig.1 Location of Iba Village, in Higashiomi City (Right: A map published in 1893)

2. Research Framework

2.1 Theoretical framework of landscape management as practical research

The familiarity of everyday life is an important topic in landscape planning. Specialists sometimes need to collaborate with local inhabitants to make future landscape plans. Cultural landscapes should be managed in consideration of dynamic changes in our understanding of them, including appreciating and sharing values, and with both tacit and deliberate practice. Here we show our way of thinking in practical research.

2.1.1 Landscape changes and authenticity

It is natural that landscapes undergo changes. We should accept that they change but also discern the authenticity of the landscape. It is important to sustain landscape authenticity through a balance between landscape conservation and reforms fitting to a new lifestyle. Sustaining cultural landscapes involves a succession of their value as cultural properties, either in the folkloric sense of everyday life or as a source of the social and individual well-being of people living there. Many values are recognized in landscapes, and they all have to be considered to ascertain what should be done to sustain the authenticity of the landscape from an academic and professional perspective.

2.1.2 Dynamic management reflecting people's awareness regarding changes to landscapes

It is essential that local inhabitants understand the importance of sustaining the landscapes of everyday life. If their awareness is low, an academic decision can be enforced. In each planning process, it is necessary to raise awareness and support a better understanding. We attach great importance to communication in the process of discovering and recognizing landscape value through research, dialogue, and proposal.

In the case of landscaping in Iba, we employed dynamic management reflecting how people's awareness changes, and studied its validity through practice. Specifically, we observed their change in interest toward landscapes or their attitude toward sustaining landscapes.

2.2 Method of Practical Research

This paper reports our practical communicative planning and specialized education in the case of a cultural landscape in a water village in Higashiomi City in Japan. The following steps have been taken:

1) Research on Cultural Landscape

We analyzed the landscape structure and its historical changes, particularly, the restored former water network and its supply environment based on historical documents (Fig. 2). Furthermore, we conducted a field survey on the remaining former landscape elements and the degree of their changes. Concerning landscape changes, we compared maps made in different periods and interviewed elderly inhabitants to determine the reasons for the changes. We focused on the former water uses.

2) Collaborative planning

We held several workshops to determine the extent of landscape resources and explore the possibility of activating them, and we tried to recognize and share the landscape value among local inhabitants. Moreover, through discussions, we tried to clarify what the landscape should be like in the future. A student team also proposed and visualized a future landscape plan to local inhabitants and explored the possibilities of realizing it.

3) Collaborative practice

The third stage of our practice is collaboration for realization. In the next twoor threeyears, we will collaborate to realize improvements tothe landscape. Now we are preparing for the designation ofa scenic area with concrete plans involving rules and guidelines aimed at improving and conserving the landscape.

3. Cultural Landscape of Iba: Changes in the Past 120 years

3.1 Introduction to Iba

Iba is one of the traditional water villages that are located along an inner lake attached to Lake Biwa. In these villages, people have lived with a close physical relation to the water. Using a wide water canal and taking advantage of its location next to the inner lake, these villages used to be crisscrossed by a network of water canals, which were used for transportation and for everyday use by small boats called *tabune*. In this context, Iba had the largest population in the area and developed as the local center. In the medieval period, the Iba family set up a castle in Iba. After the 17th century, the Saegusa family put up encampments and ruled the area. The Iba port was the one of the influential footholds of the traffic on the Lake Biwa. There were many shops in Iba, and people came from the other villages came to shop.

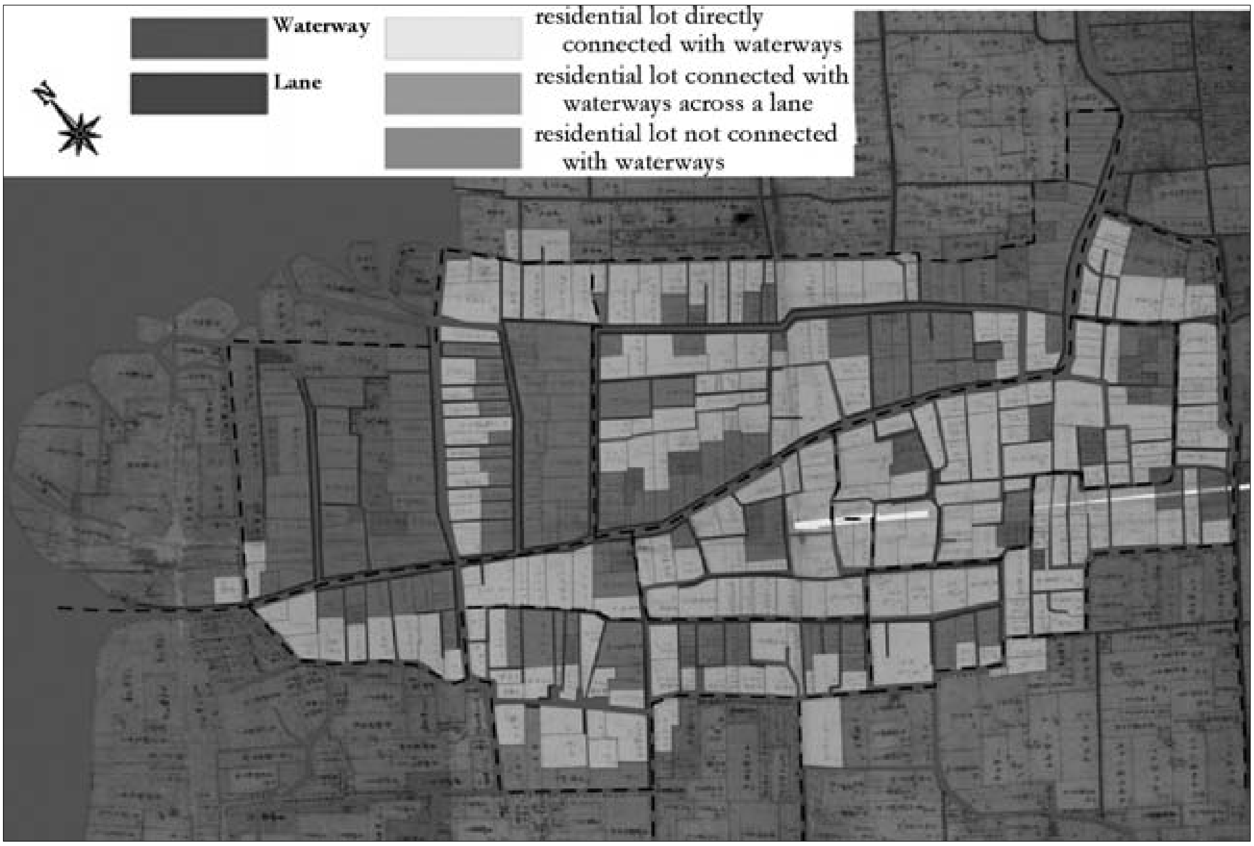

Waterway
Lane
N
residential lot directly connected with waterways
residential lot connected with waterways across a lane
residential lot not connected with waterways

Fig.2 A Cadastral Map of Iba drawn around 1870s

Pic. 1 Waterways and houses in a water village in Iba (photo taken by Mr. Nakagawa in 1980)

From the Meiji Period (1868-1912), the process of modernization motivated several changes in the way people perceived and related to water. People became more practical and the government started to view the economic benefit of the large-scale agro-industry in the area. The process of land reclamation was initiated by the government during WWII, due to the lack of food resources, but continued long after the war, when Japan was experiencing economic growth. So far, almost all the inner lakes have disappeared and about 5.7% of the lake's surface has been reclaimed for agricultural purposes.

Iba is located next to the Iba Inner Lake. Modernization included the reshaping of agricultural plots and the canalization of many irrigation ditches. Moreover, with motorization progresses, many roads were constructed. In such a background, many canals were converted to roads. It made life convenient, but it also took away the character of the village. Many villages such as Fukudo and Otomehama completely lost their character as water villages.

Iba barely maintains its network of water canals and water use institutions called *kawato*. Iba has been evaluated as having a cultural character and landscape. Many people are interested in revitalizing the town's water canals as a part of daily life.

3.2 Changes in the Waterway Network

3.2.1 Waterway network in the early stages of the Meiji Era (1886-1912)

In the early stages of the Meiji Era, the local government made cadastral maps. The cadastral map of *Kanzaki-gunn, Daiitiku, Iba-mura*, which was for land-tax reform purposes, shows a former waterway network structure. Mr. Iwama and Mr. Koseki surmise this map was made during 1875-1879. We determined the former waterways from those days and described a transition process of waterways in comparison with other maps and documents.

3.2.2 Waterways in the Taisho Era (1912-26) and the early stages of the Showa Era (1926-89)

An administrative document called *Koukyo-Haishi* published in 1927 shows that many waterways were converted to fields or residential areas in those days. Another document, *Kanzaki-gun Iba-mura Tyousyo* published in 1922, recorded the length and width of all waterways in the Iba Village at that time, 90 years ago. Almost all waterways had a width of more than two *ken* (equal to about 3.6 meters), and boats for agriculture called *tabune* ran through them. Another administrative document that applied for road construction in 1936 shows the increase of road traffic in those days.

3.2.3 Waterway network after the war (1945-1979)

From the end of the war in 1945 to 1979, local inhabitants narrowed the width of waterways and converted them to roads. However, most waterways, except for three sections, were not converted completely. The width of the waterways was no longer needed because of the change in traffic, and boats had stopped being in use since the 1950s. Waterways were, however, still used as penstocks for agriculture.

3.2.4 Waterway network from the end of the Showa Era to the Heisei Era (1980-)

Significant changes occurred after the 1980s. A Field Development Project called *Hojyo-seibi* in 1980-1990 made readjustments of agricultural land around the village. Thereby, almost all waterways around the village were reformed. The changes in the waterways during this project are shown in the 1980 Land Improvement map of Iba. The waterways no longer served a function for agriculture and started to be narrowed, covered, and converted. The Iba Uryu River, which runs through Iba Village, had high water flow and was often swollen with heavy rain.

It is thus clear that the Iba River and its branches had an important role as drainage routes. The Myoukongouji River is said to have been constructed for drainage and has played an important role in it. After shortcut channels were developed though a Field Develop Project during 1980-90, water flow could be controlled by a gate at the upper end of the river.

This is why many waterways were converted into roads after the 1980s. In the village, roads had been made mostly during the Model Project of the Integrated Rural Improvement, and many waterways had been narrowed, covered, and converted. For example, in the construction of village road No.16 (1988-91), a road with 4 meters (m) width was constructed and the width of the river was narrowed from 5m to 3m.

3.3 Changes in Water Use

3.3.1 Daily uses

"Personal interview investigations" reveal how people had previously used the river water. They used it for drinking, cooking, and cleansing and as dentifrice, bathwater, and washing daily necessities such as agricultural goods (Table 2). According to personal interviews with 20 elderly people, 4 of them had used river water for drinking before the end of the war (1945). Many houses had a well that most people used. However, people whose houses had no well used river water for purposes such as drinking and cooking. From around 1955, the water quality deteriorated due to the presence of items such as chemical fertilizers. Of those interviewed, 16 had used river water as bathwater. However, from around 1955, the use of pumps spread. People rinsed clothes in the river until around 1975. Eighteen out of twenty persons to be interviewed have rinsed clothes. In Iba, however, water supply was provided in 1979, and thus, people stopped rinsing in the river. After around 1975, the water quality deteriorated further. Thereafter, people only used water for washing daily necessities.

However, a sewage disposal system was provided in 2003-08. Thereafter, the water quality improved.

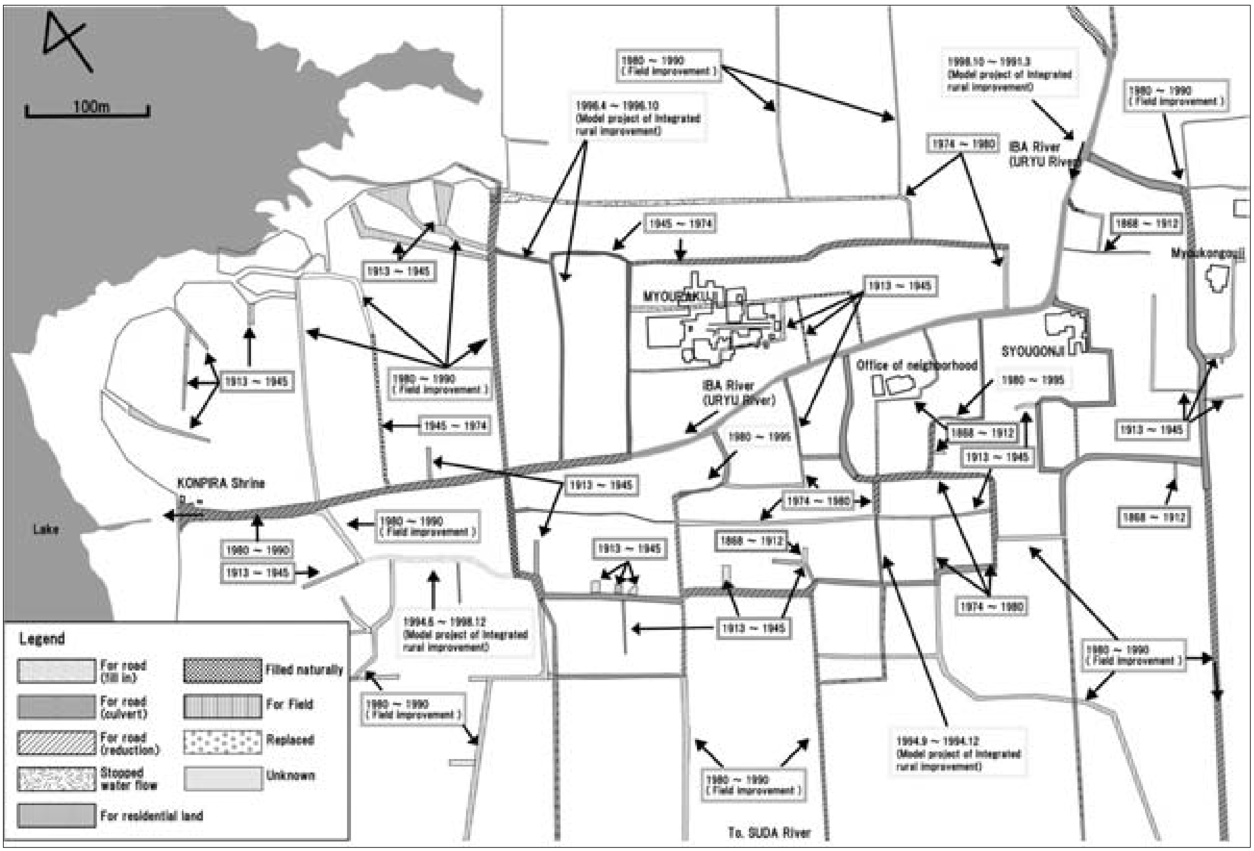

100m
1980 ~ 1990 (Field improvement)
1996.4 ~ 1996.10 (Model project of integrated rural improvement)
1990.10 ~ 1991.3 (Model project of integrated rural improvement)
1974 ~ 1980
IBA River (URYU River)
1868 ~ 1912
Myoukongouji
1945 ~ 1974
1913 ~ 1945
MYOUONKUJI
SYOUGONJI
Office of neighborhood
1980 ~ 1995
KONPIRA Shrine
Lake
1980 ~ 1990
1994.6 ~ 1998.12 (Model project of integrated rural improvement)
1994.9 ~ 1994.12 (Model project of integrated rural improvement)
To. SUDA River
Legend
For road (fill in)
For road (culvert)
For road (reduction)
Stopped water flow
For residential land
Filled naturally
For Field
Replaced
Unknown

Fig. 3 A Result Historical research:Transforming Process of Water networks in Iba village

Fig. 4 Changes in water use

Activity		Year -1945	1945-55	1955-65	1965-75	1975-85	1985-95	1995-
Living	Drink	○	○	○	×	×	×	×
	Cook	◎	○	○	×	×	×	×
	Bath	◎	◎	◎	○	×	×	×
	Laundry Rinse	◎	◎	◎	◎	◎	×	×
	Washing goods	◎	◎	◎	◎	◎	◎	◎
Irrigation		◎	◎	◎	◎	◎	×	×
Transportation :Tabune	Agriculture	◎	◎	◎	○	○	×	×
	Fishery	◎	◎	○	×	×	×	×
Amenity, Scenic Conservation		×	×	×	×	○	○	◎

Legend:
◎:Confirmed, ○:Partially Confirmed, ×:Not Confirmed

Pic. 2 Water use in Iba (right: owned by inhabitants, left: taken by Mr. Nakagawa in 1980)

3.3.2 Irrigation uses

Before the Field Development Project called *Hojyo-seibi* was instituted from 1980-1990, people used river and well water for irrigation, and canals played an important role. Water supply had been controlled with weirs established on the debouchments of river branches. People were able to send water to all fields using weirs. In the Field Development Project in 1980-1990, water pipes for agriculture were supplied, ending the canals' role in irrigation.

3.3.3 Transportation

In the early Meiji period, it was recorded that there were 496 houses and 482 boats in Iba.

In this research, 21 out of 23 people who were engaged as farmers or in fishery once owned a boat. However, most of the merchants had not had any boats since around 1930. Many people used boats until about 1955.

4. Communicative Landscape Planning

4.1 Planning Process

The Higashiomi City government intended Iba to be designated as an Important Cultural Landscape and aimed at making a future landscape plan to this end. We studied the situation in Iba and were asked to collaborate on landscape planning. We have studied about the former landscape and today's situation and have started to formulate a draft landscape plan through workshops with local inhabitants. A student team was organized to rouse a communication among local inhabitants and related parties. The student team organized workshops to determine important landscape elements and future use possibilities, and made a draft landscape plan. Professionals were responsible for each planning process.

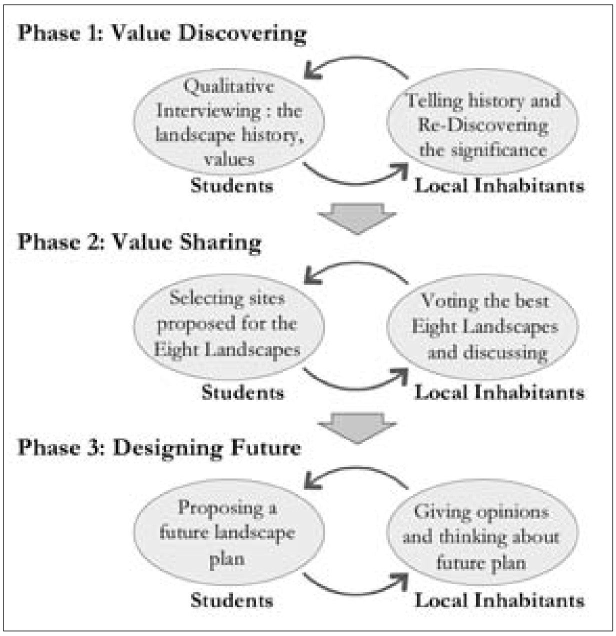
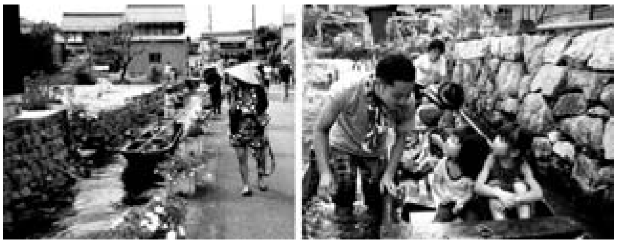

Phase 1: Value Discovering
Qualitative Interviewing : the landscape history, values
Telling history and Re-Discovering the significance
Students
Local Inhabitants
Phase 2: Value Sharing
Selecting sites proposed for the Eight Landscapes
Voting the best Eight Landscapes and discussing
Students
Local Inhabitants
Phase 3: Designing Future
Proposing a future landscape plan
Giving opinions and thinking about future plan
Students
Local Inhabitants

Fig.5 Process of making a draft landscape plan

We defined three steps of landscape planning (Fig. 5), 1) Value Discovering, 2) Value Sharing, and 3) Designing Future, and proceeded workshops and events based on this planning process.

4.2 Discovering the value of the landscape

We aimed at choosing *Eight Landscapes*—which is a traditional way of appreciating sceneries in Japan such as *Omi Hakkei*- as the basis for discovering the landscape value of Iba. We had interviews with local inhabitants to collect the opinions toward the former and today's landscapes and historical and daily occurrences, important memories related to the landscape. We also asked what and how they want to improve the landscape. Subsequently, we published the workshop result as a newsletter and distributed it to all families in Iba Village so that they realized the importance of the landscape elements and shared this realization. Some local historical studies were used by the team in holding an event for a reappearance of a traditional *tabune* boat, which was operated for the first time in almost 50 years (Aug. 2012, Pic.3). Many younger local inhabitants, less than 50 years old, saw a scene of boat transportation at the first time. We expected local inhabitants to share a memory of using *tabune* boat and to link traditional everyday lives to today's scenery.



Pic. 3. Left: A reappearance of the tabune, a boat for the transportation of agricultural produce (30/08/2012). Right: A new experience of riding the tabune

Fig.6 Schedule of Activities

[Phase 1] Value Discovering	2 Aug,2012	1st workshop - Interviews on precious landscapes - Making a map of landscape resources
	30 Aug, 2012	Event : reappearance of the traditional boat - Visualizing a lost traditional scene
	10 Nov, 2012	Lecture by Gohei Kawabata who has endeavored at conserving landscapes in Omihachiman 2nd workshop - walking Iba - - Communication among local inhabitants and people from outside
[Phase 2] Value Sharing	24 Nov, 2012 - 7 Dec, 2012	Voting the best 8 landscapes of Iba
	12 Dec, 2012	3rd workshop - Selecting the Best Eight Landscapes with rediscovering history and making future plan
[Phase 3] Designing Future	11 Jan, 2013	Lecture by Yamaguchi : landscaping villages in water 4th workshop - Discussing a purposes of conserving landscape and ascertaining the philosophy of Iba
	8 Mar, 2013	Lecture and 5th workshop (scheduled)

4.3 Sharing the value of the landscape

Based on the opinion and information we collected through two workshops, the student team selected 40 sites proposed for the *eight landscapes* of Iba. The content of workshops had been announced to inhabitants. We organized the vote to decide the *eight landscapes* of Iba and distributed ballot papers to all families in Iba. Using the voting result as a basis for discussion, participants -local inhabitants- together with our team, added and rejected sites proposed for the *eight landscapes,* and finally decided it through a discussion.

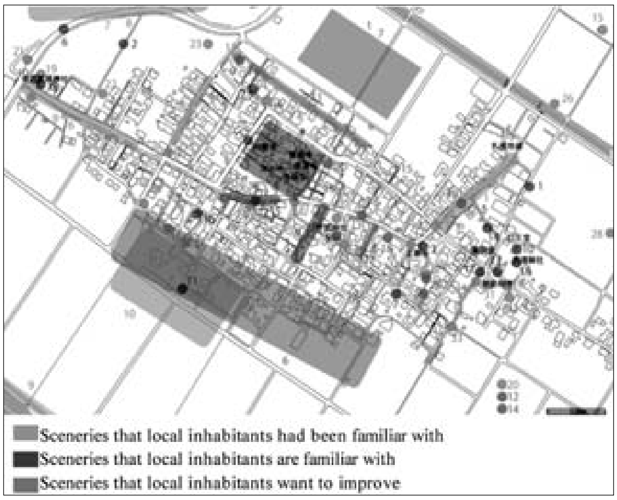

Sceneries that local inhabitants had been familiar with
Sceneries that local inhabitants are familiar with
Sceneries that local inhabitants want to improve

Fig. 7 Results of interviews at a workshop; awareness of landscape elements

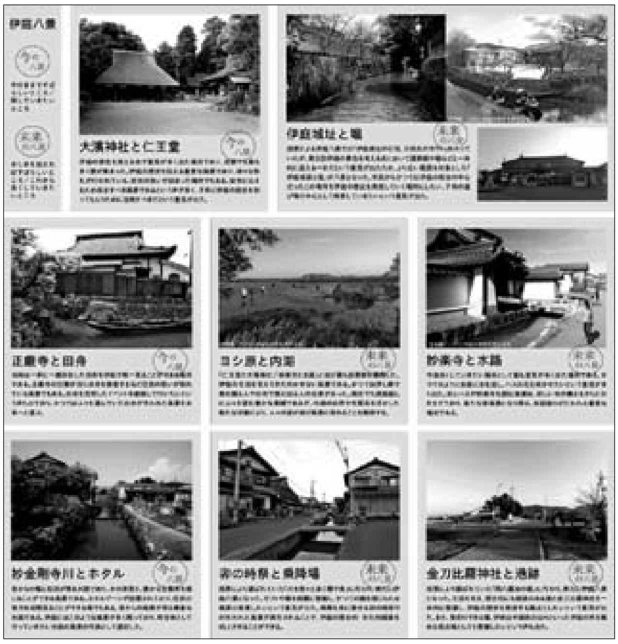
4.4 Proposing a draft landscape plan

Finally, we proposed a draft plan for the future landscape to the local inhabitants based on the decided *eight landscapes*. We also accepted advice and opinions of local inhabitants to make it feasible. Based on the proposed plan, a future landscape can be more concretely and clearly discussed with local inhabitants.

5. Conclusion

Cultural landscapes should be managed in consideration of dynamic changes in our understanding of them, including appreciating and sharing values, and with both tacit and deliberate practice. The authors of this paper, along with a student team have proceeded with practical communicative planning specialized for education, taking the case of a cultural landscape of the water village of Iba in Higashiomi City in Japan. We have done the following:

- Using historical documents and maps, we clarified the changes in the water network during the past 120 years as well as changes in water use by local inhabitants.
- We aimed at communicative landscape planning. During workshops, our team and local inhabitants discussed the landscape elements that remained of the former everyday life and the use possibilities for future landscape design. We subsequently proposed *Eight Landscapes* as important landscapes of Iba and formulated a concept of a future plan based on discussions. We can now discuss the future landscape plan more concretely and clearly with local inhabitants.



Pic. 4 Eight Landscapes –current and future landscapes- selected by local inhabitants and the student team

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The Chinese Landscape Since the 1980s From the Perspective of Political Influence

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Research Project Financed by NSFC (51208348)

Abstract: Since the 1980s, international landscape design concepts and methods have developed significantly. The word “landscape” has lost its meaning in China. This transformation is mainly due to the policies and regulations launched by countries to adapt to community needs, providing for the protection of heritage resources and geographical characteristics of the landscape and adequately considering them in the planning process. In China, in the context of economic development and urbanization, urban and rural landscapes have witnessed a tremendous transformation due to political influence. The Chinese territory is undergoing profound changes, and the Chinese people cannot see the landscape any more. The lack of a comprehensive policy for landscape brings about the rapid disappearance of local landscapes. However, architecture and urbanization have obtained an “official” status, which is also a legal and educational status. On the contrary, landscape is almost invisible.

Keywords: Chinese landscape, 1980s, political influence, landscape education

1. Introduction

Since the opening-up of China in the 1980s, international landscape design concepts and methods have developed significantly. “Chinese landscape” is an interesting and important subject, but it is difficult to approach it at present. As time goes by, the word “landscape” has lost its meaning in China. In the context of economic development and urbanization, Chinese people cannot see the landscape any more. Actually, it remains to be forgotten, even in the name of sustainable development. However, architecture and urbanization have obtained an “official” status, which is also a legal and educational status. On the contrary, landscape is almost invisible.

2. The change of Chinese landscape, The profound change of territory

In China, from the 1980s to the present, the priority for Chinese people has become economic development and modernization. “Modernization” for Chinese people is always the image of the West, and the pro-western style is based on power and money. The reason why people say it is important, regarding the architectural object, is that it depends on the notion of residence and living space. Advertisements always show assorted western buildings with prestigious names such as “Residence of the Emperor” (*Di wang zhi jia* 帝王之家), « Pure German Style» (*Chun de guo feng qing*純德國風情) and «French Manor « (*Fa lan xi zhuang yuan* 法蘭西莊園) etc (*Fig. 1*).

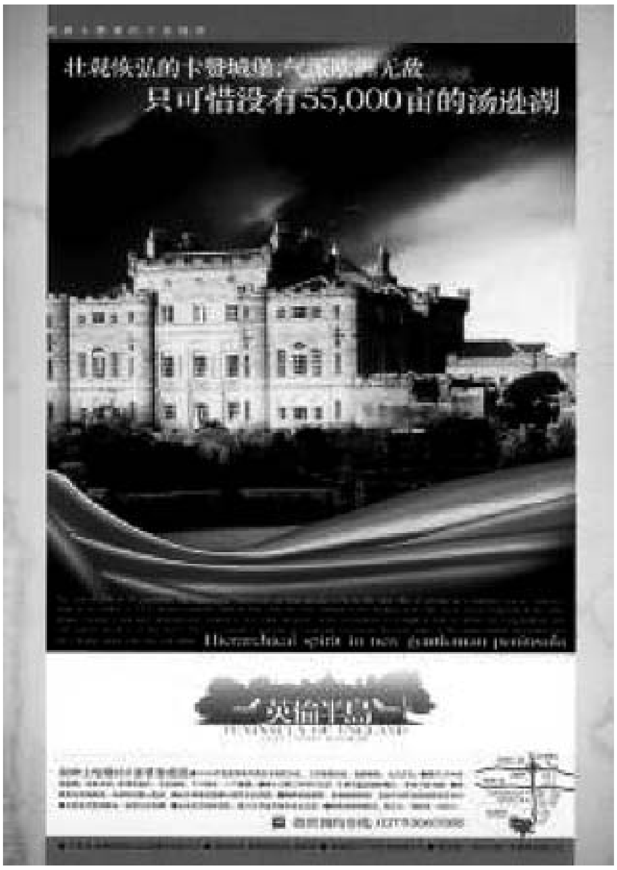


Fig. 1 Real Estate Advertisement, Peninsula of England. Source : http://www.tubaba.com/graphic_design/uploadfile/200712/20071210092611034.jpg (2009)

Over the past thirty years, China has become like an enormous construction site. With reference to western style, Chinese people have constructed some new cities, new villages, and new “urban landscapes” by copying the “modern” western models in an oriental interpretation, which erases traditional Chinese culture, negatively affecting the diversity of traditional landscapes. These newly emerging cities almost have the same urban landscape. We are saying in China: “A thousand cities have the same face” (*Qian cheng yi mian* 千城一面) and it is difficult to find today’s Chinese identity when compared to ancient counterparts. In recent years, economic development has gradually satisfied people’s fundamental needs and Chinese people are attaching increasing importance to the quality of their habitat, which had never been considered previously as so important and even pressing. We can also find a change in real estate advertisements. Presently, people will not passively accept things any more, because they have new demands about “The City of Mountain and Water” (*Shan shui cheng shi*山水城市) or “Ecologic housing” (*Sheng tai zhu zhai*生態住宅)… Hence, these demands motivate the research into landscapes in China, because

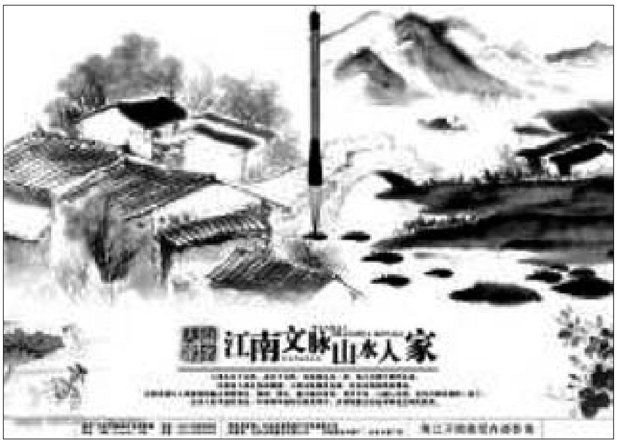
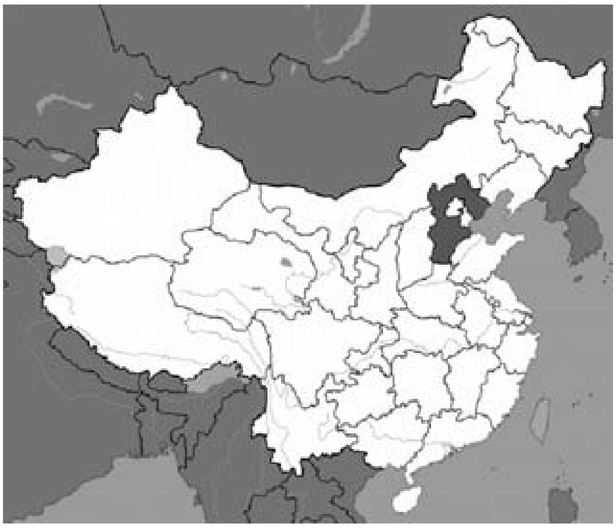


Fig. 2 Real Estate Adv., House in the mountain and water Source: http://www.nipic.com/show/4/103/7b5710394484b26e.html (2009)

for the users, living in a good environment naturally signifies good "fengshui" (geomancy) and a good landscape, namely a good social environment related to a good natural environment. "Commercial fengshui[1]" will no longer be the only concern in a residential area. Furthermore, architecture related to the concept of nature is increasingly important, as well as "real fengshui", a natural life-style. Obviously, the topic of advertisements has changed and tends to fall into the category of the environment and living standards. It is no longer the architecture that takes precedence. Instead, people buy an environment, in other words, a landscape. For example, the names of the advertisements are very noteworthy, such as "Dominant Wind, Dominant Water" (*Shang feng shang shui*上風上水), "House of half-mountain" (*Ban shan zhi jia*半山之家) … (*Fig. 2*). These advertisements exist, despite the "Temporary regulation of the publication of the real estate advertisements" of the 3rd December 1988, in which Article 7 states that "The advertisements of real estate should not include either superstitious content of fengshui or divination for the purpose of explaining and establishing its program. The content must be in line with social norms and customs."[2] That is the appreciation of fengshui in Chinese architecture today. It is "forbidden" at the official level, and it leads us to realize that we don't know how to "invent" a Chinese landscape at present.

Since the opening-up of China, numerous cities and new villages have appeared. China has taken a different path of urbanization to the western one in the strategy and policy of development. Agricultural mechanization, industrialization, the modernization of the farmers life and rural-urban migration have accelerated the urbanization of China. According to the "Communiqué of the statistics of construction in cities, districts, and towns in 2007", by the end of 2007, China had 655 cities in total, with 35 000 km^2 built surfaces. These cities have 333 000 ha of green surfaces (parks, gardens…) There are 187 recognized sites at national level. The state has given 11.8 billion RMB in total for constructing and maintaining these sites. China has 1 635 districts in total, with 14 000 km^2 built surfaces. These districts possess 708 000 ha of green surfaces (parks, gardens...). There are 19 249 towns and 15 120 countryside villages, and built surfaces amount to 28 000 km^2…[3]

As the staggering figures reveal, every landscape type in China is in the process of transformation and people are witnessing profound changes. The 11th governmental program is implemented in cities, including Beijing and Tianjin and the province Hebei, and it is in the above-mentioned cities and provinces that this phenomenon is most evident. (*Fig. 3, 4*) Since the 1980s we have begun to implement land planning covering every domain except landscape. As a consequence, the specific landscapes of this territory have nearly disappeared.



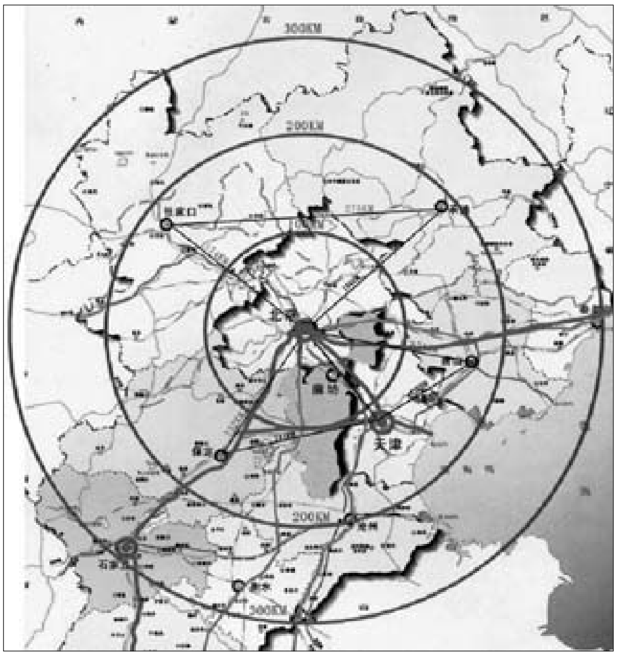


Fig. 3,4 Situation map, Beijing,Tianjin et the province Hebei Source : Fig. 3 http://www.hygmc.com/archives/1842; Fig. 4 http://baike.baidu.com/view/412506.htm

3. Landscape policy in China, and the lack of legislation

Since the 1980s, the concepts and approaches of landscape have developed to a great extent, and legislation and policy are adopted by many countries in order to meet the economic and cultural needs of society. It is fundamental to realize the importance of local development in protecting existing landscapes.

In China, policies concerning the landscape are decreasing, and can be found in some laws and regulations related to land, planning and construction. These policies and principles are established within a vision of economic development in both the city and countryside. They have an influence on the construction and development of landscapes in this way. The "Law of city and countryside urbanism" adopted in 1989 by the Committee of the National People's Congress, revised in 2007, is a fundamental law in the legal system of city and rural planning. The "Regulation on the management of construction and city planning of villages and towns" passed in 1993, and the "Regulation of the protection of cities, towns and cultural historic villages" passed in 2008 by the State Council, form the regulatory backdrop for country-wide urbanization. Under the supervision of these national laws, all the local administrative regions have also enacted some local laws and regulations which correspond with their local situation.

"The Third Plenary Session of the 16th Central Committee of the Communist Party of China" in 2003 precisely proposed a strategy of "Advancing development to achieve a coordinated planning in both urban and rural areas", for the purpose of building an organic territorial whole. "The 5th Plenary Session of the 16th Central Committee of Communist Party of China" in 2005 adopted a "Proposition of the 11th government program" which includes a plan of the construction of new socialist villages. In reality, these oriental principles and state development strategies impact on the projects of territory planning in practice.

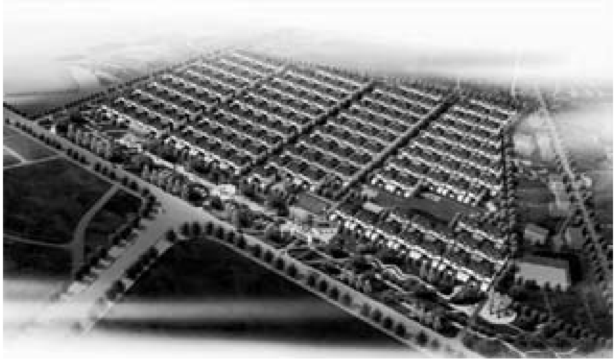


Fig. 5 A project of new socialist village Source : http://baozi.cnrepair.com/file/jinriwucheng/2012-1-30/html/142428.html

The law relating to urbanism in China stipulates that a general plan governs all other planning and that city planning is a long-term economic plan of the State. Such a system could generate many problems. For example, as far as the rural landscape is concerned, planners and landscapers have identified the urgent demand of rural development, but they often forget the particularity of the rural environment. They can only directly apply the project regulations corresponding with the city to rural landscapes. So, their planning projects cannot effectively protect rural landscapes. However, many new problems of landscape are caused by the progressive disappearance of local particularities in renewal and rural transformation.

At present, the regulations for town and village planning only concern very few large rural landscapes in China. In facing these problems, which appear in the progress of development and construction, we should understand that a planning project cannot resolve all the problems. In terms of rural landscape, laws must be established and policies must be elaborated which will set the standards for landscape planning practice (LIU Binyi and CHEN Wei 2005). In reality, before a construction or planning project is started, a project «without construction» must be made, which means a political system must be established to ensure legislation to guide town and village planning and to define strategies, a planning policy and the guiding principles…

Due to the lack of «landscape law» in the domain of rural planning and city planning, territorial contents and limits should be taken into account for a landscape approach, but this remains ambiguous. In practice, people always work according to the division between administrative and political sectors and ignore the special geographic and cultural features of landscapes. Although we have ever more ways to initiate landscape projects, a assurance policy is missing. Consequently it is difficult to fulfill them concretely in the end. This also exists in research and education. Global and interdisciplinary research concerning the policies of planning, simulated evolution and prospects fitting to specific projects of China might allow us to define the new concepts of landscape evolution in the territory.

4. Landscape education in China, an ambiguous concept

Before the liberation of China in 1949, landscape education was an important course in the school of architectural history and architectural design. In the 1952 educational reform of China, landscape was moved to the school of horticulture and agriculture. In the 60s, only two architecture schools had landscape courses, one was the Architecture College of Chongqing, the other was the Architecture School of Tongji University in Shanghai. In 1992, upon the reform of Minister Deng, the two schools discontinued their landscape courses. At that time China suffered low economic development, so there were less social demands; some regulations were not built on reality, or maybe there is still another reason. In the field of architecture and urban planning, the Chinese borrowed from the United States and the United Kingdom, also according to a developed economic situation. China had to establish what is architecture and urban planning first, and then made comprehensive and systematic teaching of both disciplines. So, landscape was not a necessity in that time in China. In 1996, the Academic Degree Commission of the State Council decided to remove the landscape discipline in China. In 2004, the Commission reestablished a pedagogic system at masters level of a discipline entitled « Project and planning of the garden and landscape». In 2005, in the architecture, forestry or agriculture schools, 25 departments in total were authorized to develop the masters. Thus, this reestablished education of bachelors developed rapidly. The name changed into « Garden and Landscape », « Science of Landscape » or « Project of Landscape ». In 2011, the Academic Degree Commission of the State Council and the Ministry of Education of China stipulated that the landscape discipline become one of the top 110 disciplines in China, so that landscape education may enjoy the same attention as architecture and urbanism. Nevertheless, even if we can reach a consensus on the foundation of this discipline, there isn't any interpretation or coherent implementation among different schools (common modules, specific courses, evaluation…) Furthermore, the development of landscape education does not correspond with vocational development, and the assessment system for planners does not exist in China today.

5. Conclusion

Today, the Chinese landscape is experiencing profound changes, like the country itself, as well as its territory and culture. In these changes, the « landscape aspects » develop in an « autonomous » way, without precise policy, without effective law, without standardized education. All of these result in the "post-Chinese" landscape, neither modern, nor traditional, neither western, nor Chinese. This also poses problems. In 2008 the area of arable land was 1, 35 Mu4 per person, less than 40% than before. And in 2020, 55% of Chinese cities will eventually be urbanized.

In addition, since the opening of China, the quality of the environment is becoming worse, especially in large cities like Beijing and Shanghai. This is the result of economic development. Today, in the field of landscape, we realize the significance of the threats to the environment and ecology. In recent years, a trend has developed in architecture: some people have proposed so-called "urban landscape architecture", which is essentially a city project in architecture and project management of the landscape; some people under the concept of the environment have made reforms and trials in architectural education. Landscape education, that is to say, education to look at the world around us, the consideration of the environment that we have now seems to occupy a prominent place in China.

Notes:

[1] In fact, two schools of fenshui exist in China at the same time. The first one is the environmental fenshui or "scientific" one, which develops around the concepts of environment, geography or landscape etc. The second one is the folkloric fengshui, "popular" or "commercial" one, which develops around the quest of happiness and the protection of misfortune. The latter one holds higher popularity.

[2] http://ggjg.baic.gov.cn/law/bj_fdcggfbzxgd.htm. Février 2008.

[3] http://www.mohurd.gov.cn/xytj/tjzljsxytjgb/200806/t20080624_173507.html, Mars 2012.

[4] Mu, a unit of area (=0.0667 hectares)

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Re-Imagining Gyeongui Line Park

How Does Community-Based Planning Contribute to Redesigning the Old Railway Site into a New Form of Public Space?

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Abstract: Gyeongui Line Park is a new public space in Seoul in which the old railway was transformed into an urban park. The park is partially constructed now, but the existing master plan is being re-examined by the city government. The new mayor asked city officers to rework the park design to cope with new needs of the community and to accommodate the requests for new public spaces. Imagining the planning process for Gyeongui Line Park in a new way reflects the current planning environment and context. Collaboration among diverse professionals, community involvement and the integrated urban management of parks and their adjacent areas are critical to reinventing planning strategies. Above all, the spirit of community design is embedded in the upgrading of the park planning process. The Gyeongui Line Park case shows us the new direction for landscape architecture education. In the area of park planning, professionals need to take the lead and embrace good governance and a social agenda. Park design should be redefined beyond formal or spatial design. It should incorporate a wide spectrum of issues concerning social design. Creating communal value can become an ultimate goal in public spaces. It is time to reshape the present landscape education system for a world in transition.

Keywords: Gyeongui Line Park, urban park, community planning and design, park governance, Seoul

1. Introduction

Over two decades, there has been a significant increase in the number of urban parks in Seoul. The local government was empowered by adopting a self-governing rule in 1996. Since then, the quality of urban life came to be one of most critical issues in urban policy in Korea. Along with the rising concerns over the environment and sustainability issues, the value of green space has been highlighted. Many urban parks were created within the city. In particular, former industrial sites were transformed into parks such as landfills, factories and water purification facilities. Seonyudo Park, Seoul Forest, and World Cup Park are examples.

Gyeongui Line Park is an ongoing public project in Seoul along with Gyeongchun Line Park. The Gyeongchun Line Park project is now holding negotiations with the landowner, KORAIL (Korea Railway Company). On the other hand, Gyeongui Line Park is partially constructed. However, the design scheme is now being re-examined due to changes in the context of planning. The existing park design was done by an engineering firm selected after a biding process. In terms of design quality, the master plan was mediocre and banal. Recently, there has been an endeavor to reformulate the planning process and the plan itself. The new mayor, Won Soon Park, came to have much interest in this project. Responding to this, the Gyeongui Line Forum was organized in 2012. The forum members started to realign and upgrade the design scheme considering community participation and involvement.

Although the new design scheme has yet to be finalized, the planning process will provide several implications regarding landscape design practice and education. This essay discusses Gyeongui Line Park as the typical planning case facing a paradigm shift from a top down to a bottom up process. The current situation in Seoul will be discussed in an effort to grasp the background of the park planning process. The planning process of Gyeongui Line Park will be reviewed. New directions and issues will also be investigated. Finally, several lessons from the Gyeongui Park planning case will be discussed.

2. Turbulent Urban Politics and its Planning Context

Over the last few decades, urban landscape projects have been closely related to urban politics. Mayors of Seoul have placed strong emphasis on public space to upgrade the quality of living and to entice tourists.

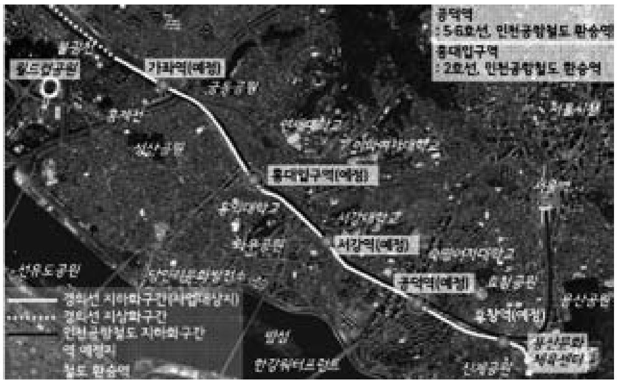

Fig. 1 Context of Gyeongui Line Park

Transformations of urban landscape have been one of the most effective tools for urban innovation and city marketing. Myoung Bak Lee, now the president of Korea, promoted the Cheonggyecheon Restoration Project which is now regarded as a successful urban project. By accomplishing the revolutionary urban project, he was credited as a visionary public leader.

Following him, the next mayor, Se hoon Oh placed priority on public design. Many diverse projects such as the Dongdaemun Design Plaza and the Gwanghwamun Plaza were initiated. In the case of the DDP, the star architect, Zaha Hadid was selected through an international competition. The Han River Renaissance Project was another landmark project, utilizing water as a catalyst to enhance the quality of city life and to promote urban regeneration. It was a comprehensive plan which incorporated social and economic aspect, including a development plan around the river, landscape improvements, and the remodelling of a riverside park. Mayor Oh stressed urban competitiveness and high-end designs. However, several urban projects during his term are often regarded as overemphasized urban spectacles. In addition the planning process did not attempt to involve and engage people affected by the project. In spite of promoting civic design, urban interventions in his terms seriously lacked an authentic planning philosophy and a communicative planning process. He stepped down during his second term when he did not receive the citizens' support in a battle over welfare policy.

Fig. 2 Forum with Citizen and Professionals

주민설명회에서 주민의견참여활동 모습 8월

Fig. 3 Community Meeting

Won Soon Park was elected as mayor of the Seoul Metropolitan Government in October of 2011. He, as a former leader of a NGO, is very interested in a creative city-making process. Since his inauguration, the city's development paradigm is shifting from governmental-driven to people-driven development. He stopped the new town project which involved the demolition of the existing urban fabric and livelihood. In addition, he maintains that the city is encouraging community planning/design based on the concept of settlement.

3. Gyeongui Line Park Design Process

Gyeongui Line Park is on the site of one of the oldest railway lines in Korea. When it opened in 1906, it linked Seoul to Pyongyang and Sinuiju, which are now part of North Korea. Imperial Japan sought to control of Gyeongui Line as part of the infrastructure for military use. After liberation from Japanese rule, it operated from Yongsan to Kaesong. At the end of the Korean War in 1953, the southern part of railway ended near Munsan. The Gyeongui line has symbolic meaning given its history of proving a connection between South Korea and North Korea. Restoring the disconnected line is one of issues frequently raised in summit talks between the two countries. Due to the high number of commuters on the line between Seoul and Munsan, the line was upgraded to an electrified double track railway. The line between Yongsan and Gajwa station will be transformed into a park by moving the railway underground.

A decision to create the park entails much political negotiation. Upgrading Gyeongui Line Park started in 2005. In 2007, there was a call for a response to a plan transform the area of the surface of the Gyeongui Line into a park during discussions in Congress. Gyeongui Line Park was officially announced by the mayor in 2009. The master plan for Gyeongui Line Park was prepared in 2010. A mutual agreement between KORAIL and the city of Seoul was confirmed. It was designated as a park by law in 2011. The first stage (760 meters) along the whole length of 6.3 kilometres (km) was constructed in February of 2012.

Although there were two public hearings during the planning stage, community involvement was not actively sought. Furthermore, the master plan was not selected by a competition but was determined by PQ (pre-qualification) and low-price bidding. The quality of the design scheme was not satisfactory. The final design was formulaic and ordinary. City officers started to re-examine the existing master plan. Gyeongui Forum was initiated in April of 2012. The forum members were diverse professionals with backgrounds as landscape architects, architects, urban planners, cultural planners, designers, artists, NGO leaders and regular residents. Through a series which included a site tour with the mayor, the forum suggested new planning directions. There are several planning points which needed to be addressed. The plan should be linked to adjacent efforts related to development control. Community involvement was critical in the planning process. Residents needed to manage the park by collaborating with the city government. A park partnership for sustainable management was strongly recommended. It was better to take the time to realize the entire area as a whole. A phasing plan was considered to be potentially very effective. Understanding the project from perspective of urban regeneration was needed.

According to these suggestions, the city government is devising a strategic plan which includes the adjacent area. There have been

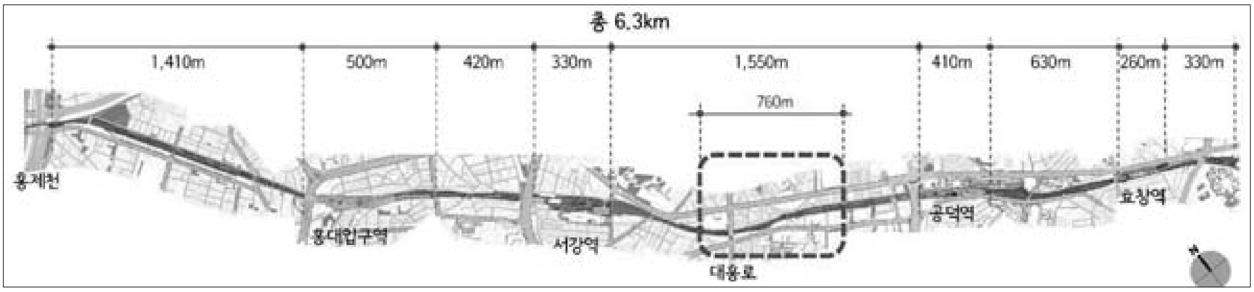

Fig. 4 Master plan

several community meetings to collect citizens' suggestions and comments. There were questionnaires and interviews to provide feedback. Some of the suggestions were useful. They recommended diverse programs in the park to facilitate community engagement. The creation of contrived places needed to be minimized. Authentic place-making will take time and will involve people's participation. A new plan is now in the revision process.

4. Alternative Community Design for Gyeongui Line Park

Although the park design has been finalized, I chose Gyeongui Line Park as a studio subject for "Community Planning and Design" during the spring semester of 2011. We concluded that the current park design does not address the issues of community the surrounding area. The park will be a community gathering place as well as a destination place in Seoul. Therefore, we proposed an alternative design based on a community perspective. A congressman worked with us to discover local residents' needs. We gave the final presentation in the National Assembly.

Four teams dealt with partial areas of Gyeongui Line Park. All of the teams shared the common premise of community design. Therefore, they explored the place history and met many residents and key persons in each community. However, each team found unique resources and unique concepts. Team A took their inspiration from the rich local history as a logistic hub. They proposed the park as the locus of storytelling and story-selling. Diverse local residents can be the story-tellers and communicators. Team B discovered a storage site from the local history. They presented the concept of a talent storage hub in the park. Each resident can share their talent with residents where it is needed. Team C proposed mutual learning as the key concept for the park. The idea came from the place name and the sense of place around Hongik University. Team D suggested an open campus for the park. They called it *Pyeongsang* (an open platform for communication) school. This represents a unique facility in Korea for social gatherings. They conceptualized these ideas based on their neighborhoods. The physical facilities gave the inspiration for the concept of the park.

Key ideas covering each team are a mutual learning through skill sharing and a storytelling place for local residents. Residents can be active partners in curing and managing the park and creating communal value. They revised the existing design scheme based on their concepts and ideas. We produced a studio result in the form of a book entitled *Old railway meets community*. This book was quite influential to many people later. When city officers prepared the master plan again, they read the book and used it. As a result, a community-oriented design was adopted in the revision of the master plan. This is one case which demonstrates how an academic studio project can have influence in the practical field.

5. Lessons from Gyeongui Line Park Planning

Gyeongui Line Park is now in the middle of planning and construction. While it is partially constructed, the plan will be modified and the process will be changed. However, the park planning process is a stepping stone to reform current design practices. There have been several endeavors to restructure the park planning process. First, there has been significant progress in collaborations among professionals and citizens. The Seoul Metropolitan Government organized the Gyeongui Line Forum to reframe the plan with diverse professionals. The group Friends of Gyeongui Line was suggested to mobilize the residents' engagement. Through these processes, the plan will evolve in a positive direction. I feel that the new plan will be a more community-oriented design.

Fig. 5 Field Trip with Mayor of Seoul

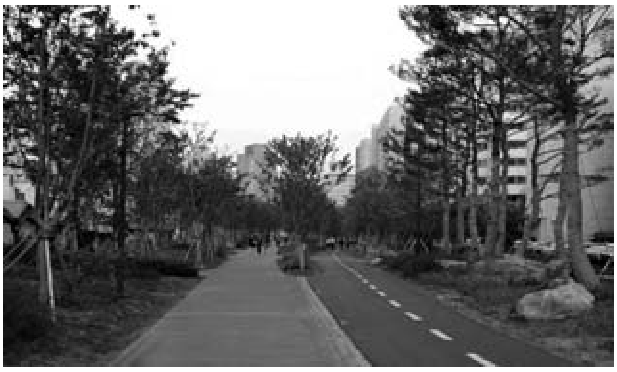
Fig. 6 View of Gyeongui Line Park

Secondly, the design quality will be enhanced by upgrading the master plan. One of the reasons mainly stems from discontents with the existing plan. The plan did not seem to address aesthetic issues and it neglected urban context issues. Selecting the design scheme was the result of a routine process. Through such as a rigid process, we cannot expect a high quality and creative design. Therefore, a place-oriented design has been emphasized. Collaborative planning and a customized design are important in this case.

Third, the new plan will be executed over a long period. This is strikingly different from the existing practices. A phasing plan is needed due to the uncertainty and financial difficulty. The loosely organized plan accommodates future changes. Therefore, working over time is an asset for the new plan. Lastly, the Seoul Metropolitan Government is now undertaking a planning strategy to control the surrounding area along the park. Integrated planning management is quite relevant in term of preserving a meaningful area in Korea.

6. Conclusion

Looking back the ongoing planning story of Gyeongui Line Park, the planning paradigm is now shifting from a plan dominated by professionals to community-oriented project. Revising the master plan required a completely new way of thinking and new attitudes and processes. Working with people over time is the prerequisite. Now, all planning projects need to adopt these premises and methods of community planning and design. Community design has emerged as a foundational concept reflecting the Zeitgeist of planning.

The planning environment is changing. Park designers are no longer designing spaces and facilities but are curating community resources and engaging in management issues. Therefore the traditional designer's role needs to be redefined. The significance of formal design and spatial organization has weakened. Effective communication skills and effective strategic thinking are emphasized. In December of 2012, the Seoul Metropolitan Government created the position of public landscape architect for park innovation. Twenty professionals with diverse backgrounds as leaders of non-profit organizations, historians, architects, community activists, writers and cultural planners are involved. The profession of landscape architect has broadened the convention boundary in this case.

Coping with society's needs, we need to reconsider education for landscape architects. Traditional design education may not be suitable for future generations of landscape architects. Strategic planners, cultural planners and community facilitators are the new roles for park planners and designers. It is time to restructure the new agenda and issues for landscape education and practices.

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Addenda

Simonds: From the Body to Clay

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Abstract: This paper highlights some key features of one approach to land-art and body-art and suggests that a Simonds Model has crucial aspects in common with contemporary views of attachment theory as it applies to nature. It suggests that each of the traditional analytic models concentrates on differing aspects of these land-art and minimal analytic techniques. I construct a grid to illustrate this and to demonstrate how attachment theory in Simonds offers a synthetic basis on which we can develop an integrated model of nature in contemporary art. Simonds'*oeuvre* begins in the late sixties with his *Dwellings*, a bonsai-style urban settlement created out of unfired clay.
He constructs urban scenographies of aborigine landscapes and places them in holes and ruins in the city of New York, in Paris, Berlin, Shanghai, etc. like a stork placing his nests not high-up in the bell-towers of the museums but in the most unexpected nooks and crannies in urban neighbourhoods. Simonds places his artistic territories in the territories of local communities, working in situ with the people around him. The characteristics of these works in comparison with Minimal and Conceptual Art are their immediacy, smallness, fragility and anonimity, and their quality of the unknown.

Keywords: Charles Simonds: Integrating land-art, body-art, Attachment Theory, Jungian Model and Development Perspectives.

1. Simonds: From the Body to Clay

The impact of the landscape on 20th century abstract sculpture takes three directions: that of the monument towards the landscape in Brancusi, that of the human body towards the landscape in Bourdelle and Maillol (and later in William Tucker or Magdalena Abakanowicz) and that of the landscape towards sculpture in Lipchitz and Picasso and later in Barbara Hepworth. We might think of the sculptural monumentality of certain natural formations that first appears in Picasso in his Dinard notebooks from 1928 and a bit earlier in 1926 in Jacques Lipchitz's small sculptures. Lipchitz is influenced by the landscape of Ploumanac'h in Brittany, France, and he describes these rocks in his *My Life in Sculpture* (New York 1972) as pieces "held in a delicate balance". The rock formations facing the sea in Ploumanac'h, the immense stones piled up on top of each other, eroded by the water and the wind, give the impression that they are held in an unthinkably precarious balance that is nonetheless also solid. Dinard, like Ploumanac'h, or like Locmariaquer, near the megalithic compound of Carnac, are the old haunts of the visual memory of the artists who in the 1930's begin to change the direction of the avant garde and at the same time synthesize all its breaks with tradition.
The feverish force of the "modern movements" like Cubism or the Constructivisms of all kinds, as well as the formalist experiements of Kandinsky and the Bauhaus are long past. The post-cubist synthesis will use all of these formal conquests, mixing them with the more literary or fantastical experiences of the surrealists or with the view of the sculpted landscape prior to the Bronze Age, particularly the megalithic installations in England and in Brittany. Above all, the work emerges with a new consciousness of the landscape.

Landscapes – our appreciation of the natural world and our respect for it – are *culture before they are nature*.

In this Congress, I would like to help us see nature as it has been intervened by man with taste and without prejudice or fundamentalism. I construct a grid to illustrate this and to demonstrate how attachment theory by Simonds offers a synthetic basis on which we can develop an integrated model of nature in contemporary art. Simonds'*oeuvre* begins in the late sixties with his *Dwellings*, a bonsai-style urban settlement created with unfired clay.

2. The Work of Charles Simonds: the Lower East Side in Manhattan, in the early 70's.

Charles Simonds (New York, 1945) studied Fine Arts at Berkeley (BA in 1967 at the University of California) and later got his Masters at Rutgers University (MA in 1969). After his studies, he worked with other artists of his generation such as Gordon Matta-Clark, Alan Saret and the critic Lucy Lippard, especially in depressed areas of New York City.
He also dedicates himself to teaching for a couple of semesters at Newark State College (today Kean University in Union, New Jersey). From this period, between 1970 and 1974, we have the films shot by Rudy Burkhardt of Simonds working with clay on his body.[1]
Note 1 From body-art, continuing in the line of conceptual art, Simonds turns to land art, and from there the landscape emerges as a leit motiv in his artistic creation, both as form and as content, with its socio-political orientation.
He takes his small land art pieces, mythological territories first constructed in precarious or abandoned areas of the Lower East Side in New York to other metropolitan sites such as Berlin, Paris, Dublin, Venice, Seoul and Shanghai. They also appeared in smaller cities such as Valencia, Jerusalem, Genova, Amsterdam, Montpellier, Bilbao and Guilin (in China).
His first solo exhibition is held in 1975 at the Centre National d'Art Contemporain de París, and his first retrospective takes place in 1981 at the Museum of Contemporary Art of Chicago. Success arrives with the show at the Solomon R. Guggenheim Museum of New York in 1983. In 1986, he spends a year as a fellow at the American Academy of Rome.

His work can be found in diverse museums (see appendix), with the different *Dwellings* at the Whitney Museum of American Art, MoMA and the Guggenheim of New York (*Age, Circles*), from the Denver Art Museum (*Floral Font*) to the Castellani Art Museum of Niagara University (*Ritual Place*) and the Albright Knox Art Gallery of Buffalo (*Dwelling* 1977). In Europe his *Dwellings* are present at the Kunsthaus of Zurich (*Dwelling* 1981), IVAM in Valencia (with five pieces) and at the Israel Museum of Jerusalem. His work can also be found in public spaces such as Lewiston Artpark near Niagra Falls in New York State. *

As noted already, Simonds comes from *body-art*, where he constructed his landscapes and mythology on his own body, experiencing his material, clay, burying himself in it and building with it in his performances from the late 1960's, *"in order to give my body's imprint back to earth"*, like a sacrificial baptism returning the body to its origin, the earth. Unfired clay is his "signature" material, which the artist uses from his years at the University of California, Berkeley and Rutgers University in New Brunswick and which he learns to handle with the sculptors Jean De Marco and his wife Clara Fasano, while still a high school student in Greenwich Village in New York. His parents, two known psychoanalysts, send him to practice clay modeling with this couple of artists who taught him how to work clay and plaster.[2]

During his time at university, choosing to move to the West Coast and Berkeley where Richard Serra studied English Literature, Simonds was an activist and was receptive to the protest movement that arose in the mid 1960's throughout universities in the United States and Europe. His work began to take form at a time when the American artistic community finds itself obliged to question forms of traditional representation in art and to explore using alternative means of difusion to those already established. Some artists look for this possibility in land art and performance. Though sharing many of these ideas, Simonds chooses a different route: that of miniaturization and the placement of his works between the body and the landscape, between performance and installation.

When he returns from Berkeley and registers at the School of Fine Arts at Rutgers, Simonds is convinced that his materials are neither the new industrial materials, steel or resines, nor those of traditional scupture, bronze or marble. Rather, he wants, like the song, to go back to his roots, to clay. He settles in lower Manhattan which at that time is a run-down and deteriorated neighborhood. The Lower East Side and Greenwich Village are also where folk musicians Joan Baez, Bob Dylan and Richie Havens come. Havens, who was born in Brooklyn, triumphs, and in 1967 signs with Verve Records. Some years later he records the song by Lamont Dozier (from 1976) that seems to have been written for Simonds:

goin' back to my roots
To the place of my birth
back down to earth.

Simonds makes his first performances on his own body, constructing various buildings out of tiny bricks that he's very patiently made out of clay and then scatters them as they are destroyed when he gets up. That is to say, when he is born again from the earth to which he'd delivered himself naked. These first performances, entitled *Birth* or *Lanscape-Body-Dwelling,* are carried out in various places between 1969 and 1973, both outside as well as in the city. Several of them are documented on film, one by David Troy, another by Emil Antonucci and five by the Swiss photographer Rudy Burckhardt (1914-1999) who connected immediately with the young Simonds because he thought that art was first of all about connecting with people and not distancing itself from them.

Simonds not only made projects with miniature things. In 1973, Simonds conceived the idea for *Growth House*, an installation as a large dwelling built out of sacks of soil and seeds of plants whose function was to grow. He made it for Artpark, officially the Earl W. Brydges State Artpark, which is in the town of Lewiston in Niagra Country, New York. Named after the politician Earl Brydges, it is known simply as the Artpark. Consisting of partially contaminated industrial terrain, the park nonetheless also contains the *Lewiston Mound*, a landmark registered in 1974 in the National Register of Historic Places. The mounds were created by the Hopewell Indians and are burial sites and possibly astronomical observatories or markers, related to the phases of the moon. The Hopewell Culture does not refer to a specfic race or closed ethnic group, but rather to a space of exchange, by hunters and herders, of whom most of what remains is this construction of soft little hills or mounds whose initial purpose or meaning has still not been clearly defined. These mounds are geometric earthworks, perhaps the most disturbing works of the Native Americans in their simplicity. For some scholars, these barrows show that the Hopewell were "astronomers, geometers, and magicians" at the same time.[3]

Artpark was created in 1974, one year after the death of Robert Smithson. It is the exclusive *land art* park, featuring works by Simonds (*The Growth House)* Sonfist,
(*Pool of Earth*) as well as feminist works by Michelle Stuart, Alice Adams, Agnes Denes and Nancy Holt.

We should recall that Simonds' loft-mates or street companions in those years from 1969 to 1975 were Gordon Matta-Clark, Alan Saret and Lucy Lippard. Matta and Saret had gone to Cornell University to study architecture, and then dropped out to become artists. It's worth noting as well that the journal *Art Rite* in the summer 1974 issue, in the essay entitled "An Architecture in Englewood. Clean Cut. Vernacular Myth" contrasts the work of Gordon Matta-Clark with that of Simonds, who were living in the same apartment at the time. Certain comments by the author are still valid today as descriptions of Simond's creation and visual thought.

We'll quote just three paragraphs from the magazine, probably written by Edit deAk:

1. "Simonds is free of anti-árt polemic. He is an artist, but he is not involved in working in a non-aesthetic context as an attack on the existing art-system. He has found an area where his energies are not destructive, or on the offensive against a contaminated situation. He has dropped the system, and wastes no energy confronting it."

2. "As public sculpture Simonds' work easily creates a meaning beyond its material parts." "Simonds, with his reverse scale for public ("monumental") art does not suffer the reliance on art support systems that keeps most large scale public art on the drawing boards. Working small, working frequently, a one-to-one relationship to his public. The presence of Simonds' work does more than coexist with the surrounding neighborhood. It interlocks, integrates with the place it occupies; sculpture and the environment; creates a larger shared context because of their reflexive characters as dwellings as artifacts."

3."The heart of his work lies in his being at home with creation (his particular means of creation) which lends to a generalized notion of Man (Simonds) the creator and created, out of the earth created and on the earth to create (to build)."

This social and participatory nature of the artistic fact also informs the works of other contempories of Simonds at this time. It can also be found in Joan Jonas (born in New York in 1936), as she becomes a pioneer in video and performance art and one of the most important artists to emerge at the end of the 1960's and beginning of the 70's.

3. Land Art and the *Dwellings.*

At the same time that he made these performances on his own body, Simonds was also constructing, in various sites on the Lower East Side of Manhattan, his small clay sculptures in the presence of people. His works were entitled *Dwellings*, installations or sites, in French, *demeures*, in Spanish *moradas.* Considered in their development, three types can be distinguished among these dwellings in regard to their arrangement in the environment: the linear, the circular and the spirals.

The *Dwellings* are pieces considered to be the dwellings of a nomadic, imaginary and tremendously shy population, which Charles Simonds created in his imagination and called the "Little People." He situated the first *Dwellings* on the street, in shopfronts and abandoned lots on the Lower East Side and in Soho. From his reflection on the structures of human thought, Simonds now begins to question the relationship between the artist and his work, gradually introducing the human figure into his creations. Scale is a characteristic element in Simond's work, as it is in the experience of visiting the Anasazi settlements in Mesa Verde. Made to look small by the rising canyon, the houses become miniatures that move us, the settlement a microcosmic stratum. In other words, the enormity of the place goes hand in hand with the small and vulnerable things that it sustains. The dwarf buildings that Simonds erected in the lower Manhattan and in other cities around the world were a silent response to the enormous height of the skyscrapers and other disproportionate pretensions of 20th century architecture and urban planning.

Built in the cracks in walls (*lézardes* in French) their characteristics, in contrast to Pop and Minimalism, are immediacy, smallness, fragility, anonymity and secrecy.

Simonds' *Dwellings* are like a *compositional field* or territory that is more than a sculptural landscape where any may enter. The *Dwellings* are both a historical and archeological reference and a prescription on how we might think about landscape and myth. At the same time, they are a monologue about the function of art and a critical essay about the function of public sculpture. Simonds describes his *Dwellings* that are shown in closed spaces or museums as "mixed metaphors of landscape, body, house, and growth."

Simonds is the son of psychoanalysts. He wants to understand not the mechanisms of the mind but rather the mechanisms of clay, of life by means of the clay from which we are born. In some way conscious of living in a universe woven out of mysteries, rather than asking about his dreams, he asks about the nature of things themselves. His view is based on Carl Gustav Jung's proud certainty: "things happen that can be experienced, even though they continue to be inexplicable." Simonds knows that he's not going to explain the earth as the sculptor's raw material, but that he is going to experience it in his own body.

For Simonds, "those basic ingredients [sand and earth] represent issues of a person's relationship to the earth, beginning with the idea of the body as the first house. I was trying to bring to a physical moment a relationship I perceived by turning myself into a house."

From the body as earth, from burying himself in a clay bath, Simonds comes to build houses and ritual sites on his own body and from there, to take this mythology between construction-inhabit and growth-nomadism to unexpected places, not museums but to the street where the people in the neighborhood accompany that growth and develop a parallel philosophy of art that is spontaneous and creative.

In the catalogue for the exhibition at the Knoedler Gallery in New York in December 2011, his most recent show to date, the artist stated, "From the beginning, part of my story in my work has been the search for the most 'primitive, primordial' ('thoughtless') gesture that would be the corollary to my (symbolically) most 'primitive' and 'primordial' material: clay."

Simonds' work is on the one hand ephemeral (easily destructible) and on the other timeless (mythic architecture). It highlights an anthropological meaningfulness on the one hand and an archeological one on the other. The work experiences a small world that nonetheless encompasses a complex vision of the world.

Wall pieces, like forms of organic nature that advance and extend along the space of the wall or wound it, other forms, constructed with bricks, collapse like genitals, or arms that stretch through the space like a serpent that forms its own gesture.

Simonds has explained the nature of his work as *hypnagogic,* that is to say, something that is "evoking the interstices between wakefulness and dream, material and fantasy, culture and psyche, subject and object, conscious and subliminal." His work transmutes earth into body and dwelling (in this sense we could recall Heidegger's analysis that every work of art has an element of *Erde* and another of *Welt*, of earth that constellates a world). Simonds' work also plays in the paradox between the organic and the architectural or inorganic, between instinctive life and regeneration versus entropy and death, between earth and ash. These paradoxes are also reflected in the titles of his works that play with terminology that jumps between the concept of construction and the concept of growth (*Brick Blossom*, *Grown Walls*, *House Plants*, *Wilted Towers*) or between the ephemeral and timeless (*Is Was* was the title of the exhibition at the Joseph Helman Gallery of New York in 2001; *I Thou*, *Mental Earth*, etc.).

Notes:

[1] Rudy Burckhardt shot 5 films about Charles Simonds, *Birth* 1970 (3 minutes, 16 mm color), *Dwellings* 1972 (2 minutes 16 mm color), *Landscape-Body-Dwelling* 1973 (7 minutes, 16 mm color), *Body-Earth* 1974 (3 minutes 16 mm color), *Dwellings Winter* 1974 (13 minutes 16 mm color). All of them can be seen at the UbuWeb Film: http://www.ubu.com/film/simonds.html. I quote from the *abstract* of two of them: (1) *Dwellings: Charles Simonds* by Rudy Burckhardt (1974, 12 min. color, 16mm film): "American sculptor and architect Charles Simonds is seen during the winter of 1974 when he spent his days among the devastated tenements and vacant lots of Manhattan's Lower East Side, sculpting clusters of miniature dwellings for an imaginary civilization. These structures are nestled in crevices of deteriorating buildings and crumbling sidewalks: his work evokes themes of survival, dependency, fragility and visionary idealism." (in this ediddtion,

the first three films can be found); (2) *Dwellings* (1975, 13 min. color 16 mm film. This edition features the last two films): "Where Charles Simonds is building strange structures of tiny bricks in the crumbling walls of New York's Lower Eastside, for his 'Little People,' as the astonished neighborhood kids look on."

There are also two other films: *Dwellings* (from 1972, 11 minutes, 16 mm in black and white) by David Troy and *Niagara Gorge* (from 1974, 13 minutes 16 mm color) by Emil Antonucci (1930-2006), famous designer and graphic artist, close friend of the poet Robert Lax (1915-2000) and painter Ad Reinhardt (1913-1967), whose widow Rita Ziprowski was the driving force behind Artpark.

[2] Barañano, K de 2004. *Charles Simonds*. Instituto Valenciano de Arte Moderno, Valencia 2004, p.17.

[3] See William F. Romain, *Mysteries of the Hopewell: Astronomers, Geometers, and Magicians of the Eastern Woodlands*. Akron, Ohio: University of Akron Press. Ohio 2000. As well as Christopher Turner, *An Astronomical Interpretation of the Hopeton Earthworks*. C.S. Turner 1983.

* In regard to Artpark, see the interview with Rae Tyson, park coordinator under Dale McConathy from 1974 to 1978, carried out by Sandra Q. Firmin on March 18, 2011, sponsored by the New York State Council on the Arts (NYSCA) for the Art Spaces Archives Project. In this interview he points out: "I think that for an artist to work in a public surrounding, and be exposed to a lot of people who have no idea who they are or what they're doing, takes a special sort of personality. And so you have an artist like Charles Simonds, who thrives on working in communities and loves the reaction that his work evokes from a non-artistic community, [he] had a field day. He had a ball. I mean, people responded to Charles, Charles responded to [the] situation. It was tailor made for somebody like Charles Simonds". (on the web http://as-ap.org/search/node/simonds)

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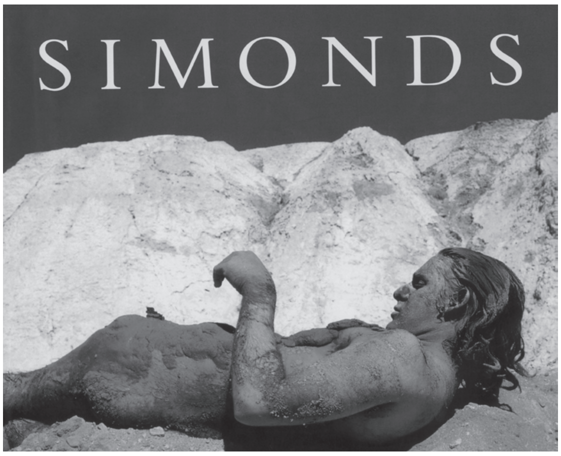

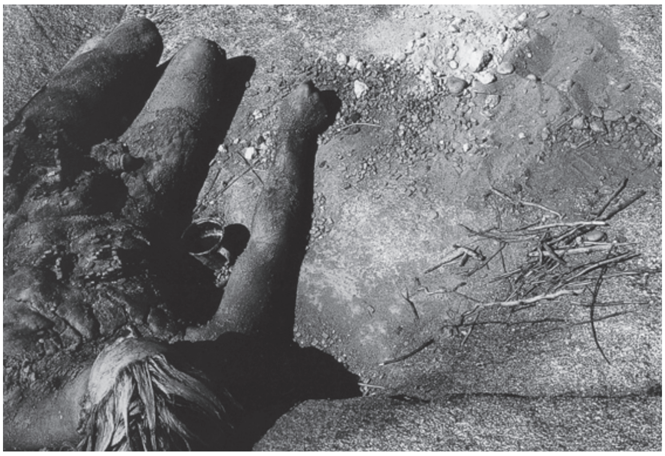

Fig. 1 (left) Charles Simonds: Landscape-Body-Dwelling 1971
Fig. 2 (right) Charles Simonds: Landscape-Body-Dwelling 1971

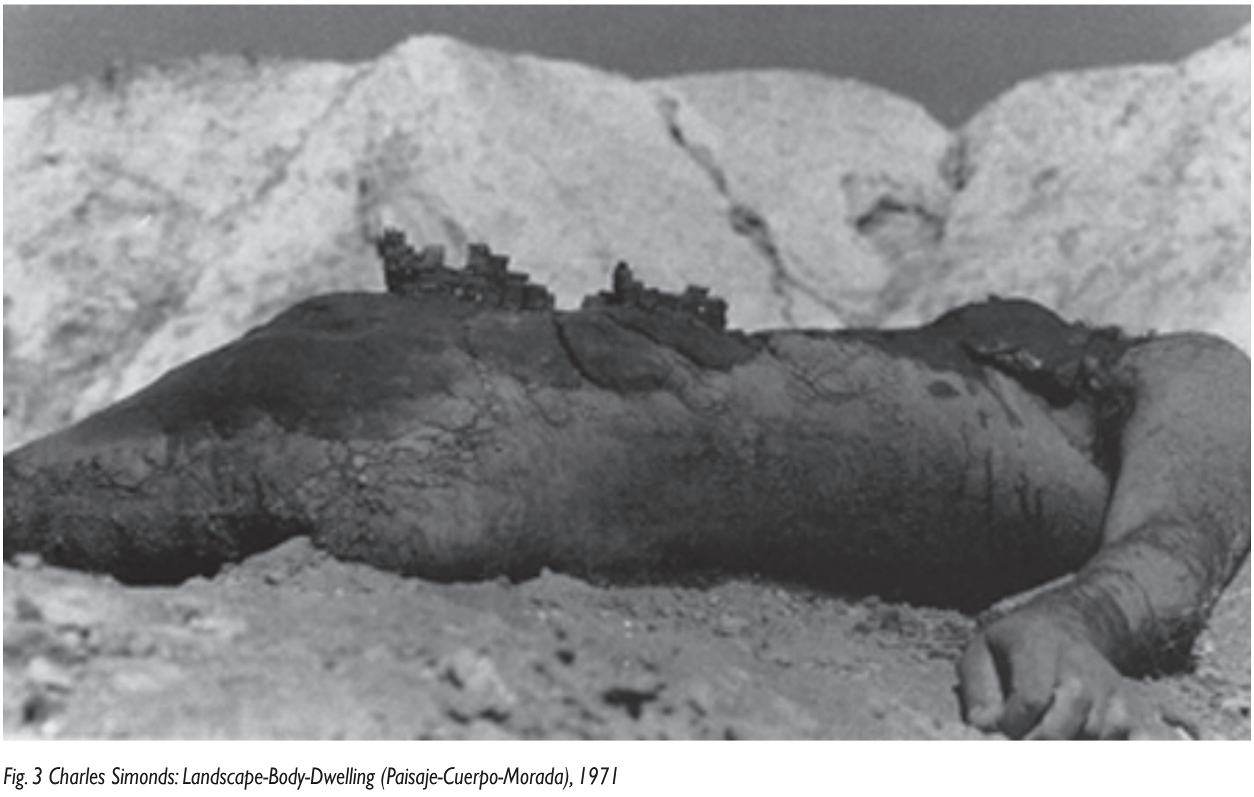

Fig. 3 Charles Simonds: Landscape-Body-Dwelling (Paisaje-Cuerpo-Morada), 1971

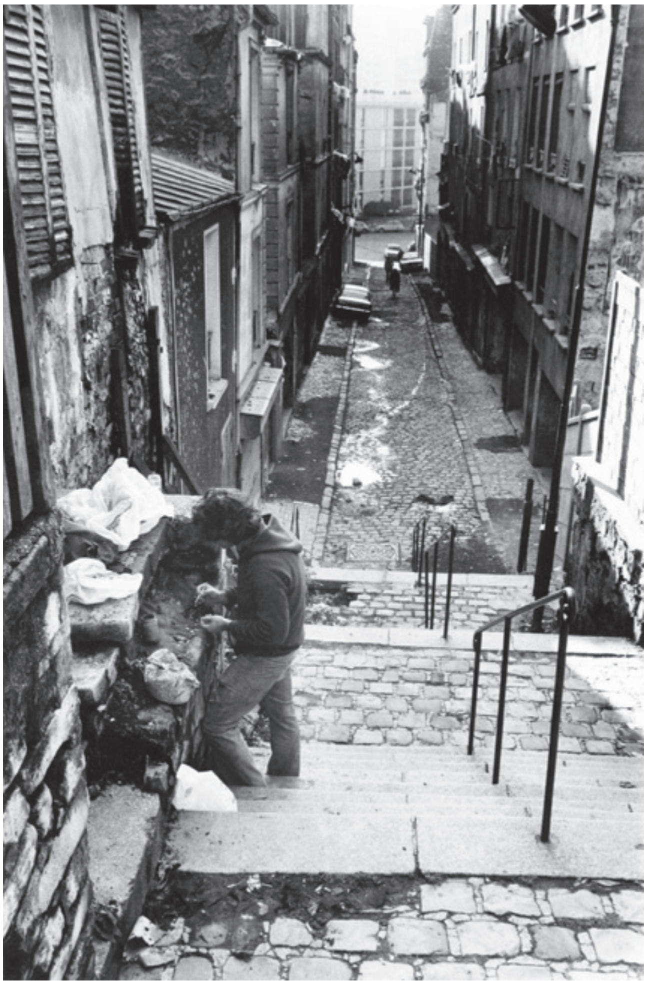

Fig. 4 Charles Simonds: Passage Julien La Croix, Paris, 1975

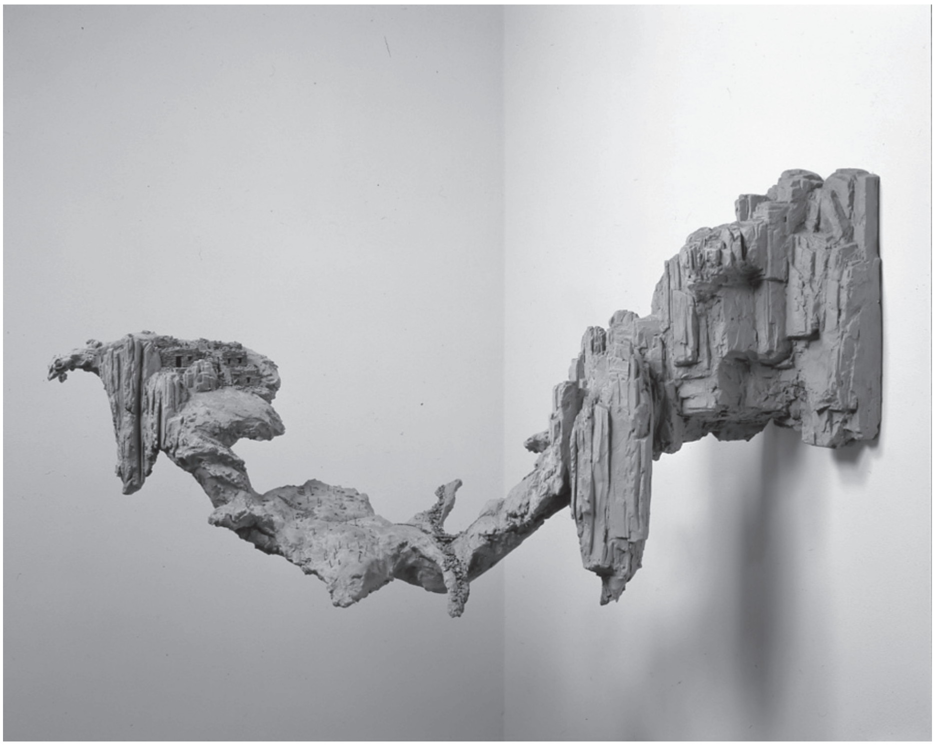

Fig. 5 Charles Simonds: Wall Dwelling (1999). Collection of Henry McNeil

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