Landscape – Great Idea!

X-LArch III

Conference Proceedings
April 29th - May 1st, 2009
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In 2003 we started this series on landscape architecture. In the first conference we pointed out the relation between disciplines working on landscape issues with landscape architecture: engineering, arts, architecture and urbanism, traffic, ecology, sociology. Meanwhile these interactions have become usual cooperations within research teams, studios and project-groups. The integration of necessary competences, however, does not deliver a clear strategy or method for planning and design of landscape. This is why the second issue of X-Larch, in the year 2006, focussed on innovative approaches: landscape-x-periments.

Finally this third conference, X-Larch III, picks up another issue which has been discussed in profession, research and publications in recent years. It is the topic of scale which inevitably results in the discussion of the very fundamental question of the idea behind landscape(s). It is conceived as another contribution to the ongoing international discourse on landscape and landscape architecture.

The emergence of disciplines, the range of approaches and the blurring of borders between professional tasks comes along with the global development of urbanisation. In the year of 2008, 50% of the people worldwide are living in cities, and this number is yet to increase, changing urban landscapes at an accelerated pace. Edward Soja and Miguel Kanai announce the global urban age consisting of the urbanization of the globe on the one hand and the globalization of urbanism as a way of life on the other. Globally the structures of landscapes and settlements are converging - resulting in types of urbanity abandoning its built up structure. The dichotomy between land and city has been abandoned long time ago, finally culminating in the discussion about suburbia and the ‘city between’ publicized by the ‘Ladenburger Kolleg’ around Thomas Sieverts. In the context of spatial development landscape plays a crucial role. In the discussion on urbanism landscape is a central feature. Not only is the discussion on spatial development very closely related to green and open spaces as well as to productive cultural landscape, there is also a tendency to a much more action-based planning approach. If e.g. Richard Weller, Australian’s renowned landscape architect entitles his research for a large scale approach. If e.g. Richard Weller, Australian’s renowned landscape architect entitles his research for a large scale approach.

Apart from designing vast entities of landscape there is another issue related to scale, which is of growing interest. It is the close connection between smaller scale projects with their wider surrounding. It seems as if there is an increasing awareness of wider relations. One could assume that this is a result of globalisation and the inherent growth of connectivity. It seems as if it shows a larger interest in complexity as a whole. That’s why the first focus of X-Larch III is called: Scale matters!

Furthermore there are specific ideas connected to the power of landscape as a solution for spatial problems. Landscape ecology is now interpreted as a model to understand and come up against environmental problems through design concepts, last shown in the project for fresh kills in N.Y by field operations. The production of landscape has always been based on a construct of ideas. As ideas shift along societal changes, the meaning of landscape is subject to constant mutation. Designed and built landscapes function as a catalogue of interpretations of nature, of society, of economics, of cultures.

The second question of X-Larch III therefore deals with Landscape as a model. In which way can landscape act as a model or an instrument to enhance spatial qualities? How do ideas interact with the built outcomes? Ideas and ideologies change, they seem to become interchangeable due to globalised mechanisms. Can we identify ideas behind „new landscapes“, or the way they were developed?

In this publication we hope to collect some answers to those complex questions. It was made possible thanks to all lecturers at the conference: Thank you for your contributions!

Thanks to my colleagues at ILA (Institute of Landscape Architecture) for scholarly discussions, for developing ideas, for supporting the organisation and for working hard to realise the event.

Endnotes / References

1 All lectures of the international conference X-LArch I is available on a CD at the Institute of Landscape Architecture, X-Larch II is published on the homepage: http://www.rail.boku.ac.at/7635.html

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The “Landscape-Infrastructure”: a multicriteria analytic approach for a territorial model of sustainable development. The new pan-European infrastructure network into the urban transformations of Verona.

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Abstract

The research on the Verona urban landscape transformations generated from the new pan-European infrastructure network presents the opportunity to verify the close and reciprocal relationship between two different entities: “Infrastructure” and “Landscape”. The peculiarity of the analytic and strategic approach “Landscape-Infrastructure” lies in its double contribution: on one side it works towards the strategic and functional integration of the new infrastructures in the metropolitan landscape of Verona; on the other it brings out the potential of the production landscape through the insertion of the new regional and pan-European network in his territory. It deals with a development project proposing the image of the network as a connection device between newly developed areas and the invariant systems of historic architecture and natural landscape, bringing out the core-identity of the territory in its connections with the systems of geography, transport, commerce, culture, and tourism. The connection function is specifically assigned to the open areas metropolitan network that is traced by the morphological datum, the typological matrix and the geographical structure, connecting them reciprocally with the new High Speed Network poles. This methodology considers the “Landscape” itself as an “Infrastructure”, endowing the relation between open and built space with structure and hierarchy, and at the same time as an evolving “system”: a space of the conflict between different actors. “Landscape-Infrastructure” is a connection device composed of three components (urban tissue, infrastructure network and free ground) that are contemporarily analysed and compared in order to strengthen and hierarchise the metropolitan landscape through its urban and geographical structure. In this approach the edge express the physical space of the morphological, geographic and connective potentials for each development area and it also represents the territory of exchange between bordering micro-regions in the urban ecosystem. This new analytic and conceptual device is designed to adjust the reciprocal integration of the two elements “Infrastructure” and “Landscape” through the research of a common denominator, allowing a comparative and synoptic view of its different components as analytic criteria. The multi-criteria, analytic approach “Landscape-Infrastructure” is essentially a dialectical instrument operating on these two oxymoronic elements in order to overcome their usual contraposition and the ancient dialectic of “nature versus culture”. It deals with all the complex synergies of the urban ecosystem and it represents a developmental vector of economic, social and ecological sustainability: an essential instrument for the evolution of human habitat on the planet Earth.

Key words

“Landscape-Infrastructure” methodology, multi-criteria analysis approach, edges design strategy, landscape connective potential, sustainable territorial model

Introduction

The study Landscape-Infrastructure emerged as the result of seeing the plans for the Alta Velocità [High Speed Rail Link] as an opportunity to investigate the city and surroundings of Verona and its metropolitan network. From the point of view of the strategic development of a city and the area around it, the expansion of the motorways and railways together with the resulting rationalisation programme and the development of the relevant infrastructures and technology, are universally seen as a suitable opportunity to provide a new plan for the area. The research therefore considers the overall strategy for the Verona area as such an opportunity: specifically, it aims to strengthen the urban “fabric”, to establish both the location of new peripheral zones and the extent of expansion, and to repair physical and functional fragmentation in the area.

It deals with a development plan which, in light of the fact that the area is a natural hub not only for the transport system but also for the environmental, commercial, administrative, cultural and tourist sectors, envisages the “network” as a means of connecting development areas and clusters of historical-architectural and
natural-landscape features. In particular, this connective function is developed in the open (non-built-upon) areas of the city around the key morphological points and the typological matrices of the urban fabric and of the distinguishing geographical and architectural features which are interconnected both with each other and with the new centres of development growing out of the Alta Velocità link.

In this sense the plan emphasises and reinforces Verona’s central position as an important hub at the crossroads between the Brenner axis and the horizontal Transpadana axis, the Italian stretch of Trans-European Corridor 5. The long term aim appears to be twofold: on the one hand the Brenner continues to be the main north-south route and improves its links with the two main Italian coastal roads, as a result of the new infrastructures converging on Verona; on the other hand, the shift towards rail transport is an indication of the shape of future transalpine travel, and postulates the existence of an intermodal platform in the Verona metropolitan area which might ensure efficiency along the continent’s logistical chain.

The study therefore focuses on the development of these large-scale transformations of the landscape, which is seen as an infrastructure that shapes and defines the relationship between open and built-on spaces, and as a constantly evolving system, a scene of conflict between various parties. The landscape thus becomes a synergic system and a system of systems which, in its turn, incorporates and interrelates three other systems: installations, infrastructure and land.

Material and methods

Significant macro-fields of research for the study of the Transformation Area

The morphological and analytical approach “Landscape-Infrastructure” transforms the sustainable urban transformation of Verona into the possibility to redefine the role of open spaces, as places that stimulate interaction and exchange, and to assess the connective potential of the landscape, as an element of cohesion between key zones in the area. Therefore in this case-study the analytical methodology consists in a synoptic comparative approach: a common parameter is used to assess various concurrent factors, namely the micro-systems that go to make up the macro-system Landscape-Infrastructure: land, “inherited” installations, and infrastructure.

The qualitative interpretation of the connective, geographical structural and functional potential of each area

Fig. 1: Multi-criteria analyses for the study of the connective potential of the six development areas for Verona
of urban transformation and its consequent strategic localisation in the area network involves an analytical and morphological description of its peripheral zones—in the sense of diverse median areas acting as dynamic fulcrums.

The complexity of the study of peripheral zones leads to a need for multi-criteria analysis based on the premises and objectives of the project and taking account of Iacopo Bernetti’s MCDM[1]: “Multi-criteria analysis concerns the logic on which an individual bases rational decisions relative to a complex problem relevant to a series of alternatives […] When GIS [Geographic Information System] are used in problems of eco-sustainable development, the problems involved predominantly regard the evaluation and the intended use of natural resources. Analyses of the function and intended use of natural resources have historically been one of the main fields of applications of GIS as support systems for environmental policy decisions[2]. MCDM issues in relation to GIS are therefore about “zoning” or, in other words, the assigning of a particular part of an area to a certain class. For example, areas with urbanisation potential, protected areas, agricultural areas, etc…[3].

Each area involved in urban transformation is evaluated in terms of the average connective potential of its peripheral zones in relation to each of the three aspects under consideration, or in other words on the basis of the topographical continuity between it and the surrounding area, using a scale of tripartite values. Specifically, red indicates a situation in which the weighted average of the coefficients of continuity between its borders and the surrounding areas is low, yellow indicates that it is average and green that it is high. [Fig. 1] The three elements identified become the criteria for the qualitative and quantitative testing of the connective potential of their overall system of reference.

Returning to the questions of the sustainability of urban growth and of the related infrastructure, which are the key issues of this study, it is crucial to examine the city as an “urban eco-system” (A. Farina, 1995): a system whose formative elements operate synergically and work together to maintain endogenous and contextual balances. From this point of view, peripheral or boundary zones are no longer seen as fixed frontiers determining what is part of the city organism, but rather as membranes of a certain thickness, which are both moveable and malleable. The peripheral or boundary zones thus become interpretative tools, instrumental in the planning of contiguous areas, where dynamics of functional and morpho-typological reciprocity come into play. The study of the peripheral or boundary zones, in the sense of physical places where exchange between two or more micro-environments belonging to the urban eco-system occurs, thus influences the planning of the landscapes of reference and plays a role in their connotation, regeneration and structural and functional rebalancing.

The Landscape-Infrastructure functions therefore as a connective thread linking the wider area with the various urban sectors and eliminating problems of scale by allowing for strategic planning that produces an inter-scale model of economic and urban development which both ensures geographical, infrastructural and functional continuity and stimulates and develops local dynamics while actively incorporating them in the wider area network.

Results and discussion
The plan for the Marangona Technological Science Centre Taking account of the premises, a sample area with geomorphological characteristics is suitable for a study of the peripheral zone—in the sense of a “permeable” zone located between two distinct areas and which also had a certain kind of functional role.

The area of the so-called “Marangona Triangle” was considered suitable both on account of its geographical position (infrastructural crossroads) and its intended use as indicated in the plans (research and innovation in the agricultural foods biotechnology sector). The creation of a Technological Science Centre offers the opportunity to experiment with a model of development based on the “landscape resource”, with a view to both revita- lising production and constructing new identity-giving urban forms. Technological Scientific Innovation has to become a sustainable model for urban development, use of the land and the construction of new facets to the landscape.
The project thus has the aims of initiating new processes of "colonisation" of the area so that the productive landscape once again becomes a defining element of that area, in that it takes account of the nature of contemporary markets, and ensuring that the presence of the infrastructure does not lead to physical fragmentation but rather becomes part of the model of growth.

The functional reconversion of this agricultural area surrounded by three infrastructural axes (one motorway and two railway lines) becomes sustainable as a result of the study and planning of its peripheral zones, in the sense of connective tissue that consolidates and gives a new identity to the area of reference.

Once the conclusions of the multi-criteria analysis on a metropolitan scale were established, it was necessary to proceed to an analysis of the permeability of the peripheral zones on a small scale. The study and comparison of the connective potential of the three dynamic elements of the Landscape-Infrastructure (land/infrastructure/installations) and their structural variations led to the creation of an analytical table [Fig. 2a] of the peripheral zones of the area.

From this it was possible to produce an operational table [Fig. 2b], or in other words a diagram of the morphological, geographic and connective potential of the Marangona, as evident from the characteristics of its peripheral zones. After the analysis stage, the operational table on the one hand highlights those placet where connectivity proved to be limited or lacking and, on the other hand, redefines the role of the area, both in terms of its form/make-up and functionality.

The potential of the project site was then developed in the strategic masterplan at a local level, leading to a redesignation of the area under examination in terms of its qualitative and quantitative roles and its capacity to ensure continuity in the network of the Landscape-Infrastructure. The strategic masterplan involves the Marangona Technological Science Centre through the functional reconversion of an area which sees the productive local landscape as a primary resource in the new inter-scale system.

The development of this planning strategy broadly aims to ensure economic, ecological and social continuity in the area via an intercorrelation between, on the one hand, the infrastructural scale, the inter-regional and metropolitan scale, and, on the other hand, the scale of geographical proximity, the local scale and the neighbourhood scale.

**Conclusions**

The research into the transformations of the Verona urban landscape produced by the economic and functional consequences of the new pan-European infrastructural networks offered an opportunity for the functional and logistic expansion of the strategic area of "Marangona Triangle" according to the metropolitan and geographical main features.

The "Landscape-Infrastructure" analytic approach considers the "peripheral zone" the key to the manifestation and interpretation of the morphological, geographical and connective potential of the areas affected by the processes of urban development, seeing that zone as the point of exchange between contiguous micro-areas belonging to the urban eco-system. This new analytical and conceptual tool is designed to modulate the reciprocal processes of integration between "Infrastructure" and "Landscape", through the search for a common denominator to enable interpretation of their various components.

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Fig 3: Strategic masterplan and Technological Science Park Overall View
Endnotes


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Urban landscapes need great ideas!

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Abstract

The interactions of urbanization, globalization and climate change lead to new large-scale spatial structures referred to as urban landscapes. They are uncertain, extend beyond administrative boundaries and their developments are unpredictable. They require a fundamentally new perspective and mode of action to deal creatively with their complexity. With its integration of intuitive, rational, emotional and body related knowledge and the resulting idea-generating force, designing is just such a mode of action and a way of gaining insights. However, rational-analytic orientated large-scale designing usually remains quite far removed from a design approach. Nevertheless, it is required to interrelate site inventory with searching for ideas from the outset. Initial ideas aid in “untangling” complex spatial interrelations and provide a decisive “navigation” while searching for productive impulses in terms of relevant (research) questions and further ideas. Therefore, the essential step is to express a spatial whole in an initial picture in the shape of sketches, models or mappings. It is the ability of intuition to enable something to be grasped as a whole, even when information is incomplete. It takes a particular setting that encourages creativity and allows empathy. This paper describes both, an integrative approach to (large-scale) design with a visual-intuitive initial access to deal with complex urban landscapes, and also its practical application within a design workshop.

Key words

Urban landscapes, large-scale designing, designing with spatial complexity, creative design access

Introduction

Worldwide, complex problems such as globalisation, climate change, water dynamics or multicultural living characterise today’s spatial developments – whether at local, municipality or regional level. The traditional polarities between city and country have almost completely dissolved and open, uncertain, complex spatial phenomena that extend beyond administrative boundaries have emerged, which I call “urban landscapes” [1]. The urban ways of life of modern humans are no longer limited to city areas; they now penetrate into the deepest “rural” areas and are reflected there spatially. Complex urban landscapes can no longer be captured using traditional urban, regional or landscape planning strategies and instruments, rigid area jurisdictions and limited discipline perspectives and to a large extent they resist planning and regulatory control. “If the planning disciplines wish to retain the right to exercise an influence on future [spatial] development, the development of a suitable repertoire that reacts to the altered parameters is overdue” (Bormann et. al 2005: 42). Complex spatial developments require a fundamentally new perspective and mode of action in order to take these altered phenomena and productively create a sustainable future. “With regard to the urban-regional dimension of spatial planning, there is a glaring need on the part of those involved to improve their knowledge, concepts and abilities” (Stein 2006: 11). We are looking for a mode of action and a way of gaining insight that understand complex spatial interrelations and are thus able to “creatively use and shape complexities to secure the future of humankind ”. (Vester, 2002: S. 8).

The article assumes that designing is just such a way of gaining insight and acting. In particular, it deals with the idea-generating power of design and shows how grasping complex urban landscapes in their entirety is possible and why it is necessary, especially at the beginning, for the finding of ideas. In addition, a particular setting that allows emotions and encourages creativity is necessary for such a process. The symposium entitled “Research by Design” at the STUDIO URBANE LANDSCHAFTEN [2] demonstrates how the design approach discussed here can be used to gain initial access to a topic or a space.

Designing – the creative pathway to complexity

In his essay “Designing as a way of life” the philosopher of science Hans Poser writes that designing is fundamentally “the thinking up of a promising and feasible possibility […] aimed at bringing about something new” (Poser 2004: 563). Leaving aside for a moment its meaning in the professional context, design is a fundamental human activity that takes place in our everyday context: designing is a creative skill that each one of us possesses. We plan and design our everyday activities in all their functional, material and emotional as well as social and aesthetic dimensions without describing these processes as designing. Most of this occurs intuitively as a subconscious process. Ideas follow one another often imperceptibly and sometimes something (unexpectedly) new emerges (Seggern & Werner 2008a: 35f.) As such, designing can be understood “as the creative capacity of human beings to take an active role in the evolutionary shaping of the world” (Seggern 2008: 69).
In “creating” disciplines – irrespective if engineering or landscape architecture – this process is described as designing. In the German-speaking world there is however a rather strict distinction among the spatial disciplines between planning and designing. Designing usually begins on lower, spatially accurate levels of scale once the (overall) planning has formulated the objectives, programs and procedural specifications. As such, design has been and is regarded as “only” a “shaping” process rather than at the same time a fundamental mode of action that, through the feedback of graphic insight, is able to generate knowledge of the future.

Due however to their exclusive concentration on rational-analytic methodology, the fields of spatial and regional planning have long neglected the use of design approaches to shaping their subjects because “regional planning at the scale of the urban region [...] is still not regarded as a design task” (Sieverts 2007: 12). Now ideas, statements and illustrative visions of the extensive shaping of a space do not necessarily emerge from the normal planning process of analysis, identifying objectives and developing programs. Sieverts writes elsewhere that “design in the context of highly complex urban landscapes must become more than just an instrument of implementation of individual programs within abstract spatial-constructive structures” (Sieverts: 2008: S. 261). Therefore it is imperative, however, that large-scale planning becomes a design task.

The process of designing always draws on both intuitive and rational knowledge, combining emotional and personal with objectively reasoned components. This applies equally to the search for ideas during the design process itself, and to the evaluation of the results. In scientific and planning contexts, the knowledge gained through intuition, emotions and bodily experience still attracts little attention and even less recognition. Although it has been accepted that this knowledge is an essential factor in creative processes and thus a factor in design, its meaning and relevance remain unnoticed and as a consequence its potentials stay largely under-utilized (Seggern & Werner 2008a: 39). Conversely, disciplines such as the neurosciences, research on creativity, philosophy or psychology have clearly recognised and acknowledged the relevance of these forms of comprehension and show that “creativity is based on a ‘fusion of intuition and reason’” (Salk 1985). In contrast to a linear-analytical approach, which attempts to apply conclusions drawn from the individual to the whole, intuition is capable of directly comprehending something as a whole – even in the presence of too much or too little information – and of making complex decisions based on that (Hänself 2002, Gigerenzer 2007). Why do I consider the intuitive ability to grasp something as a whole so essential for designing complex urban landscapes?

Grasping urban landscapes as a whole

Vester, a pioneer of cross-linked thinking, formulates that there is still a strong reluctance to “even acknowledging complexity at all [...] attention is focussed rather on the individual aspect, the immediately comprehensible, instead of on the superordinate interrelations and that relationship between things that extends beyond the individual parts” (Vester 2002: 16). As a rule, neither cities nor regions have ever been planned as wholes. Nevertheless, it is crucial to grasp and express them as wholes. This is the only way that enables firstly, the specific promotion of an urban landscape’s overall development and secondly, the productive application of individual measures to this development. Otherwise, the respective individual measures remain the rationally understandable decisions of official planning, but their integration into an overarching whole is lacking.

My decisive thesis is therefore that particularly intuitive consideration of the whole is needed if productive steps in designing large-scale urban landscapes are to be taken; these will then be of benefit to the whole. Ironically it is actually impossible to comprehend the whole although grasping urban landscapes as a whole is a pre-condition for being able to design ideas from these complex conditions.

An initial step is to find a descriptive term for a whole. Describing large-scale spatial structures as urban landscapes is already such a designation, a perception that converges to form a whole and also a step with which we humans are intimately familiar; we use it with every description of a holiday destination. Landscape emerges to form a whole from a (usually subconscious) combination of an area’s multifaceted elements (whether produced by nature or by human beings), its history and its culture. Perceiving something as a landscape is inescapably bound up with an emotional involvement and landscape usually has a positive connotation (Franzen & Krebs 2005); its perception is always associated with one’s own feelings: It is therefore an important and conscious step – as taken by the STUDIO URBANE LANDSCHAFTEN – to describe complex, large-scale spaces as urban landscapes, a prerequisite to then be able to grasp them more specifically as wholes.

In this context whole should certainly not be confused with complete: neither a “complete” inventory nor fixed far-sighted “complete” overall area planning are possible. It is much more about “comprehending realities intuitively, in a way artistically, on the basis of patterns that include fuzziness” (Vester 2002: 8). The essence, the character of a space must initially be approximated through intuitive analysis, through creative initial access. There are many ways to do this which must be newly designed or adapted and draw on a repertoire each time. In designing,
the term “overall expression” means a first “picture” that describes the whole in the shape of sketches, plans, models, succinct sentences. This already makes each site inventory an interpretation and thus an idea.

**Ideas as “aids to disentanglement”**

An objective spatial inventory independent of the subject and the subject’s experience and knowledge does not exist. The realisation is taking hold that (complete) inventories which in particular the regional and spatial planning disciplines traditionally responsible for large-scale levels long considered a necessary requirement for the development of future measures and ideas (whether programs, models, concepts or concrete projects) are not feasible. It is rather about taking inventory and producing initial ideas simultaneously. I call these initial ideas “aids to disentanglement”. This is why it is so important to begin finding ideas at an extremely early stage, my assumption being that only by so doing can productive access to the complexities of urban landscapes be found. On closer inspection, this “disentanglement procedure” comprises several different types of ideas. Expressing a spatial whole in a single picture is thereby the first crucial step. What we are dealing with here is by no means a copy: these pictures facilitate an (initial) interpretation, that is both a creative performance and at the same time a kind of idea and thus an understanding approach despite vagueness. These initial pictures provide the decisive “navigation” for the next step while searching for productive starting points that must be uncovered (designed) within a complex “tangled mass” e.g. of a whole region. They can appear as questions or further ideas and somehow usually do go into more detail. They are the search for action-oriented impulses that have reference to the whole (impulse principle).

My experiences in teaching design have shown that initial design steps that consciously build upon intuitive capabilities are regularly possible and astoundingly productive (Werner 2008: 291-327). In actual fact, it is this subjective (idea) component that – combined with the object in question (in this case, urban landscapes) – facilitates a specific perspective and a certain picture. Creative access – as I call this type of approach to an area or theme – is, as I have already explained, always emotionally orientated; it allows an individual to develop one’s own feelings for an area, “to make one’s own picture”. In other words, creative access aims at intuitive “disentanglement”, simultaneously producing ideas.

The outlined design-based, visual-intuitive access to complex large-scale tasks was theoretically and practically developed and applied within numerous design teaching and research projects at the STUDIO URBANE LANDSCHAFTEN [3]. Here it became evident that a setting that serves the essential components of design (the conscious combination of intuition, ratio, body and emotions) and that allows empathy, an involvement with and affection for the subject matter will promote a creative atmosphere and thus the emergence of ideas. Using an example, I will now show in more detail how the steps described – grasping a whole in a single image and finding initial ideas – can be applied in research and practical application.

**“Research by Design. The Case of Urban Landscape” – questions and ideas for a highly dynamic North-German region**

Applying the integrative approach to design to the professional public was the intention of the one-day International Symposium “Research by Design – The Case of Urban Landscapes”, hosted by the STUDIO in July 2008, sponsored by the Volkswagen foundation. Research questions and possibilities for development of urban landscapes were investigated within the framework of an openly structured experiment an interplay between of discussion carousel (a combination of short presentation and panel discussion developed for the symposium) and design workshop that were held simultaneously. The symposium openly assumed the basic thesis that design is a suitable mode of action of approaching this subject matter. At the same time, it applied the assumption that, within a few hours, a highly complex urban landscape space can be visually represented as a whole, and consequently interpreted, allowing interdisciplinary and transdisciplinary initial research questions and development ideas as defined by the impulse principle to be generated from the “dialogue” with the visual work. An aesthetic mode of communicating the subject matter that appealed to all the senses and a setting that promotes creativity were important prerequisites for the required emotional attention to the subject matter and the “coaxing” of ideas.

A STUDIO team’s subject of investigation for some time [4], the larger observed territory at the symposium was the tidally influenced section of the Elbe river between Hamburg and its North Sea estuary in Cuxhaven. The area under closer investigation lay to the west of Hamburg in the area where the state borders of Hamburg, Schleswig Holstein and Lower Saxony converge. Approximately 100 participants with varying disciplinary backgrounds who, for the most part, were not familiar with the area, were given the task of visually expressing in drawings, collages, mappings, models or texts the landscape performance of the area in the first instance and from a “dialogue with the images” coming up with some initial ideas for developing this urban landscape and inferring questions that might be relevant. A 1:5000 scale aerial photograph measuring 60cm x 24cm formed the basis of the graphic representation of the area under investigation. Other design materials were also supplied.
To set the mood, the workshop began with “a journey in pictures and facts” and the information that emotional involvement with the space and designing as the mode of action were both allowed and desired. They were also referred to the specially compiled library of further information and facts concerning the various aspects of the area and the cartographic material in various scales on the Tideelbe region and the area under investigation. Overall, it was this conscious mix of facts, maps and impressions in the form of pictures and film material that brought the participants in “closer contact” with the Tideelbe. In addition, the creative atmosphere of the symposium was characterised by the specific aesthetic of the venue, a high degree of freedom when working on the design task and a motivated team that stood ready to answer questions and provide materials and technical assistance. [Fig. 1].

Results
The result of the symposium is a body of work comprising 50 pieces, which all show visual interpretations of the area [Fig. 2]. Firstly, well over half of the participants (many worked in pairs) were able to express the complex Elbe region in a single initial picture. Even though detailed evaluations of the individual images are not yet available, initial observations already indicate very promising statements. Secondly, the participants formulated comprehensive research questions and/or initial ideas. Initially the questions could be sorted into four categories: method questions, strategy questions, questions concerning the whole as well as individual and project-related questions.

Some questions, for example, that as a consequence of climate change investigate the significance of the (re-)approval of water dynamics and thereby discuss the concurrence of faster and slower dynamics have proven themselves to be a relevant theme for design research. It was noticeable that instead of requesting more structural protection against floodwaters, participants saw the sense of dynamic water-land scenarios and suggested looking for new “pearls” that could emerge from a dynamising process. A further complex of enquiry was concerned with the large subsystems, such as the power plant, the agriculture (in Alten Land) or the prison functioning as current or future “architects” of the landscape, and also with the question of how closed or open they should be for this purpose. Specifically, there were enquiries concerning the significance of water salination for the Alte Land or of public access to the prison grounds. There was also the question of the extent to which an important research topic can be derived from the implied and tangible necessity of empathic attention during the research process as opposed to the usual scientific distance.

New questions and development ideas came up together with questions which, although not essentially new, are relevant and which were compiled surprisingly quickly. Of course, to a certain extent evaluating the relevance of questions is relative. Work on the Water Atlas – a comprehensive representation of the wateland topologies and their application in scenarios for the tidally-influenced Elbe island, Hamburg – has given the STUDIO broad knowledge of the topic, and this results in the skills required for evaluation. The international IBA lab “Managing climatic consequences – the challenge of water”, a joint project with the IBA held in February 2009, confirmed the unequivocal relevance of the question in presentations as well as workshops. Further design ideas were developed in these workshops such as how the rising sea level brought about by climate change and the increased tidal dynamic it causes in the metropolitan region of Hamburg can be dealt with in the future [6].

Outside the context of the Water Atlas and the IBA Climate Lab some of these questions have already formed the basis of further research and design projects in which their relevance has become further apparent. For example, for the Alte Land located in the symposium’s area of investigation on the south side of the Elbe, a research project was developed and promoted that deals with the adaptation and shaping strategies of this dynamic cultural landscape as a large-scale system within urban integrative regions. The project formulates both, spatial design strategies to facilitate an illustrative understanding of the complex interconnections as well as any further development.

Questions concerning methods that enquired into the type of creative access led in the studies to the idea of
developing dynamic models for dynamic, land-shaping processes in the form of “landscape machines”. This made it easier to show more clearly how one could work with the water-land dynamic and how new artificial-natural landscapes emerge: a sediment park, an new string of islands in the mouth of the Elbe and new floodland (Stokman et al. 2009).

**Conclusion**

In the action-oriented, idea-focussed approach to design described here I see an extremely productive approach to be used in practical application and research to develop future-oriented solutions for complex urban landscapes. To this end, a certain amount of courage to get involved in open creative processes is essential, both on the part of the initiators of such activities as well as the respective participants (whether they be students, researchers, workshop participants, government authorities or office staff). Initiating design processes for large-scale problematics requires intensive preparation, extensive knowledge in handling complexity and promoting creative processes. Creativity does not normally emerge by itself and is more than just ingenuity.

Without a doubt, the approach described here also has limits and risks. Making a space or a topic accessible through an early search for ideas without long, extensive analyses means focussing questions “only” on conceivable interpretations and possible impulses to act, and not on complete, objective identification and consideration of all possible solutions. It is however exactly this completeness that is not feasible, and therefore we need ways that, in view of the big questions regarding spaces – from globalisation to climate change – give us the capability to act. To be sure, the path from an initial idea towards an elaborated design project is long and always iterative. Apart from understanding, intuition and initial ideas it requires plenty of rational knowledge, thorough working through, examinations, negotiations and much more in order to build ideas on firm ground.

One risk that can be identified is that pictures (for third parties) cannot be grasped in their entirety and elude attempts at a fully objective understanding or evaluation. The reading and interpretation of illustrative results require abilities other than an acquaintance with the written word. The visual culture constitutes a new branch of science and still requires a lot of research. Design as a way of gaining insight requires accepting that results often remain partly subjective and cannot be fundamentally generalised, but in their contextuality generate knowledge that goes beyond any one particular project. (Prominski 2003; Seggern/Werner 2008).

Implementing the described approach in planning practice requires a openness for designing particulary in the large-scale sector and a recognition that the terms of reference have to be developed spatially and do not result directly from programs and the formulation of objectives. The approach of design with its open-ended results is necessary, particularly at the beginning of planning and project processes. With good will, courage for result open processes, valuation of creativity (Kunzmann 2004) productive ideas for a sustainable development of urban landscapes are endless, we just need ways to create them!
Endnotes
[1] The term “urban landscapes” is used by the STUDIO URBAN LANDSCAPES, of which I am a member.
[2] STUDIO URBANE LANDSCHAFTEN is an interdisciplinary network for teaching, research and practice at the faculty for architecture and landscape at Leibniz University in Hanover, Germany. There are currently sixteen members from the fields of landscape architecture, urban planning, architecture, civil engineering, biology, sociology and water management who are working in research, teaching and office practice (most are active in several areas). The STUDIO is the joint platform for questions of perception, planning and design of urban landscapes, ranging from regional strategies to local projects.
[5] Documentation of the workshop and its results is available as of July 2009 as an IBA publication.

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Evaluation of Open Space Form and Use in an Istanbul Squatter Settlement

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Abstract

Istanbul’s interactions of squatterization and open space provide a context in which to study form and uses of landscape in the emerging informal city. Landscape as a generative process and manifestation, such as that found in Istanbul’s squatter settlements, provides useful insights for designers, planners and residents for the future role of landscape and open space in the urban context. The landscapes of these squatter settlements are the outcome of squatterization as a process, yet they are also the reflection of cultural values and norms pertaining to public open space. This paper looks at the open spaces in the Istanbul squatter settlement of Pinar Mahalle. Through observation analysis, six open space typologies emerged: Mosque gardens; commercial streets; residential streets; small parks & playgrounds; other preserved vegetated areas; and spaces on or near the edge of the residential streets. An analysis of use and type found that the streets and areas near the street were the most social and used spaces, despite the location of a planned park and mosque garden in the settlement. These observations of open space form, type and use in squatter settlements show compelling examples of what is valued, useful and available in emerging urbanizing areas.

Keywords

Informal housing, squatter settlements, urban landscapes, urban open space, culture and open spaces

Introduction

Developing countries increasingly have “mega-cities” (cities with populations over 10 million) that are also developing into “global” cities. Many of these mega-cities have large unplanned and/or informal housing areas. Some estimate that, “by 2030, 1 person in 4 will be a slum dweller” (Neuwirth 2005). Informal housing and “slums” are issues that will demand increasing attention as populations rise, rural to urban migrations increase, and cities become more globalized. Subsequently, these issues are increasingly being called to attention.
izes informal housing (Cavender 2006; Turner 1968). However, some researchers want to look at informal housing objectively as a fact: “Such an urbanization starting with migration to towns from rural agricultural-traditional areas and ending in an urban, industrial-modern society can be analyzed for its values of culture-space interactions according to different scales, leading to a better understanding of squatterization as a fact, not only as a problem area.” (Turgut 1995).

There is a good body of research that studies informal housing. However, more studies should be conducted that specifically evaluate the urban spaces of these areas. Particular to this study, the interactions of activities and behaviors with certain urban space typologies are analyzed in the Istanbul informal settlement of Pinar. This study examines what open spaces squatter residents use and how they use these open spaces.

**Introduction to Pinar Mahalle**

The Pinar neighborhood is a squatter settlement in the Sariyer Municipality in northern Istanbul. It is 13.5 km from Taksim and 17 km from Eminönü, two important Istanbul centers. Pinar citizens typically have come from the Anatolia region of Turkey (Asia), particularly Sivas, Kars, Ordu, Amasya, Zonguldak and Kastamonu, after 1950 (Ergun 2008). There are two (2) mosques in Pinar. There are no large commercial facilities or office buildings. There was a park with a football field near the west entrance of Pinar, Mevhibe İnönü Park. Both were destroyed to make way for the İstinye Park Project, a shopping mall, office and apartment complex. A replacement park has subsequently been built near the east entrance of the settlement. Most residents work nearby as physical laborers, civil servants and/or are self employed. The 1997 census of the neighborhood was 9,321. The population is 12,039 according to the muhtar (local Pinar official) record. However, the “true” population is thought to be nearly 20,000 (Sariyer Municipality 2007).

**Materials and methods**

See endnote 1 for definition of key terms. This study analyzes certain defined usage patterns (see endnote 2) against the variable of open space typology. It is hoped that correlations between variables can be observed in order to gain understanding into how Pinar residents use their open spaces. The study uses an observation analysis of Pinar Mahalle’s informal housing open spaces. The study involves operationalizing urban open spaces as independent variables. This process is justified by precedent research in space syntax: “The procedure used by space syntax analysis is one of representing and quantifying aspects of the built environment and then using these as the independent variables in a statistical analysis of observed behaviour patterns. The question we ask is what aspects of the environment appear to be correlated with observed flows across a sample of different locations in the area under study. We quantify a number of aspects of the built environment, but those that seem consistently to correlate best with observed flows are measures of spatial integration in the axial map of the area.” (Penn, 2001)
This study does not undertake space syntax methodologies, but uses their process of “quantify[ing] a number of aspects of the built environment” as justification for the operationalizing of urban open space variables.

The method of observation analysis is loosely based on William H. Whyte’s methodology of observing open space usage in New York City. Whyte analyzed behavior patterns, usage numbers, etc. against variables of various urban design elements (Whyte 1988, 2001).

Observations are conducted in various open space typologies. Certain activities and behavior variables are recorded in each typology. Subsequently, results and conclusions are derived from the frequency, type, participant information, etc. of each activity/behavior variable in each urban space typology.

Six (6) open space typologies were identified in the study area (See Figures 1-6):
- Mosque garden
- Main commercial street
- All other streets
- Park & playground
- Other vegetated areas
- Steps, stoops, balconies, etc. that are on or near the edge of the other streets.

These open space typologies were derived from a site analysis of what open spaces exist in Pinar. While the mosque garden and park are planned spaces, the others are the result of squatterization as an emergent process. The street patterns are organic, reflecting the early user-defined building patterns. The spaces near the street are often the result of innovative adaptations implemented after the buildings were constructed (Ergun 2008) (See Figure 6).

The activity categories were based on observations of what people do in the open spaces in Istanbul. Activities were observed in various open spaces throughout Istanbul (planned and unplanned settlements) and then subsequently categorized to form nine (9) activity groups (see endnote 2).

Random people were observed at sample times at various open space typologies in Pinar on three days in April 2007. Each day included 2 X 10 minute observations of each urban space typology. Thus, in total each typology was observed for six (6) ten-minute sessions, for a total of 60 minutes of observation. The activities were noted (see endnote 2).

Results and discussion
The statistical findings for the study can be found in Figure 7. For other key findings, see endnote 3.

The results show that the streets and the spaces near the street are the most used open spaces, despite the presence of a mosque garden, park and other vegetated areas. The social life of the neighborhood is found on the streets and the innovative spaces created near the edge of the streets. These street spaces host informal economic activities, housework, play, travel, and many conversations. They also included a mix of ages and sexes. Neighbors, relatives, friends, and businesses all meet in these spaces.

In contrast, the mosque garden had no women users. Women were present in all the other open space typologies. Based on these observations it appears that open spaces are inclusionary for women of all ages, except for the total exclusion of women in the mosque garden.

<table>
<thead>
<tr>
<th>Incident</th>
<th>Exercise</th>
<th>Business</th>
<th>Business</th>
<th>Reading</th>
<th>Music</th>
<th>Quiet</th>
<th>Socialising</th>
<th>Standing</th>
<th>Drinking</th>
<th>Travelling</th>
<th>Housework</th>
<th>Religious</th>
<th>Group</th>
<th>Total of men</th>
<th>Same Age</th>
<th>Mixed Age</th>
<th>Same Sex</th>
<th>Mixed Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mosque Garden</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>1</td>
<td>4</td>
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</tbody>
</table>

Fig. 5: Other vegetation
Fig. 6: Space near street
Fig. 7: Summary Table
Bonding social capital appears particularly strong in Pinar. This is based on the observations indicating strong group-based activities. Most open-space interactions seem to occur with other Pinar residents or similar social groups (which indicates bonding, not bridging or linking social capital (Pretty 2003) (See endnote 1).

Future studies could analyze additional squatter settlements and planned settlements. Longer and more numerous observation times could be conducted. Future studies could also seek answers to other questions and lessons for squatter settlements, such as:

- Are open spaces other than the mosque garden in informal housing areas exclusionary?
- Are residents of informal housing areas excluded from other public spaces?
- Are the public spaces built incrementally, as the houses usually are?

Conclusion
An analysis of use and type found that the streets and areas near the street were the most social and used spaces, despite the location of a planned park and mosque garden in the settlement. These are the spaces that residents use and where extensive social interactions occur. They also appear to be the spaces of social inclusion and integration, accommodating residents of all ages, sexes and, seemingly, statuses within the settlement. Planners, designers and residents developing designs for informal settlements should be willing to restructure their design and planning paradigms to include the observations in this study for what constitutes useful and valued public open space in an informal settlement in Istanbul. Landscapes as a generative process and manifestation, such as that found in Istanbul’s squatter settlements, provide useful insights for designers, planners and residents for the future role of landscape and open space in the urban context. The landscapes of these squatter settlements are the outcome of squatterization as a process, yet they are also the reflection of cultural values and norms pertaining to public open space. The squatter settlement residents value interactions with people and adaptability in their built environment. The results are that the spaces on and near the street are used and transformed to fit with users’ needs and desires. Thus, open space forms and uses in the emerging informal urban context clearly show that what is valued is not always planned and what is planned is not always valued.

Endnotes
[1] Definition of key terms

Squatterization
Issues of squatter housing are complex and need to be looked at in a holistic manner, including all definitions (Saglamer 1994). Thus, three main aspects of squatterization/informal housing are proposed as definitions:

A transition process reflected in form: “A transition process from rural to urban life, a transitional life style and its reflection to space.” (Turgut 2001).

A phenomenon defined in terms of distribution of wealth, social structure, and social security (Arslan 1989).

Defined in terms of ownership, legislation and construction processes. This phenomenon is defined as “the casual buildings which have been built on lands or plots without having any ownership and the right to built on it in terms of building legislation and laws.” (Turgut 2001).

It is impossible to truly understand and/or study informal housing if a myopic perspective is taken that solely focuses on one definition. Thus, for this study it is proposed that squatterization/informal housing be understood as a phenomenon including all of the aforementioned definitions.

Social capital
This study seeks to find some understanding about the study area’s social capital. However, social capital is a term loaded with nuance and varied meanings. To be clear, this study uses the following definitions of social capital:

“The aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu 1983).

Bonding social capital
“Bonding social capital describes the links between people with similar objectives and is manifested in local groups, such as guilds, mutual-aid societies, sports clubs, and others’ groups.” (Pretty 2003).

Bridging capital
“Bridging describes the capacity of such groups to make links with others that may have different views.” (Pretty 2003)

Linking social capital
“Linking describes the ability of groups to engage with external agencies, either to influence their policies or to draw on useful resources.” (Pretty 2003)

Public Spaces
“Those areas of a neighborhood to which persons have legal access and can visually observe—its streets and sidewalks, its parks, its places of public accommodation, its public buildings, and the public sectors of its private buildings.” (Lofland 1973) For this study, indoor spaces are not included.

Urban Space
“If we wish to clarify the concept of urban space without imposing aesthetic criteria we are compelled to designate all types of space between buildings in towns and other localities as urban space.” (Krier 1973)

[2] Methods and Variables

Behavior and inter-personal interactions were operationalized as dependent variables. Activity and interaction typologies:
Type of activity:
• Exercise/play
• Business – formal. For example, shopping/selling/commerce – (conducted via a commercial retail building)
• Business – informal (e.g. street vending, shoe-shining, producing goods at home for informal selling)
• Reading/educational
• Praying/religious
• Eating/drinking
• Travelling/Commuting
• Housework/yard work/etc.
• Conversing

Type of inter-personal interaction
• Solitary or group
• Number of people
• One age cohort or mixed
• Same sex or mixed

Activities and interpersonal interactions were noted for each time period. Incidents were tallied. Photos were also taken to record some events. Data was collected for each ten-minute session at each defined urban open space. Activities and interactions were then recorded for each incident observed (See Figure 8).

[3] Major findings from the study include:
• 608 total people were observed.
• 74% of the total observations were of groups.
• Of the group observations, 55% were mixed-ages and 46% were mixed-sex.
• 100% of the “mosque garden” users were men.
• The “other vegetated area” and the “mosque garden” each accounted for 7% of the total observations.
• The “main street” and “all other streets” accounted for 52% of all observations.
• Conversing was observed in 68% of all the observations
• People do things in groups.
• Conversations are frequent in all urban space typologies.
• Mixed-sex interactions account for 69% of the interactions on the side streets and spaces near the streets.
• The street is a key urban space typology for all areas.
• Streets and spaces near the street were where 70% of all incidents observed.

[4] Problems & weaknesses of the study:
Observation analysis is limited with possible researcher bias. Multiple researchers conducting the observations might help combat this. Additionally, other research methods, such as surveys, could be used. Also, the defined open space typologies could be missing something. Finally, people may have altered their behavior because of the presence of the researcher, although the researcher finds this unlikely.

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Figure 8: Sample activity recording sheet


http://www.forumsocialmundial.org.br/dinamic.php?pagina=temas_karachi_ing
Landscaped, Modern, or Social? The Discussion about Ideas and Styles in Garden Architecture in the Österreichische Gartenzeitung between 1912 and 1920

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Abstract

This paper follows the discussion about garden design in the 1910s in the journal Österreichische Gartenzeitung, published by the Österreichische Gartenbau-Gesellschaft. It explores whether the discourse influenced the development of the profession and the understanding of design. The paper is based on an intensive literature research investigating nine volumes of the journal from 1912 to 1920. It analyzes the articles about garden architecture regarding the topics, the understandings and approaches, and the presented projects. The research shows that most articles in the journal supported modern garden architecture as the more contemporary style whereas it was still popular to design private gardens in a naturalistic way. The Österreichische Gartenbau-Gesellschaft aimed at promoting modern garden architecture by organizing competitions and exhibitions. Authors regarded the pure horticultural know-how of traditional garden architects as insufficient and claimed that modern garden architects should necessarily possess architectural and horticultural skills.

Key words

Profession history, landscape garden, modern garden, Austria, 1912-1920

Introduction

At the beginning of the 20th century, a number of garden architects still used the rigid patterns of landscape garden design. Others, picking up new trends in art, design, and industry, developed the modern architectural or formal garden (Auböck 1995, Hajós 1995). The lively style discussion was still ongoing in the 1910s but interrupted by the First World War and the economic crisis. The paper follows the debate about garden design in the journal Österreichische Gartenzeitung between 1912 and 1920. The research period starts with the foundation of the first professional organization, the VÖGA, Vereinigung Österreichischer Gartenarchitekten, in 1912, covers the First World War and the postwar period, and ends before the economic revival in the 1920s.

The basic argument of the paper is that the discourse in the journal influenced the development of the profession and the understanding of garden design. Based on an intensive literature research, the paper analyzes the articles regarding the topics, the design approaches, and the presented projects in order to prove this hypothesis. The paper also takes a look at the Österreichische Gartenbau-Gesellschaft, which published the Gartenzeitung. The society might have played an important role for Austrian garden architecture, similar to that of the Deutsche Gesellschaft für Gartenkunst und Landschaftspflege for Germany (see Gröning & Wolschke-Bulmahn 1987). The paper presents first results of a comprehensive research project about landscape architecture in Austria between 1912 and 1950, which started in June 2008 [1].

The Österreichische Gartenbau-Gesellschaft and the Gartenzeitung

In 1837, the Österreichische Gartenbau-Gesellschaft (Austrian Horticultural Society) was founded with the objective of promoting horticulture scientifically and practically. To fulfill this aim, the society organized exhibitions, lectures and courses and published a journal, the Gartenzeitung (Österreichische Gartenbau-Gesellschaft 2002: 6). The society also ran a horticultural school where, in the 1910s, Franz Lebisch, an architect and representative of modern garden design, gave lectures on landscape gardening. Within the Österreichische Gartenbau-Gesellschaft, a committee was established to promote good garden art. Garden architects were members of the society’s administrative board and, looking at the 1910s, proponents of the traditional and the modern garden style were presented.

The Gartenzeitung was the only professional journal about horticulture, gardening, and garden architecture in Austria and addressed scientists, horticulturists, gardeners, and garden architects. Except for the First World War and the post-war period, the journal was issued monthly. Topics related to garden architecture appeared in articles, discussions, reviews, and announcements. Moreover, the journal served as newsletter for several associations, among them the Vereinigung Österreichischer Gartenarchitekten and the Verein ehemaliger Eisgruber, an association of former students of the most important horticultural school in Austria-Hungary around 1900. Presenting the journal as newsletter for a professional association of garden architects, the Österreichische Gartenbau-Gesellschaft made a significant contribution towards establishing the profession.
Before the First World War

Starting 1912, the first extensive article about garden architecture in the Gartenzeitung presented the results of a national competition for the design of a public park launched by the city council of Linz, capital of Upper Austria, in 1911. The anonymous author stressed the importance of the competition as it was the first of that kind in Austria. From the 23 entries, Karl Pfeifer and his project “Aus der Waldmark” (From the Forest Mark) won the first prize. Pfeifer designed the park in a very conservative landscape garden style [Fig. 1]. Curved paths passed through a naturally modelled site, a monumental fountain marked the end of a terrace, a pergola framed the vista of the town, and plantings of shrubs and trees were used to balance the scenery and to emphasize nature (see Anonymus 1912: 139-141). As the author of the article gave no additional information about other entries or the jury, we cannot valuate the entire competition and its significance. But the result seemed to be fairly traditional and poor, even though the city council of Linz was progressive in initiating a design competition in order to solve a landscape architectural question. After all, this competition might have influenced the establishment of the profession, as we will explain later on.

Several articles about small architectural elements in gardens followed, all supporting the modern garden design and criticizing the landscape style. Titus Wotzy stated that modern garden architects referred to the principles of baroque gardens and adapted those standards to modern circumstances and needs. Showing charts of private garden houses, he admitted that the decorative factor of modern garden architecture was still predominant but would soon decrease in favor of true qualities (Wotzy 1912a: 207-208). Wotzy postulated that contemporary garden architects should design gardens according to formal principles in order to meet modern demands and, thus, should necessarily possess artistic, architectural, and horticultural skills (Wotzy 1912b: 298). Following Wotzy’s opinion, Max Jordan considered a perfectly designed garden as Gesamtkunstwerk, in which the modern garden architect was responsible for spacing and modeling the site, for creating garden elements, and for planting. Taking garden benches as examples, he argued that the form of a modern garden bench depended on its function. But properly designed and well-positioned, a bench was decorative and accented special parts of the garden (Jordan 1913: 13).

In 1913, the influence of modern art appeared as a new direction of the Österreichische Gartenbau-Gesellschaft and a new, modern layout of the journal. Numerous professional articles about modern garden architecture followed, many of them discussing the Annual Spring Flower Exhibition, after three years of break, reanimated and organized by the Österreichische Gartenbau-Gesellschaft. According to the modern philosophy, the society formulated new standards for the exhibition, particularly for the artistic arrangement of the plants, and commissioned Titus Wotzy to develop a master plan for the show. The exhibition was a great financial and “moral” success, and the press was enthusiastic. Thus encouraged, the Österreichische Gartenbau-Gesellschaft appointed Wotzy chief garden architect of the society and asked him again to arrange exhibitions like the Rose and Perennial Show in 1914 [Fig. 2]. This nomination was a clear statement in favor of modern garden art.

Based on the latest experiences in Austria and abroad, the Vereinigung Österreichischer Gartenarchitekten published directives for garden architectural competitions in the issue of February 1913. In the preamble, Wotzy did

Fig. 1: Karl Pfeifer’s project „Aus der Waldmark“ (Anonymus 1912: 140)
not name the competition in Linz of the year before but probably referred to it as it was the first and only contest in Austria. Wotzy pointed out that the success of a competition depended on the quality of the jury (Wotzy 1913: 58). In order to achieve the best and most appropriate results, future juries were to consist of garden architects propagating the old landscape style and those sympathizing with the modern one as well as of other artists not considering style and tradition but looking at the artistic and objective quality of the projects. Wotzy stated that competitions in general raised interest in garden architecture and proved that gardens and parks could be designed unlike it was common then.

Following Wotzy’s request of promoting good garden art, the Österreichische Gartenbau-Gesellschaft launched two competitions for garden architects in the issue of February 1914. The first competition demanded new archetypes of garden design, a mansion garden and a villa garden, and for contemporary garden elements such as garden houses, pergolas, fountains, fences, and benches. Although the jury was well-balanced concerning the style attitude, Theodor Jahn and Karl Pfeifer, both following rather a traditional approach, won in the categories ‘mansion garden’ and ‘villa garden’. In the category ‘garden elements’, only Titus Wotzy’s entries were awarded. Looking at the design topics of the competition, the Österreichische Gartenbau-Gesellschaft still adhered to the traditions although it was progressive in propagating modern garden architecture. In the early 1910s, the modern style philosophy seemed to have no effects on the development of tasks. After all, designing private gardens remained the primary job of garden architects before the First World War.

The second competition, launched in 1914 by the Österreichische Gartenbau-Gesellschaft, was the result of a lively discussion about a ‘Künstlergarten’, a site for temporary exhibitions of sculptors. Among the 17 members of the jury were the modernists Viktor Goebel and Titus Wotzy and the traditionalists Anton Umlauf and Louis Wolff. The Gartenzeitung published only the project of the architects Franz Koppelhuber and Ferdinand Langer, an axial, almost baroque design of an artist’s garden. The outbreak of the First World War might have stopped the plan to present the other three awarded projects and the result of the competition’s second stage.

First World War and Post-war Period

After the outbreak of the First World War, the volume of the Gartenzeitung was extremely reduced since most of the editorial members had to join the army. Wotzy and other garden architects disappeared from the journal, the style debate stopped. Designing cemeteries and memorials were two of the very few tasks described in the ensuing years. At that time, the social question of garden architecture first appeared in the Gartenzeitung. Leberecht Migge postulated that it was possible to create regional youth parks to commemorate soldiers and to propagate the idea of the Soziale Garten (Migge 1916: 155f.).

In addition, the allotment garden movement gained in importance as it eased the food crisis and supplied the urban population with fruits and vegetables. Various experts looked at the topic from different aspects, like feeding, education, health, social relevance, and urbanism. Only garden architects did not participate in the discussion. Finally, at the end of the war, officials recognized the importance of a professional layout for allotment gardens. In 1920, thus, the Österreichische Gartenbau-Gesellschaft and the city council of Vienna arranged a competition to design a master plan for allotment gardens at the Schaafberg in Vienna. 14 teams participated, among them Albert Esch and Alois Berger.
The architects Erich Leischner and Adolf Stöckl won the competition. Camillo Schneider, in 1920 editorial member of the Gartenzeitung and of naturalistic understanding, stated that most of the architects did a good job but, except for Esch, the quality of the garden architects' work was poor (Schneider 1920: 55f.).

Conclusion
We start the conclusion with a general statement concerning the professional history. All current landscape architectural tasks deal with sites that were transformed over and over again by different prevailing trends in planning and design. Not only the sites, but also the design philosophies and approaches as well as the tools were constantly developed. Appreciating and discussing the profession history is absolutely essential in order to understand the status quo and to cope with further challenges – a fact that practitioners have often not realized so far.

Looking back at the 1910s, a major step towards establishing the landscape discipline was the foundation of the first professional association and the publication of directives in the Gartenzeitung. A new understanding of design disciplines had influenced this foundation, thus, it was common to set up professional organizations, like the ZV Zentralvereinigung der Architekten Österreichs. But it was the controversial professional debate that shaped the structure and form of the profession’s development.

Analyzing the style debate in the 1910s, we discovered two revealing aspects. Whereas the private practice abode by the traditional style, the Österreichische Gartenbau-Gesellschaft and the editors of the Gartenzeitung were extremely progressive and supported modern garden architecture as the more contemporary style. The society as well as the Vereinigung Österreichischer Gartenarchitekten discovered that competitions were an appropriate medium to stimulate the exchange of ideas and to create innovative types. Competitions as well as exhibitions managed to increase the visibility of the profession and to present the discipline to potential clients. We should learn from these attitudes as corporations, councils, or businesses nowadays use these tools far too seldom.

The style debate had a great impact on the discussion about the qualification and training of garden architects. In contrast to the traditional landscape style, proponents of modern garden architecture regarded garden design as a multifaceted structure of spatial, technical, horticultural, and aesthetic matters. Hence, they claimed architectural and horticultural skills. In the 1930s, the architectural reference of garden design was disregarded but only reappeared in postmodern garden and landscape architecture. Understanding the manifold aspects of open space is essential to meet further design tasks.

Endnotes
[1] In addition to the author, Lilli Licka, Iris Meder and Barbara Bacher are working on the research project about landscape architecture in Austria between 1912 and 1945. The project is financed by the FWF Austrian Science Fund.

References
Herbert Bayer’s Megastructures, a Japanese Approach

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Abstract

Herbert Bayer (1900-1985), former student and teacher at the Bauhaus, develops in the late 1960s up to the early 1970s a number of large-scale urban designs hitherto unrealized consisting of prefabricated concrete units stuck together. These “constructions” as Bayer calls them, relate in content, material and form to architecture as such. In particular regarding the structure, size and philosophical aspect of nature/environment parallels can be drawn to the Japanese Metabolism movement. Bayer, who attends in 1960 the World Design Conference in Tokyo, the birthplace of the Metabolists, is certainly highly aware of the trendsetting debate in Japanese architecture. In the 1950s he had focused on the discourse on traditional architecture following his layout design job for the book on the Katsura Detached Palace in Kyoto, the most prominent example of traditional architecture in Japan. His examinations and references to Japanese concepts of space are discussed in this paper.

Key words

Metabolism, Japan, Bauhaus, Katsura, urban sculpture, prefabrication, capsules

Introduction

In the late 1960s up to the early 1970s the Austrian émigré Herbert Bayer (1900-1985) designs a plentitude of high-scale sculpture maquettes. Whereas in 1968 at the exhibition “Earth Works” the Dwan Gallery presents a photograph of Bayer’s Grass Mound at the Aspen Institute in Colorado (1955) as the precursor of Land Art – where earth is medium and message alike – studies and rare realizations of this time such as the almost 54’ high Articulated Wall (1968) refer to architecture as such and its function in relation to the environment, where parallels to the Japanese Metabolism movement can be drawn.

Bayer’s Architectural References

The submission requirements for the Articulated Wall 2 [Fig.1], Bayer’s contribution to the Route of Friendship project at the Olympics in Mexico, bear various links to Bayer’s further approach on high-scale maquettes. The designs had to be submitted in the form of a model, which was then implemented by a local building constructor. The material of choice was concrete, which is emblematic for modernity. Its plastic value is known ever since Le Corbusier’s statement “Architecture is a plastic thing” (Le Corbusier 1923/1985:4). Accordingly also Bayer claims “concrete is formed in architecture” (Cohen 1984:346). He extends the guidelines by using a highly modern, cost-easing production method. Thirty-three prefabricated geometrical concrete elements over a structural core are erected on site. “The idea of uniformity” as he states, “calls for prefabrication of the elements” (ibid.). How much the Articulated Wall relates to building art is also underlined by the content and title. Wall elements are extracted from their prior architectural context. An approach, that can be traced back to his Roswell Walk-Through Garden Project of 1962, an unrealized courtyard of the museum in New Mexico. The wall – as its architectural equivalent the gate are architectural elements Bayer explores in paintings and in three-dimensional studies after his five-week stay in Japan in 1960.
In this context Bayer’s wall elements of the Roswell Garden have to be discussed. Panels reveal and obstruct the spectator’s view. Boundaries and openness give rise to constantly changing space-perceptions, an artifice used also in Japanese architecture. As if painted fusuma slide-screens were detached from their architectural context the Roswell’s wall pieces form a fusion between disciplines. Bayer, who just like Gropius, points out during his stay that “Japan has had the Bauhaus in its long history of art” (Bayer 1960), combines Japanese impressions with Bauhaus convictions. In comparison to the words of the architect Hiroshi Hara on traditional Japanese architecture, where a “graphic structural expression to the functional elements” is given (Hara 1966:90), the wall elements relate literally to a graphical concept. They become the graphic itself. This graphic structural expression transforms in the Articulated Wall into a plastic expression, which is structural. The sculpture is structure, expanding in the following years to voluminous megastuctural (con)structions, comparable to designs of the Metabolists.

Units, Capsules and Metabolism

In search of a new direction after the war the new Japanese architectural group rejects visual references to the past (cf. Wendelken 2000:289). Aspiring toward a dynamically constructed society and individuality (cf. Hara 1966:91), away from homogenous spaces, which are “connected with the fostering of homogenous humanity” as Hara states (ibid.:94), they shift their attention to the Metabolism – shinchintaisha – which proclaims the organism, acting on the environment and bringing out its own growth (cf. Kawazoe 1998/1991:148). Propagation in terms of construction, reproduction but also destruction is understood as part of a life process.

The book on the Katsura Residence is therefore to be regarded as the climax of the debate on traditional architecture but also as its end. It is published in the same year as the World Design Conference (WoDeCo) in Tokyo is being held, where the Metabolists present their manifesto. According to Tange, modern science and pure physics as mathematics might present proposals for a “dynamic balance between technological systems and human existence” (WoDeCo 1960:180). Nature is regarded as the origin of reference for the aspired symbiosis between technology and mankind and integrated into the technological construction’s design process 7. Cells in the form of capsules or repetitive units within a large frame became afterwards somewhat a signature of Metabolism (cf. Wendelken 2000:293). The architect and theoretician Buckminster Fuller might be seen as a main source for this inspiration (cf. ibid.:294) 8. Fuller declares structure not a fixed entity, but a regenerative, spatial, and partial model of the universe, which can only be understandable as the sum of finite-limited units (cf. Kepes 1965/1967:68), similar to Bayer’s voluminous maquettes. Studies such as Maya (1971) [Fig.2], Cubic Tower (1970) [Fig.3] or Pueblo (1971) 9, are comparable to designs like e.g. Arata Isozakis Clusters in the Air (1960-62) [Fig.4], where a quantity of prefabricated geometric volumes are stuck together 10.

The projects share not only obvious formal alikeness, but also terms such as mass production and interchangeable capsule units 11. Consequently, they illustrate the notion of space, its mobile and temporary component, its constant transformation so to speak. They also underline Bayer’s shift from a structuralization of nature to a structuralization of space. Congruently in Japan space becomes the center of interest in the late 1950s in urban studies 12.

Bayer’s Structur(re)alization of Nature and Space

As early as in the 1940s Bayer’s fascination with the mountains’ inner structures (cf. Chanzit 1987/2005:41) becomes apparent in his Convolution paintings. To put it simply, nature is structure, but is also concurrently struc-
tured by the artist. But it is not until the mid-1950s that Bayer refers to linear-structure paintings as “architectural”, which treat space as “rationalization of volumes” (cf. Cohen 1984:78) 13. Bayer’s later projects such as the Roswell emanate out of these considerations. The spectator is integrated into a flux of constructed spaces and his walk-in-through becomes part of the perception-process. Bayer’s future maquettes change into a pictorialized space-structure, where space is symbolically visualized and structuralized, and access denied. Repetitive geometric unit-constellations enable various symbolic cosmic or religious connotations like in the so-called Maya or Shinto (1971) studies. The compact clusters act as gigantic architectural art-constructions of the environment and vice versa on the environment.

Urban Megastructures – Poetry in Motion

One main criterion in this respect is the matter of size. Although the intended size of numerous maquettes is left unclear 14, the studies must be understood in Bayer’s sociological aim to “carry art and design from the privacy of the museum to the public realm” (Bayer n.d.:3) 15. An emphasis therefore is the beautification of the highway as photo collages such as of the ARCO refinery project in Philadelphia (1972) 16 [Fig.5] give evidence of.

Tiered or undulating wall elements contrast with (industrial) architecture, attracting the spectator’s view and distracting from high-scale industry. In order to keep up with these architecture-constructions Bayer’s sculpture-constructions equally ‘need’ to expand. The positioning of the ARCO walls however also highlights a second aspect of the sculptures’ scale, the meaning of cognition. First considered in the Articulated Wall, which is also sited along a highway, Bayer resumes the construction’s appearance, congruently changing by approaching and finally by passing it (cf. ibid.:2). Consequently, the low-scale of sculptures had to rise to “monumental size” (cf. ibid.). This development reflects to a large extent the Japanese development from a culture “closely attached to the earth” (Hara 1966:90) to high-rise megastructural urban approaches 17. Raised by Tange in his speech at the WoDeCo the question of mobility, seen as a conquest of space and as a “combination of scale and speed”, has been equated with the problem of the distance between the “naked human being and the results of ever developing technology” (cf. WoDeCo 1960:180) - so to speak a sociological urban issue. In the case of Bayer’s constructions the growth in size not only enables to ‘consume’ art while driving past but is also creating Bayer’s aspired social infrastructure, a museum in motion.

Conclusion

Bayer is certainly highly aware of the Japanese debates on architecture, first mainly through Gropius, but also through the Aspen Design Conferences and his trips to Japan. The World Design Conference, he participated in, not only gives him an insight into the changing Japanese society and environment, the philosophical metabolist urban studies, which were nearly unrestricted in scale and size, seem to have provided Bayer impulses for a broad, wide-scale urban integration of art in everyday life, in terms of an architect 18.

Fig.4 Arata Isozaki Clusters in the Air 1960-1962 © Osamu Murai

Fig.5 Herbert Bayer model for ARCO refinery, Philadelphia c.1972 © Emil Nelson Gallery
Endnotes

1 The following considerations on Bayer’s sculpture maquettes are based on my research of Bayer’s journeys to Japan from May 5th to June 6th 1960 and from January 31st to February 15th 1971. A general insight is provided in my catalogue text “Herbert Bayer im Kontext des japanischen Architekturdiskurses”, In: Ahoi Herbert. Bayer and Modernism, Lents Art Museum, Linz (in preparation).

2 Fig. 1 shows the Undulated Wall (1967), a preliminary study of the Articulated Wall. For a photograph of the latter, cf. Cohen 1984:175. The obvious interaction between the art director of the Olympic Games Mathias Goeritz and Bayer cannot be discussed here.

3 From 1962 onward Bayer develops designs, which he calls walk-in space paintings. See also, Chanzit 1987/2005:178. For a photograph of the Roswell Walk-Trough garden see Chanzit 1988:172.

4 The unity of walls and gates are formulated by Bayer through an architectural understanding: “Walls make gates necessary (...).” Bayer’s statement on the Gate, published in: Cohen 1984:347.

5 For further reading see Speidel 2003/2004.

6 Gropius, who contributes an essay to the Katsura publication, can be regarded as a main source for Bayer’s occupation with Japanese architecture as evidenced by several exchanges of letters, see 1.

7 Referring to Kisho Kurokawa the Japanese had regarded technology as an extension of humanity much earlier than the Western world, where technology was viewed as opposed to humanity (cf. Kurokawa 1994:182).


9 For a photograph of this project see Cohen 1984:174

10 Further formal resemblances arise between e.g. Kisho Kurokawa’s Helix City (1961) and Bayer’s tower modifications, such as Spiral Tower (1969), Yellow Stacked Squares (1967), etc.

11 Isozaki mentions the mass-produced, interchangeable capsule units for living, which were adopted by the Archigram group as “plug-in” or “plug-on” system, cf. Isozaki 2006: 63.

12 Japanese urban space has been questioned in comparison to Western models. Cf. Isozaki 2006: 62.

13 According to Cohen those paintings are about architectural space, not about architecture as such, “except in the widest sense of pictorializing the agglomeration of linear sold shapes that are the building blocks of architecture.” Cohen 1984:78.

14 In an ongoing maquettes-realization project between Jonathan Bayer, the Emil Nelson Gallery, California and the Peyton Wright Gallery, New Mexico, collages or attached figures provide references concerning scale and size.

15 This statement is part of an unpublished “future lecture on environment”. There is no date for this lecture, but Bayer mentions the Articulated Wall, which leads to the assumption that it has to be after 1968. Cf. Bayer n.d.


17 Highways have also been one emphasis in these studies. Cf. Stewart 1987:185.

18 Bayer in a letter to Pia Gropius: “the ulterior aim always toward use with architecture and in space. this goes especially for the sculpture-constructions.” Bayer to Pia Gropius, Sept.6, 1971, Bauhaus-Archiv Berlin, Mappe 36:180.

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A Fertile Wilderness: The CPR’s Ready-Made Farms, 1909-1919

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Abstract

This paper examines the Canadian Pacific Railway’s ready-made farm program, a key component in the creation of a new landscape image for the Canadian Prairie West. From 1909 to 1919, the program built and sold full, turn-key farms to novice British settlers. These farms set into place standardized structures and land allocations, comprising barns, houses, sheds, fences, and even ploughed fields. Depicted as emblematic of the Prairie landscape, completed farms became part of CPR promotional imagery and literature for audiences of potential immigrants. This paper traces the active construction and promotion of a series of utopian rural communities, rooted in nineteenth-century landscape and agrarian ideals.

Keywords

Colonial settlements, transportation landscapes, historical landscapes, landscape meanings, landscape utopias

Introduction

Over the course of the nineteenth century, the received view of the Canadian Prairies – the grasslands of present-day Alberta, Saskatchewan, and Manitoba – underwent a dramatic shift. At the beginning of the century, the Prairies were viewed as a deserted, terrifying wasteland. By the end of the century, a romantic view of the Canadian West was popularized that saw the same landscapes as an untouched, ‘fertile wilderness’ for both agricultural production and social renewal. This paper explores one manifestation of this dramatic shift in the perception and development of a landscape - the ready-made farm colonies created by the nation’s first transcontinental railway.

As described by explorers, surveyors, and fur-traders from the seventeenth to nineteenth centuries, Western Canada was a hostile wilderness – to the North, a fur-trading hinterland, to the South, a barren and windswept waste. This tone shifted when Canada annexed the Hudson’s Bay territories in 1869. As both the federal government and railway sought to make the region a centre of growth in the 1880s, official geographical and scientific reports were adjusted to meet expectations for its agricultural potential [1]. Landscapes beyond the treeline, once viewed as a “sterile, dreary waste” would before the end of the century be described in leading scientific accounts as presenting a rich soil, which with “a mere scratching [would] supply a household with food” (Keating 1823: 238; Macoun 1882: 263-4).

The construction of a transcontinental railway became a key imperative and symbol for the settlement of the newly promising Prairie landscapes. Although driven by profits rather than patriotism, the Canadian Pacific Railway Company, contracted to the task, became a touchstone of nation-building – a notion encapsulated in the company’s 1919 motto: “Ask the Canadian Pacific about Canada.” This position was reinforced by the railway’s dissemination of images and information on the Northwest, a principal aim of which was securing bone fide settlers to generate rail traffic. Beyond sponsoring artists, commissioning photographers, and publishing a wide variety of marketing materials, the railway company actively developed landscapes across the Prairies to this end. The Development Department’s initiatives – which included building demonstration farms and constructing irrigation infrastructure - culminated in the ready-made farm colonies.

The colonies were comprised of anywhere from 5 to 122 pre-built farms, each equipped with a house, barn, implement shed, and fencing, as well as fifty acres of ready-ploughed and sowed land, to be paid off over ten to twenty years [2]. Although commercial colonization companies had earlier offered pre-built tenant farms, the CPR’s program surpassed its short-lived predecessors in ambition and scale. Rather than producing patchwork development on conventional agricultural land, it aimed to establish stable, high-density farming communities in the Alberta dry belt, initially aiming to establish thousands of hand-selected farmers on ready-made farms in irrigated lands (Mills 1991: 56).

Reserved for British Settlers

The first notable feature of the ready-made colonies was their intended audience: married British settlers, with a moderate amount of capital and, preferably, previous agricultural experience [3]. In 1909, the CPR launched its 24-farm Nightingale Colony with an aggressive advertising campaign in British newspapers. “In order to save the settler the inconvenience of having to build his house, fence, and prepare his land in his first year while he would rather be attending to his crops, the Canadian Pacific Railway has prepared a number of Ready-Made Farms,” proclaimed a 1910 ad in the Manchester Guardian, noting in bold type, “They are reserved for British Settlers” [Fig. 1]. This was consonant with a longstanding Eastern Canadian vision of the West as an extension of the Empire (cf. Owram 1980, Berger 1970) and com-
bated a perceived cultural threat posed by an influx of Slavic immigrants at the turn of the century. The targeting of British settlers was reflected in aesthetics of the ready-made farms, which strove to realize a British ideal of rural development.

The planned 80-acre farms were close to the average 63-acre British farm (Dewey 1989: 7-8), but half the size of standard farms in the Canadian Northwest. The American township pattern of 160 acre farms had been generally adopted throughout the Canadian Northwest for its familiarity and ease of marketing to ‘emigrant classes’ worldwide (Rueck 2004: 16); the proposal for significantly denser development carried different justifications. From the Company’s viewpoint, the ready-made farm colonies were initially conceived as exemplars for the most profitable settlement on irrigated lands. “I take the position that the whole irrigation project is designed to secure the highest possible amount of traffic. This involves the densest possible settlement,” reasoned C.W. Peterson, manager of the CPR-affiliated Canadian Pacific Irrigation Colonization Company. “I like the improved farm program and think it would be the means to that end. In this way we can settle families on eighty acre tracts and make sure that this land is not being bought merely for speculative purposes” (Hedges 1939: 223). In public, the railway company explained that 80 acres would suffice to sustain an irrigated farm, with its propensity for higher-yielding crops compared to non-irrigated lands.

Moreover, the denser development may have alleviated a fear of isolated homesteading on vast prairie lands which evoked the Burkean sublime [4], particularly for British settlers either from urban environments or accustomed to tighter rural development on parklands with varied topography. As a 1921 CPR brochure on irrigation farming explained,

On a practical level, building standardized houses and barns in close proximity to each other led to economies associated with mass construction—an important consideration for the efficiency-oriented railway [5]. These practicalities, along with the community rhetoric associated with grouped settlements, eventually took precedence over the imperative to settle irrigation lands per se. This was apparent when a shortage of contiguous irrigated lands in 1910 led to the decision to situate the Sedgewick colony on non-irrigated lands, rather than in smaller, isolated groupings [6].

Special Farms on Virgin Soil

The image of social, civilized ready-made farm colonies is also apparent in a 1912 promotional poster, depicting an idyllic farm scene [Fig 2]. A well-dressed farmer and his wife face each other in conversation by the house, in mid-ground a young male is mounted on a horse, and in the foreground, a young woman holds a pail, perhaps to fetch milk; chickens peck by her feet. The corner of a fenced-in garden can be seen in front, and the broad expanse of a wheat field behind the house, whose chimney is topped with a wisp of smoke, an essential element for a scene in the picturesque tradition. The group constitutes a working family unit, the ideal settlers sought by CPR recruitment campaigns. The text points to a broader network of social connections: the farm is close to the railway, and to schools, markets, and churches. At the same time, harking back to the land as a ‘fertile wilderness,’ the unexploited potential of the land itself is emphasized on the poster—these are not farms on established agricultural land, but are rather ‘special farms on virgin soil’—the units that through hard work and social cooperation were together comprising a new, ideal settlement. As such, the depiction reinforces the Dominion’s reputation as a new society, uniquely blending British respectability and American egalitarianism [7]. In contrast to self-made sod-houses or the plain, box-like pre-fabricated houses otherwise available at the time, the ready-made farmhouses offered a measure of detail that mitigated the vast, unchanging uniformity of the prairie landscapes. “They had found the greatest possibly difficulty in persuading men living in the environment of the beautiful ivy-covered cottage, surrounded by neighbours among whom they had grown up, to pull up the roots and to go out to a new country as pioneers,” explained a January 17, 1913 London Times article on the CPR’s work, idealizing the settlers’ origins as much
as their destination. The ready-made farms strove to replicate telling details from the prototypical ivy-covered cottage. Contrasting shingles and wood siding distinguished the ground and loft levels of houses and barns, while considered schemes employed complementary trim, wall, and shingle colors. An articulated roof profile on both the houses and barns gave additional detail and variety to the structures. Each house featured a central hearth and an enclosed verandah—a feature that suggested a sheltered, aesthetically pleasing place for both vines and visitors.

Photographs of the farms for a promotional album show newly inhabited houses, captured using picturesque conventions of foreground, middle ground, and background, and employing the elements at hand to maximize variety. Photos are either taken from a low angle that minimizes views of the flat Prairie expanse beyond, or with farm families, horses, and wire fences that add interest and depth to the photos. [Fig. 3]

In the Shelter of the Trees

Although absent from the actual ready-made farms, promotional illustrations of the farms inevitably include established trees; CPR nurseries distributed young trees and cuttings to settlers at no cost [8]. A crucial component of the ideal farm, trees created picturesque variation in the endless grassland, while serving as protective windbreaks and in theory, a future source of fuel and fencing. The CPR-issued Settler’s Guide to homesteading in the irrigation district proposes a farm layout demarcated by rectilinear treed enclosures. Trees are to be deployed in sheltering lines, as well as distributed in picturesque groupings. In the ideal farmstead, “clumps of various shrubbery have been scattered about the lawn, a neat little dairy house has been tucked in the shade and shelter of the trees and shrubs convenient to the well, and beautiful flower beds add to the effect” (CPR 1911: 14). The arrangement of vegetal clumps alongside folly-like outbuildings on a neat lawn recalls the landscapes popularized by English landscape designer and theorist Humphrey Repton. Only later in the manual is the practical importance of the trees as windbreaks discussed, along with recommendations for planting density and species choice. “It will be found a splendid plan to plant a double row of white or blue spruce in the wind break,” reads the guide, noting the sheltering advantages of their dense needles—all while being unable to resist another aesthetic note: “There is nothing prettier than a substantial wind break of such evergreens” (CPR 1911: 15). The presence of trees extended into the broader landscape. “Town and villages, with streets lined with trees and attractive homes with beautiful gardens, have also sprung up,” describes a 1929 brochure, “these tree-lined streets are a remarkable testimony to the magic effect of water applied to the fertile soil.” (CPR 1929: 3). Beyond their practical uses, a vision of treed homesteads and villages served to assert the fertility of the land and contributed to a picturesque visual effect familiar to potential British settlers.

Despite the paternalistic oversight of company officials, the ready-made farm program suffered from a high turnover rate that ultimately made it unprofitable, reflecting the economic and agricultural challenges of farming in the semi-arid Prairies [9]. In 1919, the program was discontinued.

Conclusion

The vast scale of the Prairies dominated early accounts of these landscapes as a hostile, lonely wilderness. Against the prevailing force of the terrifying sublime, a new aesthetic with picturesque features was key to developing and promoting this area as an agricultural heartland, as was exemplified in the CPR’s ready-made farm colonies. In contrast to the pastoral ideals evoked by ready-made farm imagery, these farm colonies can also be read as the product of large-scale industrial infrastructures. The railway network enmeshed the Prairies in a global economy of production and exchange, massive irrigation works enabled a semi-arid area to be farmed, standardized production facilitated the construction of the farms.

As global development accelerates today, rural utopian ideals continue to play a strong role in promoting built settlements. New types of ready-made environments abound, promising a relief from increasingly urbanized surroundings: whether it is the private sanctuary of an inner-city condominium, the self-sufficient agricultural commune on an urban periphery, or the isolated vacation villa on a desert island. One must remain aware of both the possibilities and dangers of this imagery. As Raymond Williams observed, “The most abstract and illusory ideas of a natural rural way of life tempt or at least charm
us,” and yet the agricultural countryside itself is shaped by capitalist modes of production (Williams 1973: 293). The CPR ready-made farm program reveals how rural utopian ideals were used to entice settlers to the unfamiliar landscapes of the Canadian Prairies; these strategies and their consequences bear consideration in our contemporary era, as mass development and image-making reshape landscapes globally.

Endnotes

[1] For the role of the Canadian Expansionist movement in promoting this changed view, see Owram 1980.
[2] The cost of work was added to the sale price of the farm; the British farmer paid one-tenth of the price down, then the balance in nine equal installments with six percent annual interest. In 1913, payment terms for the farm were extended from a 10 to a 20-year contract to relieve the financial burden of crop losses in 1911 and 1912; in 1923 the terms were extended to 34 years. (Naismith to J. Murray, March 15, 1913, Glenbow Archives M2269-18).
[3] As reported in the March 26, 1910 issue of the Manchester Guardian, each of the first ready-made farm families had ready capital ranging from £200 to £700 ($1000 to $3000); the group included an engineer, a former innkeeper, a retired civil servant, a builder, a coachman, a dairy farmer, and a veterinary surgeon.
[4] Burke observed that vast landscapes, associated with infinite vistas, potentially filled the mind with a pleasurable sensation of ‘sublime’ terror. However, as lived landscapes, settlers would have encountered the vast Prairies as actual sources of pain and danger, rather than as places of aesthetic pleasure.
[5] Cost and time savings generally result from centralized developments; this principal is affirmed in a CPR memorandum, which notes that “…this centralization of the colonies will permit of cheaper and more rapid completion of improvements.” (Memorandum by J.S. Dennis to CPR Advisory Committee, April 18, 1916 – Glenbow M2269-458)
[6] Provisions for this possibility were incorporated in presentations of the ready-made farm program. A speech by railway president Sir Thomas Shaughnessy in January, 1910, described ready-made farm holdings on 80 or 100 acres of irrigable land, or 160 acres of non-irrigated land. By 1911, advertisements announced farms of “80 to 320 acres”.
[7] Typical of this popular view was British émigré Catharine Parr Traill’s experience of eased social relations in Canada, relative to Britain: “hospitality without extravagance, kindness without insincerity of speech.” (Traill 1846: 202)
[8] Trees were not planted on the ready-made farms because of maintenance; contrary to claims for the natural fertility of the soil, trees demanded settlers to look after them. (P.L. Naismith to Hart, Jan. 27, 1913 – Glenbow M2269-9)
[9] As Peter Naismith, general manager of the Department of Natural Resources, explained “…we established a number of colonies, building the houses, preparing the land and having everything ready before the purchaser arrived. These farms we sold on a very small first payment, and ultimately found that the result of the purchaser not having sufficient equity in them, did not warrant him in sticking and overcoming the obstacles due to all new settlers in a new country, nearly so well as if he had a larger interest in the property. We found that instead of the farms being sold as we thought, they had to be sold in some cases a half a dozen times before we got a purchaser who would stick, and the result was that there was considerable depreciation, and in a good many cases some ‘writing off’ before final sale was made.” (Naismith to Mead, Feb. 8 1921 – Glenbow M2269-138)

References

The Method of Structuralist Landscape Planning Assessment

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Abstract

The structuralist landscape planning assessment (SLA) is a new approach in the methodology of planning. It aims at ensuring equal opportunities for everyone, i.e. for women, men, young and elderly persons, in urban landscapes. The urban landscape is a shifting and transforming concept of the socio-political, cultural and economic setting. The SLA method enables us to understand the urban landscape as a result of natural resources, economic decisions and social circumstances. Referring to the Deleuzian concept, we distinguish the real layer, i.e. the built (urban) landscape, the imaginary layer, i.e. the models and ideas, and the symbolic layer. The implementation of the method in the planning practice is exemplified by a case study. The structural analysis is carried out using the 4R method to identify the impact of planning models on socio-economic life settings. In implementation, the steps of the 4R analysis are applied in reverse order. The method supports the application of the three structuralist layers in the processes of planning. The SLA applies the 4R method in both analysis and implementation in order to enable equal access to urban landscape.

Key words

Landscape research methodology, gender equality, social sustainability, structuralist analysis of urban landscape.

Introduction

European policies make a strong commitment to provide equal opportunities for EU citizens and ensure the social sustainability of the urban landscapes they live in (e.g. Treaty of Amsterdam, Local Agenda 21). This paper discusses the method of structuralist planning assessment (SLA) as a planning approach to ensure equal access to urban landscapes. It accounts for gender equality in landscape planning and landscape architecture. This structuralist method is close to the primary concept of “landscape urbanism” where “new possibilities for future urbanism derive [...] from an understanding of process” (Corner 2005: 29).

The basic assumption of the paper refers to Feuerbach’s idea that the urban landscape fabric is not equally available and accessible for men and women (e.g. Fenster 2008, Witthöft 2005). The planning disciplines have the social assignment to equally allocate resources such as time, space and money. Post-modern and neo-liberal ideas influence urban development. They transform the former objectives of freedom, autonomy and self-consciousness to integral parts of hegemony (e.g. Foucault 1978, Boltanski/Chiapello 2003). Two Foucaultian terms, “gouvernementalité” and “dispositif”, describe this technique of overall power. But resistance, opposition and self-determination are resilient, and groups from different disciplines work hard to break up the circle of appropriation and assignment (e.g. Bourdieu 2005:13ff). The objective of this structuralist, gender-sensitive scientific method is to reorder the ‘planning/conception/value loop’ to achieve a democratic and enabling approach. Differences in age, life situations, cultural and social backgrounds are taken into consideration. The aim of landscape planning and architecture is to create and maintain useable and adjustable built (and open space) structures, urban landscape fabrics, route networks, streets, walkways, squares, social and technical infrastructure. The everyday usability and adjustability are prerequisites to provide equal access for men and women to the urban landscape (e.g. Fainstein/Servon, 1995).

Theory and praxis

The theoretical assumptions of the paper are based on the critical theory of landscape planning (e.g. Schneider 2002) and on the feminist “difference concept” put forward by the Milan Women’s Bookstore Collective (e.g. Libreria delle donne di Milano 1989, 1996). Critical theory reconsiders the existing approaches in society and opens up perspectives for change, bringing about the “emancipation of enslaving conditions” (Horkheimer 2005: 263). The philosophical concept of difference focuses on differences and appreciates them, for being enriching and a potential for change. The methodological basis is the approved empirical working method of landscape planning: perceiving – mapping – describing – comparing – comprehending – contextualising. The starting point for planning is an exemplary spatial structure, e.g. an urban or open space. By comparison with other examples, a typology can be found out. The underlying structures and principles are extracted. Reflexion through contextualising leads to a deeper understanding of the principles of urban landscape and the socio-economic setting.
The structuralist landscape planning assessment (SLA) combines this approach with the structuralist work of Deleuze (1992). Structuralism differs three layers: the real, the imaginary and the symbolic. The symbolic layer organises the imaginary and real layers: “The real without the symbolic is less than nothing” (Muraro 1993: 116). Translated to the field of landscape planning, the layers are distinguished in the description and interpretation of urban landscape phenomena. The SLA is an analysing/planning loop which focuses on the systematic examination of spatial structures for the subsequent redefinition of a symbolic order for the purpose of achieving gender equality and social sustainability. An exemplary spatial structure is analysed in a structural, hermeneutical matrix. Starting point for the analysis is the real layer, i.e. the spatial and demographic structure and the legal framework. The quality of the spatial structure is evaluated in supporting the daily lives of men and women. The imaginary layer is made up of planning models and good-practise examples. The next step is therefore the evaluation of the impact of planning models on the lives of men and women. It is crucial to visualise the implicit planning models to understand the impact of spatial structures on people’s everyday lives. This influence becomes visible by comparing explicit, published planning models with built structures and the strategies to support everyday life. The last step in the analyzing part of the loop is to understand the planning philosophies and values which are all part of the symbolic layer. This layer describes and interprets the way in which planners and players think. The aim is to visualise spatial structures and images in planning. This allows an assessment of the general understanding of the profession. The visualisation and specification of the value attitudes which underlie the structures determine the planning processes (Bourdieu 2005: 13).

**Implementation of the Structuralist Landscape Planning Assessment in the planning procedure**

The SLA method can be implemented by applying the 4R method to a planning process. The 4R method is useful to scrutinize analyses and evaluations of the different layers in planning procedures. The method is used in gender training and in research projects (e.g. Damyanovic/Müller 2006, Damyanovic 2007). In this paper, the application of the 4R method will be outlined using the example of the project of the “Villach regional development concept”, being part of the case study “Liveable living space of men and women” (e.g. Damyanovic/Reinwald/Schneider 2007). In the study, workshops were held to build gender planning competence of stakeholders in spatial development.

The 4R method is structured as follows: the 1stR refers to the representation of men and women in planning projects and processes, the 2ndR stands for the equal distribution of resources as space, time and money. The legal framework and the rights form the 3rdR. The 4thR stands for the realities in terms of social norms, values and existing planning models which make the inequality between men and women visible. The first three Rs refer to the real layer, while the 4thR relates to the imaginary and symbolic layers (e.g. Damyanovic 2007).

Analysis of the “Villach regional development concept”

The 1stR (representation): Who was involved in the planning procedure? Who was affected by the programme? The project team elaborated the concept in close cooperation with working groups. It consisted of representatives of the provincial planning authorities, the regional management and the regional organisation of Villach, supported by planning consultants. 95% of them were men, most of them in gainful employment. There was no focus on groups such as elderly people, youth, children and persons with special needs or in charge of family-related work. It turned out that the entire population was equally affected by the programme. The 2ndR (the resources of space, time and money): How was space distributed? How was the project funded? The question of the distribution of space, time and money was not adequately considered during the development of the project. The strategic objective of the programme was to provide equal access to space and infrastructure to all segments of the population. The project was financed with public means: the provincial government and the EU each provided 50% of the funds. The 3rdR (rules and legal framework): What constituted the legal framework? It was defined by European provisions and the Carinthian regional planning law. Neither of them focussed on questions regarding gender equality and its objectives. The legal framework did not contain any explicit reference to equal opportunities in the province of Carinthia. The 4thR (realities: social standards, planning models and values): Which were the underlying planning values? Did the

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**Fig. 1: Structuralist Landscape Planning Assessment (SLA)**
planning process create inequalities between men and women? The planning process could be described as a top-down process. A more participatory process would be desirable for future undertakings. The regional organisation was comprised of local decision-makers, representatives of the planning authorities and business and employees’ representatives. With most of the participants in the working groups being men, differing interests of women e.g. for having different daily routine by combining gainful employment with family-related work were not discussed.

Results and discussion
The structuralist landscape planning assessment (SLA) wants to identify and analyse the correlations of the built environment, the social environment and the economic environment, and reassess the interactions between these environments. The three layers of the structuralist approach are embedded in the 4R method which supports a systematic analysis of planning projects and procedures. Gender equality in the access to urban landscape is integrated in the 4R method; it becomes an effective tool for empowering planners in practice and research. The evaluation of the application of the 4R method, suggested a modification dividing the 4thR into two parts: firstly, the discussion of planning models (imaginary level), and secondly, the discussion of social norms and values (symbolic layer) as the 5thR. This distinction makes it possible to discuss the values in planning which structure the imaginary and the real layer. The implementation process reverses the order of the 5Rs. It starts with the symbolic layer (5thR) where, the planning procedure is defined with consideration of gender equality and social sustainability. Next, the planning models are worked out. They must support the daily lives of men and women (4th R or imaginary layer). Finally, the concrete planning suggestions for the real layer are made, using participatory planning methods (e.g. Fenster 2008).

Additionally, scientific landscape planning research must focus on the impact of planning models on urban planning. Planning models are imagination, ideology and utopia. They provide the frame for actual and future possibilities of a planned reality. They are mainly formulated in a simple and positive way and evoke understanding and accordance. This represents a strategy to hide their elitist and excluding keynote (e.g. Bourdieu 2005: 13ff). The models are professionally invented ideas which lead to “should-be realities” (e.g. Deleuze 1992). This evokes expectations which are impossible to reach in reality (e.g. Schneider 2002). Not reaching the ideal means to devaluate the real standard. The result is an explicit or implicit devaluation of life conditions. Planning models are normative instruments of hegemonic power (e.g. Carrigan/Connell/Lee 1985). The planning model of ‘functionalist town planning’, for instance, attaches a lower value to non-paid everyday work than to gainful employment. The urban open space is interpreted as serving purely recreational purposes which are strictly separated from the working sphere. This affects mainly people for whom open space is a work space. Those are in particular persons who stay in the neighbourhood doing family-related work, i.e. mostly women. Every day an enormous mental, physical and financial effort is required to conceal, overcome and retouch the discrepancies between real and model life (e.g. Roither/Jauschneg 2007). The resulting apathy is socially externalised as an individual problem.

![Fig. 2: SLA implements gender equality in planning procedures](image)
of men and women. SLA points out spatially determined processes which create social inequality as a strategy of hegemony which is produced and perpetuated in the urban landscape fabric. The aim of SLA is to deconstruct values, identities and models in planning which discriminate against men or women and reconstruct values which support the daily lives of both men and women.

A good way to close the gap between research and practice is to reference planning projects to good-practice examples (e.g. Böse 1986). Good-practice examples of spatial structures have proven to be successful in contributing to improved conditions of life. They account for the needs and requirements of men and women and are developed on the basis of real-life situations. The planning part of the SLA loop, with a differentiated view in the professional understanding of the planners, assures quality in urban planning procedures.

Conclusions

The method of the structuralist landscape planning assessment allows to find out WHY things are arranged the way they are in terms of social environment, space and time and how they interact (e.g. Harvey 2005). SLA visualises the different approaches used in the planning disciplines, e.g. whether a process is more top-down or bottom-up, whether non-gainful work is considerate or not. "Women and the sexual division of labour need to be at the centre of the reconstruction process [...] childcarre, domestic work, caring for the sick and elderly and relationship work should be the ‘core concept’, shared between men and women" (cf. Mies 1996). The principles of a sustainable urbanity rely on the fundamental appreciation of gender equality and social sustainability as prerequisites for the quality of life of men and women.

References


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Abstract

According to the innovation of the landscape in the strategies of the European Landscape Convention (2000) that promotes a radical shift in perspective, moving from well-entrenched practices towards landscape conservation, planning and management, it is important to define a new approach to landscape governance based on landscape evaluation in order to make landscape values and their meanings clear to the population, with a view to promoting sustainability. In the paper, we propose a landscape assessment methodology useful to play the role of a technical learning process inside the decision-making whose goal is to make explicit the values and the criteria adopted for making territorial choices in a social participation. Although this paper is the result of a collective reflection, parts 1, 2 are mainly the work of Grazia Brunetta, and parts 3, 4 are mainly the work of Angioletta Voghera.

Key words

Landscape evaluation, landscape policy, European Landscape Convention, landscape values, landscape governance vision.

Landscape evaluation and assessment

The landscape is a special focus of interest and innovation of spatial policies for the international community, in particular in the strategies of the European Landscape Convention (ELC; CoE, 2000; CoE, 2008, CM/Rec(2008)3) in order to:

1. Analyse the landscape in an integrated and systemic perspective useful to outline the interrelation among ecological, natural, social-cultural, visual, economical and urban-settlements values;
2. Define methods to identify and assess the landscape aimed at guiding and verifying the territorial choices of conservation, restoration, valorisation and planning (Bailly, Raffestin, Reymond, 1980; Cosgrove, 1984; Oneto, 1987 and 1997) aimed at reinforcing their shared identity (Coppola Pignattelli, 1992).

This process involves analysis of morphological, archaeological, historical, cultural and natural characteristics and their interrelations and also analysis of changes, including perception of the landscape by the populations (Cosgrove, 1984; Kaplan R., Kaplan S., Brown T., 1989). The fundamental stages in the process leading to landscape action are (CoE, 2008, CM/Rec(2008)3):

(i) knowledge of the landscapes: identification, description and assessment; (ii) definition of landscape quality objectives; attainment of these objectives by protection, management and planning over a period of time (exceptional actions and measures and ordinary actions and measures); (iii) monitoring of changes, evaluation of the effects of policies, possible redefinition of choices.

Referring to landscape evaluation experiences developed in Europe, it is possible to identify various approaches (Brunetta and Voghera, 2008) that comply more closely with the ELC Recommendation: identification employs descriptions in order to disseminate landscape identity in society; interpretation develops multidisciplinary readings of landscapes in order to define values and set restrictions; the social legitimation of the values of economic, aesthetic, cultural, and social identities defines criteria for guiding and planning sustainable transformations of the landscapes.

In this perspective, the aim of this paper is, according to the ELC Recommendation and the social legitimation approach, to propose a methodology to evaluate the landscape as a technical assessment process within decision making, aimed at recognizing values and selecting criteria for the planning of each landscape and for the definition of a new landscape governance. This objective requires investigation of the following principal methodological topics:

1. definition of the landscapes whereby the landscape is considered to be a meta-organization of relationships between different systems: geomorphologic, environmental-ecological, cultural-historical and socio-economic systems and also the systems of settlement and use of the territory. In other words, landscape is the concept that includes all the genetic, dynamic, and functional relationships between the components of every part of the land surface. An interpretation of this type is the first to introduce the concept of landscape as an expression of an ecological, economic and social organization that includes multi-faceted, differentiated values that can acquire stable and/or dynamic values;
2. The role of evaluation in defining different types of landscape values: a) consolidated; b) regulative; c) to be implemented;  

3. consideration of the assessment actions that can be summed up in the following features which should be understood as strictly interrelated (Alexander, 2006; Brunetta and Peano, 2003; Brunetta, 2006; Fusco Girard, 1998):  

- assessment should be considered a gradual learning process, as a way of steering assessment and transformation actions;  
- assessment is not only a technical procedure but also a simultaneous dialogue between institutions and between institutions and citizens in order to construct socially shared policies;  
- therefore, assessment must not be seen as static analysis but as a steadily evolving process;  
- assessment is not merely an analysis but is oriented towards the construction of policies in order to promote sustainable development.

2. The values involved in landscape evaluation  

According to the discussion in Brunetta and Voghera (2008), this methodological perspective complies more effectively with the aim of determining the value of landscape resources. Value should be considered a variable trait that may change over time and assume different meanings. The role of assessment is to reveal the meanings and positions that each party attaches to each landscape resource.  

We must assume, of course, that values change over time but, here, we propose a definition for current trends that, hopefully, will prove useful for the evaluation process of landscapes. In fact, some values acquire an “intrinsic” value, i.e. a value that does not depend on anything but itself and cannot be related to any other value and which is therefore independent of the meaning acquired case by case by other values. Cultural resources are examples of this type of value. On the other hand, there are other values that have an “extrinsic” value.  

This distinction between these two types of values is useful for our discussion from the ELC perspective of promoting the planning of new landscapes. In particular, we should examine the process of definition of “extrinsic values”, i.e. those that tend to sway decisions regarding the conservation, rehabilitation, enhancement and transformation of various landscapes in a territory and which can be distinguished in the following types (Brunetta and Voghera, 2007):  

- consolidated values refer to the collective identity, representing the expectations of quality and self-recognition of a community of individuals with a shared conception of life (cultural values, values of belonging) (Kaplan R., Kaplan, Brown, 1989);  
- regulative values originate in the restrictions that certain elements may impose on certain sites and/or areas;  
- values to be implemented are values that identify opportunities for landscape improvement as a driving force for development based on the specificity of each landscape organization. From this point of view, the process of legitimizing these types of “extrinsic” values becomes an indispensable step in the landscape planning decision-making process. This process is a public process of debate that reinforces and strengthens the feeling of belonging of the parties involved and therefore the “opportunities” and “interactions” in and of the landscape. The actions involved in defining landscape values perform the task of reinforcing the “bonds” and feeling of belonging among the various parties. Their aim is to reveal the positions of the various parties regarding each landscape resource, to attribute new values to each resource, to define their positions about each resource and, at the same time, to broaden each party’s scope of action and commitment (Jakle, 1987; Higuchi, 1989). However, this act of public identification of values can be sustained only if assessment is perceived as a learning process inserted in a decision-making process (Gorgeu Y., Jenkins C., 1995). During the assessment, values take shape, emerge, are made more specific and are defined in relation to other values.

From this point of view, it is necessary to emphasize the process of social identification of values before we can begin to formulate “activist policies” able to blend the integrated goals of conservation and enhancement. Without this process, there is no landscape identification or assessment. For this reason, the value evaluation process is an essential feature of new landscape planning approaches.  

The ELC implemented a process whereby methods were to be innovated and advantageous practices were to be deployed with regard to identifying the quality and the identities of landscapes. Despite this, we propose a method for defining articulated development programs for all landscapes based on the legitimization of “values”. This is the only way in which such programs can become engines of sustainable landscape growth and the growth of territories.

3. The proposal methodology  

In the perspective described our proposal methodology is characterised by integration of the extrinsic values identified by the research (i.e. consolidated and regulative values and values to be implemented) and the various methods of landscape acknowledgement (identification, interpretation and social legitimization) stemming from...
systematic application of certain practices adopted in Europe, but which also represent three levels of “knowledge” in the assessment process, i.e. three degrees of closeness to the construction of shared actions regarding the landscape. This method is outlined in the table below which compares the three types of values identified (column) with the three knowledge/assessment approaches (line), highlighted by the cases examined and which are referred to in the ELC Recommendation (2008). This matrix makes it possible to define the way in which each type of value contributes to the process of identification, interpretation and social legitimization, useful for constructing landscape enhancement actions and for defining actions shared with the populations.

In fact, this process permits:

- identification i.e. recognition of values for knowledge/diffusion of local identity; the process implies interpretation of physical-natural identity values such as the mountains, historical-cultural and settlement aspects such as the villages and historical centres and also local traditions. These values are relatively easy to recognise and express as they readily perceived “frequenting” the territory surveyed and can be expressed by appraisers-experts through discussion with a cross-section of the local population (such as institutions, associations, etc.). Regulative values (universal, specific to national cultures, to local cultures, to each individual’s culture) are easily recognised according to knowledge of the historical-cultural, natural and landscape assets to which restrictions are already applied and which are “legally” acknowledged as a value. As regards values to be implemented, according to a quantitative analysis of landscape planning actions, it is possible to assess the attention dedicated to landscape values and to enhancing these;

- interpretation, according to multidisciplinary viewpoints, is a necessary process to define landscape values and constraints; as regards regulative values, this phase of the evaluation is based on knowledge of the historical-cultural, natural and landscape assets to which restrictions are already applied and which are legally acknowledged as values, also identifying new assets; identification of new assets requires expert appraisal of the territory on the basis of ecological, historical-settlement, perceptive use of the territory and economic indicators. The interpretation of consolidated values implies a process of acquisition by appraisers/experts of local culture and identity through wide-scale social participation (collecting representative images of identifying landscapes judged according to scores assigned by cross-sections of the local population; Peano, 2007.; Farjon, 2007) in order to identify not immediately perceptible identity values or those tied to daily use and transformation of landscapes. As regards values to be implemented, the process of evaluation is directed towards reading and quantifying landscape values characterised by critical factors and/or weaknesses recognised by territorial and landscape planning and addressed with specific actions (on the basis of the number of actions planned);

- social legitimization is the process of construction – through social participation – of new values tied to local identity and policies and projects to enhance these, of actions for constructing/designing new assets for the deployment of policies and projects to enhance and establish widespread, shared landscape quality.

In this perspective, the assessment activity should become a technical process that advances through the public arena, in order to reinforce already consolidated feelings of belonging and to create new ones. In this way, assessment can help to depict scenarios of potential action to enhance landscape quality and to consolidate new “bonds” and feelings of belonging. Here, landscape enhancement and protection strategies can become crucial factors in actions protecting public institutions by broadening the opportunities of all the parties involved and through recognition of the crucial importance of the parties’ acknowledgement of their reasoning, identities, and bonds. “Activist policies” that effectively combine integrated objectives of landscape conservation and enhancement can be formulated only through this process of recognition of the value of the landscape that involves social perception of landscape and popular aspirations in landscape choices. From this perspective, assessment must promote the social construction of decisions. These decisions would become the products of interactions

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<td><strong>Acknowledgement Approach</strong></td>
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among the various stakeholders, public and private. The processes of inter-institutional participation and cooperation can thus become part of a learning process through which society can recognize new values (civic, cultural, environmental, etc.) and can construct new bonds that give motivation and involvement to people involved in the actions to be taken for landscape enhancement. People’s participation can become a component for the legitimization of values through the comparison and contrasts they make among the many potential meanings, interests, and expectations. In fact, participation promotes, supports and directs a great number of actions that generate a substantial reinforcement of the results of the strategies (new bonds and values) and assessment will not be a means of communicating and legitimizing shared decisions and values that could reinforce human, social, and landscape capital.

4. An example of the Proposal Method
The Method will analyze the vision proposed by a new multidisciplinary project in the fluvial territory of the Sangone River (Piemonte Region), a complex territory and diverse environment and landscapes (that is more natural in the mountain area from Coazze to Giaveno; urban and rural, mixed in the periurban territory from Trana to Sangano; urbanized from Rivalta to Turin). ‘Contract of the Sangone River Basin’, as an implementation of the Conservation of the Water Resources Plan of the Piemonte Region. The Contract is a new governance tool that is founded on a voluntary pact among private and public actors involved in the management and use of the water resources aimed at promoting social participation and the negotiation of the environmental and landscape valorisation of the river and its territory. The projectual approach involves the fluvial and peri-fluvial territory of the 11 Municipality of Bruino, Giaveno, Orbassano, Reano, Rivalta, Sangano, Trana, Valgioie, Nichelino, Moncalieri (in the Turin Province) and others institutional actors (Autorità di bacino del Fiume Po, Regione Piemonte, Provincia di Torino, Agenzia Interegionale per il fiume Po, Ente Parco Po), that are sharing a common vision of valorisation of the river territory and are individuating also the economic and social action for its implementation. The project defines integrated visions aimed at promoting the sustainability and aimed at solving the actual criticity of the „Sangone Territory“ as: the limited environmental quality of the river habitat, the functional and hydro-geological problems, the degraded and disused areas along the river, the acknowledge-ment and the valorisation of the landscape values. The Proposal Method has been used for the definition of the project, that starts from the ‘Contract of the Sangone River Basin’ strategic agenda, and construct a master plan, concerning the fluvial basin of the Sangone river and also specific sites, aimed at modifying the policies of the institutional actors.

The social legitimized project is oriented to: the hydraulic and morphologic restoration of the river, the preservation of its ecological integrity and of its water resources, the enhancement of the natural and cultural heritage in the river territory, the improvement of the use of the river as a location of integrated services, promote its economic, social, and cultural value and attractiveness, the landscape design concerning the project of natural areas, the rural and fluvial territory and the peri-urban and urban spaces, the management of a new environmental and territorial system in order to create the “Sangone Thematic Park” (as an integrated system of environmental, scientific and touristic network).

In this view, the Method could be useful to support the shared strategies (new bonds and values) and communicate and legitimize shared decisions and values that could reinforce human, social, and landscape capital of the Sangone River Belt, taking account of the stake-
holders (as Piemonte Region, River Basin Autority, 11 Municipalities) and the population directly affected by the transformation of the landscape.

Using the TABLE 2, we recognize the acknowledgement of:

- the consolidated or identity values analyzed in the three approaches as the geo-morphological aspect of the river territory, the natural and rural landscape and some important cultural buildings (as Stupinigi Hunting Castle) that constitute a common patrimony of the population. The river is at the moment not perceived by the urban territory of the 11 Municipalities, involved in the valorisation project, that promotes their integration,

- Regulative values as the "legal binding" values of the river territory as the Po River Park, the SIC and ZPS; the institutional actors and the population investigated in this analysis promote the protection of the Historical Hunting paths, partially non connected for the urban sprawl and decide to create new system of attractiveness networks (linked to the Green Belt Project of the Turin Province and the 'Contract of the Sangone River Basin')

- the values to be implemented are linked to limited the environmental quality of the river habitat, the functional and hydro-geological weaknesses, the degraded and disused areas along the river; this problems need the integration among ecological, cultural and physical system of values and networks, create a new relation among the social and institutional perception of the territory, the landscape, the river belt. Each phase analysis contributed to define the thematic cartography, specialist studies and it is based on the participation of institutional actors and local population categories (such as policy makers, universities scholarship and students, associations), involved in some workshop activities and internet session and forum. (see the following link: www.provincia.torino.it/ambiente/risorse_idriche/progetti/idra2).

References


Frameworks - Preparing rural landscape for change

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Abstract
Frameworks examines the potential role of the rural territory in influencing our rapidly evolving urbanized rural terrain and presents how a multifaceted effort of landscape analysis, identification and codification coupled with master-planning and pilot-project identification can organize future sustainable growth while also clarifying preservation and reconstruction tactics of a regional landscape. Frameworks first offers a lexicon of a region’s most important landscape typologies, a palette, that serves as the basis for the identification and evaluation of the rural landscapes of the canton. With this language, Frameworks secondly identifies and defines an atlas of 24 referential landscapes that are to act as a base of knowledge to structure our decisions and design-processes. Frameworks concludes by identifying the primary themes that will most likely strengthen these referential landscapes while at the same time allowing for growth. Pilot projects emerge from these themes and are meant to drive, focus the energies and decision-making process of architects, planners and landscape architects over the next generation. These tools and generated visions allow us, the design community, decision-makers and citizens, to reflect into the future based on careful observation of the past and a concise assessment of the present.

Key words
rural, landscape, atlas, lexicon, typologies, growth, referential

Introduction
The rural landscapes of Europe connect us to our past while also anchoring us into our present. They are both historic and contemporary entities. These landscapes frame our understanding of place, are quite often referred to as referential and are disappearing at an alarming rate. Too rarely does this rural, agricultural terrain factor into the discourse of the landscape architect and the role that they can take when designing for the growth of European cities and towns.

Commissioned by the Cantonal Administration of Vaud, Switzerland as a complement to the update of its regional master-plan, Frameworks focuses on this territory’s rural landscape, embracing close to 3,000 square kilometers and a range in altitude of almost 3,000 meters. The project sets out to describe and codify the diversity of the canton’s rural landscapes, to identify referential landscapes as benchmarks for landscape preservation and to anticipate the major issues confronting the evolution of the landscape in the next generation.

Context
Switzerland is composed of 23 cantons or states. The canton of Vaud lies in the western French speaking region and shares a border with France, as well as the cantons of Geneva, Neuchâtel, Fribourg, Bern and Valais. It presents a sampling of the three main geomorphological components of the country: The Jura mountain range to the west, the Moyen-Pays or plateau in the center and the Alps to the east.

In 2004 the Canton, decided for the first time to commission a landscape study focused on the territory’s rural landscape. Verzone Woods Architectes piloted the team responsible for the study. The team was composed of a group of landscape architects, an architect, a historian, a geographer, an agronomist, a photographer and the graphic designers at ACTAR. The purpose of the study was to assess the current state and diversity of landscapes and to anticipate the major issues confronting the evolution of the landscape in the next generation.

A series of investigations [Fig. 1] aided the team in reaching preliminary conclusions that, once refined, became codified and tested by a series of pilot projects. To assess and study the canton, the team drifted across its territory and were led to define 24 landscapes of reference compiled in Volume 1 and the creation of a palette of nearly 100 landscape typologies in Volume 2. In Volume 3 a compilation of landscape videos were made so as to avoid the overly static perception of the landscape captured solely through still images. These introductory three volumes of research led to Volume 4, a conclusion, and the identification of solutions in the form of pilot projects. The final report was structured into four booklets and bound together by velcro. All 4 volumes cross reference one another and are meant to be used in conjunction. [Fig. 2]

Another corresponding approach to landscape evaluation includes the National Historic Landscape Characterization Method (HLC). The HLC arose in 1990 in England, by 1994 was tested on the landscapes of Cornwall and has since evolved through successive waves of development. Both the HLC and the Frameworks - Vaud studies focus on present day landscapes, the use of a pre-determined classification system, maps as a primary base of infor-
information as well as an objective decision-making process overlaid with a transparency of subjectivity.

**Volume 1: Atlas of referential landscapes**

The Frameworks Volume 1 describes and catalogs the cantonal landscape. To highlight landscape evolution, the photographer collected postcards from the early 20th century and returned to the recapture the same point of view. To better understand the territory, the team took five tours to gather the necessary information for formulating a course of action. The son of the team’s historian, a twelve year old boy, took the task of mapping the tours and of determining arbitrary stops every 10 kilometers to gain a random and perhaps accurate cross-section of both the referential (beautiful, historic, diverse) landscapes as well as the landscapes pressured by the contemporary issues confronting us. At each stop the team captured the landscape through photo panoramas, video, and collective, exquisite corpse-like sketches.

The preliminary evaluations resulted in the identification of 24 landscapes of reference and 21 landscape entities. The entities can be understood as more global geomorphological conditions while the referential landscapes are described and differentiated with more detail and nuance. Determining factors include history, gestation, topography, tree structure, forest type, distribution of agricultural land, organization of villages and buildings, and water networks. Each of these referential landscapes are represented with a diagram cross referenced with the palette of typologies, a locator map, a list of salient characteristics, a representative image, a collection of our group on-site sketches, and two texts (one written by the historian about how this landscape came to be and one written by the agronomist about how it is currently managed). Also, an ideogram attempts to summarize the landscape characteristics in a more interpretive and subjective manner. With the help of Volume 2, Landscape Typologies, the Frameworks study identifies and defines a definitive atlas of referential landscapes that are to act as a knowledge base for informing decision-making processes. [Fig. 3]

**Volume 2: Palette of landscape typologies**

Volume 2, a Cantonal landscape palette, was inserted into the project out of necessity as the Vaud planning community lacked a common vocabulary of landscapes. The palette of a region’s most important landscape typologies is meant to be a cross-reference, or dictionary of sorts to ground discussions and frame descriptions with a clear and cogent language. It serves as the basis to the establishment of a territorial observatory, complete with a set of tools, whose objectives are for the identification, evaluation, appreciation and even vulgarization of the rural cantonal landscapes.

The palette is organized into seven deliberately non-scientific, and easy to understand categories realized from a purely empirical point of view, avoiding professional

![Fig. 1: Ideogram of study process](image)

![Fig. 2: Final 4 Volume report](image)
jargon as much as possible. The categories include rock, water, grasslands, trees, agriculture, human habitation and infrastructure. The typologies are based on the observation of aerial photographs and the ability for a non specialist to discern the type of landscape in question at a scale of 1:10'000, where each image represents 1 square kilometer. The typology card contains an extracted aerial image, a doctored aerial image graphically highlighting its essence, a probable locator icon, and main characteristics of the typology relative to fauna and flora, water, constructions, infrastructure, and uses.

Volume 3: Landscape and movement

Volume 3 presents two different kinds of films by Nicolas Savary representing a dynamic perception of the landscape. It includes five short films covering the landscape as perceived from different modes of transportation, and a series of film panoramas taken from a rotating platform.

Volume 4: Issues and pilot projects

Volume 4 assembles and articulates the major issues affecting the rural landscape, and proposes, not one all-encompassing masterplan for the 3,000 square kilometer territory, but instead a more fragmented strategy, perhaps easier to implement, which includes a series of pilot projects each addressing more independent solutions for the most poignant issues. Natural dynamics play a major role, in particular, those of the forests and rivers. The strategy identifies urbanization and the fastest growing areas, probable next areas of development as population is expected to grow by 20% over the next 25 years, issues facing agriculture such as competitiveness on the global market, and mountain farming and its role in maintaining the landscape in the mountainous regions.

The issues are organized into families of landscape in relation to: nature, agriculture, development, mobility, and transversal issues having to do with sustainability. Together with the cantonal landscape lexicon and landscape atlas these families help to clarify the Canton's challenges for the future of the urbanized rural landscape. Within each family, independent themes spark pseudo-naive questions that in turn lead to some schematic pilot projects or to further considerations. The questions serve as springboards to pilot projects.

What if the rural landscape remained open and diverse? Encourage transversal swaths across the plateau... Wide transversal swaths of agriculture landscape, either undeveloped or underdeveloped are juxtaposed against swaths of forested and urbanized landscape. What if the lake edge landscapes remained connected to their back-country? Maintain landscape swaths so as to frame urban development... Lake corridors are proposed as perpendicular open-spaces to the Canton's two primary bodies of water. These 1/2 to 1 kilometer wide zones define farming and development and require a four part strategy including: protecting the primary landscape components, re-stitching the pedestrian connections, articulating the edges, and densifying development around the swath.

What if we enhanced the strengths of our river corridors? Use riverways as structuring systems in the landscape to create local networks... In the case of the Promenthouse River small interventions strategically located according to the existing infrastructures are proposed so as to strengthen the connectivity of the riverway.

What if two separate yet adjacent towns coordinated their growth? Qualify the meeting ground of their peripheries through landscape intervention and urbanization of diverse densities and create a green net to prevent the two agglomerations from becoming one... The growth of two towns, Orbe and Chavornay, only 1 kilometer apart was studied, proposing a staging of expansion as well as the preservation of agricultural land of differing types.

What if a traditional village needed to grow? Create new...
housing without destroying the transition to the surrounding countryside... A series of strategies is required to densify and extend small villages while also attending to the distinct landscape qualities of the encounter between village and countryside. [Fig. 5]

What if we could not waste our land? Found new dense villages connected to public transportation rather than allowing existing peripheries to sprawl... Imagining new villages is a revolutionary idea with regard to Swiss mentality: the creation of 10 new towns from scratch! There exists no historical precedent, only the selection of a site based on some interesting landscape qualities and a very good location. 10 different landscapes = 10 new towns. [Fig. 6]

What if our highways were beautiful? Consider them as parkways... This pilot project addresses the first highway built in Switzerland in 1964 for the international expo which took place in Lausanne. This road traverses exceptionally beautiful landscapes, which it ignores. Adjacencies are mapped and a series of landscape interventions are proposed at local scales to heighten the value of the highways positioning within the larger territory.

What if we encouraged sustainable projects on agricultural land? What if indigenous energy were cheaper than imported energy? What if renewable energy production facilities became attractions? Make “good combinations” to link renewable energy, tourism and agriculture by making them mutually supportive... This “good combination” located on the Plateau juxtaposes a local farm with solar fields. The farmer sells his/her products directly and joins a small scale camping network. On a particular site in the Prealps, wind farming, existing and new leisure activities, and the reuse of a military fort insert new energies into an alpine valley.

What if we learned landscape in school? Teach landscape to educate future generations of decision makers... Ultimately this is one of the project’s greatest ambitions, that the work from the first two volumes of the study could serve as a pedagogical tool by including it into the curriculum of grade-school students as well as on the municipal conference tables in all of the 375 cantonal communes.

Conclusion
These devised tools, the Atlas, Typologies Palette, Videos, and Pilot Projects, frame up a view of the Vaud Cantonal territory while equally mapping out a vision towards constructing its future. It is intended to be used by the design community, decision-makers, and citizens to assist in attentive development and planning based on careful observation of the past and a concise assessment of the present. In conclusion, the research from this study retrospectively leads to a series of objectives and priorities, a derived manifesto of sorts, summarizing the importance in regards to intervention inside or along the edges of Europe’s rural landscapes.

1. Turn landscapes into scholarship - teach the next generation about the landscapes from our last generation
2. Preserve history while not forgetting to make history
3. Find “good combinations” to achieve more than one goal
4. Re-image(ine) - marketing - communicate and “sell” our territory through the products made from within them
5. Move less, slow down - reduce transportation distances for people so they can enjoy the landscapes in between
6. Growth through density and densification - reduce sprawl
7. Stop oil for food! - reduce transportation distances for food - encourage market gardening and reinforce the slow-food movement
8. Reinforce the edge to protect the center, frame the edge to value the void
9. Rediscover local
10. Reuse and recycle - buildings, landscapes and networks
Do Landscape Architects make the Best Urban Designers?
Landscape Typologies as an Engine for Urban Transformations

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Strictly speaking, Landscape cannot be a “model” for urban design because it is not reducible to a specific condition. In other words, it is not through the well-intentioned infusion of undifferentiated green spaces, or even improved ecological approaches that will allow landscape methodology to inform urbanism. Instead, it will be a question of whether the firms or individuals involved in coordinating the design have sufficient fluency in the complex application of urban/landscape typologies to have faith in the landscape’s ability to resolve difficult urban adjacencies and whether they possess the landscape imagination to understand how this full range of landscape typologies can be brought to bear on the problems of the contemporary city.

The examples of Brooklyn Bridge Park and the Lower Don Lands, discussed below, demonstrate how a landscape methodology based in an understanding of landscape typologies can be used to successfully challenge the status quo of an architecturally-based urban design and how the leadership role of the landscape architect in both of these projects has resulted in real benefits to the understanding of landscape as a model for urban design. This is not to say that landscape architects are the only individuals who might have this level of fluency with the various scales systems of the city, or even that all landscape architects possess an imagination that is capable of making the leap from landscape design to urban design. Nevertheless, landscape architects might be in the best position to educate related design professionals and policy makers into a more complex understanding of landscape typologies to that will allow them to imagine a heterogeneous urban landscape that makes use of existing conditions but also lays the groundwork for transformations.

Reshaping, Restoring, Reviving, and Realigning the City
The tenets of this particular approach to city-building, have their immediate roots in a conference that was organized in a 1997 by Charles Waldheim in Chicago, and the subsequent publication of The Landscape Urbanism Reader. The idea that landscape can be a generative force in the design of cities has, however, a much longer history in the United States, most notably in the work of Charles Eliot in the creation of the Metropolitan Park System in Boston (1893). Faced with pressing social, sanitation, and ecological concerns, Eliot designed and advocated for a system of open spaces that were structured first around large-scale landscape features and the role of landscape systems in the achievement of civic objectives like flood control, but then also telescoped down to regional open space attractions, like the beaches, and down further to the level of the neighborhood with a constellation of small playgrounds. Eliot’s approach of using landscape systems to structure urban systems was continued with the work of Ian McHarg and other pioneers of an ecologically-founded approach to the design of the landscape in the late 1960’s and 1970’s.

Although Charles Eliot, Frederick Law Olmsted, and the Olmsted Brothers addressed social and ecological issues through the design of entire systems of public landscapes, in the later 20th Century it has been rare that the landscape has framed the basis for decision-making on an urban scale. More typically, “open spaces” are designated within a pattern of development that is designed around architectural forms, traffic patterns, and circulation. In existing cities, parks are more often created by the fact that space is available than by any recognition of a site’s potential function in a larger system of parks or ecological systems. Although there has been tremendous enthusiasm for codifying the rules of “open space” design over the last several decades, there has not been nearly as much emphasis on understanding the interrelationships between various scales of landscape typologies. For instance, proponents of the American school of “New Urbanists,” use the notion of contextualism as a means of encouraging a model-based approach to the design of these “green spaces” that strongly favors stylistic tra-
ditionalism over attempts to engage the multivalence of context in its various guises and as it evolves over time.

In Brooklyn Bridge Park in Brooklyn, New York, and the Lower Don Lands development in Toronto, Ontario, Michael Van Valkenburgh Associates, Inc. has lead large teams in the exploration of the urban landscape typologies as a function of social, psychological, environmental, economic, and infrastructural initiatives working in concert to reinforce one another. In each case, the client has given the landscape architect and the project team opportunities to frame the task of the project in a way that will ultimately benefit the integrity of the urban landscape.

Landscape Typologies as Urban Framework in the Toronto’s Lower Don Lands
In the Lower Don Lands Urban development project in Toronto, the competition brief seeks out a radical repositioning and reprioritizing of natural systems, landscape systems, transportation systems, and architectural environments. The 280-acre site is located on a portion of a larger territory that was once a vast wetland created by the Lower Don River as it emptied into Lake Ontario. No longer useful as a shipping hub and now devoid of natural features, public infrastructure, and neighborhood amenities, the site is fundamentally unprepared to support new urban growth. (Figure 1) Building on initiatives that were being undertaken elsewhere along the waterfront, the client sought to transform the site into a new mixed-use neighborhood alongside the creation of a new naturalized mouth to Don River that would improve the city’s current system of flood protection as well as reinvigorating the ecological diversity of the city.

MVVA’s commission to design the Lower Don Lands evolved out of an international competition with four highly resolved schemes developed by the finalists.

Each of the proposals takes seriously the client’s charge to embrace the concepts of naturalization of the river’s mouth, enhanced site ecologies, the sustainable development of urban spaces, and flood control and stakes out considerable areas of open landscape to perform these functions. Where the MVVA scheme distinguishes itself is in the degree to which the landscape is recognized as the primary engine of urban transformation. (Figure 2) Similar to Charles Eliot’s design for the Metropolitan Park the MVVA scheme, in its decision to preserve the Keating Channel, in it its attempts to locate the mouth of the river in a place that it “wants” to be, and in the reciprocal relationship that is established between urban landscape and urban development demonstrates a command of a full range of urban landscape typologies.

Starting with the pragmatics of flood control and on-site treatment of contaminated sediment, MVVA’s scheme carves a large meander through the site, allowing the river to slow down and release sediment before emptying into the lake. The accumulation of years of dredged contaminated sediment that is currently housed in industrial silos that are approaching capacity will be used to raise the elevation of the site, further separating the architecture from the flood plain, and create new landforms. The schedule for the project takes into account the time it will take to de-contaminate the soil using phytoremediation. These large scale landscape gestures are borne of necessity, but are also big contributors to landscape program by way of a major new park space for the city. As generators of urban form and starting points for landscape program, they have an analogue in the next typological layer to inform the design, the unique landscape experiences made possible by the existing site’s industrial infrastructure like the Keating Channel and the Gardiner Expressway. A notch down from this scale is the system of urban connections, or streetscapes, as well as specific pieces of landscape program that is found...
within the larger landscape pieces, like the recreational fields, pebble beaches, plazas, promenades, and water access points. At the smallest end of the spectrum are the courtyards and play spaces that create an interior world for the residential buildings. Landscape typologies thus inform the design starting with the regional scale and are applied at each successive scale of urban form, mediating the psychological experience of contemporary life and informing the social, economic, aesthetic, and environmental development of the city. (Figure 3)

Each of the other schemes, by Atelier Girot, Weiss-Manfreidi, and Stoss Landscape Urbanism, embrace the idea of more landscape in the city and improved site ecologies but still offer a fairly status quo relationship between the city and the landscape: the architecture of the city and the transportation corridors are the framework around which all elements of the landscape, both ecological and experiential, drift and accumulate. The fact that these three teams accepted the competition’s suggestion that the Keating Channel be removed to make way for the new naturalized mouth of the river, had the effect of further isolating the proposed neighborhood from Toronto's downtown urban core, and eliminating an authentic industrial-scale artifact that provided a legitimate urban landscape in its own right, one that tied the city to its past. By contrast, MVVA’s preservation of the Keating Channel and the proposal for a large waterfront park that ties the various objectives of the project – urban, ecological, and infrastructural – together demonstrates a belief that a range of landscape typologies, integrated into a system of human and natural functions, was the engine best suited to drive the societal, infrastructural, and environmental transformations projected for the site. In this conception of the city the large park, as well as the small urban spaces, become active participants in the operations of the urban mechanism while continuing to offer the restorative functions that open landscapes are recognized as offering the human psyche.

Reflecting the interconnectedness of landscape systems, most site strategies have multiple impacts, for instance, the proposed wetlands are supported and fed by the stormwater from the development because the river is no longer dependable in its flow and cannot support these habitats independently. In other words, the wetlands support the city by removing portions of the stormwater burden in peak events, but the structure of the city also supports the wetlands and their habitats. Similarly, the new river and parklands are ecologically productive and important social catalysts, but they also augment economic health by increasing development values and lowering the likelihood of devastating flood damage. On the level of construction pragmatism, the building up of the site for flood protection provides an opportunity to mass balance the soils from the river excavation.

The naturalized river is a fiction, of course, and a human creation just as surely as was the canal, the expressway, and the city itself. Given the fact that the native condition of the site, a vast wetland exceeding the current project limits by a factor of ten, has been completely eradicated from the site for at least a century, and that the project site itself is but a fraction of the size of the original marsh, the MVVA scheme, for all of its landscape vigor, is not an attempt to restore the land’s pre-development ecology. Instead, the scheme adopts a range of landscape typologies that are supportive of city life and suited to current capabilities of the site: urban, civic, natural, and boundless.

Landscape Typologies in Brooklyn Bridge Park

In 2003, after having been a subconsultant on an original master planning team, which was lead by an economic developer, MVVA was awarded the commission to lead a team of ecologists, economists, engineers, architects, and artists in the design of the 85-acre Brooklyn Bridge Park site which occupies 1.3 miles of Brooklyn waterfront that passes underneath two major bridges and includes a series of mammoth industrial piers, each 5 acres in area. The project was well-grounded politically, inspired by community activism and conceived by the state and city governments with a strong mandate for ecological sustainability, a condition that is not uncommon in recent urban projects, although the enthusiasm for exploring its possibilities ranges widely among clients. Unique to Brooklyn Bridge Park was a simultaneous mandate for economic sustainability. Rather than operate within city or state budgets, the economic engine for funding park maintenance and repairs was to be developed as part of the park. The original legislation creating the park stipulated that up to 20% of the 85-acre project site could be designated as development areas rather than public open space. It was up to the design team, working with the neighborhood and the client, to manage the multiple related variables of park design, anticipated maintenance, development location, use, and size, and projected revenues.

The reality of the site’s isolation, a fact compounded by its long, narrow configuration, would have been difficult to overcome had the designers not been given the mandate to simultaneously introduce some form of new economic development. In the original 2000 master plan, this economic development was approached in a relatively traditional way, for instance with the introduction of revenue-generating activities on Pier One to provide a draw into the park from the relatively active Fulton Ferry entrance. By comparison, the 2005 Master Plan treats the mandate for economic development as one of many strategies for developing a dynamic relationship between city and park through a diverse arrangement of landscape typologies. On the park side, this meant the strategic fortification of
park entries with “neighborhood” park elements like playgrounds and dog runs, and deep-range landscape views while reserving the large-scale recreational elements and more organized elements for the center of the park. On the city side, this meant allowing the new buildings to benefit from the amazing views to the water and the adjacency to the park, but concentrating the economic development within envelopes and footprints that were guaranteed to provide the necessary revenue, create a constituency for the park, and support the urban evolution of the landscape as an integrated part of the city.

The 2005 Master Plan relies on the landscape, as expressed through a range of typologies, to bring form and activity to the site. (Figures 4 and 5) As with the Lower Don Lands, the strategy involves not just diverse mix of activities, but a sophisticated layering of landscape elements, and connections, and program that include a fine-tuned orchestration of the stunning views to the harbor and city, the introduction of the boundlessness and range of a topographically varied landscape, a sitewide layer of reintroduced ecologies that addresses marine health alongside plant habitat, a range of opportunities to engage a complex rivers edge, a circulation plan that offers multiple routes through the site, large sports fields that are well-suited to the structural capabilities of the site while also providing a regional draw at the center of the park, and neighborhood connections to create a vibrant urban life for the park.

Rather than allowing the complexities of building on marine structure or the need to generate revenue become the force driving urban design, park space and development space were recognized as complex conditions rather than gross square foot areas. Working from an informed position, the landscape architect’s heuristic approach to negotiating the relationship between city and park not only created the kind of urban setting that would benefit the new park, and the kind of park setting that would benefit the new development, it also allowed created a more precise economic model limiting the commercial development to just 9% of the project site, less than half of what would have been allowed under the park’s founding legislation.

In the Lower Don Lands Project as is the case at a different scale at Brooklyn Bridge Park, the embrace of landscape typologies is not an anti-urban attempt to re-establish natural ecologies or even “green spaces” at the expense of urban function but is instead an attempt to allow landscape complexity to inform urban complexity. Using the landscape as the generator of urban form and program is sometimes the most straightforward means of creating an intensely urban experience that is supportive of rather than hostile to human occupation and the health of the natural environment. Urban design doesn’t necessarily need to turn to the landscape as a model that will transform the city into the countryside, because the city is capable of generating its own unique landscape typologies. The transformation I would encourage would be that everybody involved in the design of cities, be they landscape architects, developers, policy makers, or urban planners, need to understand the depth of possibilities within the range of landscape typologies and their interrelations. This understanding will lead to an unwavering faith in the landscape as a generator of urban form that can do the work of urban infrastructure at the same time that it provides the setting for human experience.
Landscape as Urban Structure: the Case of Cantho, Vietnam

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Abstract

Cantho and its surroundings attest to an alternative concept of an indigenous modernity, based upon cultural hybridization and absorption of multiple foreign influences. The impressive transformation of a regional landscape into a colonized urban nature by the French was succeeded by a modernization of colonization by the Americans. Yet, the impositions did not cancel out the essence of the region’s indigenous modernity – namely that of an intensive relationship of landscape and urbanity. Today, the Mekong delta’s indigenous urban identity is threatened by ex-nihilo urbanization. Modern master planning is in direct contradiction with the native modernity. The late-Fordist visions for Cantho – replete with large-scale investment and tabula rasa city building are at least half (if not one) a century too late. This paper will distill the layered narratives of Cantho and present a series of cartographies and interpretative analysis which in turn lead to alternative scenarios for the rapidly urbanizing city. The hypothesis is that the urbanization can continue to work with the existing logics of the landscape as opposed to against them in the drive towards modernization.

Key words

Cantho, Vietnam, urbanization, landscape.

Harnessing the Potential of a Liquid Geography

Cantho (fig. 1) is a thriving city in Vietnam’s southern region of the Mekong Delta. Unlike the north and center of the country, the region has only been occupied by Vietnamese for approximately three centuries. South Vietnam (called Nam Bo) was known as a frontier region with a rich liquid geography: ‘A largely waterlogged world of black mud and mangrove trees, bordered by thick tropical forests where the land rose away from the flooded plain. Drainage canals had only slowly begun to ensure that some areas were protected from the annual floods that came with the rainy season and the steady rise of the Mekong’s level, its volume swollen both by the rains and by the melting of snows in faraway Tibet’ (Osborne 2000:21).

The region’s landscape was the primary determinant in its urban structure. In the early feudal era, the swampland area of Nam Bo was transformed into fertile plains for wet paddy cultivation. Settlements developed linearly, following the alluvial, non-salted high-land banks of rivers and canals. Villages advanced following the construction of the canal system. Unlike other parts of Vietnam (due to strict urbanization regulations), the population of the south was allowed to freely occupy land, motivated by the possibility to cultivate new lands. Market cities were established along the natural waterways and trade flourished. A network of market places, transient stations for traders, service stations for the repair and maintenance of boats and supply of fresh water and areas for rice processing (oriented towards export) was established – many of which were floating on the inter-connected waterways. The delta has been called ‘modern by nature’ with a geographically amenable to the commodity economy and international trade which easily accommodated cultural hybridization (Taylor 2001). In pre-colonial times, the Mekong Delta was a thriving hub of regional commerce, a major exporter of rice and a place where merchant ships clustered in search of profitable cargo (Li and Reid 1993). From the feudal era through colonial times and until present day, there has been a regimented and strictly governed policy of public works and land reclamation to, on the one hand, increase land productivity and, on the other hand, to create settlement in an organized manner – as ‘agricultural colonies’ (dinh dien) and ‘military colonies’ (don dien).

In the mid-18th century, Cantho was established as a regional center due to its strategic location at the confluence of the Hau (lower branch of the mighty Mekong) and Cantho Rivers. At 100 km from the East Sea (also known as the South China Sea), it was far enough away from the direct vagaries of coastal habitation, yet close enough to function as a competitive entrepôt city. Thus, Cantho was established as Tay Do (the ‘Western Capital’) and was an important crossroads between areas deep in the delta and Saigon. During the colonial era (in 1876 the entire Mekong Delta fell under control of the French), massive capital investment by the government of Indochina was expended for infrastructure: railways, port facilities, roadways, bridges (known as Eiffel ponts) and the massive irrigation and transport canal system of the Mekong Delta – specifically directed at the promotion of commercial agriculture. The French radically transformed Vietnam’s lower Mekong delta from scarcely-populated swamp into the granary of Vietnam and a bustling heartland of commercial export agriculture (Taylor 2001:6). From 1890-1936, 1,360 kilometers of main canals and 2,500 kilometers of auxiliary canals were dug by a combined effort of machines and manual labor – in addition to 3,000 kilometers of inter-provincial land routes between 1880-1913 (Nguyen Quang Vinh 1996:46).
to 1880, the total cultivated area in Cochin China was estimated at 552,000 hectares and between 1880-1937, irrigation increased this to 2,200,000 hectares (Hickey 1964:15). The region harvests 2-3 crops of rice per year and remains the country’s ‘rice basket’.

Urbanizing the Territory
As infrastructural interventions made more land habitable, urbanization rapidly took hold. Cantho was reaffirmed by French imperialist expansion as a node and was equipped with a port, ferry system, military camp, market, town hall, treasury and prison – other social infrastructure followed. The grid of the colonial town grew along the Cantho riverbank and its urban geometry corresponded to the prevailing cooling winds of the southeast, northwest monsoons. Colonial planning was a mechanism of social segregation and the French lived in primarily in the garden city district while the Vietnamese – intermingled with Hoa (overseas Chinese) – lived in the denser core near the market and quays. By 1954, Cantho’s population was 55,000 (14% of the provincial population) (Durand and Le Van Anh 1996:70).

Following the 1954 French defeat at Dien Bien Phu, Cantho and its surroundings fell within the ‘Fourth Tactical Zone’ during America’s occupation of South Vietnam. From the 1960s onwards, the population of Cantho steadily increased due to migration of people from North Vietnam, the Strategic Hamlet Program – where ‘rural pacification’ led to mass movement of rural inhabitants to cities – and for those fleeing (during the Second Indochine War) extensive carpet bombing in the countryside. The city was developed as an industrial center, commercial liaison and naval base for the entire delta. The city became a ‘barrack city’ (Nguyen Q. V. 1996) as a new scale of infrastructure (including an airfield and military quays) overlaid the territory. Two strong corridors of urbanity emerged: one developed linearly along the Hau River, connecting Cantho to Long Xuyen (52 kilometers to the northwest) and the other linking Cantho with to the inland city of Soc Trang (52 kilometers to the southeast). Cantho became the center for ‘supplying, storing and redistributing goods’ from Saigon to the extensive rural areas of the delta (Nguyen Quang Vinh 1996:48). Its first industrial zones became operation in 1968; low-lands were filled and large tarmac surfaces became an integral component of the urban landscape.

Cantho’s population witnessed a near continuous swelling – except for a dip between 1975-86 when harsh de-urbanization post-war policies sent a portion of its population to re-education camps or forced them to resettle in new economic zones (Thrift and Forbes 1986). Today’s burgeoning population of approximately 1.1 million is within a large area (1,402 km2) and the city has a special status (along with Hanoi, Ho Chi Minh City, Danang, Hai Phong and Hue) in that it is considered of national importance and under direct control of the State in Hanoi. The population increase is to continue to rise, whereas all restrictions on residence permits have been abolished since 1993 and the city appears in a state of continuously emerging. The masterplan of Cantho to 2020 has been developed in a manner similar to those used throughout Vietnam – whereby figures from socio-economic scenarios are directly transferred to mono-functional land use zoning. With a nod towards the specificity of the place, Cantho’s development is to be (theoretically) oriented towards the northwest and south and the existing city center is to be de-densified – for hygienic measures, as justified by authorities.

Cantho is slated to become the region’s premier industrial center. As throughout the country, there is an emphasis on the development of industrial zones (IZs) and export processing zones (EPZs) to increase industrial capability, foster exportation, provide jobs, education and training opportunities. In the imagery of a Singapore-like super city, the large Hung Phu EPZ (938 ha) on the southeast bank of the Cantho River is to be a state-of-the-art port facility and Nam Song Hau (1722 ha) will become a new living and housing district. The EPZ is envisaged to attract high-tech and processing industry, processing industries – but as the present-day financial crisis is proving, economic reliance on such an export business is highly risky. At the same time, the ecological perspective needs attention, whereas the entire operation (for Hung Phu and Nam Song Hau) requires 2-3 meters of fill (dredged sand from the Hau River) in order to make foundations for new urbanization. The repercussions on the increased intensity of flooding will surely be felt in the

Fig. 1: Cantho is built on the higher land at the intersection of the Hau (lower branch of the Mekong) and Cantho Rivers.
city extension area but also in the existing city – as the absorptive capacity of the land is severely compromised.

Advancing Agricultural Logics – High-land/ Low-land & Orchard City
A careful reading of the existing territory provides clues to an alternative to business-as-usual tabula rasa-making by the indiscriminate filling of low-lands. Cantho’s existing landscape is one of minute, yet important topographical differences. The city and its surroundings have existed for centuries in an intricate balance and interdependent structure of water and land, permeable and impermeable surfaces – all organized by the necessary hydraulic territorial systems for water management and soil stabilization – and capitalized upon by productive low-land paddy and orchards atop dikes. Levels of inundation determine distinct land uses (productive/inhabited, safe/unsafe, etc.). In a land where the difference of a few centimeters creates completely diverse conditions, the primitive manipulation of topography becomes a powerful urban design tool.

The high-land network of roads (existing and planned) can be off-set by the lower-land waterways/ plains and medium-land level vegetation meshes – in a system of organized dispersal. The expanding city and its periphery can be intentionally planned as a non-hierarchical territorial network that allows urbanization to occur where infrastructure (including high-land for structures) is organized. An intermingling of urban and rural activities across the territory’s networks of water and roads can not only maintain the region’s productivity and dispersal of public services, but also keep the ecological balance in-check.

At the same time, the agricultural identity of the city can be made more apparent. The spindly figure of Cantho’s surrounding mesh of orchards could be extended along the territory’s smaller waterways to the bank of the Hau River and across the Cantho River to the newly planned district. The city’s undeveloped islands could become vast orchards. New flowering fingers could become an important component of a system of public spaces throughout the existing city and its extension – connecting urban to rural, land to water and recreation to production (fig. 2). The existing congestion could be counterbalanced by inclusion of productive green zones in the urban fabric. Afforestation (with orchards) could be developed through ‘social forestry’ whereby unused and fallow land is planted, maintained and harvested by the common man with economic returns profiting the community participation in the management of natural resources. In particular ‘extension forestry’ – where planting alongside canals, roads and railways – could not only improve ecology, but also beautify areas, create economies and eventually lead to a green network of an expanded public realm. Strategic sites could as well host a series of touristic and research-oriented programs.

Fig. 3: The water-based and road-based city can work hand-in-hand to create an efficient public transport system.

Mediating River and Road
The overlapping of multiple networks is the region’s primary spatial quality. Historically, intensification of urban development occurred at the confluences of networked systems. Traditionally, the waterway system, both natural and man-made, was the foundation upon which other organizational systems were laid. The Cantho and Hau Rivers dominate the city and are important for trade (witnessed by the prevalence of floating markets), whereas
In the rural area, the Binh Thuy River and other water courses are essential for orientation. Until recently, infrastructure has been a problem for Cantho and the Mekong Delta in general. However, over the past decade, there has been massive investment – with loans from the World Bank (WB) and Asian Development Bank (ADB) – in road-based infrastructure. Across Vietnam, huge expenditure is justified in the name of strengthening the foundations towards promoting overall growth, development and poverty reduction. Urban conurbations and settlements are repositioned in terms of new economies, proximities and hierarchies. All too often, the pragmatics of road engineering logics contradict the logics of the landscape; they essentially operate as dikes, cutting across vast swaths of paddy and plantations. Such interventions radically alter imagery of the landscape, the ecology and water flow across the territory.

Of course, the new spatial order afforded by major shifts in investment can be an opportunity to more structurally interweave local communities, local economies, international trade and tourism, infrastructure and sensitive eco-systems – but this requires multi-scalar and multi-sectoral thinking. The structuring capacity of landscape and infrastructure can be considered the flip-sides of a complementary system. The very fact that infrastructure constructs sites by disclosing their accessibility can be more intelligently tied to qualitatively up-grade existing urban tissues and to highlight strategic areas for new programs and investments.

For Cantho, the defining of a public transport road-based bus system and a complementary water taxi (vaporetto) system can (re)define movement corridors as vessels of collective life. A vaporetto network could take advantage of the river confluence and the dense mesh of canals. A series of circuit loops could potentially link the far reaches of the rural hinterlands with the bustling urban core. Transfer stations and stops could correspond with intersections of water and roads. A series of express and local stops could create an efficient public transport system and public platforms with social infrastructure financed by the revenues generated by corresponding real estate speculation for the well-located same sites. Once married with landscape, infrastructure can more meaningfully integrate territories, reduce marginalization and segregation and stimulate new forms of interaction (fig. 3).

**New Water Infrastructures**

In Vietnam, as in many developing countries, infrastructure investments of all sorts are of the greatest priority. It is perhaps paradoxical that in the Mekong Delta, a region overwhelmed by water – especially in the two monsoon seasons – that access to clean drinking water is problematic. This coupled with inadequate storm water evacuation and increased flooding risk (due to climate change and rapid urbanization) translates to an incredible opportunity to rethink the potentials of water infrastructure. A scenario was tested for Cantho’s suburban district of Phong Dien (5000 ha) a rich agricultural area – famous for its fruit and flower orchards. Phong Dien is slated to grow from a population of 23,000 poor rural farmers to a model ‘eco-zone’ of 70,000 new urbanites by 2020. Of course, ecology cannot be zoned (as this district has been singled out as an eco-district of the city in Cantho’s masterplan), but such classification allows for the re-imagining of contemporary water-based urbanism. The district is located up-stream on the Cantho River and southwest of the Cantho’s urban core, and structured by linear development along the river and smaller waterways.

In a landscape/ infrastructure-biased strategy, future urbanization could be guided by public works – roads and multi-functional water-parks. A system of water purification and water retention systems could double as recreational parks and form the core of various new
housing neighborhoods. Constructed wetlands and aerated lagoons could be used as a primary treatment to purify wastewater (designed to treat household wastewater for 3-4000 persons/park). In such parks, spaces could be created to accommodate certain programs in the dry season, which are then flooded in the seasonal rainy season (fig. 4). Each park is designed to have a different identity, with a mix of local and regional programs. New orchards could be cultivated near the public space, providing shade while strengthening the agricultural economy; they could also work as obstacles to urban sprawl.

**Landscape Structuring Urbanism**

Historically, Cantho was a water-based city which was strongly structured by its landscape. Its present-day modernization is in strong contradiction to the logics of its territory. Yet, renewal of the region’s intrinsic nature and its historical urbanization processes and patterns can provide insights for growth. Cantho remains a frontier region in 21st century Vietnam – and one of its primary challenges is to reconcile rapid urbanization and mutation with the far-reaching consequences of climate change. Landscape offers a key to the way forward due to its capacity to structure the territory in a context-responsive manner. Great – speculative – ideas are potentially possible in Cantho as the city (and country) has the unprecedented opportunity to rethink the urbanization paradigm. Imposed from above, ‘generic city’, master-plan-driven modernization is not the answer – such plans always remain detached from the context (spatially, but also socio-culturally and even economically). The underlying logics of the territory can provide both a sustainable and intelligent way to deal with age-old problems and simultaneously offer a form of local resistance to otherwise homogenizing affects of globalization, technology and infrastructure upon the territory.

**References**


“massive change, required – nine axioms for the future of landscape (architecture)"

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Abstract

Landscape architecture is failing to develop and influence large scale landscapes in appropriate and effective ways. The majority of work done on large scale projects is monopolized by other fields. The issue is part lack of self criticism of landscape architecture’s methods and part denial as to the nature of contemporary projects. It is imperative that the discipline begins to critique and revise its perspective and design approaches to better create meaningful landscapes. Through a discourse on the state of this discipline and profession and its approaches to projects, it is possible to reevaluate and regenerate the field of landscape architecture. Nine axioms dissect and analyze the issues landscape architecture faces.

Key words

landscape research methodology, non sites, landscape as framework, project size.

Landscape Architecture has failed to influence, let alone design landscapes, especially on a large scale. Whilst there are numerous projects that deliver on the promise to create landscapes and places that are culturally relevant and ecologically appropriate, most are on a smaller scale or were developed under exceptional conditions and are, by many practitioners, labeled elitist. We acknowledge the importance of such “showcase” projects, but the innovative approaches and insights so far have failed to influence the wider practice of landscape architecture and remain the exception. If landscape architecture wants to avoid obsolescence and fulfill its potential as an agent of change in the development of culturally relevant and ecologically suitable places, it needs to radically transform and re-ground itself in the contemporary scientific, socio-cultural, economic, ecological and artistic discourses. This paper will clarify both the limits and consequences of contemporary practice. Landscape Architecture has not participated in any significant way in the continuous, vast, intentional and often radical change of immense swaths of landscapes. It has been disconnected from the relentless forces and interests underlying the commodification and the making of landscape), such as agriculture, mining, urban and exurban development. Landscape Architecture’s involvement, if any, usually focuses on small areas or aspects of those immense changes, for example the mitigation of environmental impacts.

While none of the criticisms presented in this paper are new, we posit the acute need for landscape architecture to recognize itself as a mode of cultural production, located in the actualities of a social, economic and ecological processes. Participation in this endeavor requires one to engage in the messy political and economic negotiations that pretext most land use decisions, and abandon a value system that is inherently conservative and predominantly rooted in aesthetics and applied ecology (see Botkin 1990, Pilkey 2007). This paper does not offer panaceas. In order to explore the validity and efficacy of these axioms considerable additional research and experimentation is required.

The necessary and consequential discourse on the future of landscape is based on the following nine axioms:

1. Landscape happens. Landscape architecture is involved in only a very small percentage of the landscape. Even where landscape architecture did not avoid taking in the construction of larger landscape systems altogether, it consciously abandoned its historic broad involvement in favor of a limited focus on a small part of planning and building projects. [1]

2. Landscape is process. Landscape is not a product that can be manufactured. Landscapes are continually evolving, with or without any acts of human interference. Whilst the “othering” of nature enabled the exploitation of nature for the advancement of human agendas, it also proves to be an almost insurmountable obstacle to the understanding of natural and cultural systems as interconnected, inseparable and nested. This understanding is critical to the realization of the potentials of both landscape as agency and locus of meaningful dwelling, and of landscape architecture as a discipline that facilitates the relationship between humans and their environments (see Harvey 1996, 120-75 and 210-40; Soja 1996, 53-105 ). This continuous change that characterizes landscape, its being “in process,” (Berleant 1992) challenges landscape architecture’s key assumption: the ability to control and predict any landscape condition. Each project is considered a product, a marketable commodity where involvement ceases once it is built. But, landscapes
are not built – this is a fatal misunderstanding, rooted in the idealization of a describable, static target condition that focuses more on form than performance. Even if it is changed, the landscape immediately responds to this input [2] by further change and adaptation. Instead of focusing on the defined target condition, often against a system’s response, landscape architecture needs to stay continuously involved in a project. Building is just the first step in participating in the ongoing evolution of any landscape project, changing the discipline’s role more to a long-term consultant or manager of change, interfacing with economic, socio-cultural, and ecological processes and agents.

3. Landscape is a direction, not a destination. Landscape Architecture must redefine the “project” not as a product but as the ongoing guided evolution and management of the landscape.

Landscape is a set of nested systems (Skyttner 2006, Wolfe 1998). The amount of variables in even one of those systems is too big to make precise predictions on how it might respond to specific inputs with even a modicum of accuracy (Waldrop 1992). The illusion of control central to the idea of landscape as building can only be sustained by focusing on landscape’s formal properties, such as spatiality and materiality. The moment the focus shifts to performative aspects of a design, any prediction becomes imprecise and fraught with uncertainty. Landscape Architecture needs to engage this open-endedness and account for it in its designs and scenarios. This by no means invites a relativistic understanding. On the contrary, speculations in future landscape conditions and processes need to be based in a thorough analysis and modeling of existing and future systems processes and properties, and at best will render a range within which system properties and processes will vary, favoring incremental and scenario-based approaches.

4. Landscape architecture is still relying on conventions of the picturesque, despite assertions to the contrary and to the idea of “performance over form”.

One of the predominant traditions of western landscape architecture is the translation of landscape paintings into build form – or better, into landscape – resulting in the picturesque landscape garden of 18th c. England. These “pastoral” landscapes were (and still are) considered highly attractive, based on their predominantly visual characteristics. Howett states, “(W)e are still worlds away from achieving the widespread and consistent application and interpretation of ecological principles on the designed landscape... We have for the most part been guilty of turning our backs on this ethically compelling opportunity, and our addiction to the picturesque aesthetic is principally to blame” (Howett 1987).

Aesthetic preferences, based on the agricultural landscape practices of 1850s Europe, are often considered models for landscapes high in biodiversity, habitat connectivity, buffer capacity, etc. The inevitable consequence of this approach are landscapes that are unreflective of (and try to be uninfluenced by) contemporary ecological, economic and cultural conditions and hence inappropriate and unsustainable.

5. Landscape Architecture is habitually mired in “programism” [5] and / or functionalism, leading to inflexible, limited-purpose landscapes.

It is inevitable that landscapes are changed from an “existing to a preferred situation” based on functions they need to fulfill. [6] Most landscapes today are limited in purpose and are understood as passive entities; as ground upon which functional requirements are projected and imposed. This is eminently clear in large tract housing developments in the United States. They have a priori goals developed previous to the discovery of the location or site. [7]

This programistic approach [8] requires an act of conscious erasure of the rich and diverse forces and qualities present to prepare the site to receive the program elements, a reduction of place to tabula rasa. [9] “Using the well-established forms of projection drawing the designer reduces the site, through this representation, to a condition of static receptivity, often precluding the conceptualization and realization of more complex adaptive human-environment interactions”. [10, 11]

6. Landscape projects are limited by static modes of representation during their inception and presentation, resulting in a static understanding of the realities and processes that make landscapes.

Problems and possibilities of representation lie at the core of the activity of landscape architecture. Traditional representations of landscapes tend to the picturesque and fail to capture temporal, dynamic and experiential qualities of landscape. [12, 13] The capacity to represent even more complex and temporarily challenging processes (e.g. long-term successional patterns) beyond freeze-frame diagramming is critical to landscape
architecture’s ability to conceive of projects that understand and engage those processes. Other representational tools that can describe and analyze dynamic change and experiential qualities must become standard to uncover unexpected and valuable site characteristics herefore unknown. Resulting projects will be more adaptive and will relate to the actual experience of landscapes, offering more possibilities for interaction, participation and the construction of meaning and memory.

7. Landscape Architecture is risk-averse. The professional tenets of “health, welfare and safety” are at odds with the experimental character of design and lead to outmoded landscapes. Every act of landscape architectural design is an experiment. Critically engaging this inherent uncertainty necessarily involves taking risks, and is key to developing projects that are adaptive, responsive and appropriate. Landscape architecture, with its inherently conservative value base, [14] has been avoiding both experimentation and the systematic analysis of the outcomes of its designs. Instead, it often relies on knowledge that is to varying degrees reductive, syllogistic, deterministic and self-referential. Concepts of health, welfare and safety are based on conservative value judgments, focused on avoiding a worsening of any given condition over improving it. Thus the present understanding of the “public’s welfare” tends toward lowest common denominator approaches to design. A more effective way to manage risks would be to favor incremental approaches, with smaller, potentially reversible steps over big-gesture master plans. This would require the reconceptualization of landscape architectural projects as more process than product.

8. Landscape Architecture is research-averse. Landscape architecture needs to continuously and critically test its assumptions, methods and outcomes. Da Vinci wrote, “Those who fall in love with practice without science are like a sailor who enters a ship without helm or compass, and who never can be certain whither he is going” (Da Vinci 2008). Landscape architecture once was an experimental field, participating in the great cultural projects of enlightenment and modernism, in the 18th century. Now, its concept of experiment is different from scientific disciplines, in which a guided inquiry involves operational definitions, testing hypotheses, control groups and measurable results. [15] It could be speculated that one of the reasons for this aversion to experimentation is a misinterpretation of landscape architecture as an applied art and applied science. Applied fields in general have a tendency to focus on knowledge as a marketable product and not on the continuous critical development of further knowledge. In all fairness, most qualities and criteria that would allow the measurement of outcomes are qualitative in nature, notoriously difficult to operationalize and measure, and would need the critical integration of knowledge from different disciplines.

9. Landscape Architecture is discourse-averse. Landscape Architecture refuses to situate itself in the scientific, artistic, political and cultural domains and their arguments. In particular, landscape architectural theorists have gone to great length to develop argumentative bases that are considered factual and hence removed from any discourse. The embracing of scientific methods and findings from sciences such as applied ecology in the 1970s and the current flirtation with the ill-defined concepts of “sustainability” are merely attempts to retreat to irrefutable positions that provide inarguable legitimacy yet raise a number of ethical and epistemological questions. The idea of an objectifiable nature serves as a base to conservationist and sustainability agendas focused on trying to “repair and perhaps forestall damage while cultural ways of being and acting in the world remain relatively unchanged” (Corner 1999, 2-4). Whilst this might have worked in small projects to varying degrees, it helped remove landscape architecture further from the social, economic and cultural discourses du jour, losing what little relevance it had left in the public perception, and certainly sidelined it in the discourses affecting contemporary landscape change and its massive scales.

A symptom of this is the intense turf war with our close relatives – architecture and planning. Landscape architecture’s attitudes to both seem to be more sibling rivalry than constructive discourse, having forgotten that all three are primarily occupied with defining, revealing and changing the world around us - in other words, with the idea of dwelling that lies at the core of human existence. Dripps states, “Architecture does not construct an image of something other than itself; architecture is the making of the human understanding of the world” (Dripps 1997, 15-18). Landscape architecture’s inability to interrogate its own identity and raisons d’etre prevents it from participating in the next big cultural project – the reconsideration and remaking of landscape involving a much wider variety of systems, forces and factors beyond its present scope.

“For most of us, design is invisible. Until it fails” (Mau 2004).

Landscape is an agent of change. Landscape is socially and culturally relevant. Currently, landscape architecture is neither. Any attempt to gain the relevance that landscape architecture so desperately desires and to realize the much touted potential of landscape as agency requires the field to develop and clearly state the intent and value of landscape architecture in a way that enables it to participate in the discursive practices that “make” landscape. Landscape Architecture needs to reconnect with the realities of landscape and expand its
horizons of practice and theory, beginning with the dissection and analysis of large scale landscape processes and conditions.

The change in landscape architecture’s theoretical bases, underlying values and practices outlined above delineate a direction for the field. Change needs to happen incrementally, in research, education and practice, and depends first and foremost on landscape architecture’s ability to insert itself into the political processes it has avoided so long. As an applied discipline landscape architecture depends on a rigorous, research-based evaluation of the successes and failures of projects and practice has to outline and contribute to research. Both must inform education. Large-scale landscapes, because of their complexity, contestation and inherent processual character, are the most promising objects of study – much is to be gained from thorough practice and research into interrelated ecological, socio-cultural and economic processes and their expressions in the landscape.

Endotes:
[1] For example, in the United States, landscape architects, pioneers of modern parkways in the 1930s, relinquished road design to engineers in the 1950s, relegating themselves to highway planting design. Its very limited involvement in agriculture or other significant land uses is mostly within environmental impact assessments.
[2] In ecological terms those inputs present nothing but a disturbance regime (see e.g. Lister 2007)
[3] Anita Berrizbeitia describes this as “precisely open-ended” versus being “vaguely loose” (Berrizbeitia 2001).
[4] For an overview of underlying concepts, such as prospect-refuge and habitat-preference theory, see Bourassa 1991.
[6] Herbert Simon provided one of the most comprehensive definitions of design as “transforming existing into preferred situations”. The ability to perform certain functions is a critical aspect of the “preferred”. (Simon 1969).
[7] Site, “in common parlance, refers to the ground chosen for something and to the location of some set of activities or practices… A specific locale provides the material ground for action in design practice, and ideas about site provide a theoretical background against which such actions are taken” (Burns & Kahn 2005).
[8]Jorge Silvetti coined this term in the Gropius lecture at the Harvard Graduate School of Design in April 2002 to describe the superimposition of preconceived program-driven spatial organization. (Silvetti, 2003)
[9] For approaches that discuss the complexities of “site” beyond suitability for a project and engage potentials of both site and rituals of use, see Langhorst 2006 and Giro 1999
[10] (Corner 1992). Words in italics have been added by authors to augment the meaning of the quote.
[12] Nonetheless, Landscape Architects continue to employ the hopelessly inadequate two-dimensional plan as their primary tool. The severity of this dilemma is illustrated in the discovery by Appleyard (1979) that one of his students did not recognize an eye-level photograph of a model developed from his plan.” (Krog, 1981, 376).
[13] Steven Holl describes perspectival renderings as “stills” or individual frames out of a continuous sequence of experiences, where “a determinate view necessarily gives way to an indeterminate flow of perspectives” (Holl 2000, 13).
[14] “The profession of landscape architecture, so named in 1867, was built on the foundation of several principles—dedication to the public health, safety, and welfare and recognition and protection of the land and its resources. These principles form the foundation of the American Society of Landscape Architects’ Code of Professional Ethics as well.” ASLA (2008)
[15] This is not a problem exclusive to landscape architecture. See Fisher 2000, 27-37

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Green Idea/Grey Reality

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Abstract

Landscape is a great idea. Bio-diverse landscape is even an better one: a ‘green idea’. This is particularly true within residential development, as the environmental qualities of housing is central to achieving a sustainable society. A sustainable residential landscape must, inter alia, protect and enhances a site’s biodiversity. This paper describes fifteen UK housing schemes that purport to be sustainable, and identifies to what degree biodiversity has informed the design and management of their landscapes. The assessment highlights a generally poor level of ecological consideration: bio-diverse residential landscape is a green idea, but one that was seldom put into practice, resulting in standardized built outcomes or ‘grey realities’. Through undertaking interviews with stakeholders associated with a selection of the case-sites, key factors behind this apparent disregard for biodiversity were identified. These included belated employment of landscape and ecological professionals on projects and the prioritization of other development elements over vegetation. Perhaps more intriguingly, stakeholders perceived impediments to bio-diverse landscapes stemming from conflicts with two other facets of sustainable design: community/resident needs and the preservation of local identity. These perceptions were, however, founded on a lack of community input and a lack of appreciation for the versatility of bio-diverse landscapes.

Key words

sustainable housing, ecological design, greenspace.

Introduction

Biodiversity – the variety of living species – is a key global resource (Williams & Cary 2002). Although one might picture bio-diverse landscapes as untouched wilderness, they can be deliberately created through the works of landscape architecture (Dunnett 1995). Man can even create bio-diverse landscapes unintentionally; for example the habitat mosaics of urban wastelands (Gilbert 1989) and garden suburbs (Owen 1991). These landscapes may appear different, but they share common traits such as species diversity and variety in vegetative layers and ages. Unfortunately, standard developer-led soft-landscape is often based on simple compositions of mown turf, a few emergent trees, and low diversity shrub mass (Dunnett & Clayden 2007). These approaches are antithetical to the green idea of bio-diverse landscapes and represent, to use the Robert L. Thayer’s metonymic device, a grey reality. A seemingly obvious application of bio-diverse landscapes is in ‘sustainable housing’ (Baines 1998). Although there has been some studies of ‘sustainable’ UK housing schemes built though Urban Village and Millennium Community initiatives and Building Research Establishment (BRE) certification (Barton & Kleiner 2000; DETR 2000; Biddulph et al. 2003), they have failed to fully consider whether or not bio-diverse landscapes have been implemented by the developers, and the reasons why. This paper looks to begin to fill these gaps in knowledge.

Material and methods

Between October 2001 and August 2005, the author undertook a study of fifteen ‘sustainable’ English housing schemes investigating, inter alia, biodiversity though landscape design. The sites were selected to provide variety in unit density, tenure and context (Fig.1).

Each of the case-sites was assessed using a checklist based on the most recent BRE certification method, EcoHomes (see Rao et al. 2000). This allowed their performance to be quantified and benchmarked. Site drawings were analysed and each site was visited, whereupon observations relating to ecological criteria were recorded.

Fig. 1: The fifteen housing case-sites
13 and 14. The number of sites covered in this phase was limited due to time constraints, and were selected to cover a range of densities, tenures, contexts and levels of landscape biodiversity. The interviews were recorded, transcribed and undertaken in line with best practice described by Burgess (1984).

**Results and discussion**

Only case-sites 3, 5 and 9 attained a good rating or above. Vegetation within the fifteen sites was generally poorly connected and had simplistic structure: small, ornamental shrubs and closely mown grass. Overall there was reluctance on the part of the developers to undertake new tree or significant shrub planting. In the few instances where more extensive vegetation was provided, it was at the periphery of the site, unconnected and isolated. Green roofs, artificial habitat features such as bat boxes and ecologically sensitive management were extremely rare (all restricted to inclusion on one site each). According to stakeholder interviews, the observed dearth of vegetation can be driven by a lack of space. This pertained to the low-rise, moderately compact development of site 13 and also the very loose fabric of site 14 (in fact, a correlation analysis of all 15 case-sites showed that tree cover was not negatively related to increased density). Given the current model of omitting significant front gardens and providing for multiple car-ownership, even low density development can appear to provide few planting opportunities for developers. The truth of course, is that vegetation can be accommodated in even tight developments if its location and requirements are considered early in the development process: this had not occurred where a lack of planting space was cited. Calls for housing developers to think earlier about vegetation are not new (see Aldous 1979) but persist (for example Higgins 2004), suggesting an entrenched attitude. Certainly most of the landscape architects and ecologists interviewed bemoaned the significance and timing of their input: too little, too late. The exceptions were those involved with sites 3 and 9, and it is notable that in these cases, better quality landscapes and higher levels of biodiversity were realized.

An important early role for the landscape architect on site 3 was to consult the community on the planting proposals. The resulting orchards, layered borders, allotments and composting areas are thus underpinned by a sense of community ownership, but may not be everybody’s idea of a haven for nature. Research, however, would suggest that such habitat diversity, connectivity and planting structure, rather than abundance of natives, will encourage urban biodiversity (Hitchmough et al. 2004); hence the high ecological value of established suburbs noted in the introduction. The funding for site 3, through a Housing Action Trust, provided landscape management support, and was conditioned on the aforementioned community input. According to the public housing developers at sites 2 and 7, this is not usually the case. The Housing Corporation grants for these schemes were not for landscape management – that was to be covered through residents’ service charges. With no requirement for community participation, the developers assumed that the residents would resent any planting, or more specifically the service charges, and vandalize the vegetation. Putting the maintenance issue aside, this and previous research suggests that a range of bio-diverse residential landscapes can be aesthetically acceptable to local communities if they are consulted, and the degree of anthropogenic intervention (such as mowing strips and exotic plant proliferation) is adjusted to suit their sensitivity to ‘wildness’. For example at site 3, the community welcomed relatively bio-diverse plantings but vetoed green roofs complaining that they didn’t want to live in or near an ‘eco-experiment’. Similarly, Jorgensen (2003) and Nassauer (1993) recorded positive resident reactions to, respectively, contextually sensitive woodland edge planting and meadows, but only within certain aesthetic limits of extent and management intensity. Such approaches compromise full potential biodiversity to public taste (Schulof 1989) but on the other hand, they provide relatively high species diversity and conservation value Gobster (1994) whilst helping with public acceptance – a vital component of successful sustainable landscape (Dunnett & Hitchmough 2004). Interestingly private developers at sites 13 and 14 provided mown grass and a few colorful, ornamental shrubs on the basis that, not only did they perceive a lack of space for anything else, but that it was also what house-buyers found attractive. In the light of the above findings, and the fact that new English house-buyers have actually been shown to prefer leafiness and trees (CABE 2005), their approach probably represents needless conservatism. Yet again the importance of community participation in facilitating sustainable landscape design (for example see Thompson & Sorvig 2000) is reiterated. However it may not have improved matters on some of the public sites investigated here, unless there was a concomitant removal of potential maintenance burdens on the tenants.

This research also identified stakeholders’ perceived conflict between biodiversity and protecting local identity (another element of sustainable design). The developer of site 13, responding to the posited benefits of green roofs, stated that they would look ‘out of place’. A similar
commit to enforcing biodiverse landscape designs, which such opportunities occur the planning authority must the community and the local planning authority. Where morés if a more ecological landscape is amenable to housing developers need not be hide-bound by suburban landscapes need not appear untamed and imposed, and in bio-diverse landscape design to allow this: bio-diverse ecological and physical context. There is sufficient flexibility resulting landscape also needs to be cognizant of ecolo- continuum between gardenesque and wildness. The consultants should work on a site-by-site basis with local is unclear (Williams and Cary, 2002) so developers and between landscape preference and ecological quality 1997) and this should not be repeated. The relationship key failure of sixties modernist, social housing (Aldous can be wary of environments that do not meet their idea of a ‘standard’ condition; failure to recognise this was a failure of sixties modernist, social housing (Aldous 1997) and this should not be repeated. The relationship between landscape preference and ecological quality is unclear (Williams and Cary, 2002) so developers and consultants should work on a site-by-site basis with local communities to identify the appropriate position on the continuum between gardenesque and wildness. The resulting landscape also needs to be cognizant of eco- logical and physical context. There is sufficient flexibility in bio-diverse landscape design to allow this: bio-diverse landscapes need not appear untamed and imposed, and housing developers need not be hide-bound by suburban mores if a more ecological landscape is amenable to the community and the local planning authority. Where such opportunities occur the planning authority must commit to enforcing biodiverse landscape designs, which might otherwise become eroded away as the project proceeds. The UK Government and its agencies can also play a part by looking beyond houses themselves when appointing exemplar schemes for planning authori- ties and developers to follow; highlighting the versatility, viability and vivacity of bio-diverse residential lands- capes. Although community participation can be helpful in facilitating acceptance of bio-diverse plantings on aesthetic grounds, this research also suggests that the removal of maintenance from the residents’ shoulders is also important – particularly in social housing. The multi-species, multi-layered nature of sustainable planting not only encourages biodiversity, it also lowers maintenance (Dunnett & Clayden 2007) but it is not maintenance free. Ironically The Housing Corporation, who fund the vast majority of English public housing (Priaulx 2004), calls for high standards in residential green spaces (Housing Corporation 2003) but offers no maintenance funds to social developers. By pushing the onus of landscape maintenance onto tenants, the Corporation is restricting what can be implemented and should, instead, consider offering additional maintenance support to developers who, through commitment and sensitivity, demonstrate alliance with the green idea of bio-diverse landscape.

Conclusions
This research highlights that a housing development’s supposed alignment with sustainability, does not gu- arantee that biodiversity has been considered in its landscape. The ‘green idea’ of a bio-diverse landscape stands in stark contrast to the ‘grey reality’ of the major- ity of the landscapes observed here. Translation of any great idea into reality requires commitment, and the early and sustained input of ecological advice on housing projects, and a commitment from all stakeholders to act accordingly, is vital. Sensitivity is also required to integrate biodiversity with community needs. The public can be wary of environments that do not meet their idea of a ‘standard’ condition; failure to recognise this was a key failure of sixties modernist, social housing (Aldous 1997) and this should not be repeated. The relationship between landscape preference and ecological quality is unclear (Williams and Cary, 2002) so developers and consultants should work on a site-by-site basis with local communities to identify the appropriate position on the continuum between gardenesque and wildness. The resulting landscape also needs to be cognizant of eco- logical and physical context. There is sufficient flexibility in bio-diverse landscape design to allow this: bio-diverse landscapes need not appear untamed and imposed, and housing developers need not be hide-bound by suburban mores if a more ecological landscape is amenable to the community and the local planning authority. Where such opportunities occur the planning authority must commit to enforcing biodiverse landscape designs, which might otherwise become eroded away as the project proceeds. The UK Government and its agencies can also play a part by looking beyond houses themselves when appointing exemplar schemes for planning authori- ties and developers to follow; highlighting the versatility, viability and vivacity of bio-diverse residential lands- capes. Although community participation can be helpful in facilitating acceptance of bio-diverse plantings on aesthetic grounds, this research also suggests that the removal of maintenance from the residents’ shoulders is also important – particularly in social housing. The multi-species, multi-layered nature of sustainable planting not only encourages biodiversity, it also lowers maintenance (Dunnett & Clayden 2007) but it is not maintenance free. Ironically The Housing Corporation, who fund the vast majority of English public housing (Priaulx 2004), calls for high standards in residential green spaces (Housing Corporation 2003) but offers no maintenance funds to social developers. By pushing the onus of landscape maintenance onto tenants, the Corporation is restricting what can be implemented and should, instead, consider offering additional maintenance support to developers who, through commitment and sensitivity, demonstrate alliance with the green idea of bio-diverse landscape.

References


Green Streets Potential for Downtown Vancouver

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Abstract

In downtown Vancouver, streets and driveways account for about 20% of total land area, while pervious green space varies from 28% in the West End District to less than 5% in the Downtown District. The potential for rain gardens to occupy the existing green space in the West End means the design of rain gardens in the West End would be different from those in the Downtown District. According to the calculations of a Downtown case study, the sample drainage area of the street (500m²) would require a rain garden of 38m² to retain the street runoff during a 24-hour rainfall event of 25.4mm. By incorporating the existing green space in the West End, this requirement could be reduced to 18m². This paper also examines rain garden water balance and soil properties in its calculations. As the cost of rain gardens can range from $30 to $400 per square metre, findings of this paper will be useful to governments and policy makers, city planners and landscape architects when developing green streets strategies and policy.

Key words

Green street, rain garden, swale, runoff

Introduction

The increase of impervious surfaces due to urban development has made stormwater runoff one of the major environmental problems in many cities around the world. This includes increased stormwater runoff, river flooding and erosion problems, and decreased stream water quality (Mentens, 2006: 218; White, 2002). Impervious surfaces such as streets, driveways, parking lots and roofs are not only the main cause of increased stormwater runoff (Connelly, 2006; Stone, 2004; The U.S. Department of Agriculture, 1986), but also the main source of contaminants (Elsayed, 2001; Field, 2007; Gromaire-Mertz, 1999; Hall, 1998; Van Metre, 2003). Rain gardens are one of the management tools that can be applied to reduce stormwater runoff. This paper quantifies the effects of rain gardens on reducing street runoff in downtown Vancouver.

Downtown Vancouver (579ha) includes the West End (204ha) and Downtown District (375ha) (City of Vancouver, 2008a; 2008b). Measurement of downtown Vancouver using a high definition aerial photograph and a GIS map reveals that 17% to 24% of the downtown Vancouver area (579ha) is comprised of streets and driveways, which represents approximately 98ha to 139ha. With an average precipitation level of 1222mm per annum since 1980 (Environment Canada, 2008) and a runoff rate of 736.5mm per annum from impervious surfaces (Roehr, 2008: 183), 0.7 to 1 million cubic metres of street runoff is generated annually and transported off site in the underground stormwater system. The use of rain gardens could capture and infiltrate most of this stormwater in situ, and significantly reduce the street runoff transported off site. How many square metres of rain gardens will be required in downtown Vancouver to retain the street runoff?

Currently, the area of pervious surfaces in downtown Vancouver varies from 28% in the West End to less than 5% in the Downtown District. Therefore, the design of rain gardens in the West End would be different from the Downtown District, as rain gardens could be incorporated within the existing green spaces in the West End to reduce street runoff. In order to quantify the potential effects of existing green space on the design of rain gardens, this paper selects a typical site in the West End and calculates both the street runoff generated by this site as well as the size of rain gardens required to retain that runoff. Two scenarios are developed for the selected site in order to compare the size of rain gardens required by different scenarios [Fig1]. The size of rain gardens is determined by local climatic conditions in Vancouver, soil properties and the water balance of rain gardens. The cost of each scenario is analyzed in accordance with the construction cost range of rain gardens and grass swales. Findings of this paper will be useful to governments and policy makers, city planners and landscape architects when developing appropriate, efficient, cost-effective and site-specific green street strategies for downtown Vancouver.

Methodology

A rain garden is an absorbent landscape which acts like a sponge to soak up, store and slowly release rainfall (Greater Vancouver Regional District, 2005: 25). Recent
research conducted in Portland has shown that by repla-
cing 4% to 7% of the drainage area with rain gardens,
50% to 96% of total runoff can be captured and infiltrated
(Kurtz, 2008). Capturing and infiltrating runoff may also
improve the quality of runoff; rain gardens filter conta-
minants contained in street runoff, which will be partially
cleansed when retained.

The design of rain gardens is dependent on the amount
of stormwater runoff generated from the drainage area.
Rain garden capacity should be no less than the amount
of runoff from the drainage area during the design rainfall
event. Currently, the percentage of impervious streets
and driveways in downtown Vancouver’s West End is
similar to the Downtown District, but the area of green
spaces in the West End is five times the size of the area
in the Downtown District. In a 12ha case study area
in the West End, 17% of the site area is found to be
comprised of streets and 28% of pervious green space,
while in a 20ha case study area in the Downtown District
24% of the total site area consists of streets but less than
5% of pervious green space. As a result, different design
strategies for rain gardens should be applied to the West
End and Downtown District.

To calculate the size of rain gardens, this paper selects
a typical residential neighbourhood block in the West
End and calculates street runoff generated from the site
during a 24-hour rainfall event of 25.4mm. In Vancouver,
more than 95% of the daily precipitation throughout a
year is less than 25.4mm (Environment Canada, 2008).
Two scenarios developed on the selected site are shown
as follows in Figure 1.

For the purpose of this paper, rain gardens are assumed
to have a loamy soil with a soil depth of 1,000mm and a
ponded level [2] of 50mm (Greater Vancouver Regional
District, 2005: 44). The potential water storage capacity
of rain gardens is based on the calculation of soil water
balance, the potential runoff during a 24-hour rainfall
event of 25.4mm, the size of drainage area, and the soil
properties in accordance with the Water Balance Model
(Water Balance Model, 2008). The selected site in the
West End is contained by the following 4 streets: Nicola,
Comox, Broughton and Pendrell streets.

According to the SCS-CN method, the runoff rate gene-
rated from impervious surfaces during a 24-hour rainfall
event of 25.4mm is 20mm. A total runoff volume of 10m³
will be generated from the street surfaces. This runoff
volume can be retained by rain gardens alone [Fig2], or
in combination with existing green spaces through the
incorporation of grass swales [Fig3].

The cost range of rain gardens varies from $30 to
$400 per square metre, and is dependent on subsoil
conditions, plant selection, curbing, storm drains and
underdrains (City of Chicago, 2009). Compared with
rain gardens, the cost of a grass swale is much lower,
around $5 per square metre (USEPA, 2006). Therefore,
the best case scenario will be determined the size of rain
gardens, soil properties and cost. A cost comparison be-
tween scenario 1 and 2 is calculated in accordance with
soil properties and is shown in Figure 4.

Conclusions

During a 24-hour rainfall event of 25.4mm in downtown
Vancouver, an impervious street area of 500m² requires
a rain garden area of 38m² to retain street runoff. In
the West End, the measurements of the selected site
show that 28% of the total site area consists of pervious
surfaces while 20% is covered by streets and driveways.
Incorporating rain gardens within the existing green
space in the West End through the use of grass swales
could reduce the additional area needed for rain gardens
by 53%. Because the cost of implementing a rain garden
can vary from $30 to $400 per square metre, depending
on the subsoil conditions, the cost saving by reducing the
size of rain garden through the use of grass swales will be variable. In well-drained areas, the cost of a rain garden is low. The additional grass swales in scenario 2 will cost more than the savings created by reducing the size of rain garden in scenario 1. Therefore, in well-drained areas, scenario 1 will be more cost-efficient. However, in areas with compacted, poorly drained subsoil with low infiltration rates, it will be more cost-effective to apply scenario 2, incorporating grass swales to reduce the size of the rain garden.

According to measurements, 21% (116ha) [1] of downtown Vancouver (579ha) is covered by streets. If the size of rain gardens required to absorb the runoff generated by these streets is 7.6% (38 m2 /500 m2 =3.6%) of the street area in scenario 1 and 3.6% (18 m2 /500 m2 =3.6%) for scenario 2, a total of 40,000m2 to 88,000m2 of rain gardens will be necessary in downtown Vancouver. This will cost between one million and thirty-five million dollars, assuming a square metre cost for rain gardens of between $30 and $400. Therefore, substantial cost savings can be achieved if rain gardens are designed efficiently, incorporating grass swales where conditions are appropriate. In the West End District, which has a large area of existing pervious surfaces, there is much potential for grass swales to be incorporated into rain gardens, decreasing total size and reducing costs.

References

Endnotes
[1] Measurements are based on four selected sites (10ha to 20ha each) in Downtown Vancouver.
[2] Ponded level. Ponded depth is the depth of surface water above the ground surface.

Climate Change asks for Sustainable Adaptation of Parks: A Challenge for Maintenance and Design

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Abstract

Climate Change is one of the 21st century’s main challenges. It is a complex phenomenon that landscape architects need to consider while creating and maintaining parks in the urban context. Facing Climate Change makes it necessary to evolve sustainable adaptation strategies for a changing situation. We still don’t know how Climate Change does exactly affect parks and how we can create applicable adaptation strategies for an uncertain future exposure, regarding the uniqueness of each park system. To develop adapted solutions that faces future demands, within this research project stakeholders of Viennese parks were involved in the research process. By means of qualitative interviews a living document was evolved to identify, collect and categorise possible impacts and expected effects on public parks in Vienna. By breaking down the collected information, the living document generates the basis for developing representative strategies for sustainable design and maintenance. Furthermore recommendations for practical implementation are developed, that allow practitioners to reflect on principles of sustainable development while operating.

Key words

Sustainable development, landscape architecture, Climate Change, park maintenance systems, sustainable design

Introduction

Landscape Architecture is a diverse discipline, integrating different perspectives and demands in different fields of activities. One of the working areas of landscape architects is planning, designing and building urban public parks. The maintenance work in public parks after the completion of the construction work is usually carried out by a municipal park administration or by qualified private enterprises. Maintenance strategies are ideally developed by the landscape architect during the design process (cf. Vroom 2006).

To achieve quality standards for users, park designers need to consider external influences during the design process – particularly in urban areas, because of the interrelations’ complexity. However, each situation or site condition can be addressed with diverse design solutions. Preferences and decisions of involved stakeholders significantly shape the design process. According to the setting of priorities, as well as spatial and financial possibilities, landscape architects combine their visions with external influences, tasks and impacts (cf. Licka 2008). Among others, there is a dominating major influence, which landscape architects always have to consider when dealing with open space design: the climatic conditions which the area is exposed to. Therefore changes in climate are extremely relevant for the theoretical background, as well as the conceptual and practical work of a landscape architect.

This paper presents preliminary results of a research project on challenges for sustainable landscape architecture, investigating Climate Change impact on urban public green spaces and maintenance systems.

Climate Change – the challenge of our century

Every time period has to deal with pressing challenges, influencing the urban environment and lifestyle of city dwellers. Today we still have to cope with urban development issues from the last century, such as growing population numbers, environmental pollution and urban sprawl. Beyond urbanization, one of the big challenges of the 21st century is indisputably the ongoing Climate Change. Changes during the last decades can only be explained as a result of human impact: over the last 1,000 years there have never occurred changes that drastic in such a short period of time – and this development is very likely to continue because of the amount of greenhouse gas humans are producing (cf. Fourth Assessment Report of the IPCC 2007). Talking about future conditions requires talking about uncertainties of forecasts. There cannot be made any guarantees that predictions will turn into reality. But regarding the environmental impact humans have caused so far, we have to face the fact: even by reducing emissions of greenhouse gas to a minimum – which is unlikely to happen – Climate Change is not stoppable anymore (cf. Kromp-Kolb/ Formayer 2005). The awareness about the irreversibility of certain climatic changes makes it necessary to evolve adaptation strategies for a changing situation.
Regionalized climate models for regionalized adaptation strategies

To create usable adaptation strategies for future periods, they need to be prepared for the specific demands of certain areas or cities. Because of the coarse model resolution, global climate models do not consider regional climatic differences. Regional climate models consider closely spaced measuring points, some link additionally global data with regional data (downscaling method) to develop more realistic scenarios on a regional scale (Matulla et al. 2002). This research project is dealing with sustainable adaptation strategies for the City of Vienna, Austria. Therefore it is based on data of a regionalized climate future model, developed for Vienna (Formayer et al. 2008). The study shows that there are already changes perceivable and changes will continue: for the next few decades, it is very likely that the temperature will rise in general. There will be more days with temperature above 30°C, and even above 35°C. Very hot days could appear in series and therefore cause heat waves. Because of a shift in precipitation, rain is going to fall increasingly during winters and springs, summers and falls will be affected by rain-decrease. The total amount of precipitation per year retains unchanged, therefore very strong rainfalls are probable. Heat waves emerging during periods of no rainfall could cause dramatic drought, with secondary effects such as decreasing soil humidity and the drop of groundwater levels. The study also shows that there will be higher night temperatures because of less nightly cooling-down in between two heat days. It is also predicted that there will be fewer frost days and snow coverage in winters (cf. Formayer et al. 2008).

Climate Change impact on park systems

Climate Change is a complex phenomenon affecting various aspects of human life. It needs to be considered and attended to from different disciplinary perspectives. Of course, Climate Change shows also impact on parks. Meteorological changes affect plantings and materials because of changing exposures and framework conditions. Besides these direct impacts on park elements, it is very likely that use patterns of park visitors will change when living in a new climatic situation. Regarding use frequencies and use durations or the character of usage, the visitors’ impact on a park system could change, too. Talking about Climate Change requires talking about urbanization, because the density of big cities can cause a further increase of Climate Change effects. Beside that, public parks are put under enormous pressure: the ongoing aggregation in urban areas leads also to an intensified use of parks. The changing lifestyles of city dwellers (cf. Grimm-Pretner/Licka 2000) increases the pressure. The users’ expectations on the park design are growing, and use trends nowadays are changing rapidly. Parks are not only an important place for dwellers to recreate and spend their leisure time, they also contribute to the stabilization of temperature and air quality. Because of these functions, the sustainable development of parks plays a decisive role in the future context of urban development.

Sustainable adaptation and design of parks

Regarding the integration of the concept of sustainable development in landscape architectural design, the scientific discussion is still in an early phase. Design interventions that have been shaping qualities by now, need to be questioned against the background of Climate Change prognoses. Hitherto existing quality standards in design might change. Therefore parks need to be adapted to and designed for continuing changes that have already started and will further continue. But how can we currently react on a contingent future situation in a sustainable way? Are strategies of sustainability the only answer to Climate Change? Do we really need to implement long term strategies, considering intra- and intergenerational justice (cf. Hauff 1987) and social, economical and ecological responsibility (cf. e.g. Luks 2002)? Why not just adapt spontaneously once the changes occur?
Systems of research for sustainable adaptation

To deal with the complexity of Climate Change and to develop sustainable and applicable solutions for the real world, disciplinary boundaries must be transcended and stakeholders, their demands and experiential knowledge must be integrated. Scientific results can thereby be returned to practitioners in an appropriate way (cf. e.g. Pohl/Hirsch-Hadorn 2006 or Hirsch-Hadorn et al. 2008).

To capture the situation in Vienna, our first step was to identify involved stakeholders in parks and to develop a common research question. Most of the Viennese parks are realized and maintained by the garden department of the municipality of Vienna, therefore this department is a transdisciplinary partner.

For adapting urban public parks, we have to find out how Climate Change exactly impacts. Which park elements will be eminently affected? The research work is being conducted on the basis of an impact-effect-catalogue. This catalogue is a continuously adaptable living document. Whenever awareness of new data is gained, the paper is supplemented. The catalogue is classified into Climate Change impact on (1) park users, (2) urban vegetation and (3) maintenance systems, including resources, materials, park furniture etc. The document is structured along a sequence of causes and effects [Fig. 1].

Initially, the catalogue consisted of diverse information collected by the research team. By means of qualitative interviews with stakeholders of public parks and guided discussions with focus groups, the living document was enhanced. As a result of the ongoing collection of data, sustainable adaptation strategies can be developed. Therefore the living paper generates the basis for representative strategies for sustainable design and maintenance. Because of every park’s uniqueness with its special requirements and facilities, we also evolve recommendations for practical implementation, that allow practitioners to reflect on sustainable principles of Climate Change adaptation while operating: a check-list is generated for achieving a „system of objectives“ (Grimm-Pretner et al. 2008). Because of the transdisciplinary investigation and the sequenced structure, the living document makes Climate Change more comprehensible than existing handbooks do. It allows stakeholders to retrieve an observed symptom in the document and follow the sequence on to adaptation solutions. Additionally to this transdisciplinary product, the overall Park concept of the garden department, which includes principles for designing parks in Vienna, will be enhanced with our results.

This detail of a simplified example shows the structure of the living document [Fig. 2].

How can we currently adapt to a contingent future situation - Sustainable development of parks

Our results show that Vienna’s park maintainers are increasingly aware of the interrelation between Climate Change and urban green systems – on different levels of the administrative hierarchy. While leaders recognise the relevance of strategic Climate Change adaptation because of growing liability in public places, practical gardeners mainly report on changed maintenance methods they apply and on increasing expenditure of work. Both, ad-hoc adaptation and strategic management need to be considered to secure the park’s quality now and in future.

Maintainers are those who are confronted with changes in parks first. Typically they react directly on-site. Only awareness raising, sensitisation and education enables to identify changes as Climate Change impact, which is an important step to coordinate adaptation. The observed impact can therefore be passed on to park managers, who can accordingly react in a more strategic way. This passing on of knowledge must be fostered through operationalised communication systems, to ensure the handing on of information.

The knowledge gained by maintainers must also be communicated to park designers, so that they can include relevant information into park concepts. „Our landscapes are constantly subjected to short and long-term process-
es such as day and night, the monthly progress in seasonal time, the annual cycle of seasons connected with growth, propagation and death of organism” (Motloch 2001). Parks are therefore highly dynamic and developments over time are often unpredictable. But not only the vegetation’s long term development asks for anticipatory design; also the immutability of a design’s basic framework makes structural changes within a park, after it is built, intricate, sometimes even unfeasible. “Because each successive generation has different needs, the adaptation of outdoor space to new uses is a permanent process” (Vroom 2006,126). Hence, urban parks ask for structures that are as flexible as outside impacts and changing life cycles. “Flexibility is achieved through the establishment of fixed and durable elements in a framework that encloses interior spaces or compartments. Inside them, continuous change can take place, while the overall structure is left intact” (Baljon 1992). Considering the longterm existence of usually more than one or two generation-cycles of parks and the momentous global changes at present, this idea becomes even more important. Against the background of Climate Change, sustainable design should therefore become a major design principle. Climate Change is not easy to identify and changes do not appear abruptly. There is sufficient time to adapt, but we need to remain aware – through developing of knowledge and education of stakeholders, through operated communication strategies and through sustainable design principles.

Acknowledgement

This paper has been prepared in the framework of the Doctoral School Sustainable Development (dokNE) at BOKU University Vienna, funded by the Austrian Sustainability Research Program provision of the Federal Ministry of Science and Research as well as by the Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW) and the federal states Lower Austria, Styria, and Vienna.

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Sustainability in Park Design – An Integrative Approach

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Abstract

This paper investigates the concept of sustainability in the context of park design. Sustainability is seen as a process of a landscape or landscaped site, which is related to natural, social and cultural systems. The paper draws on research findings, resulting from literature analysis as well as investigating a range of built work for sustainable qualities. Case studies were conducted in five new or redesigned parks in small towns in Lower Austria. The paper shows that every design-related decision within a design process influences the three dimensions of sustainability – society, environment and economy. Applied to a design process, a model is introduced which offers handling instructions to cope with contradicting requirements for public parks. It stresses the importance of the role of landscape architects to develop innovative design strategies as well as innovative design concepts. The potential of design solutions to create an added value, based on the requirements of sustainability, is highlighted. The paper concludes that an enhancement of the quality of public parks can be achieved by exploring limits and restrictions between the three dimensions of sustainability and by looking for synergies and merging them through design.

Key words

Sustainability, sustainable landscape design, public open space, park, Lower Austria

Introduction

In the context of landscape architectural production, there is a wide range of interpretations of the term ‘sustainability’ and its possible relevance for theory and practice. Within this field, it provokes many different reactions and understandings: They range from suspicion regarding the term over focusing on eco-technologies or ecological aspects to avoiding the term and speaking of performativity instead (cf. Meyer 2008: 12 ff).

In the context of this paper, we will start the discussion from the point of view that sustainability is not a current status of a landscape or a landscaped site, but a process which is related to natural, social and cultural systems. The aim of this paper is to explore the concept of sustainability as a model to provide impulses for innovative developments in open-space design and, thus, support the production of high-quality open spaces. It is not our goal to assess landscape architectural projects in terms of sustainability.

The paper will focus on the potential of the concept of sustainability in the context of the design of public parks. The question what a ‘small’ park can contribute to a sustainable development of a society arises as the concept of sustainable development requires the society to offer its members freedom of action and chances to meet their needs. To foster cohesion in a society, the urban sociologist Herrmann suggests starting on the microscopic level, the level of social interaction of individuals (Herrmann/Lang 2001: 30). Jan Gehl (1987) states in this context that the facilitation of social activities in public space and the resulting social networking is often underestimated. Therefore, parks, as important elements of public space, represent a promising starting point to explore the possibilities of the concept of sustainability to enhance the qualities of public open space.

Material and methods

The paper draws on research findings, resulting from literature analysis as well as investigating a range of built work for sustainable qualities. Case studies were undertaken in five new or redesigned parks in small towns in Lower Austria. The complexity of the research questions required a mix of methods pertaining to social and spatial sciences. The methods covered the analysis of documents (design idea, design maps) and sites, design analysis by decomposing sketches, fotodocumentation, literature analysis, expert-interviews and participatory observation.

Results and discussion

The Model of ‘Critical Sustainability’

Sustainability is a holistic, normative concept which pursues the goal of including ecologic, economic and social interests. The three-column model – ecology, economy, society – expresses the theoretical fair balance between these spheres, which has been postulated in nearly all documents (cf. Alisch / Herrmann 2001: 98). Nevertheless, the tendency to grant single columns more importance than the others still exists in practical experience. This leads to the question whether and to what extent, a substitution between the columns is admissible.

The model of ‘critical sustainability’ allows a substitution between the columns but requires protection for the ‘substantial constituents’ within each column (cf. Blazejczak / Edler 2004: 13). The advantage of this model is that the ‘substantial constituents’ within each column can be defined and based on this a negotiation process between substantial constituents in each column can...
take place. The societal project ‘sustainability’ stems from learning processes which are far more than only repeating the known – through reflection, objection and antithesis, a new view of the past, present and future has been developed (cf. Alisch / Herrmann 2001: 106). Herein, the process-related nature of sustainable development is mirrored, which needs constant further development and expansion of knowledge to understand the interrelationship between the columns and the substantial constituents better.

‘Critical Sustainability’ as a Model for the Design Process

Referring to the model of ‘critical sustainability’ (cf. Blazejczak / Edler 2004), an application for the design of open space is developed. A landscape architectural design of a site is the result of many different decisions that are made during the design process [1]. And every single one of these decisions has an influence on the three columns of sustainability. Being aware of and working with this is the basis for the following.

In the context of a design project, it is appropriate to speak of three ‘dimensions’ of sustainability to express the comprehensiveness of a design project within which every single area and every single detail should combine the substantial constituents. The required substantial constituents for designing a park are phrased as ‘goals’ within each dimension. The goals are verbalized in a way that they generally cover the whole thematic spectrum (see Fig. 1).

In the following, the dimensions and the goals are explained:

Within the dimension ‘environment’, sustainable development is discussed from an ecological point of view, whereas ecology and ecological processes are seen in interrelationship with the people living in it. ‘(...)’, sustainable development does not result in landscapes that are ‘natural’ in the generally accepted sense. Natural landscapes by definition have evolved without substantial human influence” (Lyle 1994: 10). In that sense, the concept of sustainable development leads to a durable cultural landscape.

Transferred to a design process, the natural qualities and characteristics of a site have to be analyzed and the ability for development has to be investigated. Natural cycles (e.g. water, or organic material) are of importance but also to make the special qualities of seasons perceivable. Measures and used means are to be optimized with the goal to establish self-regulating structures. Summarizing, the goals for the dimension environment – to be discussed within a design process – are: to make use of the natural qualities of the site, to optimize the input of resources and to visualize natural cycles.

The existence of versatile public space is a spatial prerequisite for a vivid community. Parks are socially constructed spaces and a product of social processes. Therefore, the goals within the dimension ‘society’ are to offer possibilities for usage to satisfy the needs of the users and to foster communication to establish social relationships and, therefore, to strengthen networking within the community. Last but not least, the goal is to offer possibilities for identification in order to enable a positive connectedness with the site and the people on the site.

Capital investment in open space leads to earnings in the sense of sustainable development of a community. Soft location factors like environmental, living and leisure time qualities are of increasing importance for decisions related to housing and business location. At the very beginning of a design process, in the concept and planning phase, decisions are made which influence the costs of a project the most, and these costs can only be influenced marginally in the realization and usage phase. The important task in landscape architecture is to find a design solution which fulfills the needs but which is also aware of the financial consequences in the realization and maintenance phase. Based on this, three goals within the dimension ‘economy’ can be phrased: it is a goal to maintain options for the future, to be responsive to changes, for example a changed demographic structure of the community. The use of financial means has to be optimized in a way to create a high value of benefit. By investing in public open space, the local value shall be accelerated to strengthen regional economic cycles.

Furthermore, to each goal, a set of questions is elaborated which have to be dealt with in the process of conception and designing. As a basis for an intense treatment, only questions which cannot be simply answered with ‘yes’ or ‘no’ but ask for an examination with regard to content are phrased. Some examples are: Within the dimension ‘society’ - How can the park become a place
of identification for and with the community? How can processes of identification be initiated? Which design elements encourage social interaction? Within the dimension 'environment' - What guiding theme can be deducted from the natural qualities of the site and transferred into design? How can the design activate the ecological potential of the site? How can natural cycles be integrated into the design concept? Within the dimension 'economy' - At what rate are maintenance and usage? How can the maintenance be minimized by designing the details? The elaboration of the answers – ideally by combining goals – ensure the required protection of the 'substantial constituents'. Of course, this can lead to diametrically opposed requirements. Design approaches deal with these opposing requirements or conflicts differently.

The Integrative Design Approach
The practical realization, meaning the examination of the goals and the answering of the questions, asks for a combination of the goals of all three dimensions. By a reductive design approach, the single goals limit each other and the lowest common denominator is the result. An integrative design approach exploring these limits and restrictions is more promising. The role of the landscape architect in an integrative design approach is not only to manage these boundaries but also to look for synergies between the goals and to develop intelligent design solutions. An 'intelligent design solution' provides an added value.

Sustainability, as discussed in this paper, was not a project requirement of the sites under investigation. Nevertheless, some aspects or parts of projects can be useful to illustrate the search for synergies between competing goals of the three dimensions and the elaborated design solution. In one example, a former private and walled park had to be integrated into the town’s public green network. The designers developed a concept based on the natural qualities of the former flood plain in the lowest part of the park. A subterranean canal was opened, it supplies two new ponds with water and in case of floods, the ponds secure water retention. The new wetland is connected to the river system. Instead of focusing purely on ecological improvements, the designers decided to have a major pedestrian access across this area. The design of the two footpaths, bridges and sitting areas offer the visitors different views of the wetland and its vegetation. By modeling the shore, they partly provided access to the water but also prohibited access to some parts of the shoreline. From an economic point of view, it has to be mentioned that the water is also used for irrigating the elevated parts of the park. A second example also deduces the design concept from the location of the park at a river bank with possible floods. Deducing design concepts from natural qualities of the site seems to be a common starting point. The degree of integrating goals from other dimensions and their connection through design is extensible and depends very much on the creativity of the landscape architects and their search for possible synergies.

Conclusions
The production of public space is intensively embedded into the social structure of a community in a complex and manifold way. Every strategy, thus, to enhance the quality of public space in a community has its starting point here. The specification of the goals by elaborating the questions is an intensive negotiation process between many actors who are involved in the planning process. The result of this negotiation process is a solid profile of requirements for the design of a park. This profile of requirements already complies with the concept of sustainability because ideally, all decisions have been made by
considering the goals in all three dimensions. The clearer and more precise the requirements are phrased, the easier the communication between all persons involved, the negotiation of differences in interests and also the realization process is.

The model of ‘critical sustainability’ enables the integration of environmental, social and economic requirements by design. The results are design concepts which reach farther than ecological design concepts because of considering the natural, social and cultural systems of equal importance.

The model is based on a very creative attitude – not only on the side of the landscape architects but also on the side of the clients. The integrative design approach offers possibilities for an added value through design by searching for synergies between the different dimensions of sustainability. An achieved added value is a great design accomplishment by the landscape architect but this has also to be asked for by the client.

All actors involved face a great challenge by steering the process of sustainability actively and creatively to develop public open space as a solid structure in settlement areas.

Endnotes
[1] It is not the aim of this paper to focus on different decision makers or decision-making-processes.

References
Preserving community gardens in NYC: Strategy in public space development?

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Abstract

The development of community gardens in New York City since the 1970s is presented in this paper in regard to the gardeners’ actions to preserve their gardens as permanent institutions and the concomitant actions and responses by the city. By focusing on the general development of community gardens in New York City’s low-income district of the South Bronx and on the specific development of the community gardens’ small houses, the “casitas”, the city’s strategy in dealing with the gardens is revealed. Urban land is increasingly used for public gardens in times of economic crisis, only to be built up again in times of economic boom. To sustain community gardens and to permanently preserve them as public landscape, the gardens need to be legally defined as a specific form of land use and to be incorporated into comprehensive zoning plans.

Keywords

Individualized public spaces and preservation, changing landscape uses, cultural context of landscape and design on public land

Introduction

When walking through an American metropolis like New York City today, community gardens are easily recognized: a fenced, green, public open space next to multi-story apartment buildings, where families and neighbors, friends and strangers meet [1] [2] [Fig. 1]

Community gardens appeared first during the 1970s in the urban environment in New York City. Some residents of the city’s low-income districts had begun to clean up rubble-filled, municipally owned vacant lots next to their apartment buildings to improve the quality of their life by creating gardens.

The grassroots activity of community gardening became a movement that continued over the last 30 years, with the number of gardens fluctuating depending on location. Due to the drastic effects of the ups and downs of economy on low-income districts, the concentration of community gardens was high in the South Bronx, and still is today [3].

The city has been involved in controlling the community garden movement since its beginning. The regulations issued recently for the construction of small houses on garden sites are an example of the official measures taken to control the privatization of public space and are part of the city’s strategy of public space preservation and development.

Material and methods

The analysis is based on the experience and research of Edie Stone, Director of the GreenThumb program of the Department of Parks and Recreation of New York City since 2001, and on the dissertation currently being written by Carolin Mees at the Berlin University of Arts with the working title “Rebuilt Rubble: the inevitability of common land use in the inner city from a social-economic open space planning perspective at the example of the development of community gardens in the South Bronx from the 1970s to 2010.”

In addition the results of the design process of GreenThumb’s “Gardenhaus” that the authors worked on with a team in 2008 are presented.

Results and discussion

The South Bronx is located at the southern tip of the borough of the Bronx, near to the global financial center of Manhattan Island to the south. In contrast to the wealth of Manhattan the population of the South Bronx is primar-
rily made up of low-income families. The median family income in the South Bronx in 1980 amounted to only $7,800 per year (www.census.gov; McCain, 1987) and in 2005 “the Bronx had the fourth-highest poverty rate in the nation, trailing three counties on the Texan-Mexican border.” (Leonhardt, New York Times, 2005)

The area of about 42 Square Miles (110 Square Kilometers) is isolated by three major highways, built in the 1950s through a formerly intact urban fabric and its diverse, social networks to guide an increasing number of cars out of the city to new parks, parkways and suburban housing developments. At the same time the real estate market pushed a new wave of immigrants, then mainly from Puerto Rico, into the district, while the wealthier residents moved to the suburbs.

The number of population decreased and was especially low between the years 1970 and 1980. While in 1970 there were 386,061 residents, in 1980 only 167,370 residents remained. The number of residents was cut in half in a decade. (Gonzales, 2004)

An ailing urban infrastructure and government-subsidized suburban sprawl supported the shrinkage of the population further. It seemed that only those who could not afford to move out were still living in the South Bronx.

Apartment buildings became unprofitable to invest in, and owners often arranged the arson of their buildings to collect insurance money rather than maintaining the property to collect low rents. In 1975 only, there were about 13,000 fires counted in about 12 Square Miles (31 Square Kilometers) in the South Bronx, i.e. a third of the formerly built-up area was on fire in one year [4]. (Grünsteidel, 2000; Newfield und DuBrul, 1977) The borough lost more housing units in a decade “than any entire city in the country with the exception of Detroit. The Bronx had a net loss of 56,459 units between 1970 and 1980.” (Feldman, 1997)

In 1977, the City of New York amended the In Rem Foreclosure Law to allow foreclosure on tax delinquent properties after one year of non-payment. The intention was to turn marginal buildings with tax arrears into city-owned property before they were completely rundown and uninhabitable – and then to sell them, when the economy improved. In the meantime, most of the buildings were bricked up to prevent residential use and rubble-filled vacant land was fenced off – the city’s budget did not include funds to maintain either buildings or lots. Drugs and crime contributed to the social, structural and economical decay. Ruins and lots filled with rubble remained. Acres of vacant land in the vicinity of Manhattan, that nobody seemed to be interested in – except for the remaining residents. They began to clean up some lots to cultivate gardens with flowers and vegetables next to their homes. Families, neighbors and friends started to meet in this newly created safe place outside of their apartments, in their community’s garden.

The City of New York did not object to this grassroots activism, but tolerated the voluntary efforts of the local residents as a welcome relief to the city’s budget [5]. More and more community gardens were started all over the city and run-down neighborhoods revived. Residents regained social control over their neighborhood and quality of life improved. The community gardens attracted media attention and nationwide public interest [6].

To cope with the community gardens movement and “(...) to regulate the unofficial use of city land by the Latino and African Americans for community gardens”, (Sciorra, 1996: 81) the city’s administration under Mayor Edward Koch created Operation GreenThumb in 1978 as a part of the City Department of General Services. Utilizing Federal Community Development money,
the City applied the military sounding name as a clear reflection of the dire situation in neighborhoods that it was hoped development of community gardens would alleviate [7]. GreenThumb remains a program that provides materials and technical assistance to gardeners and that manages the leases of public land for gardening [8]. When signing the lease of a garden lot, the gardeners agree to observe certain rules: for example, the lease "(…) will be terminated if there is an 'illegal structure' on the property, an ambiguous term defined as ‘any enclosed structure’." (Sciorra, 1996: 81)

Urban renewal programs were finally re-enacted under Mayor Edward I. Koch, following his re-election in 1985 [9]. "According to the city’s department of Housing, Preservation and Development, some $1.3 billion of city funds went into the South Bronx alone". (Worth, 1999) The South Bronx was built up again, not with the previous five-to six-story tenements, but with owner-occupied houses with private yards that were of low density and a maximum of three stories high. The housing was subsidized to enable more residents to own the land they lived on in order to socially and economically stabilize the area [Fig. 3].

With the ongoing redevelopment, population numbers increased again, while the access to open space decreased [10].

The community gardens that had helped to trigger this re-development were now endangered, since the land they occupied increased in value and since there was no legislation in place to protect their status as open space [11]. A survey conducted by the American Community Gardening Association in 1996 states "there is now no new long term protection other than permanent transfer to Parks. Despite trying other mechanisms to protect those lots in intermediate status, there is still no answer to the permanency dilemma." [12] (American Community Garden Association, 1997)

In 1999, New York City announced the auction of public land occupied by 112 community gardens, based on Mayor Giuliani’s perspective that "this is a free-market economy. The era of communism is over." (WABC, 1999) The arrest of gardeners protesting the auction called public attention to the situation and one day before the land was to be auctioned off, the non-profit organizations the Trust for Public Land and the New York Restoration Project bought the properties for $4 million [13].

In the same year, New York State Attorney General Eliot Spitzer sued the city for neglecting to provide an environmental assessment of the impact on neighborhoods caused by selling community gardens.

In February 2002, the judge in the Spitzer case issued a temporary restraining order to stop the auctioning of community garden land. The order terminated in September of the same year in the Community Gardens Agreement. This settlement preserved most of the existing community gardens by transferring them to the jurisdiction of the Department of Parks and Recreation. At the same time, it allowed the city to develop immediately some garden sites with affordable housing and to build upon other gardens, when they had undergone a Garden Review Process and the gardeners had been offered an alternative gardening lot in the vicinity [14].

Today there are over 600 community gardens in New York City, many administered by the GreenThumb Program [15]. Their design varies, depending on the neighborhood and the group of residents that created the garden. In general, the elements of the landscape disclose that the space is commonly used: a small sheltering structure, a barbecue, benches and tables – all next to small, individual gardening beds.

The safety and liability standards required by insurance and applied to other municipal parkland are often not met in a community garden, which provides city officials with arguments to curb the "impending privatization of public space" by imposing new rules in regard to the use of community garden land. In practice though, rules can be interpreted. In 1984, for example, GreenThumb’s former Director, Jane Weissman, had in regard to illegal structures on garden sites "(…) to a large degree turned a blind eye to gardens with casitas", because she had "(…) realize(d) that any attempt to do away with it would drastically reduce Puerto Rican involvement in municipal-sponsored gardening." (Sciorra, 1996: 81) In 2007, city officials from the Department of Buildings and the Department of Parks and Recreation drew up new standardized guidelines concerning the construction of structures in community gardens. This issue had already been discussed in 1991, when "as a result of increased media attention, city hall pressured GreenThumb to develop an officially-sanctioned, standardized, open-air structure (…)" (Sciorra, 1996: 81)

The new guidelines specify that the roofed area of a structure must be a maximum of 150 Square Feet (about 14 Square Meters), the height is restricted to a maximum height of 10 Feet (about 3 Meters) and that a distance of 6 Feet (about 1.80 Meters) has to be kept from all lot lines. In addition, the enclosure has to be optically permeable, because often garden structures, particularly "casitas", were utilized in unsafe ways that also was to city officials a sign of privatization of public space. In 1996, the structures were described as follows: "Casita interior space is furnished with many of the comforts of home; a table and chairs, a couch, and even a television. A number are outfitted with a small but operational kitchen complete with a refrigerator, running water and a working stove. Gas is supplied from a refillable tank and water is obtained from
either a rain barrel or nearby spigot. Electricity may be illegally tapped from a nearby lamppost, or in other cases an agreement is worked out with the superintendant of a neighboring apartment building, to whom casita members pay a monthly fee for the use of electricity. An adaptation to New York’s potentially harsh winters is the installation of electric heaters, wall installation, and in one case, a working fireplace.” (Sciorra, 1996: 72)

New guidelines for construction of garden structures specifically prohibit nearly all of the uses listed above. In addition, a guidebook produced in part by the authors of this paper to instruct gardeners how to build acceptable structures refers to the buildings as “garden house”, or Gardenhaus, in order to avoid the word “casita”, which is stigmatized by city officials due to the previously common uses described above [16].

The new wooden shed or “Gardenhaus” is designed according to the new guidelines, but to allow a maximum adaptation to various sites and individualization by the gardeners [Fig. 4]. The building typology of the Gardenhaus is based on the structural traditions found in New York City’s community gardens and reveals the cultural background of community gardeners: casitas are usually to be found in community gardens with a Puerto Rican or Caribbean gardening group – i.e. mainly in low-income neighborhoods like the South Bronx [17]. “These ‘little houses’ are usually raised off the ground like their counterparts in Puerto Rico which often were often constructed on posts for protection from seasonal inundations. The balcón, or veranda, a dominant feature of Caribbean popular housing, is the most recurring element of New York casitas.” (Sciorra, 1996: 70, 71) Other building typologies incorporated into the Gardenhaus’ design are the stage and the gazebo, which are both common elements in a community gardens’ public landscape.

The Gardenhaus, for now, makes it possible to avoid the use of prefabricated, standardized garden sheds, and allows self-built casita-type structures to remain a part of the urban landscape of New York City. Like José Manuel ‘Chema’ Soto, former resident of Rio Piedras in Puerto Rico and builder of several casitas in the South Bronx, explains, “[casitas are] a symbol of poverty, of what we went through.” [Fig. 5] (Sciorra, 1996: 76)

Conclusions
The way, New York City has been dealing with community gardens in general and with casitas specifically, reveals the effort to gradually transform these gardens from privately used, public grassroots-landscapes into more formally used public open spaces. The current effort to preserve community gardens is part of the city’s strategy in public open space development.

At the same time it begins to classify community gardens as a unique and specific form of land use – a volunteer constructed and managed yet municipally owned open space; a place for urban residents to meet, express and organize themselves, outside and at no cost.

Nevertheless, because the conflict between open space use and construction on inner city land continues, community gardens need to be included into comprehensive zoning plans. Because of the unique benefits provided by community managed open space as opposed to traditional parkland, neighborhood community gardens need to be legally defined as exactly this form of open space use, particularly important for economic, social and democratic reasons, in urban low-income districts [18].

Fig 4: Design of the Gardenhaus by mees weis architects on behalf of GreenThumb, 2008

Fig 5: Organization is needed to sustain economic pressures, El Batey Community Garden South Bronx, Photo by Carolin Mees 2005
In 2002, Mayor Michael Bloomberg proposed in 2002 his New Market-Place Housing Plan to create 65,000 housing units over the next five years, built on the last "vacant" lots that the city-owned. (Department of Housing Preservation and Development, 2002)

[15] GreenThumb is the nation’s largest urban gardening program, assisting over 600 gardens and nearly 20,000 garden members throughout New York City. (http://www.greenthumbnyc.org/mission.html, as accessed on 7. January 2009)

[16] The guidebook for a self-built “Gardenhaus” is available online on the webpage. (www.greenthumbnyc.org)

[17] In Puerto Rico, for example, landless urban residents took over marginal public land on the urban periphery to create a garden with a wooden “casita” (Sciorra, 1996: 70, 71)

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Urban imageability & open space in post-apartheid Johannesburg

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Abstract

The social, economic and morphological legacies of apartheid, as well as new forms of citizenship created by neoliberalization, have challenged conventional planning models ability to address the evolution of South African cities like Johannesburg. This paper considers the role urban open space might play in welding this historically-divided city, where residents have very different expectations, spatialities and memories, into a cognitively imageable metropolis. It argues that minimal but differentiated improvements to the city’s residual open spaces would allow different ideas of nature and as well as different forms of memory to coexist. Encountered through patterns of movement, such undecidable natural landscapes would weave a “memory-scape” that strengthens the city’s cognitive legibility and promotes a pluralistic “phenomenology of locality”.

Keywords

Imageability, open space systems, memory, difference, temporality.

Introduction

Johannesburg after apartheid

Post-apartheid South African cities have challenged conventional ways of thinking about the relationship between planning, development, and social justice. This is especially true in Johannesburg, where the social, economic and morphological legacies of the apartheid years, have collided with new forms of citizenship created by economic deregulation and uncontrolled in-migration from the rest of southern Africa and Africa. Purportedly Africa’s wealthiest city, Johannesburg (or, more colloquially, Joburg) is paradoxically experiencing unprecedented levels of poverty, homelessness, crime and urban decay today. The formal divisions of apartheid no longer exist, but Joburg has become a city of overlapping realities. Reconstituted by multiple new constituencies, its economy is increasingly shaped by mobile users and politically unaccountable publics. [Bremner 2006: 86]. The new political order has transformed long-standing citizens’ physical and imaginative “right to the city”, bringing greater freedom of movement and residence, but also seemingly endemic crime and cycles of urban decay, abandonment and re-appropriation. [Bremner 2000 & 2002]. As in many other globalized cities, hypereal zones of spectacle, surveillance and control mingle with derelict spaces of material and economic entropy left by mobile capital. [Cairns 2006: 197]. This has created an increasingly heterogeneous and incoherent citiescape, where conventional urban taxonomies are strained to breaking point, and ‘common cultural referents’ have been replaced by a multiplicity of expectations, spatialities and memories. [Bremner 2002: 171; Vladislavic 2004: 6] In this sprawling metropolis, citizens pass each other like tourists, and the public realm is permeated by an air of imminent danger outside securitized office parks, themed gated communities and spectacular shopping malls.

The Greater Johannesburg Metropolitan Council created to weld this previously-divided city into a single entity has struggled to redress the effects of past injustices still felt by many residents, while simultaneously enhancing sustainability and meeting market-driven, cost-recovery mandates from the state. The GJMC also recognizes that transforming Joburg into a “world class city” in which more than 10 million residents feel a common sense of citizenship requires cultivating what one commentator calls “a sense of experience, (a) phenomenology of locality which creates, moulds and reflects perceived ideals”. [Czegedely 2003: 38]

Urban process and landscape character

No discussion of how people identify with cities they live in can avoid referring to Lynch’s concept of ‘imageability’, which held that certain patternings of urban spatial components help inhabitants develop a shared cognitive image of the city and shape their attachment to it. [Lynch 1960] Given Johannesburg’s entropic built environment, conventional wisdom would suggest that we should look to the city’s open spaces for this legibility. The raw materials are not propitious, however. Renowned for its lack of natural features or scenic beauty, Joburg was established in the late 19th C. “in the middle of nowhere” by mining interests – speculators, capitalists, entrepreneurs, engineers – who had no long-term urban visions. Its physical growth has been characterized by speculation and an over-determination of supposedly “rational” solutions to social problems. Not only were the town’s first surveys, effectively, mining claims based on older farm boundaries, but its initial expansion followed the underground gold reef, in an east-west direction. The city became a patchwork of districts in which street patterns reflected the irregular shapes of the original farms rather than any plan to orchestrate these tracts into a coherent city. Subsequent extensions varied little from the original grid, creating a harsh citiescape with few intentional public spaces, significant street corridors or landmarks [Murray 2008a: 160-1]. The only significant intervals cre-
ated by this relentless speculative growth were parcels left over between farm boundaries, so-called uitvalgrond no-one wanted which often devolved to the state.

All of this became incorporated in the disjointed, low-density undifferentiated grid that in time grew to encompass the inner city, the white northern suburbs and the black southern townships. After World War II, a combination of Afrikaner anti-urbanism and modernist planning theory encouraged apartheid planners to adopt ideas about moving the city out into the landscape [Kruger 1997: 566], a process that dramatically extended the grid/uitvalgrond pattern. This decentralization manifested itself in African townships removed from the city, as well as isolated white suburbs and light industrial parks. This in turn required expanded transportation networks -- highways to white suburbs, railways to African townships. Arterial roads were laid out to prevent direct travel between racially-differentiated parts of the city, and only provide access to commonly used parts like the inner city and industrial areas. Generous rights-of-way created by this infrastructure, along with easements to restrict contact between so-called group areas, further increased the number and scale of intervals in the cartographic grid. In most cases, these became quasi-natural fragments of the landscape displaced by the city, and which still surrounds it: the Highveld, a rolling grassland too dry and cold to support trees, but which changes dramatically with the seasons.

The cognitive effects of these cartographic intervals was not just spatial but also cognitive. This was because, in white suburbs the street grid was allied with a verdant, imported European rus in urbe of private gardens, tree-lined streets, golf courses and parks that made these parts of the city feel quite ‘unAfrican’. Joburg’s urban forest, one of the world’s largest, derives from early plantations intended to supply pit-props for the mines. It was created to make the city livable for its early white residents, most of whom saw the park or garden as a metonymic fragment of the imaginary landscape of “home”. White Joburg’s gardens and parks exploited the abundant local labor to overcome the challenges of gardening in this “land of rainless winter” and embrace the huge palette of plants that flourished in the Highveld’s constant, temperate sun and low humidity [Foster 2008: 166-172]. In time, these streets and gardens became a seamless, phantasmagoric landscape in which human intervention was naturalized, residents were insulated from the wider life of the city, and communing with nature was domestic and private. [Czegedly 2003: 34-5]. Crucially, it also heightened differences between the white suburbs and the bleak, treeless African townships encouraging perceptions of the township landscapes (as well their residents’ perceptions of themselves) as “incomplete”. [Beningfield 2007: 217]

Thus, as the city grew, the technocratic logic of efficiency, functionality and orderly appearance not only came to dominate the cityscape, it also imposed a cognitive framework that indexed divisions of race and class, and relations between humans and nature, as part of urban modernity. By the time of the transition to democracy in the 1990s, Joburg’s character had, by default, become defined by its open spaces. Although these mostly functioned as a “no-mans lands”, they were quite varied, including rocky ridges stretching east-west through the city, riparian corridors, apartheid-era buffers and transportation corridors, as well as dolomitic and abandoned mining lands, unsuitable for development due to the instability and contamination of the land. Today, such territories “without cultivation or construction, outside the productive structures of the city, simultaneously on the margins of the urban system and a fundamental part of it” would be called terrains vagues. [de Sola Morales 1995]

In Johannesburg, however, such overlooked spaces have always been part of the cityscape. Especially south of the city (an area only recently included in city maps), these have been landscapes of “forbidden experiences” where dreams and memories impinged on the city of technocratic subdividers and social engineers. [Beningfield 2007: 192-3]

Remaking the post-apartheid cityscape: ‘environmental system’ or ‘cultural landscape’?
The GJMC has devoted considerable effort to securing some of these undeveloped (and often environmentally-degraded) intervals in the cityscape. Each administrative region has been required to generate an open space plan that contributes to broad civic goals of sustainability while at the same time integrating local land use and economic development goals. Emphasis has been placed on restoring wetlands and streams polluted by mining activity or inadequate sanitation systems. Long choked by the detritus of urban development and alien vegetation, urban streams are being reinvented as natural recreational corridors. Braamfontein Spruit, a 25 km-long river course with several tributaries that rises in Hillbrow and meanders through northern Johannesburg. Previously seen as a sewer and a storm water drain, this modest stream is now described as “the country’s oldest and longest urban trail”, and even seen by some as the source of the “mighty Limpopo”. Similarly, the power of the rus in urbe imaginary persists, even as its uses and manifestations are changing. Since 2001, the GJMC has aggressively been planting trees -- mostly native species -- in the historically sparse southern suburbs, not only in Soweto, where buffer zones and stream corridors are being transformed into parks, but also in peripheral areas like Orange Farm.

Clearly, these strategies are laudable. Improving these “no mans lands” cognitively re-incorporates them as part of the city, and expands citizens’ “right to the city”. Clea-
ning up degraded wetlands, planting street trees and creating new parks are tangible ways of redressing historic inequities, providing amenities that anchor communities, and educating urbanites whose historic exclusion from full citizenship has promoted a lack of environmental engagement. It is no accident the rhetoric surrounding the improvement of these so-called “internal landscape assets” often draws on a broader green, nation-building agenda that has replaced the anti-apartheid struggle, and seeks to raise public consciousness of South Africa’s fragile environmental resources [Beal, Crankshaw, & Parnell: 2000: 836].

Defining these open spaces in quasi-scientific, “environmental” terms also helps juridically and territorially defend them against land invasions by squatters, a major problem on the northern and southern outskirts of the city.

How does this “environmental” regeneration of open space contribute to the less tangible, intertwined project of strengthening Joburg’s overall environmental image? So far, there has been little discussion of the cumulative effects of these local modifications, or how they might cultivate “(a) phenomenology of locality”. Describing each region’s open space as an „environmental system” or „recreational amenity” suggests that its performance as open space is unrelated to connections, patterns and synergies at once less local and less utilitarian. It also ignores current landscape architectural discourse, which argues that theories based on either visualist models (which exclude ecological thinking) or environmental models (which exclude cultural representations of space) fail to describe the innate undecidability of the landscape medium, which embodies at once culture and nature, the collective and the personal, the natural and the artificial, the static and the dynamic. [Berrizbeitia,117]. This undecidability is heightened in urban landscapes which both function, and are encountered, as components of multiple spatial or relational networks.

Joburg’s open space system obviously has a critical role to play in shaping the imageability of a city whose cognitive illegibility has long been seen as symptomatic of the moral incoherence of the political order that created it. Not so obvious is what kind of landscape this open space system should become, what kinds of broad-scale strategies or vocabularies might best ameliorate this cityscape that cannot now be wished away. In Joburg, I would argue, answering this question requires acknowledging that this cityscape is, fundamentally, the product of social and historical processes. The accelerated time of ahistorical thinking and acting has become pervasive, both in the city’s overall morphology, and in its constantly reconstructed built fabric [Murray 2008a: 2]. This is a cityscape whose alienating character stems as much from constant (but unsuccessful) attempts to erase traces of the past as from its lack of distinctive natural features and the inhuman “rationality” of racial segregation [Murray 2008a: 164].

This suggests that the recuperation of temporality may play a crucial role in re-envisioning Joburg’s urban landscape. As in most cities, Joburg residents’ sense of the city -- both in terms of how and where they live, and what they ‘see’, experience and identify with -- is ineluctably shaped by the spatial arrangements of a previous order. The meaning of cityscapes resides not in the spatial configuration of these cityscapes alone, but in their use, and memory of that use [Murray 2008b: 149]. Furthermore, the process whereby urbanites become citizens -- in other words, develop a sense of belonging -- involves a cognitive assimilation of “cyclical” time of daily life to linear “historical” time that links contemporary endeavours back to intentional origins, and which is encoded in the planned city. In post-apartheid Joburg, however, this assimilation is complicated by differences between previously-empowered residents and recent arrivals. The former perceive the city shaped by a familiar combination of modern rationalism and scenographic nature as poised in a linear relationship between past and present, while the latter perceive it in terms of affective histories that reference ancestral traditions and practices grounded in bio-physical processes and routines [Lloyd 2003: 113-4] although different, both subjectivities encode taken-for-granted patterns in the world people intuit as “natural” [Olin 1996: 98] and through which they situate themselves as “inside” or “outside” Western modernity. Cross-cutting these cultural subjectivities is the legacy of recent socio-political history, which can lend the same urban landscape very different meanings for different residents -- for example, gardens that evoke fond memories for some but associations of servitude for others, or pine or eucalyptus plantations that are seen as invasive exotics by some but “beautiful forests” by others. [Barnard 2006: 109; 2007: 166].

Conclusion: landscape strategies of temporal transformation

All of this makes conventional forms of landscape conservation – and improvement -- problematic at best in contemporary Joburg. On the other hand, it suggests that transforming Joburg’s open space system into an agent of collectivity requires being attuned to a broad range of landscape subjectivities, and how the productive play between these might transform open space over time. As territories “belonging” to no-one in particular, where the “pre-modern” nature (re)infiltrates the city, Joburg’s open spaces – especially cartographic intervals that are also unimproved African veld – currently invite different groups to develop their own subjective integration of “modernity” and “nature” (and therefore, “linear” and “cyclical” time). Long latent in Africans’ unofficial use of the city’s open spaces, this multivalency is more evident today, when (for instance) ridges have become popular sites for traditional African initiation and religious ceremonies.
Today, this cognitive multivalency could provide a point of departure for more overt, hybrid interventions that create a more differentiated, porous open space system, even as they strengthen its legibility within the larger metropolis. These medium term strategies would neither impose forms on sites, nor slavishly conserve existing spatial arrangements, but use minimal, cyclical biophysical processes to index local traces in a way that creates a (neutral-because-“natural”) city-wide territorial patterning. [Desvignes 2008] As the work of Desvignes and others have shown, such “intermediate natures” can integrate both local and regional metrics of landscape use and signification. They can accommodate emerging qualitative landscape needs associated with globalizing cities [Schöbel 2006], and in time generate new meanings for spaces previously thought of as degraded (for instance, the mine dumps currently being reclaimed for development).

Lynch argued that urban legibility ultimately relied on the spatialization of time through the temporal patterning of the cityscape, and the temporalization of space through patterns of use and movement. The co-existence of both helped a city to function as a source of hope and a life yet to be. [Lynch 1972]. In similar vein, conceptualizing Joburg’s open space as a web of overlapping “natures” would engage African ways of narrating landscape, and recognize that in the post-apartheid city where residents are continually on the move, time and memory have become spatialized through crossing and folding rather than sequential organization. Recasting all Joburg’s open spaces – including its rock ridges, riparian corridors, mining lands, easements and transportation servitudes – as a clearly-defined, yet temporally-evolving “field condition” would, paradoxically, introduce a fine-grained, material history absent from the entropic built environment. At the same time it would de-politicize landscape conservation, and curate a pluralistic phenomenology of locality that permeates the larger territory of the city.

References:
How to balance the multiple roles of public spaces?

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Abstract

Parallel to their rising significance in recent years, well-designed public spaces have proliferated in many post-industrial cities, especially through urban regeneration schemes and city-selling campaigns. Public spaces have also become the subject of many research projects that are delivering critical insights into their changing functions. This paper discusses the question of how to balance the multiple functions of public spaces by focusing on the public realm of Ulus, the declining historical urban centre of Ankara. It begins by identifying the current strengths and weaknesses of the Haci Bayram Area (HBA), the heart of the Ulus public domain, and its multiple functions, and then examines a selection of student projects that studied the HBA during a two-week international and interdisciplinary design course, in an attempt to show some innovative design strategies for the public domain. The paper concludes, the public spaces that ensure the generation of vital and viable city centres can only be created if the design strategies achieve a balance between society’s everyday needs and other civic functions of public spaces.

Keywords

Public space, roles, functions, collaborative teaching, Haci Bayram, Ulus, Ankara

Introduction

Over the last three decades, with the rising importance of public spaces in post-industrial cities, a number of well-designed, attractive and alluring public spaces were developed, especially through regeneration schemes of the derelict lands of industrial estates, declining waterfronts and city centres, as well as the city-selling campaigns (Boyer 1993, Carr et. al. 1992, Crilley 1993, Francis 1987, Hubbard 1995, Madanipour 2000, McInroy 2000, Tibbalds 1992). Despite their growing importance, recent literature on public space has frequently hinted at the undermined and over-emphasised roles and features of public spaces (Akkar, 2007). This paper aims to address the question of how to balance the multiple functions of public spaces by focusing on the public domain of Ulus, the historical city centre of Ankara, that has become the stage of criticism due to a new urban regeneration scheme brought into the public agenda in 2006 by the Ankara Metropolitan Municipality. The new scheme, suggesting an extensive improvement to the deteriorating public realm in the area, has opened up a discussion on the roles and functions of public space. Inspired by this on-going discussion, Urban Exchange Studio (UES) ‘08, a collaborative teaching activity between the Middle East Technical University (METU) and the University of Adelaide, brought interdisciplinary and international professional and academic groups together into Ankara in 2008, to study the Haci Bayram Area (HBA), the heart of the Ulus public domain, over two weeks, as an exercise to explore innovative design strategies for the revitalization of the site. Debating on the student projects, this paper seeks to show that public spaces, one of the crucial components of cities for centuries, play a wide range of roles, namely physical, ecological, psychological, social, political, economic, symbolic and aesthetic [1], and it argues that genuine public spaces can be only achieved if their multiple roles are carefully balanced. This paper initially examines the current strengths and weaknesses of the public domain in the HBA along with its wide range of functions; summarises the major intentions of the student projects; and then describes a selection of projects regarding their innovative and scholarly strategies on the roles of the public spaces. In the final part, it seeks to draw conclusions from the design strategies of the student projects. It should be noted that the assessment of ‘balance’ among the roles of public spaces is qualitative rather than quantitative. Thus, the assessment method of this research has limitations in terms of measuring and qualifying the extent to which a public space’s roles are balanced. Yet, it still provides us the opportunity of making a qualitative judgement on the degree to which the design strategies regard the multiple roles of public spaces.

Defining the today’s public realm of the HBA and its multiple functions

Ulus, designated as an urban conservation site in 1980, is one of the rapidly deteriorating parts of Ankara. The Haci Bayram Mosque and the Augustus Temple, standing on the top of a small hill at the heart of Ulus, is an integrated part of the Roman Bath to the north-west, the ruins of a Roman Amphitheatre to the south-east, the Government Square and the Ulus Square to the south-west (Figure 1). The public space around the Haci Bayram Mosque and Augustus Temple was renovated in the late-1990s as a square plaza divided into two triangular areas differentiated by a change in levels to define independent
but integrated spaces for religious and daily activities. Despite the recent renovation works, the plaza and the surrounding public domain have deteriorated and turned into dilapidated site (Figure 2).

The HBA, with its rich historical and cultural assets, performs various roles. With the minibus stations located to the south-east and to the south-west of the Haci Bayram Mosque plaza, the area operates as a vital transportation node. As a sacred place for centuries, it is a lively social environment where various locals come together for worship, funerals, and social interaction. The site, located on layers of ruins as old as the Roman period, also attracts many national and international visitors, and acts as a stage for rich socio-cultural interaction. Similarly, the HBA performs rich symbolic roles. Accommodating an Ottoman mosque leaning on a Roman temple, and a nearby tomb, the site represents devotion, immateriality and faith. Both the Mosque and the Temple face the Ankara Castle, the symbol of resistance, survival and earthliness (Ahin et al. 1998). The HBA, also containing the Government Square, and the buildings from the early 1930s and 1940s, symbolises the achievement of the newly built Turkish Republic regarding civil liberty. Further, as a public space, comprising some major landmarks of the city, such as the Mosque, the Temple, the pillar of Julian, the monumental buildings from the early Republican period, and performing as a historical, religious and cultural centre of the city, the HBA is one of the elements that shaped the identity of Ankara (Figure 2). Artisan workshops located especially on the southern and western edge of the Haci Bayram Square, and shops selling religious books, rosary perfums and oils give economic vitality to the area.

In spite of the social, symbolic and economic functions which operate well to some extent, it could be said that the public spaces in the HBA reflect inadequency in performing some of their physical roles. The HBA is an introverted place with predominantly hidden, isolated, neglected and unsafe public spaces (Figure 2). The users of the site suffered from the high crime rate, traffic congestion, conflict between pedestrian and vehicular traffic, and from the fact that the public spaces are chaotic, unorganised and physically deteriorated with poor street and traffic signs, inadequate infrastructure and appropriate services. All these factors diminish the public spaces’ economic role, as they can neither make a significant contribution to increase the land values of their environs, nor attract investors, developers, or potential occupiers.

Figure 1: The location of Ulus in Ankara (left) (map modified from the map in ABB, 2007) and the location of the HBA in the inner city (right) (map produced from a map retrieved from the Google Earth, February 2009)

Figure 2: The Mosque and the Temple (left), neglected public spaces (middle left), the historical houses (middle right), and the shops in the HBA (Photos: M. Akkar Ercan)
to the site. The public domain is inadequate in serving a variety of user groups. The HBA is of great aesthetic value where the original street pattern and vistas are still preserved. The public spaces in the site, accommodating two-storey listed buildings with traditional architectural characteristics particular to Ankara, and monumental buildings with the architecture of modernisation, have potentials to provide visual variety and to enhance the aesthetic quality of the city. Yet, these potentials (thus the spatial identity) are neglected. Although the site possesses many historical and cultural layers, much of these layers are hidden, degraded and lacking a sense of a unified and legible identity. Finally, the public domain in the HBA also is not adequately designed, managed and used in performing its ecological, psychological, and political functions.

UES '08 and the general intentions of the student projects
UES '08, organised by METU and the University of Adelaide as a collaborative exercise in two graduate courses, and held in Ankara between 30 June and 14 July 2008, focused on the connection between place and difference. Its main aims were to raise students' sensitivity to spatial and social difference in their experience and design of constructed environments, and to explore new modes of design education (UES, 2008). UES '08 brought 7 city planning, and 13 architecture students from METU together with 22 architecture and landscape architecture students from the University of Adelaide. It focused on urban matters in the HBA, taking a holistic approach to dealing with the urban environment that involved design practices in architecture, landscape architecture, and urban design (UES, 2008).

Working as international and interdisciplinary teams of 5, 6 and 7, students produced 7 alternative projects with a number of creative solutions for the problems of the HBA public domain. Each project team developed a master plan for the whole project site and detailed design solutions for a specific part of the HBA. Group 1, for example, claimed that although the HBA is one of the prominent religious and historical points of Ankara, it is disjointed, degraded and lacking a sense of a unified and legible identity with its current state. They therefore focused on developing the heart of the HBA, the site around the Mosque and the Temple, while providing strong contextual linkages through the development of pedestrian roads and a green corridor which would help the revitalisation of the residential districts in the project site (Figure 3). Group 1 proposed to dig down into the strata by creating an underground museum showcasing the historical development of Ankara, while transforming the degraded upper layer into an urban garden. In this way, they aim to reveal, celebrate and conserve the past layers of the city while adding a layer for the future. Group 3, aiming to turn the HBA into a site which would maintain traditional, religious and historical values, proposed to create a new central hub linked to three distinct places; the Haci Bayram Square, the proposed minibus station and the residential site to the north. This new hub adjoining a green corridor along the north-east, east and south-east edges of the HBA, would help not only the revitalisation of the edges of the project site, but also the transition between the spaces and the cooperation with the critical form of the topography. Group 5 opted to create an open-air city museum with the idea of restoring the memory of future rather than past. The group developed their detail design proposals on 4 main sites; the Government Square which was converted into a pedestrian site by bringing up the Roman ruins, the Haci Bayram Square which was redesigned as a public and religious space, the Roman Road that turned into a pedestrian route linking different layers of times, functions and fragmented characters of the site, and adjoining a city library specialised on the Ankara history, an underground passage exhibiting the Roman ruins and ending up at the Roman Amphitheatre, and the neighbourhood to the north where five PODs were suggested as the tools for revitalisation.

Figure 3: The master plans of Group 1 (left) and Group 3 (right)
Looking for a balance in the multiple functions of the HBA public realm

Each project group put forth different targets to achieve better public spaces. Group 3, for example, focused on “Integration, Connectivity, and Transition.” In their design statement they identified their main design objective as: “to create a new and thriving area which will add prospect for the community by promoting connectivity and well-designed and delineated transition spaces.” Group 1 focused on “Haci Bayram—Layers of the City,” with the aim: “to create rich, inviting and legible public realm that acknowledge difference in history, function and space in order to restore a strong sense of unity to the heart of Haci Bayram that extends to the wider district.”

Despite different starting ideas, one of the common objectives of the projects was to enhance the physical functions of the public spaces. The extensive pedestrianisation of the HBA, the provision of safe pedestrian-friendly edges and crossovers, and the pedestrian infrastructure (bins, benches, street lights, etc.) into the site, the introduction of a comprehensive vehicular traffic circulation system which integrates both the new pedestrian routes and public transport hubs into the area, and the development of the public places that serve a variety of purposes, such as shopping, vehicular and pedestrian circulation, recreation, and worship, while carefully articulated with greenery and historical urbanscape, can be given as the examples through which the projects proposed to strengthen the physical functions of the public domain (Figures 3, 4).

Another significant common objective of the projects was to introduce the ecological functions into the public domain through the development of a green corridor to the north and east edges of the HBA and the reinstatement of a part of Bent Creek, which used to run from the north-west to the south-east of the area (Figure 4). In the green corridor, almost all projects proposed a variety of activity sites, such as a wetland, play areas for children, a central stage area which would also operate as a pedestrian bridge to other residential areas, or a swale which is to function to aid the resolution of the current storm water problem, to provide a dividing element from the residential areas. Such activities are also meant to enhance the aesthetic and symbolic qualities of the HBA’s public realms, as well as their social and psychological roles, by providing the places for social interaction and relaxation for the residents of the adjacent sites.

All projects engaged in the promotion of the HBA’s symbolic qualities. Some projects included the proposals of using the HBA’s religious images, by particularly keeping and promoting the Mosque and the Temple as spiritual sites, increasing their visibility and knocking down some unfinished buildings around them or their replacement with the commercial structure with a sensitive scale. In some projects, however, students opted to promote the cultural and historical images by, for instance, constructing an underground museum to enable visitors to see Ankara’s historical past through the excavation of a large proportion of the site; and by developing an urban garden surrounding the Mosque; or by transforming the previously residential area near the Haci Bayram Mosque into a picturesque terraced memory of the past by using the previously existent building envelops and spatial footprints. Thus, the projects sought to generate a strong visual identity for the HBA by promoting historical, religious and cultural legacy of the site in order to use both the symbolic and aesthetic qualities of the public spaces. Besides the promotion and improvement of these aesthetic and symbolic values, the projects included a deliberate use of the public domain as the economic value generator for the revitalisation of the HBA. In this way, they used the symbolic roles of the HBA’s public domain together with its aesthetic and economic functions in an integrated way. Also, the projects included suggestions that promote the social roles of the public domain, not only by creating open public spaces as social hubs, but also by developing places for the social and educative needs of the local community, such as community centres, kindergartens and artisan workshops.

Conclusion

By enhancing their quality, and promoting their economic, aesthetic and symbolic roles, the use of public spaces as the means of urban regeneration has become a common practice in many post-industrial cities which have suffered from decaying urban economies and environments (Akkar Ercan, 2007). Different from this trend, the UES ’08 students opted to achieve a balance in the multiple roles of the public spaces, by taking into consideration everyday society’s needs, and the wider civic functions of...
public spaces in the HBA, and by not allowing some functions to dominate. The projects showed that, with design strategies seeking a balance between the multiple functions of the public realm, desirable public spaces which serve in the public interest can be achieved. The general point which can be drawn from the UES ‘08 experience is that the creation of public spaces with a balance in their multiple roles would also ensure the generation of vital and viable city centres.

Endnotes

[1] This part of the paper is based on the extensive literature review on the roles of public spaces prepared by one of the papers authors, M. Akkar Ercan, and published in the METU Journal of Faculty of Architecture in 2007.

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Questions of scale for sustainable urban landscape

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Abstract

Landscape, considered as the dynamic face of territories and their communities, could indicate the level of intelligence of the interlink between human activity, environment and historical heritage. In this research on sustainability of the transformations of existing urban landscape, three features are emerging: multiscalarity and structure based on nested scales, fractal behaviour and relations between temporal and spatial scales into urban landscapes. The research shall face the methodological question of measuring and projecting sustainability in urban landscape design, where numerical indicators could give way to those methods of understanding sites by means of fieldwork analysis, trying to investigate, as Landscape Urbanism suggests, the unlimited number of scales in which a site exists.

Key words

Landscape as an indicator of sustainability, scales of urban landscape

Introduction

Since cities have become the main human habitat, they have also become the main place where consumption of environmental resources is made and the centre of economic and social development. The production of urban landscape, intended as in the European Landscape Convention as “the result of the action and interaction of natural and/or human factors”, is therefore getting more and more related to the matter of environmental and social sustainability. On the one hand, in fact, landscape may be considered as a scarce and fundamental resource (due to the scarcity or non-reproducibility of natural resources, to the complexity of cultural knowledges which it conveys, and to long-time processes of stratification) which has to be continuously regenerated.

On the other hand, an emerging concept in literature is that landscape, considered as the dynamic face of territories and their communities, could indicate the level of intelligence of the interlink between human activity, environment and historical heritage and it could work as a “synthetic indicator of sustainability” (Castiglioni, 2007: 40) and of the people’s care for natural resources in a certain place and context. This configures a feedback process, since “we like man-modified landscape that clearly demonstrate” that there are “people who are linked to it, rooted in it, invested in it, working in it in a respectful, symbiotic, and continuously vigilant manner, perhaps even from generation to generation” (Sheppard, 2001: 159). In this sense, if we think about landscape as the “possible reality of decisions and transformations” and as the “result of the organization of the associated human life”, a conceptual shift is necessary, and we have to assume that “the essence of landscape belongs to practical philosophy, to ethics” (Venturi Ferriolo, 2002: 15).

This circular relationship between knowledge, competence and landscape is acknowledged also in studies of landscape ecology and territorial economy. In landscape ecology, the locution “cognitive landscape” designates the semiosphere surrounding every organism, the process entity through which plants, animals and humans gain access to resources, by recognizing configurations, interpreting signs and accumulating learning in a non-genetic memory. The cognitive matrix of an observer-based landscape is the set of compressed information, which can be expanded by means of experience and learning, and – specifically in human beings – by culture (Farina, 2006).

In the study of economic dynamics in terms of territorial relationships, “the innovative capability of specific local areas” is interpreted as a product of “collective learning processes” (Camagni, 1991: 8): not only the transmission of scientific and technological information between agents in a regional contest, but also the collective creation and transmission of landscape reflects the processes of cultural and social development – or decay –.

A survey on urban landscapes and sustainability

A research is currently being developed in the 23rd doctorate in “Time/site characters for town and regional planning” at Milan Politecnico, which investigates the relation between landscape characters and the levels of sustainability in the transformations of existing urban contests, focusing therefore on the more or less consolidated fabrics of outskirts built during the last 50 years, on peri-urban sites waiting for land use decisions, urban countryside and disused industrial or military areas.

The research shall face the methodological question of measuring and projecting sustainability at the medium...
scale of urban and site design. A prominent question is the non-linear, or even contradictory, relation between the common numerical indicators of sustainability and the reality of the urban landscape [Fig.1].

Nevertheless by now it seems that –in studying and projecting urban landscapes–the application of numerical indicators does not ensure by itself the achievement of the goal of sustainability.

Town planning parameters (tree and shrub density, soil permeability, green public spaces standards, levels of land consumption etc.), landscape ecology indicators, statistical indexes related to urban policies (number of private cars, pedestrian areas, cultural liveliness, use of bioclimatic building techniques, waste recycling etc.) and aggregated indicators (Ecological Footprint, Selfsustainable Local Development Index) are useful consolidated indicators, but each of them has a view on a single dimensional scale (the building, the city, the region or the national scale) and on a single time of collection (and they are often gathered at different time/date). Besides, institutions holding the data may be biased towards certain types of data, causing inaccuracies in data collection and display.

Assuming the need of "exploring alternative models for understanding the sustainability of systems [...] in a more responsive learning mode" (Dahl, 2008: 42), the research will try to assess if and how numerical indicators could give way to those methods of "understanding sites by means of fieldwork analysis", trying to investigate the "unlimited number of scales" in which a site exists (Pollack, 2006: 130) and considering landscape as the medium through which contemporary cities develop and communicate themselves, encouraging more or less sustainable lifestyles (DETR, 2000:53).

The research starts with an overview on the various methods of studying urban landscape used in those disciplines, such as landscape architecture, geography, geoanthropology and landscape urbanism, that combine a quantitative, analytical approach and a qualitative, analytical,
urban landscapes and their transformation should be based on considering the size of the physical elements which structure the area of intervention and their topological relations (inclusion, overlapping, crossing, etc.), the extension of the relational context of the area (not only in the visual sense, but also in regard to symbolic, functional, ecological aspects), the width of impacts on resources and the sets of observers, or better, landscape users. As an example, figure 4 shows an urban military area which is now waiting for land use change: here the ecological role of the existing vegetation, the connections with the surrounding urban pattern and the function in the network of public spaces could be profitably interpreted and projected in the logic of nested scales. Especially for urban vegetated areas, the trend toward incorporating multiple scales into management – in opposition to the view of green spaces as static and isolated from the urban matrix– could help managers recognize meso-scales as being as important as long-term, regional and short-term, local scales, introducing so a missing level of tactical planning that could connect strategic and operational levels in both time and space (Borgström et al., 2006).

Besides, in Production of space, Lefebvre describes the city as a space of differences, a field in tension, where the transitional scale M has the key role of mediator between the private scale and the global, public one. The dynamic multiscalearity does not only refer to spatial issues but also to the absolute number and the density of users and inhabitants, to their different degrees of sharing and to their footprint: in this sense, urban designers might create potential environments, but the effective environment is created by what people actually do within that setting (Carmona et al., 2003: 107).

The fact that “contemporary urban society lives in between, in a state of perennial oscillation in the terms and limits of the sharing of behaviours, practices and spaces, of values and images, seems to imply a general rethinking of the project for the city” which should seek “a sufficient degree of coherence between the momentary practices of individuals and groups and the degree of sharing of spaces that are involved each time” (Secchi, 2006). [Fig.5]

Fractal behaviour of urban landscape

Another feature, somehow related to multiscalearity, is the fractal behaviour of the urban landscape. The spatial structure of cities and their genesis through small incremental changes occurring at large scales, the patterns and length of town boundaries, the processes of urban sprawl, have been already explored by fractal analysis. Here we do not refer only to self-similarity of spatial patterns at different scales, which can be widely found in natural forms, but also to an interpretation of the features of urban landscape as parts of a system “not characterized by top-down structure, but by a network of agents working in parallel, reacting to their local environmental conditions” (Birkeland, 2002: 74).

The characters of repetition, self-reproduction and mutual reinforcement into urban landscapes, where each level supports and enhances the effectiveness of the others, both in a negative and in a positive way, reflect the behaviours of the communities who created those landscapes and their level of sustainability [Fig. 6].

Maurice Halbwachs, in the 50’s, pointed out the link between memory and inhabiting: when some human groups live for a long time in a place which is modified by their habits, then their movements and their thoughts will fit with the set of imagery represented by physical objects of that landscape (Halbwachs, 1987: 136). The potential of the urban landscape of developing a richness of forms and symbols, in similar ways but at different scales [Fig. 7] shows the virtuous –or unfortunately vicious– circularity of the anthropic process of reading and writing signs on the environment (Turri, 1983).

The rules of fractal, lattice structures, with elements working in parallel, are especially useful for the design of a fundamental layer of the urban landscape, that of the green structure, and could act as an alternative to the fragmentary planning model which considers every green
space by itself and attributes marginal activities to it, with a scarce ability to compete with more remunerative uses. Instead, the continuity of the system at different scales within the pervasive built fabric allows green spaces to work as a complex urban infrastructure with a threefold purpose:

1. assuming a role of underlying frame, of within the urban context;
2. creating an infrastructure of sustainability, a continuous network for ecological regeneration and for the improvement of hygienic and sanitary conditions within the urban environment, contributing to the reduction of pollution of both air and water, in addition to improving micro-climatic conditions;
3. distributing green spaces and public services and providing spaces for free time activities. (Angrilli, 2008). All the elements of an urban green structure (parks, pocket parks, street tree canopies, parkways, urban forests, urban agriculture and horticulture, roof and vertical green, greenways, riverside banks, ecological corridors) have different functions at local, urban or regional scales, according to their size, quantity, shape, distribution, relationships. Good design and planning strategies make them play a synergic role in the search for sustainability [Fig. 8].

In such cases, the sustainability slogan act locally, think globally "becomes less than adequate, and we may need to settle for some less catchy but more pragmatic version, perhaps one that says: think at the scales that matter, and act at the levels that count" (Vasisht, Sloane, 2002: 363).

**Temporal scales into urban landscape**

The last feature is the relation between spatial and temporal scales in urban landscape. Inhabitants and city users use, perceive and modify urban landscapes within different times. The first way in which we know that time has passed is through various rhythmic repetitions: the circadian cycle, the working and leisure daily activities, weekly timetables, changing seasons and annual events. (Carmona et al., 2003: 193). But we also know that time has passed through evidence of progressive and irreversible change, again at different temporal scales: the times of construction or demolition, the rapidity of changing in the zeitgeist, the times for individual and collective memory to become steady, times of social transformations, medium- to long-term natural processes and human impacts on environment.

Furthermore, relations between time and experience of landscape “have been considerably altered by the various forms of movement that we experience through a site. The moving picture frame, the rolling motion of a car or train, the takeoff of an airplane, all entitle us to question a visual tradition that we have grown to accept, one that has accustomed us to an understanding of landscape through a series of fixed vistas" (Girot, 2006: 99). The kinaesthetic experience of urban spaces requires new tools to decipher the production of contemporary cities, characterized by those “unexplained black holes, the in-between scenes of landscape beauty” which are the dominant feature of peripheries (Girot, 2006: 100). Digital videos, aerial videos, combined with the more classical means of topographic representation, could enable to formulate a synthetic vision of a site, not only for the creative design process but also for the entire chain of decisions.

Designers should not forget the role of urban landscape as a dynamic term of comparison and a mirror for civilized societies: "effective action and inner well-being depend on a strong image of time: a vivid sense of present, well connected to future and past, perceptive of change and able to manage it" (Lynch, 1972: 240). This interrelation between landscape, people living in it and times of change was pointed out by the geographer Eugenio Turri: landscape is the first perceptual horizon in which man places himself and recognizes himself and –when looking at its own landscape– a civic community can learn about itself. That’s why every sudden or violent transformation of the landscape causes social unease (Turri, 1983), despite of the statistical average calculations commonly used in the practice of planning and urban management to guarantee sustainability [Fig.9].

But “rather than change itself –which people expect, anticipate and often welcome– it is its pace and scale, and the sense that it is not amenable to local control, that may present problems” (Carmona et al., 2003: 205), both regarding the time necessary for customs and memories of individuals and communities to stratificate, and the time necessary for natural processes to mitigate impacts of anthropic transformations and to regenerate environmental resources.

There are “three main forces –degeneration, permanence, transformation–” that “both physically and ideologically act on the city, contradicting each other” and...
an effective understanding of urban landscape should not "cling exclusively to the notion of permanence, which is the weaker force at state" (Girot, 2006: 91).

**Conclusions**

“A site exists in an unlimited number of scales” (Pollack, 2006:130): overlapping ecological dimensions, multiple scales of use and activity, scales of physical, infrastructural connection and of virtual, symbolic relation, ranges of environmental impact, temporal distribution, time evolving structures, times of space appropriation and "unanticipated spatial characteristics" that “may emerge from the interplay between elements and through inhabitation” (Pollack, 2006:138). In order to face this complex multiscalarity “there is a need of reinstate a balance between scientific and empiric, heuristic research on the landscapes of cities” (Girot, 2006: 91).

Surely the research, in trying to integrate the multidimensional interpretation of urban landscape and the assessment of urban sustainability, has to cope with the difficulties in managing qualitative data derived from walkabout surveys and urban fieldwork, multimedia, participative investigation combining insider and outsider views: data which rarely satisfy the criteria of simplicity and reproducibility.

Nevertheless, if the use of landscape as a connoting medium (while numerical indicators are denoting) implies a weak, unformalizable praxis, it has a strong cognitive value (Vallega, 2008: 42; Hak, 2008:62) in order to disseminate information, to help the public to develop a common language for discussion and to promote the idea of integrated action at diverse scales for sustainability, assuming that “where we live affects how we live” (DETR, 2000: 53).

In particular, in reading the urban sites in relation with the targets of sustainability, the research is showing that the landscape lens works better in detecting cross-scale networks, processes and states of becoming, both natural and socio-cultural, while common numerical indicators depict single frames of a certain form.
References


Moving Land: International Building Exhibition Fürst-Pückler-Land 2000-2010 in Lower Lusatia

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Abstract

Large-scale planning needs creative processes – this is the starting point of this article. As an example for such an innovation tool we want to introduce the concept of the International Building Exhibition (IBA) Fürst-Pückler-Land. Based on an informal planning approach IBA initiates new ways of thinking and courses of action by means of concrete projects. The subject of this building exhibition is a post-industrial peripheral region in the east of Germany – Lusatia. The region that had been characterised by lignite mining for decades was forced to develop new perspectives after the structural break in 1989/90.

Key words

Innovative design strategies, landscape ideas, changing landscape uses

Introduction

The history of building exhibitions in Germany can be traced back over a hundred years. They are used to promote new developments, conduct experiments and translate visions into constructed realities. The Weißenhofsiedlung, for example, that was built within the framework of the building exhibition in Stuttgart (1927), became one of the most important contemporary witnesses of New Building, and the IBA in Berlin (1984/87) coined the principles of the critical reconstruction and gentle modernisation of the old housing quarters. During the IBA Emscher Park (1989-1999) the development of an entire old industrial region was the subject of a building exhibition for the first time. IBA Fürst-Pückler-Land transfers this approach to a rural, peripheral region in eastern Germany – Lusatia.

The excavation of lignite began in Lusatia around 150 years ago. Initially mining was below ground, but later took place in huge open cast-mines. Briquette factories, power stations, coking plants and other branches of industry developed accordingly. The once rural region in eastern Germany was turned into the coal and energy district of the German Democratic Republic. A total of seventeen open-cast mines were in operation there in 1989, making use of around 2,000 hectares of land per year.

Subsequent to radical political change in 1989/1990, the majority of the open-cast mines and industrial plants was shut down abruptly. Today, Vattenfall still operates five open cast-mines and three power stations in the region. The redevelopment of the old industrial sites and closed opencast mines is a state business within the responsibility of Lausitzer und Mitteldeutschen Bergbauverwaltungs-gesellschaft (LMBV).

Owing to the deindustrialisation, the peripheral location near the Polish border and a downward demographic development Lusatia is a shrinking region: With its around 91 inhabitants per sq.km (on average there are 231 inhabitants per sq.km in Germany) the area is a particular resource in this sparsely populated region. In the German spatial planning this potential can be found in the concept of “Preserve resources, create cultural landscapes”. The pure protection of the area shall be replaced by a resource and product management to create a scenic diversity. [1]

From 2000 to 2010, the IBA Fürst-Pückler-Land is working on around two dozen projects as a “Workshop for new landscapes”. Referring to its name patron Prince Pückler, the workshop takes up his world-famous works of landscape gardening in Bad Muskau and Cottbus-Branitz – as well as Pückler’s creative innovations and new ideas.

Workshop for New Landscapes

Since 1990, the LMBV has reclaimed almost 100,000 hectares of land – an area larger than the state of Berlin. This has emerged as one quarter each of reusable water, agricultural, forestry and conservation areas. The traditional re-cultivation models strive for a reconstruction of the landscape typical of Lusatia, resembling the conditions prior to mining. The IBA expands on this starting point and aims at creating new landscapes with mining; landscapes that do not represent a denial of mining. These projects do not attempt to conceal the artificiality of the landscape, but to make it into a new hallmark of the region. The core assignment of this IBA is to develop the minescape into a landscape with a testimonial value of the past with design standards of the new century (Internationale Bauausstellung (IBA) Fürst-Pückler-Land 2000).

For this reason the Strategic Commission of IBA developed a concept with different so-called “landscape islands”, which were shaped by mining and – in accordance with their structure and potentials – each has a distinct character of its own, from industrial culture to landscape art, to natural landscapes and the water world. Especially striking are the new areas of water, totalling around 14,000 hectares, which are being created by flooding the residual open-cast pits.
The landscape islands are an informal concept and supplement the classical regional planning. It can be compared to a "spatial vision" forming a new picture for the region, another understanding of landscape and space beyond the political ways of thinking and the limits. The concept corresponds to the intermediate position of IBA GmbH: supported by four rural districts and the city of Cottbus, the IBA GmbH can mediate as an independent organisation between the various stakeholders. The core activities include the initialisation of new ideas, the communication and shaping of the process, but also the project and financing management for specific single projects.

For creating the cultural landscape in this large scale the concept of the landscape islands in connection with the management structure of the IBA is an adequate answer to the complex challenge. A fixed plan is replaced by a strategy that is supported by projects, provides for creative processes and prompt results and interacts with regulations regarding the regional planning. Since the 1990s the new planning approach in Germany requires actions in the way of "Planning by projects" – off the conventional plan to the point of strategic statements and concrete projects (Selle 2000). Three examples are given to show how IBA works.

For example: Water-World Lusatian Lakeland
After open-cast mining there is always water — certainly in those places where a "residual pit" is left after the excavation of the coal, which is transformed into a lake over a number of years. The concept of IBA directed a new vision for the future lake district: ten lakes with unique character each that are connected with each other by navigable canals – "one lake" instead of disconnected single lakes. Interacting overall concepts for the touristic and economic characterisation and use as well as a task force working within the Federal States of Brandenburg and Saxony laid the cornerstone for the development of new touristic destinations.

Apart from the active and sporting recreation, floating houses are to become a hallmark of the Lusatian Lakeland – the motto is "living on water" and not beside it. In this way, the shores can be kept free of buildings and the lakes can already be used during the flooding. IBA was able to initialize two pilot projects for floating houses, which were realised in 2006. Another hallmark is represented by monuments of the industrial heritage – and one pre-eminent example is a former conveyor bridge, which has now been rededicated as the Visitor’s Mine.
F60. The preservation and reuse of testimonies to the past mean that an important aspect of the region’s identity will be maintained and secured for the future.

**For example: Changing Landscape**

Mining causes desert- and canyon-like interim landscapes, which radiate a bizarre beauty. On open-cast mining tours, the IBA makes it possible to experience these landscapes, enabling visitors to discover new beauties in a landscape fundamentally changed by open-cast mining. Thus value is added to the landscape—a new picture of the landscape is created in the mind of the beholder. And this picture is the basis for the appreciation of the landscape and thus a first step towards new developments.

The fascination of the intermediate landscape turned into the project approach of a Desert/Oasis: The intention was the recultivation of an open-cast mine by creating a landscape with pictures which would be linked to the myth of a desert. The aim was to create a relief of debris with ridges, cones and open areas of differing heights, covering around 700 hectares, to emerge step by step alongside the open-cast mining and to give the nature the possibility to develop again. The counterpart to this barren landscape was a projected “oasis” with a range of uses. Despite repeated revisions and adaptations it proved impossible to realise this proposal to convert the traces of the industrial excavation process into new landscape aesthetics. Misgiving and rejection of the unusual landscape concept among the population as well as technical difficulties led to the project’s abandonment. Anyhow, this project was an important contribution to the discussion about post-mining landscapes.

**For example: Energy Landscapes**

The production of energy has been the background for new landscapes in Lusatia and it is also one of the pillars on which the region’s future development will rest. The extensive, sparsely populated region provides ideal preconditions for electricity production from regenerative energy sources like wind, sun and biomass. In the context of the IBA, concepts for energy landscapes are being examined in collaboration with universities and scientific institutions. These combine different energy sources in terms of a new, variably usable and ecologically enduring cultural landscape.

The difficulty in controlling and transforming these energy landscapes is their dependency on the market: thanks to the Renewable Energies law in Germany supply compensations are paid for electricity produced from regenerative energy sources which increased the share of renewable energies for electricity production to around 14% by 2007, and an increase to at least 30% is planned by 2020. This results in a competition for the land and an impending mono-structure for agricultural areas which can arise, for example, by large-scale energy wood plantations. Here, the concept of energy landscapes has to act as mediator between the differing objectives in terms of a sustainable cultural landscape management and apart from the economic aspects also enables an aesthetical access to the landscape.

**Conclusions**

As the examples show, the IBA tool can initiate a new creativity in the regional development. The successful linkage of overall planning concepts, which include convincing single projects, to new perceptions, ways of thinking and courses of action provides an effective interaction between formal and informal tools. Creativity means the deliberate connection of analytical, intuitive and emotional capabilities and allows the understanding of complex correlations and the formulation of new proposals for solution—typical requirements of a large-scale planning (Seggern et al. 2008; Seggern/ Sieverts 2006). The regional development has to use this chance for a further development.
Endnotes

[1] Conference of the Ministers for Regional Planning of the federal government and the federal states, New concepts and action approaches in the regional planning in Germany, 2006

[2] For the role of the intermediate and cooperative process elements see the works by Klaus Selle, e.g. Selle 2000

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Exploring a New Mode of Sustainable Development: Taking the Hyperdense City of Hong Kong as an Example

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Abstract

This paper proposes a new interpretation of a sustainable development mode through the study of the special context in Hong Kong. The authors find that the hyperdense and compact city development in Hong Kong coexists with a network of three dimensional green and blue assets in very close proximity, making possible an unique and new perspective. The paper looks into the achievement of city, park and waterfront development in Hong Kong. The significant role of landscape architecture in reinterpreting and balancing the relationship between nature and humans is explored. The paper concludes with a suggestion of a new contemporary mode of a sustainable development that can be of significant reference for current and future dense city development.

Key words

Hyperdense and compact city, proximity, landscape, scale, Hong Kong

Introduction_Spatial Organization of Hong Kong

A hyperdense and compact urban form

Hong Kong has one of the highest density of population in the world, all within a land area of a little more than 1,104 square kilometers. In 2007 the population was 6,963.1 million with an average density of 6,410 people per square kilometers. Kowloon has the highest density, which is 43,350 people per square kilometers (Census and Statistics Department 2008).

To deal with the contradiction between scarce land resources and increasing population, Hong Kong adopted a compact city development mode in practice, growing from one dense centre to several dense new towns, decentralizing population and preserving significant areas. Hong Kong benefits from this approach. High-rise and high-density buildings can fulfill the needs of housing; efficient transport network and intensive mix-used land can provide more convenience for people; and protect the natural environment from the threat of urban sprawl.

In Hong Kong, high density is a key factor in planning considerations where plot ratios (PR) can serve as indictors of development intensity. According to Hong Kong Planning Standards and Guidelines (2008) the maximum domestic PR is 10 and the PR for other land use is even higher than residential. For example, in Hong Kong Island, the maximum PR for residential area is 15 (Planning Department 2003). The population and development densities, especially in the old urban district, are both extremely high compared with other cities. However, density is not the hottest issue in Hong Kong, people are becoming more concerned about environmental issues than building height and density (Zhang 2000).

A three-dimensional green and blue assets

According to the land-use plan, only 22% of land can serve as current or potential urban development. About 67% of land areas consist of woodland, shrubland and grassland, and most of which are located in the New Territory mountain and country areas. The heavily vegetated mountains are Hong Kong’s green assets. A significant 40% of land area is designated as Country Parks. Most of them are very close to the dense built-up areas and have become popular places for hiking and other recreational activities. The vast sea areas of 1650.76 square kilometers are Hong Kong’s blue assets, of which the Victoria Harbour occupies 41.36 square kilometers (Survey and Mapping Office 2008). The coastal line has changed with reclamation and the skyline continues to change with the erection of new skyscrapers which contributes to the fascinating city image of Hong Kong, evident in most tourist brochures.

The green and blue assets compose a three-dimensional spatial structure. The wide and narrow water areas compose the shape and extent of the base plane. The high and low mountains compose the shape and extent of the vertical plane. This compact city form is working nicely with the three-dimensional natural assets where the metropolitan areas are built close to the mountains and the sea. City growth has been achieved by cutting the mountains and reclaiming the sea to expand more flat lands which lead to the constant transformation of the natural landscapes into urban landscapes.

From 1840 to the present time, Hong Kong gained about 7000 hectares land by reclamation to meet the urgent land demand for the rocketing population. With rapid urban development, citizens raise their expectations for quality of life. An opinion survey in 1997 found out that over 95% of Hong Kong people opposed to further reclamation. Another survey in 2006 showed that 88%
of interviewees wanted to see more greening around the harbour. Many organizations such as Society for Protection of the Harbour played an important role in pushing the government to reduce reclamation. Presently, there are no plans for reclamation in the future along the Victoria Harbour except three projects which are already in progress. These projects can only be conducted because of significant ‘over riding public needs’.

Victoria Harbour as a valued public heritage can be seen as a perfect combination of mountain, sea and city. There are many high-rise and high-density modern skyscrapers along both shores of the Harbour, in sharp contrast to the mountains behind them. However, the skyline is in harmony with the mountains, for the skyline is deliberately preserved by limiting the height of the high-rise buildings that are constructed in front of the mountain ranges. This is the concept of ridgeline protection, which was first proposed in Metroplan (1991). A 20% to 30% building free zone below selected sections of ridgelines was recommended, while at the same time allowing flexibility for relaxation on individual merits and for special landmark buildings to give punctuation effects at suitable locations. In addition, the control of building height and building design will avoid potential “wall effect”, enhance vista and improve ventilation.

**Experiencing Hong Kong’s Landscapes**

**Mapping Hong Kong’s landscapes**

In order to gain a better understanding of the existing landscape condition of Hong Kong, a comprehensive landscape assessment entitled “Landscape Value Mapping of Hong Kong” was conducted from 2001 to 2005. The report (2005) examined 943 landscape character areas from a whole-of-territory scale showing that 83% of Hong Kong’s landscapes are rated as highly valued areas. The outcomes of the study include a Landscape Character Map with a significant database which will provide essential references and will function as a key instrument for Landscape and Visual Impact Assessment. This can work in association with the Environmental Impact Assessment Ordinance to control future developments.

**Greening the city**

Apart from vast well-protected areas in the rural areas, the government devoted more effort to promote greening in the urban context. The old and cramped city form gives many challenges and constraints to greening works, such as insufficient space, bad soil condition etc. To overcome these problems and to uplift the quality of the living environment, the government set out a series of greening policies and measures to guide and create more greenery for the city. For example, chapters 4, 10 and 11 of Hong Kong Planning Standards and Guidelines provide holistic principles and insights on open space, greening, conservation, landscape and urban design.

Since 2004, Hong Kong Civil Engineering and Development Department (2008) started to develop Greening Master Plans (GMPs) for urban areas. The Plans aim to define the overall greening framework by identifying

<table>
<thead>
<tr>
<th>Landscape Character Types</th>
<th>Topographical character</th>
<th>Development density</th>
<th>Land-use pattern</th>
<th>Vegetation coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upland Countryside Landscape (24%)</td>
<td>Above 46mPD</td>
<td>Very low</td>
<td>Largely unaltered</td>
<td>High</td>
</tr>
<tr>
<td>Lowland Countryside Landscape (3%)</td>
<td>Below 40mPD</td>
<td>Very low</td>
<td>Traditional rural</td>
<td>High</td>
</tr>
<tr>
<td>Rural Fringe Landscape (4%)</td>
<td>Edges of rural areas</td>
<td>Low/moderate</td>
<td>From rural to non-intensive</td>
<td>Generally high</td>
</tr>
<tr>
<td>Urban Landscape (9%)</td>
<td>Highly altered</td>
<td>High</td>
<td>Intensive</td>
<td>Generally low</td>
</tr>
<tr>
<td>Urban Fringe Landscape (4%)</td>
<td>Edges of urban areas</td>
<td>Moderate</td>
<td>Fragmented; Extensive</td>
<td>Moderate</td>
</tr>
<tr>
<td>Coastal Waters Landscape (62%)</td>
<td>presence of coastal water</td>
<td></td>
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</tbody>
</table>

Fig. 1: Building height profile and ridgeline (adapted and revised from Urban Design Study for the New Central Harbourfront, 2008)

Fig. 2: Broad Landscape Character Types [1] (adapted and simplified from Landscape Value Mapping of Hong Kong, 2005)
suitable locations for planting with desirable themes and species. The GMP first started in two of the busiest districts of Hong Kong, namely Tsim Sha Tsui and Central. The short-term greening works were completed in 2007 [Fig. 3]. Given the constraints of the sites, the comprehensive improvement with the addition of a large number of plants achieved a preliminary success. Although short-term GMPs cannot increase open spaces immediately, the significance of change is that streets become safer and greener than ever before. The GMPs for the remaining districts is underway [Fig. 4].

Besides the GMP, the Architectural Services Department has conducted a Study on Green Roof Application in Hong Kong (2007) and in practice has completed 68 projects between 2001 and 2006. At present, the application mainly covers government buildings, such as schools, hospitals, community facilities and government quarters. At the same time, the Environment and Conservation Fund will encourage different organisations to integrate greening and landscape design in suitable buildings.

Serveral private sectors initiate connecting green ideas with commercial projects. For example, the Sino Group’s Citywalk is a green shopping mall. It presents a Vertical Garden the size of a standard tennis court and “Citywalk Piazza” with landscaped water features and a hybrid chiller system that improves air quality and recycles waste water. It is the perfect blend of nature and shopping.

Vertical greening is the Department’s next step after roof greening. A remarkable Vertical Garden as mentioned above, currently the largest of its kind in Hong Kong, plays a key role not only in providing aesthetic appeal, but also in reducing ambient temperature, providing thermal insulation, acoustical control and air purification.

Slopes and retaining walls can be seen everywhere in Hong Kong. Based on many years of working experiences, the Geotechnical Engineering Office (under the Civil Engineering Development Department) worked out a Technical Guidelines on Landscape Treatments and Bio-engineering for Man-made Slopes and Retaining Walls. Numerous landscaped slopes have been examined during raining seasons which are still protecting residents from landslide, providing visual release, and contributing to surrounding environment.

In summary, we can draw a three-dimensional green space network by putting all the efforts together. Improvement in urban greenery is evident at multiple elevation levels - on the ground level along the footpaths and driveways, on the elevated walkways and under the fly-overs, on the podium and roof-top level, on the slopes and vertical structures etc. More green areas are provided during planning and implementation, and

<table>
<thead>
<tr>
<th>District</th>
<th>Greening Theme</th>
<th>Actual or target planting quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tsim Sha Tsui</td>
<td>Jade Necklace</td>
<td>680 trees and 146,000 shrubs approximately</td>
</tr>
<tr>
<td>Central</td>
<td>Heart of Gold</td>
<td>570 trees and 155,000 shrubs approximately</td>
</tr>
<tr>
<td>Mong Kok and Yau Ma Tei</td>
<td>Coastal Scenery</td>
<td>2,000 trees and 400,000 shrubs</td>
</tr>
<tr>
<td></td>
<td>Green Kaleidoscope Parkland</td>
<td></td>
</tr>
<tr>
<td>Sheung Wan, Wan Chai and</td>
<td>Rainbow</td>
<td>2,260 trees and 500,00 shrubs</td>
</tr>
<tr>
<td>Causeway Bay</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Green space</th>
<th>Scale</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country Parks</td>
<td>Regional</td>
<td>Country and Marine Parks, Special Areas, etc;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>covers about 40% of land area</td>
</tr>
<tr>
<td>Green Belt</td>
<td>Regional</td>
<td>covers about 25% of land area</td>
</tr>
<tr>
<td>Open Space</td>
<td>District/ local</td>
<td>from small sitting-out areas to large district park;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>covers about 4% of land area</td>
</tr>
<tr>
<td>Greening Master Plans;</td>
<td>District/ street</td>
<td>pedestrian and vehicle road;</td>
</tr>
<tr>
<td>Other greening works (e.g. slopes, infrastructures, etc.)</td>
<td>from ground level to elevated level;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>from flat land and slope</td>
</tr>
<tr>
<td>Green Roof (intensive and extensive)</td>
<td>Podium/ rooftop</td>
<td>government buildings and several private buildings</td>
</tr>
</tbody>
</table>
existing ones are enhanced. All these significant changes are happening within the small pieces of land and will influence the overall cityscape.

Conclusions
Landscape Value Mapping helps us understand the existing conditions and control the future development at a whole-of-territory scale. In rural areas Country Parks and green belts constitute mass green structures at a regional scale. In hyperdense urban areas, new green areas created by GMPs, roof gardens and related greening practices at multiple-levels will be enhanced both in quantity and quality, serving to link existing open spaces from district scale to local scale. In the long run the urban green spaces can be merged and connected both physically and visually to the significant green spaces in the mountain and countryside, leading to a more balanced and sustainable system. Most importantly, greening plays a vital role in establishing an environmentally friendly society.

Hong Kong’s development mode is to preserve large green and blue assets as the basis of sustainable development. Natural areas are always easily accessible and are almost never an hour away from the densest areas. This close proximity of green mountains, blue sea and the modern development of the city closely interknitted with an efficient transportation system, planned and maximized visual connection between the city and the green mountains, and maximized greening opportunities in the hyperdense urban environment, all combine to make Hong Kong a special example of a highly accessible three-dimensional system and special urban development. This three-dimensional compact city deserve further study and may serve as a model or reference for other dense metropoles.

Endnotes
[1] Landscape Character Type: Generic areas of landscape which have a broadly similar patterns of landform, vegetation, land use and urban settlement in every area where they occur. (source: Landscape Value Mapping of Hong Kong, 2005)

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Structuring the Concept of Landscape: Product, Process and Idea.

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Abstract

This paper discusses landscape as a multi-layered concept and proposes a three-dimensional approach to better understand the complex meaning of contemporary urban landscapes. The first dimension focuses on the material manifestation of landscape – landscape as product. The second dimension highlights the societal and natural forces, which produce the landscape – landscape as process. The third dimension puts cultural values and meanings up for discussion – landscape as idea. This concept was employed in eight case studies carried out in post-socialist Sofia / Bulgaria. Structuring the analysis of the case studies along the three dimensions presented above brings forth a differentiated view onto landscape. One that is generated from within the landscape. The analysis focuses on the mutual conditionality of landscape elements and urbanised structures. It reflects the ongoing processes of transformation, which produce fragmented, heterogeneous and remote urban landscapes. The cultural meaning of those landscapes has undergone a process of designification but also of reinterpretation by those considering these landscapes as their valuable everyday landscapes. Therefore, the structured multi-layered understanding of landscape allows for a differentiated design approach to, meaningless landscapes: one which employs the specific, anaesthetic attributes of those sites as their qualities.

Key words

Concept of landscape, post-socialism, negative space, cultural meaning, everyday landscape.

Introduction

Recent debates about the future of the urban environment focus on landscape as a central element. The introduction of the term „Zwischenstadt‘ by the German urban planner Thomas Sieverts (Sieverts 1999) presents contemporary urban developments as mutual processes of expanding urban structures and the infiltration of urban areas by undeveloped left over and vacant areas (see Bormann et al 2005: 134). The dichotomic concept of city and landscape has, thus, been disintegrated, urging the search for a comprehensive conception of landscape. Landscape is to serve as a super ordinate meaning on the regional level, while anaesthetic (see Welsch 1990) residual space is to function as a medium of intermediality between the isolated elements of suburbia and the fragmented landscape on the local level (see Hauser / Kamleithner 2006: 33).

Landscape has been described as a complex term in literature. Sauer points to landscape as space, that is composed of physical and cultural elements, made up of Gestalt‘ of a spatially defined habitat (see Sauer 1925). Its perception but also its actual physical manifestation is interlinked with specific socio-economic frameworks, turning the perceived and developed landscape into a societal construct, which represents specific fractions of society, as Cosgrove explicates. The significance of these groups is articulated in their imagined relation to nature and their social position to the external nature (see Cosgrove 1998: 13ff). Thus, the constructed landscape has a direct relation to constellations of power, patterns of representation and the imagination of external nature. On the individual level, the experience of landscape is based on a process of interpretation, which depends on both social appropriation and an „aesthetic component‘ in the concept of landscape, as Kühne describes (see Kühne 2006: 61). Aesthetics hereby is rather seen as beauty, containing subjective and cultural values and interpretation.

This leads to the question of how to understand the fragmented landscapes of contemporary urbanised environments as meaningful elements as they contrast the Arcadian ideal of landscape. Furthermore, the question remains, how those undeveloped spaces, which comprise on the one hand traditional elements of landscape but hold attributes as vagueness (see de Solá-Moráles 1995), uncertainty (see Cupers / Miessen 2002), ephemerality (see Qviström / Saltzman 2006) on the other hand, which do not fit in the conception of static and defined „Landscape Two‘ (see Jackson 1990) can be integrated.

Material and methods

Eight case studies have been carried out in post-socialist Sofia to provide information about the attributes and states of selected sites, which are considered as undefined open spaces in the urban environment. Those sites have been detected along urban dérives, which were roughly following the specifications of the Situationists (see Sadler 1998), as the decisions on the routing were predominantly made on site, responding to the attraction of place. These dérives have been analysed psycho-geo-
graphically (see Lynch 1993), resulting in the selection of eight case studies. Their qualitative analysis along static and dynamic attributes of landscape (see Czerniak 2005) provided the basis for structuring the conception of landscape along the dimensions of product, process and idea.

**Structuring Landscape**

The complex term of landscape can be structured along three dimensions (see Fig. 1).

**Landscape as product**

Space in its physic appearance is the object of enquiry in this dimension. Both the natural substrate of landscape and the physical manifestations of human activity in space are part of this. The differentiation between cultural and natural landscape is deregulated. The 'sum of all natural resources' (Sauer 1925) as well as the 'system of man-made environments on earth’s surface' (Jackson 1984: 43) can be integrated. This dimension focuses on the existing physical space as product, regardless whether the space was produced for intentional representation or resulted in accidental by-products. A hierarchy in this differentiation is obsolete.

**Landscape as process**

In two different aspects, landscape is an object of continuous change, development and transformation. First, from an ecological perspective, landscape is an interactive product of natural processes as wind, water, temperature and vegetation are continuously occupied with shaping the landscape. Ecology as 'science of process' (Halprin 1987) and the factor of time produce ever unfinished, limited phases which result in preliminary landscapes, shaped in open processes without defined ideal. Second, the processes of individual and societal appropriation comprise various layers, which interact with the natural substrate – or ecological base layer of landscape. Those 'societal layers of landscape' (see Kühne 2006: 74) reshape landscape continuously and can be abstracted as formative patterns of space. Process-related elements constitute profound components of landscape, which allow for understanding landscape as such as a process.

**Landscape as idea**

In this dimension, the various layers of landscape are reduced, interpreted and valued. This process can be understood analogous to an evaluation as the perceived space is scanned with regard to subjective, cultural, societal and ideological norms, ideas and preferences. Kühne describes this procedure as a construction of landscape within internal consciousness. It is to be understood as an active, self-determined manipulation of the outer environment (see Kühne 2006: 61). It is in this dimension where the meaning and conception of landscape is defined and articulated.

Establishing a structured view on landscape

The attributes used in the analysis of the case studies can be ascribed to the three dimensions of landscape (see Fig. 2).

In the dimension of product, the following attributes were intended for analysis: the location within the urban agglomeration; the topographical relief of the superordinate landscape; the landscape elements characterising the site and connecting it to the superordinate landscape; the figured ground of the site and its material texture. All attributes in the dimension of process have relational character: the structure of use over time; the relicts of

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undertaking. Characteristic for post-socialist urban
gies, structures relating to the transitoriness of human
they house relics of former uses or abandoned endea-
of urbanization, in which the historic and recent limits
character of landscape. On the one hand, they show the
assembled to bigger areas.
are mostly limited to pathways and are only punctually
made up by deposits, which contribute to the topogra-
characterised by vegetated areas. A relevant fraction is
by openness and vagueness. Spatial differentiations are
unincisive, resulting in spatial situations characterised
outlines of their ground forms. Their spatial limits are of-
high grade of fragmentation, which is reflected in the long
the natural surrounding. The sites are characterised by a
borderlines, such as traffic alignments, fences, walls
rised by landscape elements such as small creeks, which
often establish barriers and edges for urban develop-
Hence the adjacent space forms a kind of buffer
zone, which is in many cases reshaped due to technical
and functionalised uses but is nevertheless connected to
the natural surrounding. The sites are characterised by a
high grade of fragmentation, which is reflected in the long
outlines of their ground forms. Their spatial limits are of-
unincisive, resulting in spatial situations characterised
by openness and vagueness. Spatial differentiations are
produced by either the natural topography or man-made
borderlines, such as traffic alignments, fences, walls
etc. The material texture of the sites is predominantly
characterised by vegetated areas. A relevant fraction is
made up by deposits, which contribute to the topogra-
ical composition. Paved and water-bound surfaces are
mostly limited to pathways and are only punctually
assembled to bigger areas.

The case studies impressively reflect the process-related
character of landscape. On the one hand, they show the
persistence of landscape elements against the process
of urbanization, in which the historic and recent limits
of urban development are mirrored. On the other hand,
they house relics of former uses or abandoned endea-
vours which are evocative of bygone ideas and ideolo-
gies, structures relating to the transitoriness of human
undertaking. Characteristic for post-socialist urban
landscapes is the uncertain status in propertyship and
the diverging systems of land organisation, putting their
development status as being in limbo. The processes of
collectivization under socialism and restitution after
the formative change in the 1990’s are reflected in this.
Most of the case studies provide room for multitudes of
actual forms of use and functions. The types of uses are
linked with the dynamics of investment and degradation.
The demand of investors and developers reduces the
potential of the undefined spaces mostly to plots to be
build on. However, the degraded sites make room for
informal uses which can be traced on informal networks
of pathways, improvised settlements and playgrounds,
sites of gathering, meeting and living. In this aspect,
the case studies reflect the growing segregation of the post-
socialist society in Sofia, presenting themselves as realm
of opportunity open for interpretation and appropriation.
These processes of appropriations often make use of the
vegetative dynamics which alter the visual appearance
and the spatial perception of the site within months and,
therefore, change the landscape rapidly.

Reading undefined spaces in post-socialist Sofia as
imaginary landscapes puts forward discourses challenging
the common conception of landscape. The case studies
are very much characterised and defined by natural and
landscape elements. But modern urban planning in Sofia
was not capable of incorporating those sites into urbanity,
leaving them as anti-urban elements aside and unmasking
itself as limited understanding of urbanity (see Diener et
al 2006: 50). The anaesthetics found in the case studies
form an antipode to the homogeneous, ordered and func-
tionalised urban environment sought in modern planning
history in Sofia. The reshaping of the sites predominantly
regarded mere technical engineering considerations and
produced disruptions, which do not allow for a continuous
perception of space. The sites are organised and used in
flexible, informal and superimposed ways. Their tem-
porary and ephemeral occupations as well as their odd,
labyrinthine material configuration introduce contexts as
waste, margin, complexity and deregulation. The sites are
in respect of time and organisational logic divergent to
the rationalist city as they rather follow up an evolutionary
matter in form and use than a fixed ideal.

Characterised like this, it is obvious that undefined space
does not fit into the conception of beautified urban land-
capes planners, developers and politicians tend to speak
of (see Sofia Municipality 2004). However, they exist,
they are used and even desired, thus, they can be cha-
acterized as informal everyday landscapes. Numerous
sites of those analysed are demanded by the losers of
the transformation process – elder people, ethnic mini-
urities, homeless people, children and adolescents. It is
them who produce the cultural meaning of these land-
capes. It is up to us to understand those interpretations.
Conclusion
Structuring landscape along the dimensions of product, process and idea allows for a deeper understanding of its complex constitution. Essential attributes of fragmented landscapes can herewith be articulated. The three-dimensional analysis presents on the one side the present state of the sites analysed and shows on the other side that their anaesthetic interpretation is connected with the specific societal and cultural dynamics in post-socialism. The dimensions of process and idea seem to be the very dimensions for developing an differentiated understanding of the sites analysed. This forms a basis to develop an approach to look at the landscape from within and thus, to incorporate those sites into the conception of landscape.

Equally, it allows further consideration about design strategies which could be evolved from the character of the sites analysed. The attributes and qualities, which are interpreted as anaesthetic, could be a starting point for this.

Translating the layered meaning of those landscapes into design, as a first step, a complete understanding of its elements, facets and fractions would be required. In a second step, the relational qualities of anaesthetic attributes could be investigated, at the same time avoiding the risk to understand them simply as being different from surrounding urban space. As a third step, geared to the inner logic of the sites, a design strategy could be developed, following terms as disruption, strangeness, divergence and heterogeneity. A landscape architectural interpretation of these terms would be capable of shaping those sites rather as communicative places which gain their identities through their specific attributes than as spaces of mere intermediation between isolated urban elements.

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Anti-planning, anti-design? Exploring alternative ways of making future urban landscapes.

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Abstract

This paper critiques some contemporary approaches to urban planning and design, especially ideas concerning the creation of local distinctiveness and place identity; and proposes that alternative strategies for the planning and design of urban public open spaces may be derived from the properties of interstitial spaces and evolved landscapes. The former are defined as spaces between or on the margins of more programmed and controlled urban spaces... characterized by the opportunities they provide for a diverse range of human and non-human activities and processes’. The latter include any landscape that develops incrementally over time, especially where the shaping forces are not the result of formal planning or design’. Their properties are examined, and used to generate 6 key characteristics for urban planning and design, namely multiplicity, ambiguity, polyvalence, communality, dynamism, mutability and process. The paper concludes by suggesting some planning and design strategies that are likely to produce landscapes bearing these characteristics.

Key words

Interstitial spaces, evolved landscapes, industrial ruins, multifunctionality, polyvalence, risk.

Introduction

A post modern dilemma confronting urban planners and designers globally concerns the purposes and forms of city morphologies and spaces, now that they are becoming so far removed from the processes that originally shaped them. Urbanisation first occurred to facilitate commercial exchange in specific locations dictated by geographical experience but as changes in transport and communications have enabled industrial production to move away from urban centres, and commercial transactions are relocating from the market place to the virtual spaces of information and communications technology (Lyster, 2006: 223), the functions and meanings of urban spaces have changed. Nowadays the urban centres of ‘developed’ countries are given over to leisure activities; especially the consumption of globally-produced goods and cultures, and the flows of people needed to fuel the local economies that depend on these activities.

Whereas once the form and fabric of buildings and spaces were shaped by local resources, crafts and ideologies; great changes in architectural and building technologies, and the global movement of materials, expertise and ideas, mean that the forms, functions and meanings of urban spaces are no longer constrained by their locality. However, this has not generally resulted in greater diversity of urban public spaces. Instead, alongside the dedication of urban centres to consumption and leisure, an approach to urban planning and design has developed that has resulted in an erosion of local identity. The purpose of this paper is to critique this approach and to suggest some alternative qualities and values for the planning and design of urban public spaces, derived from the characteristics of urban interstitial spaces and evolved landscapes (defined below). The city of Sheffield (UK) typifies the trends identified above, and is therefore used as a case study. Faced with the progressive collapse of its steel industry, the erosion of the city centre by decades of car-centred planning and competition from its regional rivals (the cities of Leeds and Manchester), Sheffield City Council’s new masterplan envisages a renaissance based on developing the city’s retail and cultural provision (Sheffield City Council, 2008: 6). The paper concludes by exploring the implications for urban planning and design.

Critiques of contemporary urban planning and design

In the UK urban planning primarily involves allocating an appropriate set of land uses to each spatial unit. Land uses or activities that compete with or detract from the prescribed ones, such as unlicensed performance or vending, organized gatherings or political demonstrations, children’s play, young people hanging out (Worpole, 2003), skateboarding and rough sleeping, are generally prohibited. External and internal spaces that facilitate or enable the sanctioned land uses are preferred. In the case of retail, these spaces must provide unambiguously positive experiences that are free from confusion, risk or discomfort; and visitors must be able to move ‘seamlessly’ from one locality to the next (Edensor, 2005: 57).

Along with the goods and services that may be purchased there, the city itself is becoming a ‘product’ to be consumed; thus the fabric of the city, its buildings, streets and open spaces, have to be packaged and commodified (Kwon, 1997:106). As part of its own branding exercise Sheffield City Centre has been divided up into 12 ‘quarters’, with their own names and distinguishing characteristics, linked by various routes, including the ‘gold’ and ‘steel’ routes.
Local identity must be enhanced to offer visitors something distinctive. Attempts to bolster or create local identity include preserving historic fabric and structures, adding fresh material to maintain the ‘look’ of a particular historical period (especially paving and street furniture), and creating new landscapes alluding to notable aspects of local history and culture. Sheffield is well-known for making steel and cutlery. Hence, Sheaf Square, the new public space that welcomes visitors outside the railway station, is bounded by the 90 metre long ‘Cutting Edge’ stainless steel sculpture cum water feature. This sculpture also exemplifies an approach to the design of urban public space that consists of the assembly of significant objects, rather than the manipulation of landscape elements to make coherent spaces. The presence of objects as symbols of place stands in for the experience of being in place (Baudrillard, 1983: 152).

The pre-eminence of physical structures as the preferred manifestation of local identity and ‘placeness’ necessarily limits the number of ways in which those places can be interpreted. A particular historical period or cultural perspective is privileged, and differences smoothed over (Hellström, 2006: 303). It also privileges tangible objects over less tangible components of place, including space, time, movement, flux, absence, and natural process. Thus, in Sheaf Square, the river Sheaf runs underground in a culvert nearby, whilst the open space is structured around an enormous, artificially powered, water feature that stands in for its namesake [1]. Both the scale and form of this water feature typify the use of a rather florid, baroque design language to articulate spaces and functions (Lund, 1997: 26).

Furthermore, although manuals of urban design practice purport to celebrate local culture (CABE, 2000:15), social and environmental processes are generally eschewed in favour of static, fixed representations of place. In her critique of the regeneration of UK industrial ruins in, Heatherington (2006: 8-9) refers to Doreen Massey’s (1993; 2005) interpretations of place as a temporary crystallization of diverse narratives, ideologies and human and non-human entities in space, rather than a collection of objects with fixed meanings. The next section of this paper explores how interstitial spaces and evolved landscapes exhibit certain qualities that can be used to highlight a more rounded conception of place and local identity.

Qualities of interstitial spaces and evolved landscapes

There is a developing literature concerned with the characteristics and meanings of interstitial spaces (See Edensor, 2005; Doron, 2007, and Franck and Stevens, 2007 for some recent texts). Definitions vary with context but essentially interstitial spaces lie between or on the margins of more programmed and controlled urban spaces, and are characterized by the opportunities they provide for a diverse range of human and non-human activities and processes. They include derelict sites and indeterminate spaces of all kinds. For the purposes of this paper evolved landscapes include any landscape that develops incrementally over time, especially where the shaping forces are not the result of formal planning or design.

Many factors help create the physical and social conditions that enable a diverse range of activities to take place in interstitial spaces, ranging from large-scale informal occupation and trading (Hellström, 2006; Sheridan, 2007, Mörtenböck and Mooshammer, 2007) to activities involving intimate and sometimes challenging engagements with their natural and built surroundings (Edensor, 2005: 92; Tylecote, 2008: 98). These activities are the result of what Manolopoulou (2007: 63) calls ‘the modest simplicity of chance’. This capacity to accommodate diverse activities and experiences is often referred to as multifunctionality, seen as a desirable objective in urban planning and design (CABE, 2000: 15), but often incorrectly interpreted as mixed use. Mixed use developments are not multifunctional, as each unit of development only has one sanctioned land use (Ling et al., 2007: 286). Multifunctionality should also not be confused with flexibility or adaptability, which either risks redundancy, or attempts to control the way in which an environment should change to accommodate anticipated future uses (Manolopoulou, 2007: 69). ‘Multifunctionality’ also implies a preoccupation with use to the exclusion of other forms of experience. ‘Multiplicity’, though rather open-ended, seems to embrace a wider range of interactions with place.

The uses of a place are closely related to its meaning (Blundell Jones (2007), emphasising that meaning is not something to be passively absorbed from one’s surroundings, but is part of an active engagement with place. In contrast to the partial, simplified and sanitized meanings encoded in so many of today’s urban public spaces, interstitial spaces contain multiple, often contradictory, meanings including insecurity, disorder, decay, waste, confusion, freedom, possibility, discovery, adventure and enchantment (Jorgensen and Tylecote, 2007: 453). Grappling with the ambiguity and ‘polyvalence’ (Hellström, 2006) of interstitial spaces involves intellectual effort, which is in itself an act of engagement with place.

Human engagements with interstitial places often involve the temporary or permanent modification of their physical fabric in ways that are impossible in more closely regulated urban environments. Fruits and objects may be harvested, acquired or discarded, structures built or destroyed (Edensor, 2005). Interstitial spaces are communal in the sense that anyone seems entitled to appropri-
ate them, provided they still remain open to appropriation by others. By contrast, in many contemporary urban spaces, unauthorised modifications are prohibited, and even temporary signs of use or occupation are positively discouraged. The detritus generated by users is routinely removed, and worn or damaged landscape components are replaced in order to maintain these places in their pristine condition. However, where less intensively regulated and maintained urban landscapes are permitted to evolve, the results are arguably more interesting, and more expressive of their locality. Many Sheffield streets were originally paved with locally quarried stone sets, later supplanted with a layer of tarmac. With time the tarmac wears away, revealing the original sets. The resulting patterned and somewhat irregular surface is somehow far more characteristic of place than a covering consisting solely of tarmac or sets.

Interstitial spaces are dynamic: continually changing as part of larger social and environmental cycles and processes. Langer (2007) has demonstrated how the Sudgelände Nature Park in Berlin owes its whole existence and ecology to a coalescence of natural, social, political and economic forces. They are also mutable: liable to sudden, unplanned or unexpected change. A tree falls, a building is demolished, or a development elsewhere alters public access to a site, setting off a whole new chain of landscape consequences.

Interstitial spaces and evolved landscapes have not had ‘local identity’ imposed on them, they are just themselves: the palpable result of a set of interactions and processes over a period of time, though an appreciation of their qualities requires a radical redefinition of our values and aesthetics.

Conclusions- implications for urban planning and design

This brief review of the failings of some current approaches to urban planning and design and the corresponding qualities of interstitial places and evolved landscapes reveals 6 key characteristics that can be used to inform urban planning and design: multiplicity, ambiguity and polyvalence, communality, dynamism, mutability and process. The question is: what are the planning and design strategies that will result in landscapes bearing these characteristics? There are four key areas that need to be addressed. Firstly, the core purposes and values of urban planning and design need to be re-examined. Urban planners and designers need to have a wider remit, beyond making places profitable, which embraces a wider range of objectives, including social justice and environmental equity. This has many implications, including the need to find new ways of funding urban development projects that do not place so much reliance on private finance. Urban public open space should be seen as a form of indispensable public infrastructure, and should be publicly funded. Secondly, the values and meanings underpinning planning and design decisions and aesthetics need to be subject to more rigorous examination. Where do they come from, what do they signify and whom do they benefit? Landscape architectural practice and education needs to become more aware of, and more critical of the aesthetic, cultural, social and political assumptions on which they are based [1]. Landscape interventions should not have the imposition of meaning as their primary objective (Hallal, 2006: 13). Treib (2002: 101) has suggested that facilitating pleasure is an end in itself, though it is questionable as to whether ‘pleasure’ includes a wide-enough range of responses to landscape. Does it, for example, include the exigencies of negotiating risk in landscape (CABE Space, 2005)?

Thirdly, urban design and planning strategies will need to integrate a whole range of processes and ecologies (Mostafavi, 2003; Waldheim, 2006); which necessitates finding methodologies sophisticated enough to take account of the complexities of all the data involved (Corner 2006: 32); and may also require a widening of the scope of landscape architectural practice.

Finally, the idea that regeneration necessitates wholesale renewal should be challenged. If evolved landscapes are more expressive of local identity, then ‘small scale interventions that have the potential for large scale impact’ should always be considered (Corbin, 2003: 22): an approach to landscape design informed by what Dee [1] has called ‘the aesthetics of thrift’. Landscape architecture needs to learn when to stand back: doing nothing, or doing very little is sometimes better than doing something.
Endnotes
[1] The author is indebted Catherine Dee, Senior Lecturer at the Department of Landscape at the University of Sheffield for these observations, and for her generous advice, and the time devoted to many discussions that have helped shape the ideas expressed in this paper. Catherine Dee has submitted a paper entitled ‘Form, thrift and landscape aesthetic education’ to the Landscape Journal for publication. For more information contact C.Dee@shef.ac.uk

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Complexity Ethos + Strategies: Nonlinear Landscape Praxis

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Abstract

At the end of the twentieth century and into this century, complexity theory and nonlinear dynamics have surfaced with increasing frequency as a means to understand the world and describe the ways in which it works. Applications of these theories can be found in many fields, including landscape architecture and urban design. While a theoretical dialogue on this topic is ongoing, the bridge between theory and praxis is still developing. The author investigates this association through a literature review of complexity theory and contemporary landscape architecture theory. The objective of this paper is to present a foundation for landscape architectural praxis based upon a complexity ethos and four practice strategies: deciphering, scripting, framing and stewardship.

Keywords

Landscape architecture, complexity theory, complexity ethos, deciphering, scripting, framing, stewardship

Complexity Ethos

Across a broad range of disciplines, complexity theory and nonlinear dynamics are emerging as a means to understand the world and how it works. Initially led by physicists and philosophers, applications of complexity theory are being explored in many areas, including geography, social science, economics, computer programming, and city planning [1]. The existing body of work represents a broad range of methodologies and approaches, including empirical studies, computer modeling, and descriptive texts building upon predecessors’ findings. Applications to landscape architecture have also surfaced, often in the context of landscape urbanism or ecological urbanism (Allen 2001, Berrizbeitia 2001, Connolly 2004, Corner, Allen 2001, Corner 2003, Corner 2004, Hill 2001, Hill 2005, Wall 1999). Landscape architecture and urban design scholars concentrating in this area acknowledge the value and relevance of understanding complex systems and nonlinear dynamics, yet a clear framework for practice is still emerging. This paper adds to the current body of work by presenting an ethos and four practice strategies that engage complexity and nonlinear dynamics.

My previous investigations into contextualizing landscape architecture within the emerging dialogue of complexity theory and nonlinear dynamics propose a foundational perspective, which I call a complexity ethos. Our world may be understood in terms of complex systems that are constantly changing and co-adapting to one another, forming a single aggregation of matter and energy unravelling through time. Ecologies, economies, social organizations, and cities are all examples of complex systems that interact with their component parts and one another (Johnson 2001). In this context, landscape is simultaneously matter and process, non-scalar, relational, and always unfolding. It is a single matter-energy, as well as encoded cultural traditions and knowledge aggregating through time, influenced more by relationships between complex systems than the systems themselves [2]. When landscape is understood as relational, situational and multidirectional, any single set of rules for practice becomes quickly outmoded and inadequate. Alternatively, working strategically within an ethos provides a broad foundation for visceral decision-making [3]. Taking action from an informed perspective is an approach that liberates a designer from the limitations of a rule-set, and promotes intuitive decision-making.

A complexity ethos acknowledges the relationality, fluidity and complexity of the contemporary global landscape and supplants traditional thinking in several ways. Landscape architects may begin to think of landscape not in terms of scale, but rather in terms of relations; not in terms of media and process, but rather in terms of media and process; not in terms of control, but rather in terms of responding to feedback and adapting through time. Shifting away from traditional paradigms of permanence, control, and totalizing organizations will allow landscape architects to begin to think in terms of bottom up, actor-catalyzed landscape and cities (Belanger 2009).

This perspective raises questions about the nature of landscape architectural practice. How might landscape architects identify influential and pertinent landscape relations for a particular place? How might landscape architects engage complex systems as creative design agents? Once understood, how might these discoveries influence significant practice decisions, such as site organization and programming? How might landscape architects engage landscape projects to be adaptive and culturally relevant over time? These four questions are addressed by the following four reflexive strategies, which operate within a complexity ethos. They provide a scaffold for practice, and are called deciphering, framing, scripting, and stewardship [4].
Deciphering
The goal of deciphering is to understand the complex and aggregated influences that appear, disappear, and reappear in a place. Always elusive and forever changing, influences are internal and external forms and forces, building the history of a place, as well as creating seeds for many potential futures. They are relational, as opposed to scalar, meaning their effect is not associated with size or locale, and is not limited to the legal boundaries of a site. Deciphering is an alternative to positivistic and reductionist modes of thinking – all too common in conventional practice – that construe a site as a cleared, “muted ground” [5] upon which developers and their designers intend to act (Beauregard 2005). The primary shortcoming of this perspective is that sites become simplified, rationalized and reduced, with a narrow or singular ambition to provide a canvas for something new. Alternatively, deciphering reveals the complex systems, relations, and aggregated narratives embedded in every site, providing a foundation, point of departure, and framework for design action.

In addition to understanding the complex and interwoven logics of a place, deciphering is a means for revealing a multitude of latent orders that would provide an armature for organizing new materials and programs. This approach is substantiated by the work of accomplished landscape architects and is very different from the notion of site as “muted ground” [6]. The designer seeks to not only record the forms present, but to also understand the forces that created them. Activities of visiting, researching, mapping, cross-mapping, datascaping, and analyzing are coupled with intuitive and artful abstractions and interpretations. Deciphering allows the designer to engage the rich aggregated influences with which every site is endowed, and sets the stage for site design through the strategies of scripting, framing, and stewardship.

Scripting
Scripting begins with understanding the potency of specific processes working in a place, and continues with engaging them as active agents of design. Sites are open to flows and fluxes of larger systems that move through, upon, and over them, such as weather, social patterns, information exchange, wildlife movements, and hydrological systems. Nonlinear dynamics provides insights into the often surprising effects of emergent phenomena that occur as a result of random interactions between complex systems. Through systemic interactions, seemingly benign design decisions on a site may have profound consequences in surprising locations. Although it would be impossible to predict all of these potential occurrences, the strategy of deciphering brings to light the systems at play, providing the information required for scripting. Scripting enables a designer to become a process architect: to actively add to or to edit away from the systems that are present and/or introduce new systems or catalytic agents.

The Dutch design firm Vista practices a form of deciphering and scripting, which they call “process design”. They seek to “unravel and manipulate the underlying processes in the landscape as well as the infrastructure that forms them” (van Gerwen 2004: 233). Roel Van Gerwen uses the analogy of building a pile of sand on the beach: “you can form a mound of sand with a bucket and a shovel, then the mound will disappear with the wind over time. The alternative is to place a large stick in the ground where the wind will instantly form a pile, reshaping the pile every time the wind changes its direction. In this analogy, placing the stick is less exhausting, gives a less predictable result and is highly dynamic” (van Gerwen 2004: 233).

Framing
Framing sets the organizational and programmatic parameters for a site and strategically evolves alongside scripting. Framing introduces geometries that first respond to the armatures and influences uncovered during deciphering, and second sponsor newly scripted processes [7]. Recent shifts in ecological thinking parallel concepts in complexity and nonlinear dynamics and support the relationship between scripting and framing. These new theories focus on nonequilibrium ecologies and the relationship between material/spatial patterns and the processes that they influence (Hill 2001, Hill 2005, Cook 2000). The notion of integrated pattern and process organization can be understood to apply to many complex systems relevant to landscape architecture. For example, Michael Batty has determined that bottom-up, self-organization of complex systems is fundamental to the order of urban spatial patterns (Batty 2005). The aggregate patterns we observe in ecological and urban systems alike are more influenced by localized events and system interactions than single totalizing decisions. Yet these patterns exist within an infrastructural framework. Patterns of vegetation and wildlife evolve because of a material framework including geomorphology, topography, solar orientation, and gross hydrological systems. Cities grow and change within a framework that includes these conditions as well as infrastructures comprised of streets, transit systems, utilities, and green corridors. Frameworks are enduring while the patterns that result are temporal, adaptive, and always changing. Framing organizes the physical structures that sponsor the emergence of self-organizing systems and their related patterns.

An example of scripting and framing is the „Virgin Pool of Earth” by landscape artist Alan Sonfist. The site work is located in a contaminated and toxic landscape near the Love Canal in New York. Sonfist created a “seed cat-
cher” from a twenty-five foot diameter, six-foot deep hole by filling it with a clay-based virgin soil and rimming the edges with a cobble lip (Spaid). The rimmed pool collects seeds brought by wind and animal movements and holds rainwater, resulting in a growing and vibrant landscape in the midst of an industrial wasteland. In this example, framing is understood to be introducing viable soil and constructing a cobble rim. Through these material organizations, Sonfist scripted the resulting seed and water capture and a new ecological future for the site.

Stewardship

The strategy of stewardship provides the means for a place to maintain cultural relevance through time. It supplants common landscape maintenance policies, which often fall into one of two categories: over-regulation of landscape process through mechanical and chemical means (resulting in artificial stasis and toxic environments) or a complete failure to provide necessary attention to changing dynamics (resulting in a cultural perception of neglect and abandonment). Stewardship is first a strategy of constant deciphering as landscape influences continually change, and second a nurturing, artful and highly selective refining of a place through time. The role of stewardship suggests rethinking conventional relationships with clients, in which representational ideas would be supplemented with ongoing advising [8]. The focus of stewardship is understanding and engaging landscape change through time.

A complex system changes in two ways: quickly and dramatically when it reaches a tipping point, and incrementally through adaptation. A system relies on adaptation for survival by constantly reorganizing in response to feedback from its surroundings. (Taylor 2001) The role of the steward is to provide the link in the feedback loop between changes in cultural or ecological conditions, and to make timely and exacting edits, additions, or refinements to the geometric organization of a site’s framework. Stewardship is a maintenance strategy that would promote resilience by striving to uphold the processes and conceptual legacy of a site, but allow it to physically morph over time as conditions warrant. Stewards would be artful designers who precisely engage the processes of a site within the context of ever-changing cultural conditions.

Conclusion

A complexity ethos and the four practice strategies provide a means for landscape architects to design projects of environmental and societal sensitivity, performance, resilience and enduring cultural relevance within our complex nonlinear world. Beginning with an ethos that contextualizes landscape in complexity and nonlinear dynamics, designers approach a project with informed intuition. Deciphering involves identifying the aggregated influences of a site and revealing latent armatures for process and material organization. Through scripting and framing, a designer may apply this knowledge to a site by engaging and catalyzing processes within a designed material framework. Stewardship provides a designer with the strategic means to engage a site through time such that it remains adaptive and culturally relevant.

This overview provides a point of departure for further exploration. Upcoming scholarship will investigate the nuances of each of the four strategies through further conceptual development as well as testing and implementation in landscape architecture projects. Future work will also focus on integrating additional strategies as they emerge from this scholarship and the evolving work of others.
Endnotes

[1] Influential works in complexity and nonlinear dynamics include the following list, which is not exhaustive. Physics: (Bak 1996, GelMann 1994, Holland 1999, Kauffman 1990); philosophy: (Taylor 2001, De Landa 1997, Deleuze 1987) geography: (Phillips 1999, Urry 2005); social science (Chertes 2005), economics and computer programming (Johnson 2001), and city planning (Batty 2005, Batty 2008, Jacobs 1961)

[2] These findings are discussed in greater detail in my previous work (Belanger 2009). I am applying the work of philosopher Manu-el DeLanda for this definition of landscape. (De Landa 1997).

[3] James Corner has suggested that landscape urbanism might be approached similarly. (Corner 2003)

[4] Some of these concepts were initially explored in a previous work (Belanger 2006). This paper represents the addition of significant research and conceptual advancement.


[6] Elizabeth Meyer cites several nineteenth century landscape architects who have written specifically about reading a site and revealing a latent armature for design decisions. Andrew Jackson Downing relied upon topography, vegetation, and spatial configuration for embellishment with landscape art; Vaux and OlmstedSr. used glacial geomorphologies as a framework for organizing picturesque scenery in Prospect Park, New York; and Beatrix Farrand described using landform as the primary organizing feature at Dumbarton Oaks in Washington, DC. (Meyer 2005).

[7] This notion is supported by James Corner, who argues that geometry, material and form are fundamental to landscape architecture, and must be integrated with process-driven design strategies. (Corner 2004: 2)

[8] This used to be more common in landscape architectural practi-ce. For example, landscape architect Beatrix Farrand oversaw the landscape of Princeton’s campus for over thirty years, beginning in 1912 (LoBiondo 2000).

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Great Ideas in Landscapes Seen and Known: towards a more robust discussion on the sentient attributes of perception

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Abstract

Landscapes are replete with meaning, and understanding that meaning may require more than simply seeing. Seeing implies a casual observation, knowing suggests a deeper understanding, one that may only come from a more intimate contact. A large part of what we understand about a landscape develops through the systematic investigation of biogeographic, climatic and socio-politic forces that bear their influence. However, how we perceive a landscape is greatly influenced by how we experience it and is further influenced by both our cultural conditioning and professional training. While our perception of landscape includes nearly all the human senses, our training has focused almost exclusively on the visual. Other sentient qualities are nearly always relegated to the periphery where they are seen as subtle nuance and therefore disregarded. Nevertheless, these attributes are essential to how we perceive landscapes. Has our conventional training focused on visual attributes because we have historically had limited capacity to interpret, analyze and communicate the other sentient qualities of landscape? This paper suggests that new and emerging tools and methods may provide opportunities to increase both our understanding and our ability to talk about more of the qualities that form the total experience of the landscapes we perceive. By examining the motivations for needing to study landscapes, opportunities are identified for using digital video, a medium that is now readily available and easy to use. By itself, video cannot entirely compensate for all of the shortcomings that arise from our obsession with the visual. However, it does provide measured improvements in the ways we come to perceive and understand the Great Ideas of landscape.

Key Words

Landscape video, landscape perception, spatial attribution, landscape interpretation, design communication, landscape visualization

Great Ideas

Landscapes go beyond the physical to express narratives of human endeavor; they tell stories (Spirn, A. W. 1998; Lewis, P. 1979). Great Ideas are found in the landscapes we interpret, design and occupy. These Great Ideas emerge by focusing on one or more perspectives that motivate understanding of the stories that landscapes tell.

Great Ideas can be the design genius whose medium is landscape (Corner, J. 1999). With an enlightened vision and the necessary requisite skills, the designer or artist alters the land to either foster or nurture both an understanding of and a connection to place. Great Ideas can also be the recognition of the co-dependent and inter-related processes of natural systems at play in the landscape. By recognizing the harmony of these forces, we develop a deeper, more sensitive and meaningful dialogue with a specific landscape. We also begin to understand the power of these forces and their affect on other landscapes more broadly.

Finally, Great Ideas can be the inherent associations bound-up in the thickly-layered histories of human occupation. Landscape serves as a sacred, place-specific repository of human experience, carrying Great Ideas forward, motivating energies to protect and to preserve, not just landscape as a medium, but landscape as the very basis and foundation of human identity.

Depths of Understanding

There are different depths of understanding. Landscapes can be “seen” (at the shallow end) and “known” (at the deepest end). Both seeing and knowing represent some level of understanding a landscape and begin to suggest a level of association and connection between humans and place.

A casual observation, seeing is usually our first perception (or interaction) with landscape: it’s where we begin to understand the landscape (Cosgrove, D. 2003, 1984; Holdsworth, D. 1997). At first, seeing enables us to recognize the landscape’s form and scale. Looking closer at a landscape or seeing it in greater detail enables us to better understand its elements and the constitution of those elements. As textures reveal themselves and as
we begin to recognize and make sense of the composition of the colors that are reflected off stone and earth, our understanding both broadens and deepens (Riley, R. 1997).

We reach a deeper understanding of landscape when we identify the recognizable, characteristic elements it possesses (Howett, C. 1997; Meinig, D. W. 1979; Norton, W. 1989). Characteristic elements are cues that tap specific memories and compel us to recall the individual and collective experiences we have with the landscape. Drawing from these memories and experiences, we establish a baseline for comprehending landscapes that are otherwise unfamiliar to us.

As our understanding of a landscape deepens and as the unfamiliar becomes the familiar, we are led to contest the assumptions of our initial inference and adjust our perceptions accordingly. This process requires that we must continually make judgments regarding the relative significance of landscape detail before disregarding it as insignificant.

The judgments we make about the significance of detail and nuance deepens the connections we have to a landscape. When a landscape resonates within us, or compels instinctive reaction, impulse or emotive responses, our connection to landscape is strong and our understanding of such a landscape becomes deep.

Motivations for Understanding
Just as there are varying depths of understanding the Great Ideas of landscape, there are varying motivations for understanding these ideas; with each motivation comes a different set of tools and methods to be used. To illustrate the methods and means essential in building understanding, I have identified three distinct categories of motivations: Alteration, Restoration and Conservation.

Alteration
Designing a landscape requires that we understand its unique physical attributes, what natural systems play upon it and the social policies that control its habitation and use.

Restoration
Healing a landscape requires that we understand the causes of the environmental stresses upon it in order to choose the appropriate methods of relieving those stresses and restoring its natural functions.

Conservation
Preserving a landscape requires that we comprehend the close human connections to landscape and that the meanings of that process are documented and interpreted for others.

Expectedly, there is considerable overlap of the tools and methods used for each of these motivations. Subtle differences in the combinations of tools and how they are used can result in distinctly different perspectives that have varying levels of relevance depending on the objectives of their initial motivation.

Figure 2: landscape seen 2, Green Cay, Florida.

**Categorization of Landscape Attributes**
We must also recognize the differences in the types of attributes being assessed. These include:

**Physical (biological and geological)**
The scale, form and texture of a landscape, and the geological composition, vegetation, hydrology, topography and climatic forces that play upon it.

**Aesthetics (sensorial: visual & aural inclusively)**
Referential – what a landscape image suggests about the place of the observer
Scenic – landscape as the subject of aesthetic concern

**Socio-political (societal & cultural)**
Cultural identity associated with landscape and the policies that govern how humans interact with it

**Historical**
Historical uses of a landscape and the events that transpired in, around or in regard to it

Tools for Understanding
Training has provided us with the methods and skills needed in our study of landscape, but not all the tools we have been trained to use are singularly adequate for understanding all landscape attributes. We have learned to draw from a collection of tools and to adapt methods to suit varying objectives. These tools are broadly identified as:

- Surveys & mapping
- Site & landscape inventories
- Geo-data & computer modeling
- Photographic archives & surveys
- Artistic renderings (sketches & measured drawings)
- Written records (notes & written narrative)
- Oral histories
- Film & video documents
Depending on motivation, these tools come with distinct benefits and inherent limitations. Some will adapt and evolve as their use and application to reveal hidden potential or the need for further modification and refinement; others offer benefits not yet fully realized.

The traditional tools we have relied most heavily upon have focused almost exclusively on the visual qualities of the landscapes we perceive.

**Landscapes and Perception**

When scholars talk about landscape perception, we think of visual qualities despite the fact that experiencing a landscape engages other senses, not just sight.

Our training is largely responsible for limiting the way we think about landscapes. We have been taught to express ideas through visual means and have been trained to capture and communicate views of the landscape using a variety of methods and media. We have not yet, however, learned the methods that would enable us to speak with similar proficiency about the other sentient qualities of landscape. These qualities are vital to the way we perceive landscapes.

**Benefits of Video**

We don’t need to be acoustic engineers nor animation specialists to work with sound and motion and we also don’t require sophisticated or specialized technology to study these sensory cues. Digital video is readily available technology that is easy to use and enables us to consider sound and motion in all stages of our work from analysis through communication.

**Motion**

Video is a visual medium. Much like still photography, it captures framed images,— perspectives of landscapes selected by its user. It differs from photography, however, by capturing lots of frames. At 29 frames per second, the captured images of video appear to move.

Motion can occur in two ways. It can occur within the framed view (ie, within the landscape), or, the framed view itself can move (ie, through the landscape). Within the landscape, motion suggests the energy of forces at play upon a space. The same breeze we feel when we held the video camera animates the leaves of a tree’s canopy. Seeing its image replayed reminds us of how we sensed its presence as it physically surrounded us. That memory strengthens our connection to a place and deepens our understanding of its landscape.

When we move through a landscape, the point from which we perceive its spaces change. Instead of absorbing the scene from a stationary position, we enter into the landscape, and it surrounds us. As we move through the landscape, we experience its spaces in sequence. Spaces unfold from one to the next; views open and horizons broaden.

**Sound**

Video is also an aural medium. It captures both the ambient and the natural sounds of landscapes. Surround-sound technologies can position an observer within the acoustic environment of a landscape, providing not just ambient aural backdrop, but richly dynamic aural spatial attribution.

Aural characteristics are seldom considered in traditional landscape practice unless extreme conditions exist: the quiet woods, the noisy street, the din of urban life. Sound rarely enters into discussions about landscape. Are the aural attributes of landscape really insignificant or is the task of working with sound simply something we haven’t learned to do?

**Alternate Design Perspectives**

One of the most promising video prospects about the medium is its ability to inspire an alternative perspective. When young designers view a landscape through the eyes of a filmmaker they discover new potential for existing elements and site conditions. These elements, their configuration within a space and their presence among the forces found in a landscape become newfound objects, no less essential than props on a stage.

**Alternate Viewpoints**

Landscapes are understood differently by different people. Those unfamiliar to a place will see a landscape one way; those who live in that place may see it another way.

Traditional practice has suggested we navigate through whatever drove of archives exists for a place and that we conduct surveys and interviews with those who occupy its landscapes.

With minimal facilitation, video can be put in the hands of people who are familiar with a place empowering them to tell the stories of the landscapes they inhabit.

**Design Strategies**

Video yields promising potential, not just in our perceptions and analysis of a landscape in its existing form but also in the processes and strategies we use to affect its change. Contemporary practice and scholarship in landscape, like that of all other disciplines, has fundamentally built upon and significantly advanced traditional approaches and practice. When video is used as a tool that supports the conventional methods of practice, it provides distinct advantages in inventory, analysis, interpretation, visualization and communication.
Inventory
In the same way that video affords us the benefit of an alternate perspective in the analysis stage, viewing a landscape through this unconventional framework leads us to re-evaluate the elements of a site and how a landscape’s users might interact with those elements. Focusing on these elements in the inventory and analysis stage, we consequently have a richer repository from which to recognize opportunities or draw inspiration.

Analysis
Much of the way we think about a landscape is based on what we remember about it. We base our initial judgments of an unfamiliar place on what we know of a place familiar to us. Our knowledge and understanding of a place deepens as we continue our intimate contact with it. The more rich the material is that we have available to us as we re-collect, the more meaningful that contact will become. Notes and photographs help remind us of the details of a landscape. However, access to media rich in attribute data helps do a better job recalling the sentient qualities of the landscapes we have experienced.

Interpretation
The discipline of landscape has long been recognized as a creative pursuit. It has remained open to a wide range of methods used to express the qualities and meanings of landscape. The use of these methods and the production of their communicative outcomes have been essential to reinforcing our understanding and interpretation of the characteristics of a landscape and the meanings behind it. Re-viewing landscape video is an experience that provides a richness of detail, detail that can be essential to reconfirming the sense of a place we have come to understand.

Visualization
Visualization enables us to take what we know about a landscape and layer over it a vision, idea or concept of change.

Referential Imaging
Video images of one landscape can be used to visualize and communicate designs, ideas and concepts for another. In practice, this process is known as “imaging” and has traditionally used “image boards” to convey a sense of a proposed concept.

Abstract Visualization
Video can be used in precisely the same way. Video images of the elements and the arrangement of elements from an existing space can be used to suggest how another might be seen. Video can also be composited. By isolating specific elements in a scene, other elements can be superimposed over, behind or within a video scene.

Communication
Video enables designers to present their interpretations and concepts for interventions in much more dynamic ways by using video. Layering sound and capitalizing on video’s ability to convey senses of motion makes it easier for an audience to get a sense of the total attributes of a landscape by hearing its sounds while moving through its spaces.

Landscape Video Case Study
Many of the benefits of using video as a landscape tool have been supported by its use in multiple landscape projects. One project in particular suggests that video can compel new ways of seeing a landscape’s inherent design potential.

Steam Plant
In the university studio, students were asked to explore design options for a post-industrial site. Relying on conventional methods of site inventory and analysis the students produced synthesis plans that called for demolishing all the site’s industrial remnants except one: a three story brick building. Features identified for demolition included site and retaining walls, rail tracks and a water tower.

Figure 3: water tower screen capture from: Steam Plant, 2005.
Before receiving input on their site analysis conclusions, the students were asked to return to the site to conduct a second analysis, this time with a video camera. Video captured consisted of views from multiple vantage points and an extensive collection of panoramic shots. Before leaving the site, however, the students used the video camera to capture footage of each other engaging with the various elements of the site in whimsical, even farcical ways.

When they returned to the studio, the students were asked to edit their footage as a component of their inventory. The “serious” footage was edited into a very static and unimaginative collection of video pans, shot systematically from various points throughout the site. Students were forbidden from using any sound not natural to the environment they were documenting.

In a twist of fate, a group of the same students undertook to edit their “other” footage: the images of them whimsically interacting with the remnant features of the site. When seeing these features as props, these young designers perceived the space quite differently. As their design schemes developed for the site, these features became the focus of the design proposals. Of the 23 design concepts produced for this landscape, 21 of the schemes kept the industrial remnants of the site. The other 2 schemes kept only the most visible feature: the water tower.

Limitations
As a medium, video can be challenging. To realize its full potential, it must be viewed in its intended format: with pictures that move and with sound that can be heard.

The traditions of landscape scholarship and practice are so deeply ingrained that adapting to an “alternative” or “new” technology is, for some, more effort than they can imagine it is worth.

Video also requires that it be captured manually. As an impressively large cache of still photographic data is becoming available to us online through applications such as GoogleEarth, video still needs to be captured by somebody on the ground.

When it is captured, it is almost always captured from the point of view of a human eye. While this is arguably a more natural way of viewing landscapes, this limited perspective does not afford us the same sense of scale of aerial photography.

The technology that is required to capture and edit video is readily available and easy to use. The greatest limitation facing the use of video as an instrument and method of landscape study is arguably little more than our mind-set.

Conclusion
The Great Ideas of landscape are many and varied. They span perspectives, scales, contexts and continents. Great Ideas can be reflected in, or inspired by, landscapes. By knowing the motives for understanding the Great Ideas of landscape, we can identify and adapt the most appropriate methods and means to investigate, analyze and interpret the meanings of place.

We have made impressive strides in understanding place and in our ability to represent the meanings of landscape. In the past few decades, we have refined the technology and the skills that enable us to expertly map the bio-geographical conditions of the earth’s surface the world over. As our advancements have resulted in vast improvements in the way we understand the physical attributes of landscape, the technologies and advanced methods for understanding the human perspective of landscape have not been as impressive.

Landscape perception has, for better or worse, focused almost entirely landscape’s visual attributes. The act of “seeing” is a good start in the process of building an understanding of the Great Ideas of landscape. Still, “seeing” is very different from “knowing.”

Video is a visual medium that offers collection and presentation of other spatial attributes such as sound and motion. It provides a rich repository of spatial cues that significantly bolster the inventories that form the basis of our landscape analysis. Video is a dynamic medium. It offers expressive communication of ideas in a form that other media simply cannot.
Video has its limitations. It requires some adjustment in the way we think about the discipline of landscape. In a world where perspectives can be instantly altered at the tap of a touchpad, video data relies greatly on its manual capture. While the medium can incorporate a wide variety of traditional media, the unique qualities of video’s representational powers is its closer approximation of the more sentient qualities of landscape. Being closer to knowing these qualities brings us closer to being able to share in the Great Ideas of landscape.

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Landscape Insertions: Operations Between Architecture and Landscape - Temporality as Mechanism in The Transformation of Urban Voids

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Abstract

As boundaries between artistic mediums become more blurred, artists, architects, landscape architect and urbanists are increasingly drawing on other mediums, and in the process are reconfiguring the distinct boundaries between disciplines. This emergent shift represents an evolving philosophy that critiques transient human conditions affecting lifestyle, mobility, adaptability, sustainability and communication, and reframes the context of spatial and territorial operation, where the notion permanence, or temporary usage of spatial territory is not a uniquely artistic practice. Temporary performance, street vending, informal housing, and the temporary marketplaces throughout various cultures indicate the spectrum of temporary conditions, which describe, define, and re-define character of everyday geographies. However, spatial appropriation can be an act of public investment as well as activism that deploys art as an invitation for new kinds of spatial activity and place-making. This essay argues that temporary programming lies at the nexus of [re]writing, or [re]casting landscape, and attempts to thread a series of important developments in the expanded field of landscape/architecture.

Key words

Temporality, Urban-void, Spatiality, Programming, Insertion

“The course of this decade has witnessed a far-reaching transformation of public space and its projects. The word landscape has played an unprecedented role in the transformation, probably because this term express not only the ever-increasing ephemeralness of places, but also models of scattered cities, the innovation of large formats and various scales of intervention, the loss of limits between architectural objects and their surrounding. The notion of landscape also implies that visual regimes become active agents in the creation of public space, with reference to some trajectories being taken from contemporary art and architecture.” – Rowan Moore, Vertigo: The Strange New World of The Contemporary City, p.10

This study-project attempts to thread a series of important developments in the expanding field of landscape architect through the development and deployment of a structured set of site-specific installations that address specific problems of spatiality. As an introductory essay to an extended investigation, it focuses on the first of five proposed projects and introduces the polemical context – within which the projects unfold – for future study-projects that supports the position that “temporary insertions” [light architecture and adaptable spatial conditions] offers new operational models in our thinking about the landscape and the treatment of urban public areas.

Our impulse as a society has always been driven towards the physical manipulation of the land – as a canvas for symbolic inscription. This surface has served as the greatest medium for the encoding of ideas and metaphors. Today, it remains the most active topological surface for creative and intellectual expression – the engineering of the human environment, or the [re]engineering of the natural environment [Corner 1992: 246]. But the collateral effect of this insatiable impulse to build presents one of the greatest challenges at the beginning of the twenty-first century – how to repair and preserve the environment, how to conserve space, and how to build with ecological sensitivity. This very challenge has also catapulted the landscape architect to the forefront of the current discourse on urbanism, environmental planning, and the programming of large urban fields, including the adaptive reuse of derelict industrial sites and remnant “urban-voids,” or “nondescript black holes” [Girot 2006: 99].

In using the term “urban-void,” I am not referring to an empty space, or space without content. Instead, I am referring to spaces that are part of the ground in “figure-ground”, but are not as part of a unified urban framework – these voids are unstructured and underutilized “antispaces” that support little or no human activity [Trancik 1986: 09]. Just as the spring bloom transforms dormant forest landscapes, these voids have the capacity to serve as event spaces, filled with new possibilities, stimuli and sensation. Programmatically speaking, the mélange of urban voids provide unusual opportunities for catalyzing change within peculiar metropolitan conditions. The value and meaning of these urban voids change in relationship to the currency of the surrounding context, serving as critical indicators of a city’s economic, social and cultural vitality.

The irony of this condition – between the manifestation of the urban-voids and the inherent potential that they possess – can be attributed to a broad range of issues discussed in Roger Trancik’s seminal publication entitled Finding Lost Space, these factors include: the zoning...
policies and urban revitalization initiatives [particularly of the 1950s and 1960s that segregated living and working environments in most American cities]. Modernism in America and privatization of urban public space; the automobile and development of highway superstructures [Figure 01]; and the changing patterns of land use that resulted in the repositioning of commercial and industrial infrastructures; which lead to the eventual demise of vibrant city hubs – that pulsed with endless possibilities. This failed attempt at creating a modern city with aesthetic consistency was counter to the dynamic complexity of space, and layered rhythms in the city, and produced public spaces that were inappropriately designed for human habitation. The vitality of the city as we now know was inherently intertwined with its eclectic and organic qualities [Trancik, 1986: 3–17]. Jane Jacobs also expressed concern and discontent for Modernist urbanism in her book The Death and Life of Great American Cities, where she outlines “The Conditions for City Diversity” and “The Need for Primary Mixed Uses”, she went on to say: “The theorists of conventional city planning have consistently mistaken the cities as problems of simplicity and of disorganized complexity…” [Jacobs, 1961: 26].

These assessments underscore the gravity of Ideas as one considers the scale [XS, S, M, L, XL and XXL], and the consequence of those ideas as physical manifesta-
tions in the geography of human environments. But more profound are the effect of privatization on contemporary urbanism and the treatment of urban public space. In the current economic climate, cities and local government agencies are increasingly more dependent on the financial resources of private investors for urban development projects – at least in the United States. Wolf Prix recognized the perplexing condition when he creatively expressed this sentiment: “… Contemporary urban interventions take place in an amorphous and imponderable space, analogous to chess figures moving horizontally across blurred television screens, but the grid of the chessboard has disappeared, as have the rules determining how the pieces move … space is no longer predetermined but rather developed through the tension and interrelationship between figures. This is the basis for a vigorous new model of urbanism” [Prix 2003: 18].

These comments are reactive to the synthetic contemporary conditions that influence the contextual landscape where urban and natural systems are not mutually exclusive, but interdependent and produced as by-products of a consumer-oriented global economy, where architects, landscape architects and planners are key protagonists in the translation and transformation of urban environments. When considered carefully, they are irrefutable observations that parallel the growing urban conditions in the United States, particularly in cities like Detroit, Philadelphia, Syracuse, and Buffalo to mention a few, where the city’s urban public space is increasingly fractured by mutations of commercial development, urban decay, abandoned industrial artifacts, and marginal public housing projects.

Prix’s observations speak to the need for innovative use of public space and the creation of new urban domains that are designed as cultural infrastructures – for “transformative programming” [Tschumi 1998: 160] – that will accommodate the tension and dialogue produce by local and global economies. These domains are catalytic nodes that stimulate surrounding urban conditions through connective circuits and movement ribbons, emphasizing programmatic interrelationships between contrasting spatial environments in a given urban domain. This philosophical approach to contemporary urbanism proposes a new agenda for shaping urban public spaces and acknowledges the criticality of creative ideas and economic variables in sustaining nodes of attraction. As observed, the translation of these ideas are often imperfect, contentious, divisive, and controversial – as in the case of the MuseumQuartier in Vienna, Austria, which still provokes strong disagreement in public debates.

The challenge of a new agenda requires a retooling of operational strategies specific to the transformation of urban voids, and poses fertile questions about urban spatial phenomena and the urgency of rewriting existing conditions in an effort to restore destabilized human and natural systems. Within the framework of this study project, the following questions serves as a springboard for launching this investigation: As one considers the increasing ephemerality of places, what role does contemporary art play in the creation and transformation of public spaces? How does the relationship of space and experience create senses of place, identity or image? How does one create a place that challenges conventional notions and perception of landscape, art, architecture, and the natural environment? How then, does
one create a place or landscape condition that informs and stimulates discourse on contemporary urbanism and landscape artistic expression? How far can human manipulation of the environment go with parallel advancements in technology, and the pressing environmental conditions? As proposed by Charles Waldheim [in The Landscape Urbanism Reader/A Reference Manifesto], is landscape the filter through which the contemporary city is registered? And if so, what is the currency of transaction between urbanism, architecture, landscape, and contemporary art at the beginning of the 21st Century?

On the issue of currency between art, architecture, and landscape, its quite clear that landscape architects are enjoying a renewed degree of visibility and relevance in an expanding sphere of contemporary practice, which today includes the design of remnant urban voids, post-industrial brown-field sites, large-format public works, urban infrastructural facilities and landfill amelioration projects. As a consequence, landscape architects are now acquiring a broad range of skills and are increasingly drawing on other mediums, and in the process are collaborating with installation artists, architects, urban theorists, forest ecologists, historian, and civil and environmental engineers. This sophisticated form of practice – places emphasis on conceptual imagination, critical insight and technical innovation – have continually pushed the boundaries of contemporary landscape architecture, seeking new design practices and solution’s that combine aesthetic beauty with ecological sensitivity.

The projects that have resulted from these collaborations are functional, adaptive and artistically crafted; and illustrate the creative genius and material qualities imbedded in “great ideas”; and how “great ideas” can reinvigorate urban voids, or marginal leftover anti-spaces. Projects like Floodable Square, Bordeaux, France by JML Arquitectura Del Agua [2006], [Figure 02]; Patrick Dougherty’s CCA Collegetown Installation, Ithaca, New York [2006-07]; Shigeru Ban’s 45,000 square-foot Nomadic Museum on Manhattan’s historic Pier 54 [1999], [Figure 01]; Performing Arts Center Plaza, Memphis, United States, Acconci Studio [2004]; Webb Bridge, Melbourne, Australia by Denton Corker Marshall and Robert Owen [2003]; Urban Lounge, St. Gallen, Switzerland by Carlos Martinez and Pipilotti Rist [2005]; West 8’s Carrasco Square, Amsterdam; Schouwburgplein, Rotterdam, Netherlands [1990-97]; and Cypress Swamp Garden, Charleston, U.S.A [1997]; and La Voie Suisse, Uri, Switzerland by Georges Descombes [1999]; and Les Buissions Optiques, Niort, France by Bernard Lassus [1993].

But from a polemical standpoint, they forecast the promise of visionary-criticality in an expanding sphere of speculative inquire into what is landscape/architecture? As with conceptual art, the boundaries of landscape are not at all clear. Describing a similar situation in conceptual art, Paul Woods has written: “Why produce a form of visual art premised on undercutting the two principal characteristics of art as it has come down to us in Western culture, namely the production of objects to look at and the act of contemplative looking.” [Wood, 2002: 6]. In the case of The CCA/Patrick Dougherty Collegetown Installation [Figure 03], the project challenges both the assumed role of public realms as territory for cultural experimentation, and the role of contemporary art practice in the transformation of public space.

Dougherty’s site-specific sculpture encompass architecture and landscape, engaging unique conditions associated with interior and exterior spatial environment, horticultural and structural engineering. The large-scale sculptures such as Whim Wham [Laumeier Sculpture Park, 1992], Crossing Over [American Craft Museum, 1996], Full Court Press [Munson-William-Proctor Arts Institute Museum of Art, 2001] and Na Hale O Waiai [Contemporary Museum/Honolulu, 2003] are fluid expression of notational lines in space, resulting in a threshold were architecture, art and landscape merge, producing a sculptural hybrid-foolly constructed with large branches.
and woven maple, dogwood and willow saplings. In every case, Dougherty’s work exhibits individual sensibility, stylistic consistency, and a complexity grounded in spontaneous imagination.

The saplings act as fluid fractals and enigmatic metaphors, as in Peter Eisenman’s computer renderings for the Staten Island Institute for Arts and Sciences and the curved trace for the Aronoff Center for Design and Art, University of Cincinnati. In both cases, as in Richard Serra’s work, the reference to contextualism is generated by oscillating waves, modulation and torques. In a peculiar way, Serra and architects such as Frank Gehry and Greg Lynn, have prepared the way for artists such as Patrick Dougherty to participate in contemporary art and architecture discourse. Specifically, The Spin Offs installation at the De Cordova Museum and the Sittin Pretty installation at the South Carolina Botanical Garden are examples of Dougherty’s use of architectural symbolism and spatial type as a starting point of riffs that take the mind and body to another place – essentializing the spatial aspects of architecture while undermining its fundamental requirements of sculptural form. Experimental differences between these sculptures and “actual architecture” are brought into tension, forcing the viewer to re-evaluate normative, or mainstream architectural structure – including norms for traditional landscape transformation. The success of the speculation lies in the insertions ability to resist the normative conditions in the urban-void, by recasting its visual qualities in relation to conditions of its physicality – consequently, affecting the ways in which the urban-void is used and experienced.

As projects, these landscape insertion serve as compelling visions for a new way of thinking about the role of contemporary art in urban landscapes, and the role of landscape architect as curator and urban-protagonist. The projects engage themes of the relationship between landscape and architecture and borrow expressions from the genre contemporary artistic practice, including non-normative modes. In describing this phenomenon in contemporary landscape/architectural practice, Moshen Mostafavi has written: “The temporality of landscapes renders them forever incomplete, and this incompleteness can be seen as an antidote to the implicit finitude of zoning … As a framework for the imagination, landscape produces new insights in response to the contemporary urban situation. It allows one to describe that territory in terms of an equal, although artificial, dialogue between building and landscapes. Yet this dialogue is not limited by the traditional definition of the terms ‘building’ and ‘landscape’, it allows for the simultaneous presence of the one within the other, building as landscape, landscapes as buildings. And in this lies the potential to redefine the parameters of each discipline – architecture and landscape architecture – in relation to each other.

By forcing us to rethink fundamental questions such as “what is building? And what is landscape? These new hybrids add to the existing repertoire of material elements with which we construct future urbanisms” – reference to the consummation and mutually beneficial association that could ferment between architecture and landscape in the form of landscape urbanism. [Mostafavi 2003: 07].

This emergent shift in disciplinary alignment represents an adjustment in tactics of disciplinary appropriation, operational strategies and an evolving philosophy in the planning, design and development of human environments. With development pressures, and more than half the world’s population now residing in cities, it is more imperative than ever to develop inventive and imaginative solutions, and in some cases more temporally interventions that reframe the context of realities in the urban landscape – where the urban void is an active and adaptive surface open to [re]vision and [re]envisioning. Thus, the notion of temporality – or in the case of this essay and study-project, temporality as agency in the [re]writing and [re]covery of urban void[s] – merits critical consideration in a medium that is dynamic and subject to the unpredictable forces and accelerant of change, both visible and invisible. In considering the works of Merleau-Ponty [Phenomenology of Perception], J.J. Gibson [The Ecological Approach to Visual Perception], Walter Benjamin [Illuminations], and John Whiteman [Criticism, Representation and Experience in Contemporary Architecture]; and the subject of “Temporality in Landscape” Corner has written: Because ones relation to things are in “dynamic flux”, one never experiences the same experience without variations in conditions and meaning – which means that the symbolic meaning associated with landscape and architectural space shifts as “conditions of the experience” evolve [Corner 1992:148].

Reflecting on this complex condition, described as “dynamic temporal” in his major text on existentialism [Being and Nothingness], John-Paul Sartre has written: “observing temporality more closely we establish the fact of succession; that is, the fact that a particular after becomes a before, that the present becomes past and the future a former-future… The future is the continual possibilization of possibles…” [Sartre 1994: 129]. A fact recognized by Willem Jan Neutelings in describing the ‘paradoxical phenomena’ found in most European cities. He has written: “ the programmatic density does not lead to a high building density as in traditional city centers. A minimum of spatial facilities can create a maximum of mass events. A ‘roped-off’ field is sufficient for huge spectacles; a few letters on the side of a shed can pull a vast crowd; a section of raised motorway can become a market kilometers long, a black carpet with white stripes, is the daily stage for a choreography enacted by hundreds of thousands.” [Neutelings 1994: 59].
To extend the line of investigative inquire, what are the transformative effects of temporary insertions on the city? How can the urban void be spatially as well as programmatically appropriated beyond the traditional impulse of beautification, can the experience and performance of the city be enhanced? Projects like Shigeru Ban’s Nomadic Museum on Manhattan’s historic Pier 54 [1999], [Figure 04]; and West 8’s Schouwburgplein in Rotterdam, Netherlands [1990-97], [Figure 05] are perfect translations of insertion scenarios that reflect the nimbleness and responsiveness that future urban ecologies require. Nomadic Museum is a landscape insertion with a dynamic program in a temporary location, while Schouwburgplein is a permanent urban infrastructure design to accommodate a succession of “dynamic temporal” activities ranging from skateboarding events to flea-market transaction – and the performance-art of social networking in both real and virtual space. In each scenario the insertions are objects of art – in both their technical execution and material translation, but the genius of the work lays both in its ability to catalyze transformative shifts within each urban condition that affects normalized programmatic components – through a kind of interruption, disturbance, or transposition, which realigns the flow of transaction between normative and non-normative spatial and operational conditions within a specific urban context. The act of inserting – as in conceptual art – propagates new relationships and pollinates a city’s image and aesthetic quality through imaginative speculation, global imagery and visual culture. Projecting the global in the local and the familiar in the unfamiliar. Sophie Rousseau has written: "... After all, the triumph of television has made our appetites for images grow enormously. Anything that cannot be made into an effective picture does not have a chance on the international market. New technologies have reinforced this trend even more" [Rousseau, 2002: 88].

Notion of nomadic or peripatetic museum implies an inherent transience; portability, mobility, adaptiveness, and creative innovation that inserts a new ecological calculus to urban operational strategies, and approaches to dealing with shifting conditions of marketplace forces that affect spatial manifestations in the metropolitan landscape. Neutelings has written: To accept a model of a “field in permanent evolution... we should aim to strategically position new programs so as to create a dynamic equilibrium that enhances the quality of the city as a collage of fragments” [Neutelings, 1994: 60]. A landscape shaped by culture.

The dynamism of the city – as a topos of negation – is fundamentally about disturbance and resistance, which takes place within and between the figures of architectural follies. The city is a “counter-landscape/experience” to the outer-limits of its edgescape; the naturalism and horizontality of the rural flatlands; and by its very nature a less contested landscape. Thus, the phenomena of reading the landscape and [re]casting conditions of spatiality, presents a complex but fascinating set of situations; and in this speculation, lies the concept of temporality as an associated element of spatiality and materiality in the medium of landscape. This arena of speculation is predicated on the assumption that temporary landscape insertions alter preexisting conditions of place and can open new avenues for conceptualization of adaptive urban realities, and potentially more visionary conception of landscape.

Our perceived need for stability and permanence, bring the discussion of temporality to the [fore]ground – an idea that merits greater consideration in time of great uncertainty within the framework possible futures and future possibilities.

Fig. 04: Shigeru Ban Nomadic Museum , Mahattan’s Historic Pier 54, Architecture, 1999.

Fig. 05: West 8’s Schouwburgplein/Theatre Square, Rotterdam, 1997.
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Significance of the post-mining landscape in eastern Germany

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Abstract

Fiercely debated since the reunification of Germany, the controversial concepts for the reclamation, recultivation and design of the open-cast mining landscape in eastern Germany long considered destroyed continue to be investigated. Consequently, this article focuses on the culturally formed perception, interpretation and symbolism of these sites. It demonstrates how the criticism of the reclamation triggered by a novel view of the brownfields fuels the discussion on landscape models. Examples from the Bitterfeld region are used to illustrate precisely which kind of design this leads to.

Keywords

Post-industrial landscape, change of cultural ideas, environmental history, perception, design.

Introduction

The reunification of Germany triggered an intensive debate on the reclamation, recultivation and design of eastern Germany’s brown coal mining areas. The economy of the GDR relied heavily on lignite, which was the only energy source available in large quantities. The extraction and processing of lignite rocketed with the oil crises of the 1970s and early 1980s. Existing recultivation plans were put on ice. Increasingly larger areas began to appear as ‘lunarscapes’. Although the residents had grown accustomed to the situation to some extent, they were afflicted with a considerable amount of environmental pollution. After 1990, however, the situation changed radically: the prompt, politically motivated closure of many brown coal plants helped to reduce the environmental burden remarkably. However, this also meant losing tens of thousands of jobs, which had profound consequences and still poses a serious problem in the region to this day. We have to consider these circumstances in discussing the following questions. How are the open-cast mines perceived and valued? Which cultural ideas and conflicts distinguish planning concepts and which symbols are used to design these landscapes? [1] This cultural and environmental-historical perspective works out fundamental patterns of interpretation that shape the discourse of the largest transformation of post-industrial landscapes in present-day Europe. [2]

Description and perception of open-cast mining in the GDR

The frequently quoted work Landschaft vom Reißbrett written by a writer’s collective in 1981 attempts to explain the complex problems of mining to a wider readership. It contains a diagram that is presented in the style of a children’s book. It makes mining easier to understand and illustrates its idealisation in particular [Fig. 1]. During the forced relocation and demolition in the panel on the left, a considerable lowering of the water table takes place, which has an impact deep into the surrounding area. The mining waste is removed in several layers and transported to the sections that have already been mined using belts and a conveyor bridge. In the right-hand panel, the extraction of the coal is followed by levelling and recultivation. The new landscape is barely distinguishable from the site still to be mined on the left. Finally, the smoking industrial chimneys that dominate the horizon have an iconographic significance. They were long considered the symbol of progress. In contrast, at that time those very chimneys were associated with a completely different perception, which signifies pollution, but also the residents’ familiarity with it.

The writer’s collective did not try to hide the fact that this rapid recultivation was quite different in reality, however. They say that “everyone perceives the bleakness of an open-cast mine, […] denuded of any form of vegetati-on, as a profoundly depressing experience. The visitor stands appalled amidst the ruined landscape the locals have long grown accustomed to. Only here does one comprehend the magnitude of the changes we have to make to the landscape to obtain enough coal for industry and the populace.” (Krummsdorf & Grümer 1981: 6) Here, the perceived destruction is a painful indication of the desperate economic predicament. It also highlights the difference between the perception of locals and outsiders. Up to the 1970s, however, a few areas were recultivated and redevelopment plans were implemented, such as Senftenberger See, which basically involved “obliterating the depressing impact of the open-cast mine” (ibid.: 7). The fundamental idea was to design a harmonious landscape that fulfilled the popular need for recreation but which primarily proved productive for agriculture, forestry and water management within the framework of the socialist economy.

Leading concepts and conflicts post-1990

The reclamation of the open-cast mining areas, for which the mining company is usually responsible, became a state matter after reunification. A newly founded remediation organisation was given the task of “making the open-casts reusable” under the proviso of the mining law. One fundamental problem is the acidification caused by the pyrite substrates that dissolve in the water. In addition, if the water table rises, which happens naturally or is...
forced by flooding, there is a high risk of unstable slopes sliding. Therefore, the basic task is to secure the slopes and restore a sustainable self-regulating water balance. As keeping the open pits permanently dry is extremely expensive, the remediation process was to be carried out as quickly as possible. In parallel, extensive programmes were funded by the state for research on hydrology, soil chemistry, remediation techniques and natural succession to consolidate the reclamation process scientifically (LMBV 2001). As a whole, the initial task of the remediator is not to design a landscape as such, but rather to minimise the purely technical hazards and restore the water balance (cf. numerous contributions to the standard work of Pflug 1998). As the critics point out, however, in actual fact the landscape so dramatically altered by the mine is completely transformed once more, and with public funds at that. This led to serious disputes during the 1990s and the question of what the core themes are that should govern how these landscapes are developed and used in the future.

The sectoral planning for the open-cast mines adopted with the West German planning system was not initially adjusted to the particular conditions of East Germany. In this situation, concepts were developed that, considered in simple terms, consisted of the four use models: (1) Agricultural and silvicultural recultivation was planned on dump areas with suitable substrates. (2) Facility areas of the mines that were well developed infrastructurally should be made into commercial parks. (3) The residual pits were to be used as bathing lakes or for water management. (4) Some areas were eventually to be used for nature reserves. These concepts proved problematic and caused controversy for the following reasons: firstly, an agricultural and silvicultural use of the devastated areas is often not economically viable for the foreseeable future. Secondly, newly established commercial parks often remain unused. Thirdly, it was often criticised that the technical reclamation generates monotonous lakes all over the place that have standardised banks, a biotope area, and a beach mostly followed by a boat rental. – This criticism reflects the discrepancy between the technical concepts and their sensible use for these landscapes. The dominant view in industrial society, according to which maximising uses signals progress, has clearly hit a brick wall here. At least, there are no apparent prospects of squeezing an economic use out of these brownfields. Quite the contrary, in fact: these sites are the remnants of radical utilisation logic. The concept of eliminating the vestiges of mining during the reclamation and designing of lakes came up against sometimes fierce criticism. After all, it was not only the economic parameters that appeared dubious, but primarily the social and cultural implications of the concept.

The criticism led to the partial modification of the reclamation concept. It came from two different directions, both of which are based upon a closer look at the brownfields [Fig. 2]. From the perspective of nature conservation, open-cast mines did indeed mean a colossal intervention that led to the destruction of numerous “near-natural” areas. At the same time, however, the animal and plant life that spontaneously settles in the unremediated areas and the relief variety there is valued. These are distinguished as typical biotopes for open-cast mines and a particular landscape-aesthetic fascination and wilds character is attributed to them (Tischew 2004: 5). Because reclamation endangers these qualities, a new concept was developed that integrates nature preservation aspects in the reclamation process (like in the “Goitzsche Wildnis”). The second criticism referring to reclamation is culturally grounded. Karl Ganser regards it as “an obsolete view of modernity” that the industrial society tends to undo everything produced industrially. The landscape can therefore be understood as an ensemble of different cultural strata, including industrial ones. In transforming the landscape, the new should be interwoven with the vestiges and relics of industry (Ganser in Stiftung Bauhaus Dessau 1999: 81). [3]
Designing the post-industrial cultural landscape

The region around Bitterfeld became highly industrialised at the turn of the 20th century and was the world’s leading developer of man-made fibres and films during the 1920s. However, the serious side effects of the chemical industry made Bitterfeld a popular symbol of industrial contamination around 1990. This image and the need for clean air and water formed the framework for the discussion on landscape models that initially took place around the Dessau Bauhaus. The “Industrial Garden Realm” project, which includes Ganser’s remarks, had already been developed there before the fall of the wall. Out of numerous pit visits [Fig. 2] and workshops arose the basic idea of linking the region’s two dominant landscape strata, both of which are part of UNESCO’s World Cultural Heritage today: firstly, the Wörlitzer Garden Realm with its famous 18th century landscape garden that stands for the progressive ideal of marrying usefulness with beauty and appears to form an strong contrast to the industrial landscape; secondly, the idea is to draw upon the programmatic vision of the Bauhaus school, which permits a reference to industrial modernity beyond its rejections through its key role in the debate on urban planning models during the interwar period (Stiftung Bauhaus Dessau 1996/1999).

During the preparation of the EXPO 2000 correspondence region in the mid-1990s, an important debate took place on the design of the large post-mining area near Bitterfeld. Numerous experts from the fields of cultural studies, fine art, landscape architecture and mining, not to mention politicians and locals, all participated in the discussion and implementation of landscape models. They reached a consensus that instead of obliterating the vestiges of the area’s mining history, it would be a part of a new cultural landscape. [4] Siegfried Knoll’s drafts for the “Landschaftspark Goitzsche” from 1995 were to serve as the basis for the design. Several works of land(scape) art, which can be regarded as reminiscences of mining in terms of the design and the materials used, emerged on the new Pouch peninsula [Fig. 4]. An urban embankment complete with docks and a promenade was built close to the centre of Bitterfeld based on an art competition and an attractive housing estate was to be developed in the surrounding area. A pier that rises with water and a walk-in water gauge tower was constructed in the northern section as Goitzsche’s new architectural landmark [Fig. 3]. A contract with the adjacent municipalities ensures that the embankment remains accessible to the public to avoid making the same mistake as many other places, namely selling sections of the embankment as parcels of land for a short-term income. Whilst there is no longer any large open-mine equipment available in Goitzsche, five of these monumental relics have survived in “Ferropolis”, another EXPO project, and been made into a sensational arena where concerts are held for audiences of up to 25,000 people (Kegler 2005) [Fig. 2, background].

Conclusions

The outlined projects for planning novel cultural landscapes had great appeal beyond the region. Their concepts have a model character and were initially opposed to tourism. The new fundamental idea is the integration of industrial vestiges and relics as valued landscape aspects. This approach stands in clear contrast to the traditional concepts of recultivation which predominated before 1990 in and outside of the GDR and which promoted simply removing the traces of mining. Derived from early post-industrial areas in Britain and the Ruhr Valley in western Germany, the new idea has been developed into special approaches for open pit mining landscapes. With the end of the EXPO 2000, however, in many cases the debates on the further development of the landscape began to die down. Nevertheless, the discussion
on landscape models and their strategic implementation shifted to another eastern German open-cast mining region, namely Lower Lusatia. There, the International Exhibition of Architecture and Construction (IBA) Fürst-Pückler-Land (2000-2010) is guiding the current discussion on landscape models. Under the leadership of the former Bauhaus director Rolf Kuhn, the ideas of the “Industrial Garden Realm” project (1989-1999) were taken up and merged with tourism. This can be seen in the special advertisement of the new connected lakes with marinas and floating houses as a changing “in-between landscape” (IBA 2005; Kuhn 2004). Especially institutions like those that accompany the landscape transformation comprehensively on a long-term basis and do not merely carry out the technical reclamation or commercialization of the profitable areas have an additional key role for many post-industrial landscapes. This is not only important for numerous central, eastern and southern European countries where lignite is processed, but also for certain mining and other industrial areas all around the globe.

Indeed, the traditional view on landscapes is turning against industry and towards the idyllic or seemingly pristine landscape. Therefore, one has to face up to this widespread resistance even against post-industrial landscapes (cf. Hauser 2001: 241). After all, an understanding that includes industrial strata as a new part of the cultural landscape does not completely replace those traditional ideas. Instead, the landscape view is broadened to include the increasingly aestheticised relics of industrial closure. That ultimately indicates a slow transition of a broader sense of culture and the resistance against it in contemporary landscape perceptions and concepts. Therefore, cultural and environmental-historical studies of the various landscape ideas which are currently in conflict will also be relevant for the future handling of post-industrial landscapes.

Endnotes

[1] This article is based on my dissertation, in which these questions are discussed in detail.


[3] According to Ganser, “the process of transformation must take into account how people live today and how they will live tomorrow; with what aesthetic perceptions, what lifestyles, indeed, with what economic expectations they approach their environment.” (Ibid.) Developing these perceptions is no easy task which requires social discussion and a lot of time: “Certainly more than 25 years, whilst undoing the industrial landscape only takes a few years.” (Ibid.)

[4] These debates preceded those of the Goitzsche intercommunal administration union, which developed an initial framework and a structural and action concept as a basis for further landscape plans.

References


Hidden landscapes – The Enclosed Garden as a Prototype for New Urban Spaces

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Abstract

In the diffuse and fragmented metropolitan landscape, where the spatial, visual, geographic and programmatic differentiation is ever more disappearing, small scale, concrete interventions, open spaces on strategic locations in the urban tissue – urban acupuncture – can respond to the crisis of space, the loss of horizon. The smallest landscape architectural space, the Enclosed Garden, is researched on its possible potential to provide design means and strategies for the creation of urban spaces as a means to connect the generic network of the metropolis to the genius loci: Hidden Landscapes. Paley Park serves as an example of one of the possible types of Hidden Landscape, the Interstitial Garden that operates in the cracks of the urban fabric.

Key words

Small scale interventions, enclosed garden, urban spaces, urban acupuncture, genius loci

Introduction

“A bullet is not so large either. But if someone has the ability to throw it at your head with great speed, it does make an impression.” (Kennedy 2007)

Global urbanization causes a diffuse and fragmented landscape in which the spatial, visual, geographic and programmatic differentiation is disappearing and the traditional opposition of landscape and city is being transformed into a “metropolis of villages, urban centres, suburbs, industrial areas, docks, airfields, woods, lakes, beaches, reserves and the mono-cultures of high-tech farming.” (Geuze 1995: 8). The city is included in a continuous field of forces and vectors and positioned in an uninterrupted network. In order to react adequately to this changing landscape we need to look for the underlying permanent landscape layer, that contains an annotated catalogue of situations, where the genius loci is recorded and secured. These latent compositional elements can be transformed into landscape architectural compositions in the topography of the city, the conscious staging of a comprehensive landscape-urban system. But the anchoring into the genius loci should not only be sought on the scale of the landscape (integrazione scenica). The crisis of space, the loss of horizon (expressed in e.g. increasing spatial claims and decreasing spatial differentiation) urges one to create new internal horizons, to search for small scale, concrete interventions, open spaces on strategic locations in the urban tissue, like urban acupuncture.

Throughout history the type of the Enclosed Garden has proved to be an influential spatial motif. What meaning can this ancient and seemingly obsolete type have for the present-day metropolitan landscape architecture? Can it be made viable again as a landscape architectural model for these interventions? Do ideas about it still live on, consciously or unconsciously and can they be utilized for new solutions? What design means and strategies can the classical enclosed garden provide for the metropolitan landscape?

This paper focuses on one specific example, Paley Park, which is part of a comparative design research. In this research existing compositions are analysed to systematically expose the body of knowledge and the conceptual system of design underlying it, to gain knowledge about the system of architectonic composition of the Hidden Landscape. Composition is interpreted here as the physical structure, the way in which the parts are combined to form a whole, the representation that activates the content (the material, topographic, technical-cultural and economic substance). The comparative design research focuses on the design layers of basic form, spatial form, visual structure and programme form, specifying design instruments of boundaries, entrance, routing, ground plane [1]. It aims to result in a typology of Hidden Landscapes that can respond to the diversity of fragments constituting the montage landscape of the emerging metropolis. The hypothesis is that the different types of the Hidden Landscape, responding to their respective contexts, can serve as nodes in the metropolitan galaxy, not as an expression of the spatial-temporal continuum of the metropolis, but as discontinuities in this, as defined space in a continuous field and anchor points to the landscape topography, connecting the generic network of the metropolis to the genius loci.

Paley Park

Paley Park - designed in 1963 by Robert Zion to support his plea for small parks, public gardens the size of a building lot, as a counterproposal for the official minimum size for parks of 12,000 m2 - is a powerful example [2]. The design of Paley Park uses several tools to give the visitor the illusion of an escape from everyday life [Fig. 1]. The main feature is a six-meter high wall of falling water the sound of which drowns all sound of the city. The water reflects artificial lighting and the fine foliage of the honey locust trees cause a shimmering, dappled pattern
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on the floor, suggesting perpetual sunlight in contrast to the reality of the high office towers that take away all daylight. The empty lot is transformed into an ivy-clad mountain canyon, carrying an abstract nature image: a ‘forest’ of trees, referring to the sylvan landscape of Arcadia, strong counterpoint for the civilized world of Manhattan. This image is opposed and questioned by a second, completely different one: the space is furnished like a living room, with fragile chairs and tables, flower pots and drinking fountains on a carpet of granite cobbles.

The deceptively simple ground plan employs no less than three organising principles: the grid, the axis and the central organisation. The grid determines the position of the trees, that seem to spill out from the park onto the pavement. Whereas the ground plan of the park is a triangular grid, on the pavement they follow an orthogonal grid, dictated by the direction of 53rd Street. Thus two in itself neutral grids reflect the interaction between the autonomy of the garden and the relation to the context. A central axis organises view and movement. The central carpet of cobblestones, framed by an edge of granite slabs and a granite bench continuing seamlessly in the pool at the back, form a central organisation. This combination of the axial and central organisation reflects the proportions of the plot, which in its turn is a reflection of the Manhattan grid; the basic form is an expression of the genius loci.

Spatially the garden is determined by the walls of the neighbouring high-rise blocks. But where these blocks reflect the scale of the city and exceed the visual scope of the garden the false walls that have been erected in front of them are proportioned in accordance with the dimensions of the plot, creating a space with an ‘indoor’ scale. The canopy of trees, blocking the buildings from view and providing a ceiling, supports this intimate scale. The orthogonal logic of the Manhattan street pattern is replaced in the garden by a continuous field, where the image produced by movement is no different from that when standing still. The transition is guided by a spatial sequence following the central axis of the garden. In an otherwise treeless street, trees are positioned in front of the garden, marking its presence without the garden itself being visible yet. The entrance is set back from the street, leaving space for a series of entrance spaces, defined by steps, gates and two kiosks. The lighted waterfall at the end of the garden seduces the passersby to enter.

Starry Sky City

Since the introduction of a new Zoning Resolution in 1961 encouraging the provision of privately owned public space, over 500 small-scale informal public spaces - public arcades, urban and residential, elevated and sunken plazas, sidewalk widenings, gallerias and atria - were introduced in Manhattan, Brooklyn and Queens, forming an autonomous layer [Fig. 2]. What had started as the ad-hoc reaction of Robert Zion was turned into official urban policy. The position of these interstitial spaces was determined by time, coincidence and circumstance, and it is their quantity that gives them a coherence: a non-hierarchical ‘starry sky’ pattern based on large numbers, a constellation existing of interstitial and coincidental spaces [3]. Just as the spaces themselves are determined by situation and at the same time autonomous, the constellation has its own internal logic, determined by the nature of its components, apart from the urban pattern, and at the same time strongly intertwined with the urban network [4].

“Often these fringes are the best meeting places. These informal spaces offer suspense and thrills, so characteristic for the city. [...] Is it possible to create places that invite temporary, spontaneous, and unpredictable actions, other behaviour and play, that make it possible to experience the city differently, in order to discover a
different city?” (Rohmer 2007: 160) The pocket parks already existed as defined spaces, before they were turned into pocket parks. Yet they were invisible and useless. All they needed was an architectonic transformation to make them act as open space in the perception of the urban landscape.

Hidden Landscapes
Paley Park could be called an ‘Interstitial Garden’, an interstice, a crack hidden in the urban fabric, inserted into the living tissue of the city and closely related to a highly urban context [Fig. 3]. The expression of the landscape in these leftover spaces, is implicit, hidden. But to define spatial nodes in the montage landscape of the metropolis we need to look for different types of gardens. Whereas the spatial definition of Paley Park is predetermined and the position coincidental, in an exurban situation the garden has to create its own space and the position can be deliberately chosen. Such as the Swamp Garden that West8 Landscape Architects designed for the Spoleto Art Festival in 1997 [Fig. 4]. This exhibition garden is made in the silent, unpeopled cypress filled swamp landscape 40 kilometres from Charleston: an enclosure, a framework with steel wires, hung with Spanish Moss. Inside you find the same black water, water lilies and cypresses as outside, but the frame enhances the landscape and brings it to attention. This type of garden accentuates a crucial point in the landscape, creates spatial relationships, functions as a field glass enlightening the hidden logic of the context.

In many situations the proportion between built and unbuilt is less unequivocal. The garden of the Fondation Louis Jeantet in the outskirts of Geneva brings a 19th century villa into accordance with its radically changed surroundings [fig. 5]. The garden is cut out of a monolithic socle, which gives the villa an address to the main road while at the same time hiding the traffic from view. The interaction between garden and socle negotiates the position on a sloping site, as well as the scale difference of the villa and the surrounding high-rise. Viewing from the villa the garden provides a representative front parterre, seen from inside the garden it becomes an intimate entrance space.

These examples give a glimpse of a possible typology of Hidden Landscapes. Although the different types still need to be determined, their unifying aspect begins to present itself. They are defined spaces in a continuous field, as well as anchor points to the landscape topography. The simplified, emblematic and abstract image, the strong visual unity underpins their autonomy. This ideal, cultivated image can either be a paradisiacal nature, as in Paley Park and the garden of the Fondation Louis Jeantet, or an expression of the physical surroundings, as in the Swamp Garden. At the same time it is a contextual space, that enters into a physical and visual relationship with its surroundings. Such spaces are indissolubly bound to the (urban) tissue, originate from it, and at the same time are essentially ‘other spaces’, contrary to their surroundings “in such a way as to suspect, neutralize, or invent the set of relations that they happen to designate, mirror or reflect.” (Foucault 1967:3)

But the essential expression of the tension between autonomy and contextuality - the quintessence of the Hidden Landscape - is the boundary. The enclosure is both the condition to create an autonomous space, as the connection to the outside, a reflection of the world on the other side. However impenetrable the boundary, physically and visually, there is always an infection by one side of the border of the other, there is a becoming otherwise of each of the terms thus bounded. As a result the boundary, that which defines the space, differs in each situation and the typology of Hidden Landscapes will have to be based on the spatial, compositional relations with the physical context.
Endnotes

[1] Every landscape architectonic composition can be broken up in the layers of basic form (or layout, resulting from the geometric rationalisation of the topography), spatial form (architectonic treatment of the landscape’s three-dimensional space), visual structure (in which the relation between culture and nature is expressed) and programme form (spatial organisation and interpretation of the programme).

[2] In his time-lapse photo analysis of park users conducted in 1980, the sociologist William H. Whyte concluded that the park was the most heavily used open space, on a square-foot basis, in all of New York City. This is still the case, thanks to its position in the centre of the business district, to the living room-like atmosphere and the kiosks in the corners, but also to the intensive maintenance, a permanent and impressively uniformed guard and gates that close after office hours, thanks to the ample funding of the private Paley Foundation which owns the Paley Park.

[3] The notion of the constellation as a spatial strategy for an urban problem was introduced by Liane Lefaivre in her analysis of the playgrounds Aldo van Eyck created for the city of Amsterdam in between 1947 and 1974 (Lefaivre 1999).

[4] These polycentric constellations are to be found all over the world: the residential courtyards of St. Petersburg, the pocket parks of Barcelona, the playgrounds of Aldo van Eyck in post-war Amsterdam.

References


House and Exterior in the architecture of the „Vienna School“

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Abstract

The architecture of the „Vienna School“ of the 1920s and 1930s, following Adolf Loos, distinguished clearly between the interior and the exterior, both in the building itself and in the psychological consequence of a separation of the private living space and its semi-public surroundings. In the sense of Vienna Modernism, on the other hand, the garden was considered the house’s outward continuation. At the same time, architects such as Josef Frank and Franz Kaym/Alfons Hetmanek applied Camillo Sitte’s urbanistic principles and Gottfried Semper’s architectonical theories both directly to the ground-plans of their houses and to the urbanistic schemes of settlements in a bigger scale. Analyzing significant examples, the role of landscape architecture, with its dialectical view of interior and exterior, and its theoretical principles, and also its practical realization in the Vienna School of Modernism are examined in a detailed way. A special significance is laid upon the Vienna School’s concept of the exterior as urban environment and the public space in opposition to the private living space of the house.

Key words

Architecture, relationship between exterior and interior, theories of perception, design analysis, landscape ideas, cultural context of landscape and open spaces

For the „Vienna School“, following Adolf Loos and Josef Frank, the relation of inside and outside and their semantic layers had a special importance. To analyze them, it is necessary to picture the theoretical premises of Vienna modernism. For Adolf Loos, truth is the core of architecture. In this context, the exterior is seen as an image of the interior, an outward presentation, ethically corresponding to the inner structure. The outside refers to the interior, but as the public level of the building, it is regarded as a mask, seen in a positive way in the sense of Gottfried Semper and Georg Simmel. This, too, corresponds to the psychological level of the private psyche and a civilized behaviour in public, and also the duality of the individual and society. The house is supposed to behave in a decent way and „to be discreet to the outside“ (Loos 1931: 129) while inside, it may show its luxury, the way a human being does not reveal his psyche to everybody in the street. In Loos’ single family houses such as the Steiner (1910), Moller (1928), and Müller (1930) houses, the main floors are lifted above the level of the garden, to which they hardly have any relation. The ground floors, often with only interior rooms, have no direct access to the garden. The houses stand on a socle in aristocratic self-reference, the cubical shape, which Loos kept using, being extremely compressed and centripetal.

Oskar Strnad’s house for Oskar and Katharina Hock was built in 1914. The narrow side goes to the street, the building is approached gradually and in several turns. Inside, the way leads from dark to light, upstairs to the main floor and straight ahead through the living room towards a small, non-transparent door to the terrace, next to a big window facing south. The exterior remains clearly separated from the interior although the terrace is considered as another outside living room. While the big windows are almost French doors, the only way leading to the outside is one small, narrow door, restraining the movement out on the terrace enforced by the huge windows. The visually closed door implies a retardation of the tendency of opening given by the windows and keeps the movement inside the room. The private garden side has big windows and terraces on several levels whereas the street facade shows a certain retreat.

Strnad’s house for the writer Jakob Wassermann and his wife Julie [Fig. 1] was built in the same year. Due to the narrow plot, again the house’s narrow side goes to the street. The flat-roofed building widens to an L-shape and thus forms a courtyard orientated to the south-east. Within the big L-shaped living room with four French doors to the courtyard, there is no clear center; with their variable furniture arrangements, the zones show a cha-
racter of improvisation, modifiability, even randomness. This can be said of the entire building, which is supposed to appear gradually grown, used and therefore imperfect and modifiable, even incomplete. In detail, this extends to the perennials in the courtyard which evoke the impression of an accidental overgrowing of architecture after longtime use. Their positions, however, are marked exactly in the floor plan. In the elevation, too, the vegetation is given in detail up to the chimneys. All the same, the architectonic structure does not get lost in infinitity – an aspect also promoted by the clear separation of outside and inside. When designing, Strnad develops, in the sense of Semper, first the path and then fixes the floor, the walls and finally the roof. The house’s exterior originates from its character as a structure of spaces and therefore understands itself as the backside of an organism orientated towards the private interior.

Hugo and Olga Bunzl’s wooden house in Pernitz, Lower Austria, built at the same time, stands free upon a hill outside the village. As a modern countryhouse, it derives its shape and design from the conditions of its surroundings without symbolically stressing them by the means of acting as rural. The living room occupies more than half the space of the ground floor, opening to all sides in four French doors and a wooden door to the terrace. The same principles as in factory owner Hugo Bunzl’s house were used in Frank’s designs for workers’ housing. In 1919, Bunzl commissioned the Ortmann-Pernitz settlement, consisting of one-floor row houses with the minimum room schedule of kitchen-living room, bedroom, stable, shed and toilet. „To make the contact between the house and the garden as close as possible“ (Frank 1924: 28), the kitchen-living room, covering the whole depth of the house, opens to the garden in a French door.

Julius and Margarete Beer’s spacious house [Fig. 2] from 1930 is marked with terraces on the garden side, where the street facade’s block-like character is dissolved in a variety of space volumes implemented in different shapes. A delicate terrace is set on one corner of the house like a side table, the dimensions of its slim columns responding to the tree trunks. The outward multiplicity of the shapes of space in the context of inside and outside, open and closed corresponds to the diversity of relations and dimensions of space inside the building. Here, too, the core of the design is the diversified path increasing in space volumes and lighting conditions. Frank’s informally arranged, centrifugal space zones demand moving. Since the paths are not axial, still every room has secluded zones. This principle of articulating the path in curved or broken lines, only tangentially touching rooms or areas regarded as closed spaces, is a direct correlation to the urbanistic principles of Camillo Sitte.

In his book „Urbanism following its artistic principles“, published in 1889, Sitte propagated asymmetrical, irregular shapes of squares and streets following the examples of medieval cities. According to Sitte, public space is important not least as a semantic system of social relevance. Thus his critique of the modern metropolis, for instance the Vienna Ringstraße, aims at its lacking ability to create convincing relations between the different functional spaces of the social organism of the city. Sitte’s writings were basic both for the residential settlements of „Red Vienna“ and for the „Vienna School“ following Strnad and Frank. Strnad’s and Frank’s open systems do not claim conclusiveness but in themselves deal with their contradictoryness. In an ambivalent surrounding, the architects provide „open worlds“ (Strnad 1922: 323). Just as the design does not start from an imaginative homogenous entirety, the house is not perceived at one view but in a succession of partial aspects relating to each other.

The basis of the temporal perception of architecture was August Schmarsow’s lecture „The character of architectural creation“ (1893). Schmarsow’s theory is based on the perceiving subject and thus establishes a direct link between the viewer and architecture. The starting point is the process of moving, the core the „inside of
architectonical work” (Schmarsow 1894: 21), also in its psychological dimension. The connection to Strnad’s and Frank’s stress on temporality in the articulation of the path through the building and the definition of static space through clearly recognizable limits is evident. Like Schmarsow, Sitte too advocates the thesis of a „concavity of art“ (Schmarsow 1894: 21): it is the perception of objects arranged concavely around the eye that generates the impression of space. Frank transfers Sitte’s urbanistic concept of space-shaping and path definition to the house itself as „street and square“ (Frank 1931: 316), following Leon Battista Alberti’s „domus minima civitas“. The duality of rest and movement, statics and dynamics, implemented in the notion of „street and square“, is significant for Frank’s work in the first place. The same can be said of the relation of the individual and society, with the architectural correspondence of inside and outside, which is significant in the notions of „Facade and Interior“ (Frank 1928: 187) or „House and Garden“, the furniture shop founded by Frank and Oskar Wiach in 1925.

Sitte’s theories were also adopted by Otto Wagner’s disciples designing social housing in the twenties. Especially the large-scale housing estates of Franz Kaym and Alfons Hetmanek show the influence of Sitte’s writings. In 1919, Kaym and Hetmanek, who already in their student time were strongly influenced by Adolf Loos, published the book „Housing for People, Yesterday and Tomorrow“, presenting housing schemes based on small allotment modules. In the following years, they designed numerous housing schemes. Kaym and Hetmanek’s most important single family house was built for the banker Alfred Wechsberg and his wife Anna in 1921 [Fig. 3]. In the living room, next to a big south window, a small door goes to a porch and then to the terrace. An axis of symmetry marked in the floor plan goes from the footpath and the entrance door over the rooms of the living floor and the big window to the strictly formal square-shaped garden parterres, surrounded by rows of cylindrical columns. A setback going through the entire height of the building stresses the axis of symmetry on the garden front.

The garden parterre creates a mirroring of the house’s volume to the outside which is conceived as a formulation of space in Semper’s sense, with markings of the corners and the rows of columns as rudiments of walls. Corresponding to the hermetic square of the garden, the flat-roofed house can be read as a cube with setbacks and risalits. Where, in Frank’s sense, a juxtaposition of the big south window and another opening to the street would have been logical to make the house transparent, the axis ends in the wall of the dining room and is thus, following the principles of Loos, only an architectonical axis and not one of light. Kaym and Hetmanek kept their architectural vocabulary, with an economically reduced set of tools, also when building settlements. In terms of urbanism, they followed Sitte’s principles. The strict rows of units are left to create the impression of freestanding or semi-detached units.

Frank’s influence is also evident in the work of Paul Fischel and Heinz Siller. In 1933 they designed the house of Adolf and Christa Fürth [Fig. 4]. The flat-roofed cuboid stands in the middle of the narrow, deep, sloping plot, set back 30 m from the street following the building alignment. It is approached in several turns. Inside the house a „garden corridor“ with an opaque door to the garden branches off from the dining zone flooded by light. The Frank style ground plan, developing logically from the duality of sun radiation and Wienerwald view, makes the house lightweight and transparent. Upstairs, on the south-east corner, a sleeping porch is cut in.

Jacques Groag’s country house for Otto Eisler [Fig. 5] in Ostravice in the Moravian Beskids (1934) is characterized by organic shapes. A funnel-like setback next to the living room both lets the outside in and the interior extend to the exterior by opening up to the panoramic south side. The porch covering the ground level terrace reaches far beyond the house. Above the living room window it dissolves in a pergola visually sheltering the terrace but permitting the sunlight to enter the living
room. The ambiguity of open and closed, of outside and inside is characteristic here, too. Groag exceeds the principles of his teacher Loos by far.

Groag’s house reminds of Ernst Plischke’s Gamerith house which was built at the same time. A differentiation of layers of space is characteristic of the house which was conceived for the painter Walter Gamerith in Seewalchen on Attersee (Upper Austria). The one-floor wooden house stands on a platform on a hill overlooking the lake. The bottom slab is bigger than the house itself, forming a panoramic terrace, covered by the flat roof of the same size and with the rhythm of delicate white beams flush with the edge. It creates an in-between zone which is both inside and outside. Looking out of the living room, the roof also frames the view over the lake. The elaborate mise-en-scène of the view, treating the house as a minor part within the natural scenery, was fixed on site so that the panorama as seen through the full-length ribbon window, Plischke reports, „is divided in about one third each of sky, lake and mountains” (Profil 1935: 582). Bearing affinities to Ludwig Mies van der Rohe’s view of the wall opening as an image to be composed, the house seems to hover between the meadow and the forest. The shadowing on the terrace, consciously employed as a means of composition, fosters the tendency of dematerialization. The living-room seems to be fixed between the roof and the bottom slab only by the block of adjoining rooms on the back side. While Groag creates a dialectic play of outside and inside, Plischke designs a clearly defined in-between zone. He exceeds the Vienna models without entirely leaving them behind.

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Profil (1935)
The socio-cultural role of periurban ecological networks

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Abstract

Since the Rio Conference on biodiversity in 1992, the loss of nature, biodiversity and landscapes of European urban regions has become a scientific and a political preoccupation for environmental, social and cultural development. A large scientific body and several international organizations of nature and landscape protection agree about the positive relationships between landscape connectivity and sustainable development in the context of planning, design and management of urban and periurban ecological networks. In fact, there is an emergence of political programs of ecological networks in urban regions: Geneva, Lille, Florida, Valencia, Barcelona, Singapore, Montreal, Sydney, Lisbon, Rennes and Montpellier, are some examples. Over the last eight years, there has been considerable spending by the Lille and Geneva societies in efforts to improve environmental and landscape connectivity conditions in periurban territories with ecological planning networks. Through a method proposed in this paper, two political programs of landscape connectivity of open spaces (private and publics) are going to be compared. What are the convergences and divergences between these two cases? How can socio-cultural needs be managed in the context of ecological networks?

Key words

Urban regions, ecological networks, conservation, multifunctionality

Introduction

Contemporary scientific and political context

The study of ecological networks is an interesting subject for the science of landscape ecology and for several disciplines such as landscape architecture, landscape planning, urban ecology and urban landscape ecology and urban wildlife ecology. The Forman research (1986, 1995, 1999, 2000, 2004 and 2008) about landscape structure and biodiversity, in the fields of landscape ecology has had an important influence on all the other disciplines mentioned. The last Richard Forman books, Urban regions, Ecology and Planning Beyond the City, From Boston to Lisbon and the articles by Ahern (2002, 2003) and Briffet (2001) are very goods examples about trends, definitions, theories and methods to analyse ecological networks of urban regions. An article by Jack Ahern (Ahern 2003) analyzed transfer process as a very beneficial and reciprocal influence between a natural science like landscape ecology and a practical discipline like landscape architecture. In the historical context, several authors recognize the Boston Parkways (1860) network, designed by Olmsted, as a reference model of how to organize and manage nature for the enjoyment of people and the need for nature in urban regions by landscape connectivity. The Emerald Necklace is appreciated as the first masterpiece of landscape architecture principles, because of its connectivity and inherent multifunctionality (Fabos 1995, Forestier 1997, Burel & Baudry 1999, Ahern 2003).

The loss of natural landscapes and biodiversity in urban regions worry several international organizations like UNESCO (MAB, Rio 1992, Stockholm 1972, 2002), FEDENATUR (Manifest Fedenatur and Barcelona Symposium 2003). I believe that it is pertinent to affirm that in an international political context, a process of renaturation by ecological networks of periurban landscape is emerging to maintain and improve the environmental conditions for biodiversity and to give better conditions for socio-cultural development. To protect water resources, natural habitats and rural landscapes has become a common goal between the natural science and the political policies of nature and landscape protection.

The role of the urban regions to maintain and improve biodiversity by ecological networks has become an important scientific subject and an international political preoccupation. But, how can we introduce landscape ecology into the political programs of periurban ecological networks? How can we restore, renature and socialize our natural resources where more than 50% of the worldwide population lives by ecological regional and local networks? What are the political programs of ecological networks of urban regions? How are social and cultural needs incorporated in the political programs? Which role of the State (top-down) and the local stakeholders (bottom-up)? Which new ecological landscapes?

Scientific discussion

The scientists have analyzed biodiversity erosion in the 80ies in rural contexts (Forman & Godron 1986 and Burel & Baudry 1999). Several studies have shown that corridors can help organisms move from one patch to another, since they connect suitable habitat conditions. They are used for biodiversity migration and dispersal, because they link habitats and reduce the isolation of metapopulations. In fact, it has been demonstrated that...
wild species need linear circulations for reproduction and movement and the fragmentation of natural habitats causes the loss of biodiversity. In the framework of landscape ecology and other architectural and ecological disciplines, a new landscape approach to prevent against landscape fragmentation and the consequent loss of biodiversity in the context of urban regions has been proposed (Forman 2003, 2004, 2008, Geiersee 2007, Adams 2005). A territorial mosaic conformed by a diversity of elements (public and private) more or less connected structure the landscape mosaic:

1) The matrix (the homogeneous and major component, normally the periurban agricultural landscapes),
2) the patches (major forested habitats, wetlands, reserves and periurban parks) and the corridors (natural linear connections between patches: hydrological system [1], non functional train railways, roads), the buffer zones (protection zones: borders of rivers, forests and highways) and the barriers (obstacles: highways, water features).

Greenways, Corridors and Ecological Networks are very similar concepts and they have been integrated in landscape architecture, urban ecology and recently in wildlife ecology [2]. Ahern’s definition is inclusive: greenways are “networks of land linear elements that are planned, designed and managed for multiple purposes, including ecological, recreational, cultural, aesthetic or other purposes compatible with the concept of sustainable land use (Ahern 1995, p 3). A hedge is a corridor for landscape ecology that studies the movements of forest species, and a greenway is used to manage an environmental linear element (Burel et Baudry 1999: p 299). The edge can by also part of a horse riding trail like in Colver equestrian network. We can distinguish three types of corridors: a) natural corridor (rivers, linear wetlands, forests, semi-natural corridors (hedge ways, trails, tree lined) and artificial corridors (channels, high tension lines and avenues). But it is important to recognise that hedges can also work as a barrier for those animals who like open spaces (deer and other bigger mammals). Corridors and ecological networks exist in different scales: continental, regional, country, region or canton, intercommunal, periurban and neighbourhood. Not much work has been developed to study particularly periurban ecological networks.

The hypotheses of co-occurrence or the inherent multifunctional condition of landscape connectivity

The hypothesis about improving the connectivity between patches by corridors in urban contexts can be beneficial for the biodiversity but also for its citizens is a common approach to landscape ecology, landscape architecture, urban ecology and recently for wildlife ecology and urban landscape ecology (Forman 2008, Jongman 1998, Burel et Baudry, Ahern 1995, Briffet 200, Clergeau 2007, Adams). This condition is called by Jack Ahern the theory of co-occurrence. This theory “posts that in any cultural landscape greenway resources are spatially concentrated along corridors “ (Ahern 2003, p 37, 38). This hypothesis has been confirmed by Philip Lewis, a landscape architect, who exposed in 1964 that 90% of the ecological, recreational, cultural and historic resources occurred along corridors. Ahern, in his article exposed the multiple benefits of connectivity in greenways and landscape corridors:

1) connectivity in hydrological systems is a key attribute for the flow of water and to restore continuous riparian zones along watercourses,
2) for wildlife movement and reproduction
3) maintaining biodiversity in landscapes that are urbanising
4) human recreation, and support for cultural landscapes
5) to support alternative forms of transportation,
6) to reduce the impact of human presence and disturbance by managing the time, place, and intensity of recreational access. (List adapted form Ahern 2003).

It is worth highlighting the fact that these corridors and ecological networks have a double essential function: ability to function as an ecological structure of biodiversity conservation thanks to landscape connectivity and as a socio-cultural landscape network to provide a diversity of natural public spaces. Today, the introduction of ecological corridor networks can be part of a renewed approach for conservation of urban regions and periurban territories. It is worthwhile to join urban parks with forest, wet lands and rural landscapes by corridors, for the people that live in urban agglomerations. It is necessary to establish regional and local governance of the natural landscape to conserve and improve wildlife quality by ecological networks. Ecological networks can improve the social health (Adams 2005, page 151) and the integration of human activities with the conservation of biodiversity is arguably one of the greatest challenges we face today (Cooperrider, 1992 p,142). How to study the landscape connectivity and the socio-cultural role of ecological - periurban - networks? In accordance with Briffet, two scales of planning decisions are necessary (macro-scale and micro-scale). A monitoring of human and biodiversity and a programme of daily care is required to keep landscape in given conditions. (Briffet 2001, p. 139). Three main subjects have been suggested by Briffet (Briffet 2001, p 141) to manage human needs for recreation and wildlife for movement (Fleury and Brown, 1997,p.185):

1) Landscape compatibility conditions: maintain accessibility and continuity for both people and wildlife,
2) conserve and develop diversity of habitat,
3) encourage a full range of organic life,  
4) develop balanced self-sustaining communities  
5) control of systems through management by tending habitats, species, and stages of growth to achieve the lowest level of daily maintenance creating a maximum variety of opportunities for people and nature to coexist by influencing activity and separating conflicting interests and creating a coherent landscape structure that assimilates variety with out disorder, and provides a continuous sequence of aesthetic experiences through the interplay of landform, space, and enclosure, light, and shade, and all others sensory qualities of the landscape; (list modified by Solar 2009) from Manning 1979, p.30).

2) Wildlife needs: using birds as indicators of habitat health and biodiversity and taking care about built environment influences over natural habitats.

3) Human recreation needs: social interaction, emotional freedom, pride, aesthetic appreciations, wellbeing, joy, wonder, and excitement, intellectual education, awareness, recreation, fitness, exercising the senses (modified from Mostyn by Briffet 2001 and Solar 2009).

How can we organise multiple information sources and a database of diversity of open spaces in a dependant relation of functions between humans and wildlife? How can we manage such a complex landscape project that involves environmental, socio-cultural and economic affairs? A political program of nature and landscape governance must be installed.

Results: a method to compare the governance, connectivity and multifunctionality of periurban ecological networks political programs.

What is a regional ecological network political program?
It is a consensus between the regional stakeholders (Top-Down and Bottom-Up) to design and to manage an ecological (for biodiversity) landscape (for the users) program using certain criteria and tools. Can we provide a versatile method to compare convergences, divergences and good practices of periurban ecological network political programs?

A) Regional context / Top-Down: Lille Green Metropolis (fig 1) and Nature & Landscape program of Geneva Canton (fig 2):

1) landscape identity: the initial conditions as a result of landscape evolution that have allowed the landscape conservation and connectivity of main regional patches, corridors, and periurban farms during the XX century (laws concerned, regional landscape protection in regional plans, industrial non-functional sites, regional water reservoirs, historical forests, etc);

2) political programs in development; a) goals, statements and fostering media campaigns of the political policies of forestier spaces, riparian system, biodiversity, rural landscapes, culture, and recreation; b) concept spatial of regional landscape connectivity strategy between main patches and corridors; c) territorial administration by perimeters.

B) Local context / Bottom-up: La Deûle Park in Lille and Equestrian agro-environmental network of Colver in Geneva;

1) spatial concepts of landscape connectivity, a) patches, corridors, zones tampon, and barriers b) landscape compatibility conditions (control of accessibility and landscape continuity between patches and corridors for people), 3) connectivity with the urban
spaces (neighbourhood, villages);
2) riparian system restoration (surface and subsurface hydrological system)
3) vernacular features landscape utilised and semi-natural landscape incorporated;
4) role of local stakeholders (council concerned, farmers, recreation and environmental organisations, contracts) involved in the design and maintenance of landscape projects;
5) diversity of recreational activities (public spaces and no motorized network created) [3];
6) maintenance criteria (differential management);
7) Public and biodiversity monitoring (inventories, conflicts, public preferences demanding).

Conclusions
An interesting literature of scientific authors and international organisations publications has confirmed the benefices of landscape connectivity to improve environment conditions for humans and nature evolution in urban regions. The landscape connectivity of ecological networks is becoming a criteria for urban regions planning as we have seen in the cases analysed. New local projects of ecological networks are changing periurban landscapes giving more spaces for nature and human needs. The studies on urban ecological networks being presently carried out could become the scientific base to be applied to countries where there is no or little experience in this field. It is well known that cities in Latin America countries, especially in Conosur countries, are growing chaotically, and ecological networks to protect nature and socio-cultural relationship play nowadays no role whatsoever. The reality is that the natural patrimony of the periurban territories is disappearing rapidly in many Latin American cities and metropolis like Santiago de Chile and Temuco. In this context, it is paramount and urgent to elaborate a definition of a “social need” for wildlife and nature, which must eventually become enshrined in local legislations. “No less important is the need to design comprehensive and integrated conservation plans, as well as a better use of adaptive management” (Adams 2005, p 151) for society and for biodiversity. To promote the benefits of political programs to develop ecological networking on the ground, will most definitely contribute to improve landscape and environment conditions for human and nature evolution.

Endnotes
[1] Hydrological system: river continuum, or riparian zone that contains by definition, the zone of intersection of the surface and subsurface hydrological systems. (Visible and visible water course)
[2] The wildlife ecology it’s a new disciple, It’s mentioned in Adams 2005 article where he expose the international programs and activities evolution from 1912.
[3] In this matrix, the multiple possibilities of usages has been classified in 8 sections: pedestrian, equestrian, motorized, farmers activities and services, aquatics, air, animalistic, cultural and artistic.

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Veneto integrated water landscapes

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Abstract

The form of an urban landscape can contribute to more sustainable water flows which in turn can contribute to the spatial quality of an urban landscape. In recent decades, in the diffuse urban landscape of Veneto Region, Northeast Italy, spatial transformations and water infrastructure rationalization has been accompanied by water problems. This is threatening the area’s spatial qualities and sustainability. There is evidence of a crisis between the society and urban landscape in terms of infrastructural support. The isotropic rationality embedded in the landscape’s structure and features have great potential for ecological design and make Veneto Diffuse City an ideal testing ground to explore a park-like form of urban landscape. This paper presents a part of our PhD research, focused on the exploration of conceptual design models, based on principles of sustainable water management. The research is divided into two parts: the first is an investigation on the recent process of rationalization - the role played by the flows and elements of the irrigation and drainage system and the drinking and waste water system in relation to spatial quality. The second part is an exploration of a possible future process of rationalization - the role the flows and elements of the water systems could play in the frame of integrated and decentralized infrastructures. Two case studies areas, managed by separate water boards, are selected: Valli Grandi (CVG) and Sinistra Piave (CSXP).

Key words

Water related landscape, design tools, water infrastructures, spatial arrangements

Isotropic urban landscape

The plain of the Veneto Region in Northeast Italy is today one of the most extensive inhabited and economically competitive urban landscapes in Europe. It is part of the wider Padana Valley and its geographical limits are the Alps to the north, with the Appennini and the Adriatic sea to the south. The main water reserve of the Region - besides surface water - is in the unconfined groundwater of the upper plain and in the confined groundwater of the middle plain (Boscolo & Mion 2008). Water management has been a fundamental practice throughout history, to extend appropriation and control over the plain. Works of geographical scale include the roman centuriatio system, the acque alte (upper waters) network initiated by the Etruscans, the acque alte minori (upper minor waters) network lead by Venetian Republic from the XIV in the middle plain, the bonifica (reclamation) network of XIX and XX century in the low plain (Rusconi 1991: 101). This palimpsest embeds the identity and quality of many types of inhabited cultural landscapes of isotropic character (Secchi & Viganò 2006).

From an aerial view it is possible to distinguish a hybrid mosaic of fine and middle course grain which is the result of different size patches and corridors stretched from the upper plain down to the lower plain. Patches include ancient centres, modern centres and their periphery, villages, rural houses, villas; bell towers, water towers, small industrial buildings and the big advanced industrial platforms, treatment plants and pits. Corridors include the main rivers and the pervasive minor surface water networks of irrigation and drainage which often go along with the minor road network (Munarin & Tosi 2001: 83). The visibility and rhythm of green structures enhance those networks. The patterns of the minor surface water networks exhibit capillarity and proximity to all land use programs. Diverging structures correspond to systems of distribution for irrigation, hydropower, drinking, water uses, converging structures corresponding to systems of drainage and waste water collection. All those structures permeate the underlying agricultural matrix turning it into porous form (Forman 1995: 279). Drinking, waste water networks and the recent sub irrigation systems remain invisible. On the ground level the diversity of spatial situations exhibits the lifestyle variety of the dispersed social groups.

The Veneto Region has about 4,8 millions inhabitants, spread over 580 municipalities, 75% of which have an average range of population between 1000 and 10000, occupying 64% of the regional area. The average population density varies from 245 to 508 inh/kmq. The agricultural matrix occupies 58% of the land and contributes only 2.6% of the regional GDP. Small and medium-sized firms and tourism are driving forces of the economy (source: Statistical Report Veneto Region 2007).

Spatial and water transformations

In the last decades an incremental process of change has progressed with different intensity and acceleration in the territory of Veneto Diffuse City - as in many other territories of Europe - driven by a specific process of economic and social growth.
A diachronic comparison analysis (1955-2003) in two areas of a few square kilometres, Ponte di Piave (PP) and Ronco all’Adige (RA), situated in the middle-lower plain, illustrates four series of spatial transformations [Fig. 1]. Densification of buildings and up scaling of both fields and settlement plots go with a shift from a decentralized system of homogenously distributed farms and related fields towards a concentration and separation of the activities and cultivations in specialized areas. As a result the mosaic changed from a fine grain of land parcelling and farm units where the buildings hardly emerge from the agricultural matrix, to a middle-coarse grain of differentiated patches where defined solids stand out against the background with a juxtaposition of residential, industrial (PP) and clay pits (RA) patches within the matrix of extensive farming.

The processes of concentration and separation have had consequences on the irrigation and drainage systems. In 1950 the agricultural matrix of the fine grain was supported only by the surface water system. A few spring rivers cross the matrix. Plots were arranged according to the ferrarese agronomic type of field setting (CSXP). The main features were: fields with a convex section (baulatura), ditches (cavini), mainly performing a drainage role and strips of land (capezzagne) for accessibility free from cultivation. Flood irrigation was the main irrigation practice. Wells played a minor role. The cultivations were organized in a specific mixed farming system (piantata veneta), and corridors of hedgerows were planted along the close net of ditches playing a multifunctional role (timber and firewood production, wind break effect). In 2003 the minor surface network of irrigation and drainage supported a different matrix of a middle coarse grain. The rivers crossing the matrix exhibit channelized features (straightening). The former convex terrain sections are flattened. The open air ditches on the fields and along the roads are filled and substituted by a subsurface pipe system in higher but invisible density. Drainage and irrigation performances are improved. The size of fields is no longer depending on the irrigation technique. Wells are playing an important role (Boscolo & Mion 2008). Wide uniform farming field patches dominate the matrix. An extensive reduction of hedgerow and riparian woodland is visible. The shift from mixed agriculture to monoculture and the consolidation of manufacturing is the driver of this rationalization process of water infrastructures resulting in a different landscape (Bevilacqua 1991: 30). The water system is turned in to a hydraulic system; storage capacity decreases, physical elements that gave the area its legibility and ecological diversity disappear.

The de-layering at the level of the two water boards (about 50x50 km) illustrates the main contemporary system. On the dry plain a diverting system of irrigation stretches out. It is composed of small concrete canals arranged in tree form structures. This system is superimposed on the former system composed of open ditches arranged in mesh structures (CSXP). Below in the middle plain numerous spring rivers join the mountain river network enriching the surface water network. They form, over the low plain, a converting drainage structure with a higher density (CVG). In recent decades, in some basins, the tree-structures of the stream network were turned into a mesh-structure by the water board, connecting water bodies for flow control (CSXP).

The supply system for irrigation performs well, but is often unable to cope with the higher agricultural requirements (CSXP, CVG) and water shortages occur frequently in summer periods (PP, RA) leading to abstraction from unconfined (PP) and confined groundwater (RA). Dwellings and industries also make use of groundwater abstraction for non-potable uses. The huge amount of abstraction has led to its depletion (PP, RA). The drainage system rationalized to drain agricultural fields is under stress because of the growth of impervious surfaces. Increasing sources of contaminant production especially from farmland threatens the quality of the water supply. The technocratic rationality of optimizing flows for quicker supply and discharge by means of the processes of centralization and separation, and their related infrastructures, result in a paradox. The requirements for water resources with respect to water quantity, quality and security for flooding are the strongest. At the same time hazards such as droughts, pollution, floods, depletion of groundwater and conflicts among different users of the water are of high importance, often at the cost of the neighbours upstream or downstream. Climate change also threatens the Region (Chiaudani 2008:151).
Conceptual shift

A shift in water management paradigm is emerging into regional policy and professional practice. Nevertheless it will take time before it will become a main stream concept.

In the frame of the research Ponte di Piave and Ronco all’Adige are considered ecosystems that can regulate flows by input and output and also by resistance and retention. They can hold, buffer and store water before draining it. For example they can store a surplus of water, and use it to prevent shortage. Store is the condition for recycling. From this perspective closing the cycle is a strategy.

Large flows are more difficult to manage than small ones (Marsh 2005: 162). Ponte di Piave and Ronco all’Adige areas exhibit a series of ecosystems at different levels, from the fine scale (e.g. house) to the broad configurations (e.g. settlement). There are good reasons to use potentials at all levels. A chain of promising combinations can be explored from the bottom-up and from upstream to downstream. The strategy, in this perspective is cascade: keep water longer and keep water clean. Both closing the cycle and cascade guide the areas toward been less dependent and less vulnerable (Tjallingii 2009).

More space for water is the key factor. In Ponte di Piave and Ronco all’Adige and areas with similar features, the fine structure of open spaces (porosity) which is visible at different scales and the close relation in space among users and water sources (proximity), can be seen and understood as conditions for exploring scenarios and prototypes. Peaks related to paved surfaces become opportunities because they provide an extra amount of water and depressions become opportunities for improving storage capacity and quality. The issue on which are the appropriate water system spatial configurations to make the best use possible of the spatial and socio-economical context in the area remains open for debate.

Scenarios

The scenario construction enables us to make visible and to evaluate hypothesis on multifunctional water systems at different levels. The conditions that have leaded to the spatial transformations of the areas in recent decades have changed. The scenarios presented assume that the economic crisis affects both manufacture and agriculture. It will result in inertia to radical changes in the density and up scaling of agricultural parcels, industrial buildings and dwellings. Water problems will increase. Strategies of different types of integrated water systems are explored to cope with storm water peaks and uses.

What if in Ponte di Piave area water is stored and buffered in a system combining fine harvesting devices across different scales? [Fig. 2] The system makes use of existing field-ditches, settlement-ditches, road-ditches. Former ditches are re-opened or new ones are dug, and ponds are integrated. Storm water is buffered as much as feasible in the system before it is drained out downstream. During the year tanks back up water from roofs. Settlement-ditches and ponds also harvest water overflow from tanks and run off. From April to June field-dit-
atches back up rain water and surface water from streams. Water harvested supports local industrial and living daily uses and eventually drop-irrigation of agriculture in summer. Water circulates in the system for keeping it clean. The bank design of ditches and pond accommodates the fluctuation and condition for a heterogeneous vegetative structure; sluices are also introduced along the corridors of the network. Ecological connectivity and circuitry increases. At the landscape level the system results in an integration of networks of fine corridors and isolated patches framing the entire area.

What if in Ronco all’Adige water is stored in the streams crossing the area and in the existing clay pits? [Fig. 3] The water system integrates surface water of streams and pits, and the tanks at the plot level. Water board streams and pits are reshaped to have more room for water and to perform an ecological gradient. Water is stored in the pits during the year and also along the streams during the spring. The water exceeding the fluctuation (4) is discharged. The in-out flow is regulated by a system of sluices and pipes. The water stored in the pits circulates through the basins in order to keep its quality. In summer the water harvested (fluctuation volume) is used for the agricultural drop-irrigation. A permanent level of water is maintained in the water bodies as a fundamental ecological condition for the species living in the area. At the building level (dwelling, small firms, industries) rainwater is stored making use of tanks connected with roofs. In case of heavy rainfall, pit and stream systems provide an extra storage capacity reducing the risk of flooding downstream. At the landscape level clay pit systems work as stepping stones and the streams as corridors both embedding the agricultural matrix.

Both Ponte di Piave and Ronco all’Adige water systems are prototypes for more legible instrumental landscapes in their performances, harvesting rain water, improving air and water quality, enhancing biodiversity, providing space for new public uses and programs (Corner 2008: 10). The prototypes aim to contribute to a process of design and policy innovation towards a more sustainable specific form of city.

References
Observing the Landscape

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Abstract

In the middle of the 19th century, it was one of the major challenges of the Industrialisation to overcome the Alps by train. In Austria, the turmoils of the March Revolution initialised the construction of the Semmering railway. New views of the romantic Semmering landscape became possible. The external view, as a view through the site tourists’ eyes, was characterized by looking from the valley up to the site. It shows the large-scale infrastructural project in the landscape leading through three valleys. The internal view, seen through the signalmen’s eyes, shows the railway worker and his house being dominated by the railway, the system that they are a part of. The view out of the compartment window turns the landscape into a motion picture. It separates the passenger from the surrounding landscape. The three different perspectives onto the landscape show that the interaction between the manmade infrastructural intervention and the landscape can be an aesthetic enrichment for a region. Together, the railway and the landscape formed the base for the development of the Semmering region.

Key words

Infrastructure and landscape, landscape perception, landscape change, railway

Introduction

At the beginning of the 19th century, the countryside can be characterised as a self-developing system without any influences from the outside. “This condition could be described as paradisiacal but with the snag – as usual in paradise – that those living in it cannot appreciate it.” (Achleitner 1997: 165) Due to the Industrialisation, man’s regard to his environment changed strongly. Small industries were the starting point of new human settlement in the countryside. The means of transportation of the Industrialisation was the railway, which launched the development of a number of today’s tourist regions in Austria. The changing situation through Industrialisation made the countryside appear to be paradisiacal on the verge of destruction.

The construction of railway lines in the alpine region presented a major challenge. The landscape, marked through a rough topography, was not the ideal place for the new means of transportation. It was a challenge to overcome the Alps by train. One of these railway lines – over the Austrian Alps – was the Semmering railway. It was supposed to connect the royal seat of the Danube Monarchy, Vienna, with its most important seaport, Trieste. While the railway lines from Vienna to Gloggnitz (1842) as well as from Graz to Mürzzuschlag (1844) had already been finished, the connection over the Semmering, the last branch of the Alps, was still missing. The train journey from Vienna to Graz had to be adjourned and the Semmering had to be overcome via horse and cart. The towns of Schottwien and Mürzzuschlag became increasingly important for the region; they became locations for blacksmiths, horse and cart enterprises, and accommodation facilities. During the construction of the Semmering railway, Schottwien, where the site office of the railway construction was located, had a short upsurge.

In spring 1848, Vienna was also shattered by the turmoils of the March Revolution, and the challenge was to provide a lot of people with work outside of the capital. While the planning work for a railway over the Semmering had long since been begun, it was, eventually, the Revolution that initialised the beginning of the railway construction across the mountain. The railway as an infrastructural element provided new opportunities in order to observe the landscape.

Material and methods - three main materials

Already during the construction period, especially the Viennese people were interested in the progress of the railway through the Semmering. Several weekend trips took place with the railway site as their destination. 1851, in the third year of the railway construction, Melchior Edlen von Schickh published his travel guide for the site tourism already in the second run. The guidebook is dedicated to those advocating progress. In the conclusion Edlen von Schickh describes that overcoming the Alps by railway and thereby connecting two seas, which were a long distance apart, is a grand progress in the history of mankind. Thereby, he sees the railway project in a meaningful, big scale context. Considering the available time of the tourists, the author suggests three different types of site trips. The first one takes an entire day, the second one night and one day, and the third one takes three days.

Observing the rail track was the main task of one profession: the signalmen. Already in 1847, seven years before commissioning the Semmering railway, the southern national railway of the Danube Monarchy edited a small booklet named “Instrucctionen für die Bahnwächter auf der k.k. südlichen Staats-Eisenbahn”. It is a precise description of the signalman’s job, which focuses on a lot of points the careful observation of the whole rail track.
In the chosen example, more than 50 signalmen’s houses along the 41 km long track characterize the Semmering railway. The houses are in precise relation to the rail track as well as to the surrounding landscape itself. The instructions for the signalmen together with the signalmen’s houses show the significance of the specific signalmen’s view of the landscape.

After finishing the Semmering railway till today, several travel guides appeared in print, describing the view of the landscape through the compartment window of the train or even of the locomotive. People from the entire society were fascinated by railways. Through the railways, the perception of landscape was popularized (Schivelbusch 2007: 186), everyone was able to afford to take the new point of view of the landscape. In accordance, there are different types of descriptions of the rail track. The one that is used as a base for this work was written by Peter Wegenstein in 1979. It was published in a book series dominated by pictures which is mainly concerned with Austrian railway lines. The text is not a scientific paper but it is a useful description of the track which refers several times to the surrounding landscape.

This research is based on the three main materials mentioned above. Each material represents a different view of the landscape to show the complexity of the infrastructural landscape of the Semmering. In addition to the three selected texts, there are further major studies on the history of the railway journey by Wolfgang Schivelbusch, the research on the changing perception of space and landscape by Gerhard Strohmeier as well as the studies by Wolfgang Kos and Günter Dinhobi on the Semmering.

Results and discussion

The rail track and the landscape - the external view

The railway changes the perception of scales and distances in the landscape. In 1851, Edlen von Schickh mentions the connection between two seas through the railway over the Semmering in the conclusion of his guidebook (Schickh 1851: 13). The Baltic and the Mediterranean Sea become connected. He sees the significance of the infrastructural project in shortening the distances between different regions of the continent. The increasing speed of transportation means makes us perceive distances becoming shorter. Nevertheless, it takes some time travelling through the landscape. Nowadays, transportation infrastructure is about straight lines connecting different destinations, thereby nearly ignoring the landscape. Passing through a tunnel or noise protection walls does not provide us with impressions of the landscape anymore. The landscape is hidden. On the Semmering railway, the destruction of space (cf. Strohmeier 2004: 178) through the increasing speed stands in opposition to the mountainous landscape, which was difficult to overcome. The challenge was to overcome the Alps and thereby, a whole region became accessible. For tourists who went to the site, the best looks of the mountains, like Rax, Schneeberg, Otter, Gansberg und Göstritz where pointed out in the guidebook. But at that time, it was only the view looking up from the valleys because the track on the slopes had not been finished yet [Fig. 1].

The significance of the horizon as a margin in the landscape (Strohmeier 2004: 185) became visible. The guidebook is structured according to the three valleys the train passes through: the Schwarztal, the Adlitzthal and the Froschnitzthal. In descriptions which appeared after the railway had been built, these valleys were only mentioned in terms of the rivers, which have to be crossed by viaducts. The greater structure of the landscape, like Edlen von Schickh described it through the three valleys, has not been mentioned ever since. Even today, it is no easy to grasp the complexity of the Semmering landscape by passing through by train without knowing about the greater landscape structure. It was Carl Ritter von Ghega, the engineer of the rail track himself who said: “Indeed, I had to view the environment again and again in order to figure out the entire terrain.” (Ghega 1989: 16) And it is the viewpoints on the fare horizon that provided the engineers and the tourists from the middle of the 19th century with important points of orientation. The perspective from the valley up to the track let the viaducts and buildings appear more impressive than they appeared viewed from the track. The viewpoint from the valley seems to be programmatic for the relation between man, nature and technology progress and how it was seen at that time. The noticeable project shows the positive evaluation of the new constructions like viaducts, road cuts and dams, which become part of the modern perception of space and landscape. While in the guidebook for the site tourists, the buildings had not been named yet, it did not take long and all bridges and tunnels received names relating to places in the surrounding landscape.
The sparks caused by the coal fire of the steam engine were regarded as dangerous because it was possible that they were the starting point of a forest fire. Because of security reasons, the rail track appears as a corridor through the landscape. On a strip, about 110 m in width all along the track, neither trees nor shrubs were growing. A cross-section through the landscape was built which marks an extra territory following its own rules separated from the surrounding forest. The whole rail track corridor was bordered by telegraph poles, which go along with the train and accompany the passengers with the telegraph line. In this way, the rail track became separated from the landscape and was in a strong dialogue with it at the same time.

Observing from the signalmen houses - the internal view
In order to run the railway, more than 50 signalmen’s houses were built during the last year of the construction period. Every 750 m in average stands one house, very near to the rail track. Small, simple houses without ornamentation are lined up and stand in the different landscapes through which the railway crosses. In the houses, the signalmen lived isolated with their families, miles away from anywhere. The houses were sometimes in the middle of the forest, often nearby a viaduct, a tunnel or a level crossing. Days passed, without any visitors except the signalman from the neighbouring house, sometimes passing by. The house, the rail track and the landscape dominated the situation [Fig. 2].

Life was conditioned by the work as well as by the weather and the landscape. The houses themselves were understood as a part of a big machine. The rail track determined the precise position of the houses while the landscape itself played a minor role. There were six windows facing the rail track and only one window from the staircase offered a view over the valley.

As Ghega reported from his field trip to the USA, there where no signalmen houses along the American railways.

The intensive observation of the rail track could be understood as a result of the political situation at that time (cf. Dinhobi 2006: 123). The modern democracy in the USA stands in opposition to the hierarchy of the Danube Monarchy. But apart from the political situation and the technical needs, the landscape subject to the railway plays a major role for the positioning of the houses. From the houses, the whole track except the tunnels can be observed. The houses can be understood as an infrastructure to observe the track. Through the mountainous landscape, it was difficult to observe the entire track; further houses often had to be built because hills or small mountains were in the view line. As the houses where situated in a way so that they could observe the whole track together, signalmen were able to communicate from house to house along the corridor through the landscape, becoming a part of it. Like the rail track itself, also the signalmen houses can be understood as a part of the newly discovered landscape. It is the same landscape through which the train passes through in periodic times. These two separated views (Strohmeier 2004: 178) become characteristic for the further landscape perception influenced by the railway and can be completed with the third point of view: the view through the compartment window.

Observing the landscape through the compartment window - the view in motion
Going by train, by looking through the compartment window, the landscape is turned into a motion picture. A completely new perception of landscape was found. For the Viennese people, the Semmering landscape became a region for recreation in reachable distance. Both the railway and the fascinating landscape attracted people also to come for a day-trip. In booklets, special advice about the best place in the train and about the most worthwhile views were given (Kos 1992: 40). The railway line was the choreography for a new landscape adventure. The compartment and the landscape outside the window had been two independent systems [Fig. 3]. For passengers, travelling became easier and without
taking any risk, they were able to access mountainous regions and landscapes. The railway slides along the slopes through the valleys up to the summit of the Semmering. Instead of destroying the space, the train makes the characteristics of the landscape visible. Through the change of directions all along the track valleys, mountains and hills as well as the rail track itself can be seen from different perspectives. One could get the impression that there is more than one rail line existing in this landscape. Most of the attractions can be seen from various different views (Székely/Tuschel 1984: 133). Looking through the compartment window, people can experience the train climbing up to the Semmering. In each train ride, man’s conquest of nature can be experienced again. The overcoming of the landscape as a barrier by train was the great success which counts as a symbol for the conciliation between the progress of the Industrialisation and the romantic landscape (Strohmeier 2004: 183).

Conclusion
Transportation technologies influenced the perception of landscape, destinations became connected and unknown landscapes became accessible. The example of the Semmering railway shows that an infrastructural project like a railway is not to destroy the landscape but to make it readable. The manmade intervention deals with the characteristics of the landscape. On-site, the preoccupation with the landscape occurs directly. Parts taken from the landscape and additions to it show an immediate reaction to the topography. The train ascends the mountain along a line passing through the diversity of the landscape. With trenches, retaining walls and simple additions, the topography will be overbuilt and supplemented. Finally, landscape characteristics become visible through the famous buildings along the track like viaducts, tunnels and dams. The new views of the landscape brought us to an aesthetic perception of both landscape and infrastructure. This perception and at last the new rail track trough the romantic landscape were finally the starting point for the development of the Semmering region. In 1998, the UNESCO declared the large-scale infrastructural project together with its unique surrounding landscape as world heritage.

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Abstract

Growing number of world’s population followed by the decreasing percentage of free, non urbanized land is forcing us to evaluate every future intervention and to use it as an occasion to produce benefits within the territory. The present study aims, not only to recover the lost relation between traffic systems and territory that marked the human settlements for centuries, but mostly to find design tools and methods for reducing the destructive power that these, especially road systems, are able to present when conceived as alienated elements, detached from the environment they cross.

The theoretical framework composed of Gregotti’s notion of Total environment, Lynch’s Openness of Open space, and Venturi-Scott Brown and Izenhour’s non material dominance of Iconographic architecture, aims to give basis for development of the concept of Infrastructural Architecture.

Key words

Road, open, interface, border, infrastructural architecture

Introduction

In different contexts, time periods and civilizations it is possible to notice the permanence of certain urban ‘elements’ that are constitutive part of the base of integral urban and architectural expression. Just like the city, or any environment created by man, these elements are the result of selective cumulative operations that characterized the processes of long and conscious modifications. The process of selection and verification unveiled the connection between the city and the territory that could be effectively analyzed through the role of the street [cf Rossi, A. 1966].

Today’s human environments are characterised by exchange, flows, communication and connectivity rather than by fixed settlement. All over the world during the last two decades infrastructures and mobility have been a recurrent theme [1]. In the European Union, the number of kilometres doubled in the period from 1970 to 2000. New, improved highways, railways and waterways are put as goals that countries must achieve in order to create basis for the social and economical development.

In the past, the street itself was not always seen negatively - it was a mean of control over nature and a way of tracing the human landscape – it was an organizational matrix of complex but balanced, sustainable environments. The relation between the street and the surroundings radically changed in the beginning of the 1900 with the spread of the motor vehicles and the increased speed.

The road network system, once overlaid on the landscape, catalyze energies that gradually determine the conditions in situ. The way it is designed, how it is located in the territory, its permeability, the kind of relation with the surroundings – are all the necessary information that we have to consider when designing the project. In relation to contexts and scales, this information if managed with intelligence, can induce different ‘dialogues between subjects’. Various urban parts could be joined in a whole in which the road could be truly an integral element.

The concept introduced in this essay - the Infrastructural Architecture relies on the presumption that a certain communication requirement and therefore a choice on how to built the road facilities is given, and that it can be improved in a way that it becomes optimal for the population and a bearer of the new needs of the contemporary society.

Material and methods

Through the interpretation of selected theoretical positions and by reading a series of projects that are symptomatic for the relation between infrastructure and architecture, this study is evidencing different visions of the road project, when strived by the architectural medium.

Theoretical premises pose their roots in the ‘fecund uncertainty’ of analysis between - Gregotti’s notion of Total environment, where the all-embracing architectural domain extends ‘from the spoon to the city’; Lynch’s new definition of Open spaces, conceived according to the purpose, accessibility and ownership; and Venturi, Scott Brown, Izehour’s’ thesis on supremacy of signs over the physicality of volumes.

The selected positions have the same belief in the potential of the open space areas, and discuss the limits of architecture’s domain, its methodology, language and form.

Besides the curiosity in exploring the possible formats of the public sphere, all three authors, share the same consideration that architecture is not necessarily tied to the idea of volume, but largely depends on different other factors in the environment. Their arguments enable us to reinsert the road typology into the architectural domain as an urban element that for centuries shaped the environment and social relations. Roads as such, regain their validity as an architectural category or a parameter for the architectural evaluation of the city.

Despite many differences in these positions, what early emerges in all of them is the idea of the potential seen in surpassing the conventional concepts in architecture and urbanity that can result with unexpected spatial so-
lutions and with substitution of the dualistic commitment (typical for Modern movement). With this approach rigidly separated spaces that are characterised either by inclusion, or exclusion, affirmation or negation, become areas of fusion; ‘another kind of space’ that help the reducing of the urban rigidity and its negative effects. In this way traditionally conceived spaces with recognisable design, together with firmly defined areas of pertinence, become polygons for new forms of urbanity. During this process their conceptual and physical borders are not being cancelled, but shattered, rethought and frayed – transformed into a larger margin where differences could take place. Border areas of the infrastructures, are like any area of passage between two systems, spaces where conventional rules aren’t applicable anymore, a sort of a wild land where different possibilities rise. Starting from this natural and stimulating disorder we can start thinking the infra-structural borderline in a creative way, by transforming it per example into space for knowing the ‘other’.

Vittorio Gregotti’s Territory of architecture
First published in 1966 this book knowingly syntheses various historical facts along with theories on design and environmental planning, giving a significant contribution to the definition of large scale interventions. Today Gregotti’s work is particularly interesting and actual, because it presents a cultural model. It is epitomized in the elaborated notion of Total environment that embraces all scales; aiming to give the esthetical sense to all the present things: the geographical of the territory, topographical of the site as well as the scale of the single object. Concept that derived from the ideology pronounced by the universal slogans ‘Dal cucchiaio alla città’ [2] and Continuità [3].

The application of design to ‘Total territory’ as suggested by Gregotti, could seem a sort of execution of what Virilio called ‘the policy of disappearance’ – an utopian tentative of ‘public reconciliation’ through removal of everything that could upset the ‘social security’ – an operation unsustainable on the long run.

The answer to the problem of organisation of the environment, differentiation or articulation in order to assume new senses, affronted by the author is not to be confounded with the bricolage (Strauss, L., 1964). In this hypothesis the materials of the new project, do not deposit their sense in the original functionality, but in the new; different one, that depends of the new inter-relations. Admitting the limitation of the architectural intervention in practice and the importance of the dimension when coming to specific, Gregotti suggests deciding ways of establishing new relations inside the traced structure and with other systems. Not only area of interventions is unlimited, but the entire process is left opened for the future design interventions.

The difficulty of defining the operative unity of reading environment within the theory of Architecture of Territory is solvable through the use of concept of the field and the group (Gregotti, V., 1977: 83). For Gregotti a field is an area where human signs create formal, circumscribed group. It can be wide or a macrostructure containing more fields. It can contain several groups of elements that can be pointed out by analyzing different layers and sections. The levels can relate geometrically and define sequences, polarities; they indicate the distribution/position, quantity, types of grids, densities, use, symbolic value of places.

The only possible way to operate is through the open design process with a variable number of points / fields within the structure, defined by series of relevant points (strongly characterised and defined) or by the relation/connection itself, that becomes the ‘regulator’ of the environmental quality (Gregotti, V., 1977: 90). Considering that the first human interventions implied minimal intervention and resulted in environmental transformations leaving light traces that characterised the whole, we could deduce that in order to operate today, one should make an effort towards the individualization of the sensible points and minimal operation in order to obtain maximum creativity with minimal interventions.
Kevin Lynch’s Openness of the Open space

In his article Openness of the Open space published in 1965, Kevin Lynch revisited the very idea of Open spaces and tented to extend the design and user’s experience to unusual open spaces that are not part of collective imaginary. His definition of Open spaces includes vacant areas that often are not colored green on planners’ maps and excluded the ‘green’ sites which are closed to the public like special institutions, inaccessible water reservations, even sport fields like football or baseball diamonds and tennis courts.

In Openness of the Open space Lynch suggests a network of small open spaces within an urban system that could be accessed by foot or wheel. Their relation to the general system of circulation was considered equally important as their internal paths. The theme of movement and sequence design had great potential for Lynch not just for its visual stimulus, but for the ability to communicate the character of large environments.

The very concept of Openness is relevant for the design of borders of the street-space because they are “open to choice, open to active use and manipulation, open to view and understanding, open to access, open to new perceptions and experiences” (Lynch, K., 1995: 408). In indicating the importance of access, Lynch explains the critical role of the edge or border between open and closed space (highway, housing, commercial area, etc). While exploring the border’s visibility and accessibility, he admits that it is the most useful portion of open space. “Careful manipulation of the edge and the access system is the key to design … location is more usually influenced by access than by any unique characteristics of the land ….” (Lynch, K., 1995: 400).

The stimulus offered by the concept of access/border elaborated by Lynch, constitutes a way to represent the multiple capacity of the street space to be presented as livable / inhabitable. The emphasis stands on the variety showing different character of open spaces; on meeting edge; contrast; confrontation; immediacy and close coupling. For him Wastelands are particularly applicable as areas of margins and extreme freedom – out of site and out of mind [4].

Positioned in the left over space and wastelands these interventions are the opposite to the design of public parks, which are usually situated in less dense, elite town districts. These areas offer possibility to express mastery because of their unconventionality - they can offer an experience, challenge and opportunities.

Describing closer the nature of intervention Lynch sustains it would be sufficient to think of ‘dot’ interventions with special and condensed character and well designed access and edges. In the end it would be a system that is a constitutive part of total environment.

Robert Venturi, Denise Scott Brown & Izenhour’s, concept of Iconographic architecture

This well known book from the seventies was written during the period of profound changes within American territory, when urban sprawl became an operative rule and it was no longer possible to trace the city limits. The presented ‘antispatial’ concept of architecture is based on communication over space, where the principal role is played not by volumes or architectural composition, but by communication that dominates the space as the main architectural element in territory.

“Because the spatial relationships are made by symbols more than by forms, architecture in this landscape becomes symbol in space rather than form in space” the authors sustained that “The sign is more important than architecture.” (Venturi, R., Scott-Brown, D., Izenhour, S., 1977: 13).

This condition resulted with a chaotic image of the commercial strip, and an unusual order within the landscape.

The only consistent element in the landscape is the highway, followed by temporary signs along the stripe. The highway as civic form represents a shared order, while the elements by the road (buildings and signs) are private and present an individual order that is more complex. The road became the joint element that supported movement, choice and understanding of the complex environment. In this way for the first time the attention moved from the urban form that was dominated by volumes, to the void represented by road and the by standing elements that traced the space. In this way the static space transformed into a dynamic of narration on the move.

Crucial lesson that we all learned in Learning from Las Vegas was the new way of interpreting and thinking the environment and the city, abandoning the modernist composition based on the balance between solid and voids, landmarks and buildings. In Las Vegas the road system with its edges replaced the traditional public spaces represented by voids, squares and pedestrian streets and expressed new meanings. Starting from this perspective the infrastructural networks and leisure paths could be considered as tools for re-reading the territory and setting of the new priorities. “From urban ephemeral to the territorial ephemeral, in a “landscape of the provisional” that still has to be investigated and defined as architecture of complex relations.” (Aymonino, A. & Mosco, P.V., 2006: 18).

Versus a solution – Thesis

Beginning from these theoretical premises, it is possible to explore the architectural ‘depth’ of the infrastructure, where it could begin showing all his fitness for human habitation and fruition.

In this way the landscape of infrastructures and networks could be defined as one of the new territories, not
only because they embody mobility as a basic condition, but also because the rest of development depend strongly on it. By starting to consider our landscapes in a wider perspective beginning from the road facilities, it will become inevitable to think also of its aesthetics, as well as of all the repercussions that the model of Infrastructural architecture could have if applied on the territory.

Conceived as design strategy, the Infrastructural Architecture aims to create relationships, by putting a focus on limits, boundaries, margins, areas of tension, interstices, areas of pause, rather than to concentrate on the design of objects. Within the hypothesis the road project contains two dimensions:

a) The dimension of the road, where the intelligent use of asphalt pavement conveys a new spatial order when strived through playful design. It can host temporary surfaces of commerce (Stop and Go Vending by Smq architects, Fig 3.) or even become a collector of heat (Erasmus bridge experiment, Ben Van Berkel).

b) The dimension of the tangent zone that becomes the road interface that filters the passage from the infrastructure to the urban and natural environment. These areas are considered fertile ground for expression of new public that can be marked through the use of shiny panels, dynamic surfaces, intelligent interfaces, colours and textures, becoming in this way space of mediation, communication, leisure, amusement and commerce. This treatment would transform the border zone into linear parks (Bernard Lassus, Fig 2) or plazas; the modelling of the ground that could create sound barriers (Noise Scape, MVRDV and Dean); the barriers could be used as fourth façades in apartment or office buildings; and their bending for the creation of leisure facilities (Sport Cities, Ian +, Fig 1).

In order to invert the present phenomenon of devastating consumption of the territory, we can first start seeing differently the infrastructures and then render the legislation more elastic in order to permit various forms of contamination. The reflections on the form of the open spaces, the role of the road within the territory, the potential of its tangent zones (which are presently unused) demonstrate how these can be controled, used and in the end functional.

The outcome of this operation would be the restored street continuity that characterised per centuries these ‘backbones’ of the cities.

Endnotes
[1] Seen as a mean of progress, the EU is investing large founds in the construction of TEN-T, Eastern Europe countries in PAN, China in its Expressways. Different studies are published on theme of Mobility, like ‘The car and the city’, by A. Arbour 1991; ‘Mobility: a room with a view’ by F. Houben and L. Calabrese, 2003; ‘Driving forces: the automobile, its enemies, and the politics of mobility’ by J. A. Dunn, 1998; and many other
[2] From the spoon to the city’ the slogan created by E. N. Rogers in 1952 in the Carta of Athens. He explained the typical approach of a Milanese architect designing a spoon, a chair, and a lamp and in the same day a skyscraper.
[3] Continuità - Continuity was a subtitle that E. N. Rogers added in 1953 to the Italian architectural magazine Casabella. This complex sum of theories was one of the most important topics of discussion in the post war international architectural scene. Continuità was one of the fundamental themes discussed among Rogers, De Carlo and Gregotti.
[4] In Lynch’s words “the vacant lots, back alleys, dumps, and abandoned rights-of-way, the province of the young and derelict.” Pg 416

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Phytoremediation as an Experience and Framework for Urban Landscapes

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Abstract

The idea of reconciling landscapes through remediation is not new to our discipline. However the potential of using transformative remediation to build urban form as a large-scale landscape network and that makes the process of remediation part of an urban landscape experience is still underdeveloped in theory and practice. This paper examines how a remediation process could be showcased and become a design element, and how landscapes of cleaning can become part of the urban infrastructure to create new neighborhoods for research, education, working, and living. The paper proposes a general framework for how remediation could become an artistic, aesthetically pleasing intervention with environmental value. The example of two adjacent sites on the contaminated Elbe – Island in Hamburg, Wilhelmsburg Germany demonstrates how the purification process of water and soils can be showcased and experienced by the public and how the landscape framework becomes part of the urban infrastructure.

Key words

Connectivity, experience, education, green infrastructure, green urbanism, landscape urbanism, phytoremediation.

Introduction

Urban brownfields are a challenging and a common landscape especially in industrial and post-industrial cities. They inhibit economical growth and impair the ecological systems. Their industrial heritage often isolates them from the urban fabric and creates physical barriers. However the sensual, aesthetic quality that goes along with derelict land has been discovered by our profession (Latz 2008). Important models for remediated new parks on former urban brownfields include: Landschaftspark Duisburg Nord (Latz 2008), Westergasfabriek Park in Amsterdam (Spens 2007), and the Gas Works Park in Seattle (Johnson 1991). While these examples are regarded as successful urban park developments they are not well integrated into their larger urban context. A systematic and strategic approach to remediation landscapes that are connected from the regional to the local scale and that tie into the urban fabric as a continuous network and as a part of a green infrastructure framework is still underdeveloped.

Another objective of this research is the exploration to reveal phytoremediation as an aesthetic experience. How can plants as the primary medium determine each phase of the cleaning process as a sensual experience and create a unique and meaningful landscape? Several remediation projects that use plants like the tidal marsh restoration of Crissy Field in the San Francisco Bay are used to restore indigenous landscapes (Rieder 2001: 193 – 207) as a final design product. I make the proposal to understand phytoremediation as a process-oriented tool for an evolving green infrastructure network that defines new landscapes. This paper begins with a description of phytoremediation and explains the key elements of green infrastructure. A recent case application conducted by Richard Weller (Weller 2008) illustrates how green infrastructure can shape urban form. Finally two visionary design proposals by the UMASS Urban Design Laboratory 2007 and 2008 for contaminated sites on industrial brownfields on the Elbe – islands in Hamburg, Wilhelmsburg demonstrate how a landscape of remediation shapes the framework for new urban infrastructure, connects to the existing urban fabric, and becomes a rich aesthetic experience.

Principles of Phytoremediation [1]

Phytoremediation has the capacity to assist in the remediation of petroleum hydrocarbons, benzene, and heavy metals – which are among the common toxics found in urban brownfields. The simultaneous treatment of these multiple contaminants makes phytoremediation a cost effective and attractive option for urban brownfield areas (Raskin, Ensley 2000: ix) [2]. Plants typically used in phytoremediation include hybrid poplars, willows (Populus spp., Salix spp.), grasses, and reeds (Typha spp., Phragmites spp.) (Marmiroli & McCutcheon 2003: 87-88). These plants’ root systems help to rebuild soil structure in the rhizosphere, and through the deposition of organic material from leaves, branches and root cells. Another advantage is that remediation can take place without disturbing the site and can be tailored as site-specific solutions. As a process-oriented tool phytoremediation takes a long time, often years or decades. The time dimension can be turned into an advantage if each stage of the cleaning process has a distinct character and sense of place while performing remediation and simultaneously creating green infrastructure.

Green Infrastructure

Green infrastructure is an emerging planning and design concept that provides a framework for conservation and development. It acknowledges the need for providing places for people to live, work, shop, and enjoy nature.
Green infrastructure helps communities to plan development in ways that optimize the use of land to meet the needs of people and nature. Green infrastructure can shape urban form, is principally structured by a hybrid hydrological drainage network, complementing and linking relict green areas with built infrastructure that provides ecological functions (Benedict & McMahon 2006: 2-4, 35). It applies key principles of landscape ecology to urban environments as a multi-scale and multi-layered approach. The green infrastructure pattern derives from ecological and social process relationships with an emphasis on connectivity (Ahern 2006: 267, 269). Following the principles of green infrastructure as a planning and design concept, phytoremediation can become one significant and complimentary element that creates the framework for future development.

**Case Application for Green Infrastructure - Perth, Western Australia**
Weller (2008) superimposed current landscape urbanism theory (Waldheim 2006) onto quotidian suburban master planning. In the Wungong Urban Water Landscape Structure Plan he joins planning and design, focuses on landscape as an infrastructural system and aims for structural influence. Existing vegetation and the Wungong River System are part of the landscape structure that ensures the protection and creation of landscape systems – habitat, drainage and open space. Park avenues become a system of linear elements for stormwater treatment and recreational corridors. They create the framework that organizes roads, schools, and developable land. Weller’s approach is applied and reflected in the design proposals of the UMASS Urban Design Laboratory. The phytoremediation network is the basis for green infrastructure. It establishes the framework to (re-) connect a derelict site to an adjacent neighborhood.

**Remediated Landscapes “Rhizotopia” and “Veringkanal Water Cycles”** - [4]
Two recent studies by the UMass Urban Design Laboratory engage phytoremediation, green infrastructure and urban experience. Both study areas are located in the western territory of the International Building Exhibition Hamburg 2013 on the Elbe islands in Hamburg, Wilhelmsburg and are dominated by industrial brownfields close to residential areas. A former oil refinery is the core area of “Rhizotopia”. Soils and ground water are contaminated with toxic organic materials and heavy metals. The second study, the Veringkanal, is a once important industrial canal of the Elbe islands. The high contamination with heavy metals in the sediments prevents adaptive reuses of the canal.

**Rhizotopia**
The proposal for a “Remediation infrastructure as a green infrastructure framework” transforms the contaminated waste landscape into a healthy urban landscape that is well integrated with the city. The reed and grass planted remediation ditches and multi-lane alleys of fast-growing, deep rooting hybrid poplars and willows become part of the street and pedestrian circulation network that structures the urban form for the future and connects to the existing neighborhood [Fig. 1]. After the area is cleaned up, the water remediation network can be transformed into a surface stormwater treatment system and the multi-lane alleys can become street boulevards.

The ditches are also a physical reference to the historical water layer infrastructure of the Elbe-islands with a hierarchy of interconnected ditches and swales that create a unique land-water topology. In addition, the remediation infrastructure is a habitat for wildlife, and the poplars and willows can be harvested and used as fuel or building material. Monitoring infrastructure complements
the remediation grid system: An underground interpretive laboratory, the Rhizotron, is designed for examining plant root growth. As public stations they contain enclosed columns of soil with transparent windows that permit viewing, measuring, and photographing the slow process of phytoremediation [Fig. 2].

In conclusion, pedestrian movement within the remediation framework becomes an aesthetic experience that changes over time through the successional and adaptive media of plants and the water ditches as organizing elements for remediation and surface stormwater treatment in a later phase. This multi-layered green infrastructure is complemented by educational elements.

**Veringkanal Water Cycles**

For the area around the Veringkanal the remediation strategy incorporates decentralized storm and waste water treatment proposals that are interlinked through the processes of water cycling. Indigenous wetland vegetation like Phragmites and Iris are planted in the drained canal. Periodic flooding establishes a dynamic water table that supports the development of a biologically-active wetland zone. Seasonal harvesting of biomass ensures that metals in the plant material are removed from the nutrient cycle, and safely incinerated as fuel for heating buildings. New development will follow strategies of decentralized storm and waste water treatment that reduces burdens on existing urban infrastructure. Remediation and self-sustaining systems introduce new landscapes of sensual experiences. The Veringkanal becomes the central spine for arterial lateral branches. Stormwater is collected from the adjacent neighborhood and flows into the canal. These branches simultaneously create a new trail system for pedestrians and cyclists and make the Veringkanal an urban greenway [Fig 3].

**Conclusion**

Principles from the emergent theories of Green Infrastructure can be understood and applied in a new way to form unique landscapes of remediation. Transformative remediation as a systematic design tool provides conceptual bridges between aesthetics and ecological design. F. L. Olmsted designed urban landscapes as experiences as well as environments. “Antiquated conceptions of landscape beauty ... persist and must be reconsidered through the lens of new paradigms of ecology” (Meyer 2008: 19). Stokman (2008) proposes urban constructed wetlands as part of the people’s experience of ecological processes in the landscape. Designing performance-oriented phytoremediation landscapes is a process of manipulating time because of their dynamic quality.

Thus phytoremediation as an experience and framework calls for:

- Re-creation of systematic connectivity - from isolation to network in a flexible framework that structures a multi-layers urban infrastructure
- Visible transformation of toxics and contaminants as a sensual experience through the dynamic media of the landscape
- Landscapes to support environmental education and interpretation
- Remediation as a tool to build new districts and neighborhoods on former brownfields and a source for economic growth and revitalization

The long-term time requirement for phytoremediation can also provide an opportunity: Changing and growing plant communities can be staged, each step of the cleaning process can transform into specific landscape typologies that build up the framework for urban form and green urban infrastructure and that is simultaneously a landscape of experiences. The design proposals of the Urban Design Laboratory explored the potential to make remediation landscapes useful and beautiful.
Acknowledgements
I thank the students of the UMASS Urban Design Laboratory 2007 – 2008 for their inspiring and thoughtful work and the IBA Hamburg, specially Hubert Lakenbrink, Jost Vitt, and Sabine de Buhr for their great support. I am grateful to Professor Jack Ahern and Yaser Abunnasr from UMASS for inspiration and advice to author this paper.

Endnotes
[1] Phytoremediation and Bioremediation designate different concepts and potential applications. Because this paper does not focus on the scientific use of remediation methodologies the term “phytoremediation” is used throughout. Phytoremediation is a plant-based approach and bioremediation is a microbial approach. Bioremediation uses micro-based technology for the degradation of organic compounds. Phytoremediation uses green or vascular plants to remove organic contaminants or heavy metals from the environment. Phytoextraction is the use of metal-accumulating plants that can transport and concentrate metals from the soil to the roots and aboveground shoots. Rhizofiltration is the use of plant roots to absorb, concentrate, and precipitate heavy metals from water (Ensley, 4-5 in Raskin & Ensley: 2000).

[2] Raskin and Ensley compare the economical benefit of phytoremediation to conventional remediation methods: “The relatively low potential cost of phytoremediation allows the treatment of many sites that cannot be addressed with currently available methods… The economic and environmental advantages provide an excellent reason for the use of this approach in the treatment of contaminated sites. Plants can be grown and harvested economically; leaving only residual levels of pollutants (Raskin, Ensley 2000: 3f). Conventional cost double and more (Glass 2000: 16-17).

[3] Benedict and McMahon (2006, 37) describe principles of Green Infrastructure. Most relevant are: 1. Connectivity is key. 2. Context matters. 3. Green infrastructure should be grounded in sound science and land-use planning theory and practice. 4. Green infrastructure can and should function as the framework for conservation and development. 5. Green infrastructure should be planned and protected before development. …7. Green infrastructure affords benefits to nature and people. 9. Green infrastructure requires making connections to activities within and beyond the community. 10. Green infrastructure requires long-term commitment.

[4] Strategies and visions were developed under my direction in the UMASS Urban Design Laboratory 2007& 2008. The scientific framework was established in collaboration with Prof. PHD Guy Lanza, Department of Environmental Sciences, UMASS. Rhizotopia design team: Jinglan Wang, Duanchai Samimi (2007)
Veringkanal design team: Todd Lynch, David Maynes, Chris Metz, Duanchai Samimi (2008)

References
**HISTORIC SETTLEMENTS**

The historic settlements throughout the globe are struggling under contemporary pressures. These pressures have significant impact on the local community and natural built environment. Therefore it is essential to conserve these historic settlements as they play a key role in imparting the knowledge of sustainability to the future.

**ISSUES - SOLUTIONS**

**STREET**
- Street narrowing due to increases in shops.
- Building on either side of the streets make the historic fabric completely closed.
- Street view altered due to encroachment.
- New additions in houses have altered the morphological content of the historic town.
- Multiplicity of the street treats conversion from lane to lane.

**TEMPLE TANK**
- Temple tank have been left unattended.
- Maintenance and conservation have questioned the sacred of the temple.
- The temple tank have been reduced from its original size.
- The polluted water also becomes the cause for the diseases.
- The tank have to be a complete model of the sacred tank.
- Tuberculosis spread beyond.

**URBAN STRUCTURAL MORPHOLOGY**

**ISLAND TYPE**

**LANDSCAPE**

**CITY**

**URBAN SETTLEMENT INTERFACE**

**RIVER-SETTLEMENT INTERFACE**

**HISTORIC SETTLEMENTS**

Some of the cities were converted as commercial centres while others are neglected at superficial levels.

**TEMPLE TOWNS**

Temple towns in Tamil Nadu have great relevance to the geographical features of the region and the city evolution.

**SOUTH INDIA**

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**ISSUES - SOLUTIONS**

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Greening Budapest, a courtyard at a time
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Community-supported green spaces are a vital part of the future of urban landscape architecture. A community-supported green space is a site communally cared for by a group of people who have formed a formal or informal organization devoted to its garden's development and maintenance. The space can be a playground, flower garden, vegetable garden, meditation garden, fruit tree arbor or open lawn, and the land can be publicly or privately owned, but the most important principle is that it is run by local volunteers who determine its design, maintenance and development, and also control its use and access. These seemingly-humble spaces can provide guidance and inspiration for the most important tasks and issues facing urban landscape architects today:

- Reclaiming brownfields and reducing the number of vacant lots
- Creating green spaces that strengthen communities and discourage crime
- Correcting disparities in the amount of green space in poor urban neighborhoods
- Promoting environmental and social justice through landscape architecture
- Involving the public in participatory planning to ensure sustainability

Community-supported green spaces exist in many forms globally, varying depending on the economic layer, urban fabric and the culture in which they exist. They include community gardens that have been created on abandoned industrial sites in the poorest neighborhoods of New York City, to school gardens in the townships of Cape Town, to the upper-class inner garden squares of London. Budapest urgently needs a new vision for green space development, particularly in the inner districts of Pest, where green space provision can be as low as 1%, or less than .4 square meter per person.

Budapest does not share Western Europe’s history of urban allotment gardens, but there are examples of land as a form of social welfare in both urban and rural contexts. In the countryside, this took the form of social land programs, which were designed to provide arable and pasture land as well as credit unions to rural families and were first initiated by
the Ministry of Agriculture in the late 1890s. In the urban context, housing estates such as Budapest’s Wekerle Telep were examples of a small level of government assistance enabling people to help themselves significantly. Residents in the complex when it was first built in the World War I era each received four fruit trees, resulting in a total of 16,000 fruit trees in the complex.

How can these traditions be revived in 21st century Budapest? Through one of the city’s greatest assets – the beautiful, atmospheric courtyards of its residential buildings. All of Budapest’s inner districts consist primarily of 19th century blocks of flats with inner courtyards that constitute 15% or more of the building’s footprint. While many of them are shady, they are still advantageous as green spaces because they are neither entirely private nor entirely public. They are more protected than a public park or square, yet they offer the opportunity for community that private gardens do not. Initiatives for courtyard greening have begun in Budapest’s district VIII (photos, above and right, from www.gang-gong.blogspot.com) – which is currently undergoing the most massive social and architectural rehabilitation in the region’s history – as well as in some other neighborhoods. However, increased municipal support and organization is essential. Key elements for a successful common garden include a participatory design process with professional and municipal support, a clear organizational structure and maintenance plan, and a manageable, sustainable design using plants and hardscaping materials that residents can manage and maintain.

Although there is some minor municipal financial and moral support for greening courtyards, such as the “Most Beautiful Inner Courtyard” competitions, there is currently no organized, citywide or even district-wide approach for providing incentive to residents for greening inner courtyards. There is nothing approaching the level of organization of London’s garden squares. There is no policy to encourage residents to form a community-supported green space in their courtyards or to try to connect such organizations. A cooperation among NGOs, residents, municipal authorities and landscape architects could make a significant contribution to the city’s green space through a citywide courtyard greening initiative.

2 Ferenc Bóra, “Wekerle Sándor és a Wekerle-Telep (Sándor Wekerle and the Wekerle Housing Estate)” a 1998 article published online at www.sulinet.hu
Sculpture and artificial landscapes: aesthetics for contemporary landscape projects?

Laurence KIMMEL, architect, scholar at the Ecole nationale supérieure du paysage de Versailles, France

Some modern sculptures create an artificial landscape. This meaning of a landscape in a sculpture is due both to the sense of a wider scale than the one of the sculpture or the gallery, and to the form used by the artist, for example the abstraction of natural forms.

We can take for example the work of Carl Andre as a starting point to this reflexion, as Richard Serra comments it in his 1975 interview with Friedrich Teja Bach¹: “On a simple perceptive point of view, a modular unity that repeats itself over eye level seems to shrink in the height, but a horizontal modular unity creates a vanishing point in the infinite”. The grids of Sol Lewitt occupy space more easily in the horizontal direction than in the vertical one. Creating a sculpture that seems to be expanding in the vertical direction, like The infinite column from Constantin Brancusi, 1930, needs more subtle materials and forms in the repetition of a modular unity. Tony Smith’s sculpture Smoke from 1967², in heritages of Brancusi, seems not to be affected by any boundaries and to expand beyond the space of the museum. It looses its object status. This sculpture represents a thing, unlike Carl Andre’s and Sol Lewitt’s, and refers to smoke, something without any specific scale.

Some installations, using these properties of forms, and seeming to expand beyond the museum boundaries, are more explicitly referring to landscape. The installations of Scottish sculptor Martin Boyce are based on the forms of Mallet Stevens and brothers Martel concrete trees from 1925³. He creates his own vocabulary out of these elements. He makes “grid sculptures” out of steel, that have a sense of space by their characteristics of open system. By his use of urban-like light, and of an ambiguous interior/exterior status of spaces, his installations evoke a wider scale of the landscape, and especially the urban landscape. The installation of Sarah Sze Proportioned to the groove (2005) is also a grid of lines that cuts the space in two and seems to expand beyond the room boundaries. This work is also an imaginary artificial landscape, in the more symbolic way of the miniature.

This imaginary vision of a wider scale, especially in relation to characteristics and elements of the landscape, may influence the design of contemporary landscape architecture projects, and also enlighten our vision of these projects, using the mechanisms of “in situ” perception developed by Alain Roger⁴. Some Spanish landscape architects like Carme Fiol with the Nou Barris Park in Barcelona (1998-2004) and Carlos Ferrater with the botanical garden of Barcelona (1995-99) used cubist triangular elements in the design of their garden to create links between different scales. Carme Fiol⁵ felt their ability to make connections between

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² LACMA, Los Angeles
³ Exposition internationale des arts décoratifs, 1925
⁴ ROGER Alain, Court traité du paysage, Paris : Gallimard, 1997
⁵ Carme Fiol interview, Barcelona, February 2008
pattern elements, big coloured planes that are sculpting the ground and define the mood of an area, and the imaginary and real patterns of the urban grid of Barcelona.

One of the contemporary architectural theories on the link between different scales is developed by the Los Angeles team Morphosis (Thom Mayne). They used in the Federal Building in San Francisco (2008) irregular fragments as basis of big scale systems. The forms create spatial qualities of small spaces, qualities of the relations between floors, and qualities on the scale of the urban grid of the city. In the work of Morphosis, nature as an artifice is integrated to urban design. The building is a metaphor of a wider contemporary urban landscape. The imaginary wish to redesign these landscapes on a bigger scale has these consequences on their architecture today.

One of the contemporary landscape architecture projects that create a link between strips at body scale and strips at urban scale is the project Floor works in Geneva by Agence TER (2005). The strips used in their project, like some abstract figures that seem to cut and sculpt the ground, are intertwining narrow iron strips, that are the base grid of the seats, lights, vertical sculptures, etc, and large strips, that define walkways linking different levels of the site. These strip works create a metaphorical link to the scale of the urban landscape, and especially the grid of the streets. But the link between the scales is not just working for the horizontal elements. The perception of the vertical iron strips, in the foreground of the buildings, creates changing relations between body scale and the scale of the place. The aesthetics of the narrow strips makes the viewer conscious of the aesthetics of the "street strips". The project gets openness to the global grid of streets and buildings.

The random folded form of the narrow iron strips creates an ambiguous natural or artificial status of these elements. Agence TER used also planted surfaces for technical buildings in the project. This artistic work, creating fuzzy boundaries between natural and artificial, could be an autonomous sculpture in itself, a representation "in visu" of landscape. This project is no just a sculpture, but a landscape architecture project. This play with the natural and artificial status of elements goes further with trees and buildings situated around the site, or on an imaginary way with the elements of the city on a bigger scale. Theory of landscape architect Bernard Lassus makes us sensitive to these multiple and creative links between elements, each one more or less natural and artificial. For example, the narrow iron vertical strips in the view n°2 of the project, situated at each side of the diagonal walkway, seem more natural (because of their "side vegetation" status) than when they are seen as a continuity of the horizontal iron floor strips in view n°1. The changing natural or artificial sense of the elements is the basis of the openness of the sense of the relations between the project and the site. And this project with artistic qualities is therefore a landscape architecture project. The project opens the imagination to a global three dimensional array of streets, buildings, trees, etc., and to its multiplicity of natural and artificial elements.

6 Morphosis – Thom Mayne (Conference in the architecture school of Marseille), Paris : Archibooks, 2008
7 This project is linked to the construction of an office building (Layers office Lenz et Staehelin)
8 Agence TER : Henri Bava, Michel Hoessier, Olivier Philippe
9 ROGER Alain, Ibid.
10 LASSUS Bernard, Couleur, lumière… paysage, Paris : Centre des monuments nationaux, 2004
Lugovoy park of Petrodvorets: experience of the Russian-Danish cooperation as a step on ways of sustainable development of territory

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Governments of 182 countries have signed «Agenda XXI» on The Conference of United Nations Organization in June, 1992 in Rio-de-Janeiro. The concept of sustainable development includes ecological, cultural - social and economic aspects.

The Russian-Danish project "Green space 21. Improvement of Lugovoy park" was carried out during 2002-2003 years in St.Petersburg. The initiator of this project was St.-Petersburg State Forest academy.

Lugovoy park of Petrodvorets enters into historical park ensemble by the area more than 1000 hectare, which has national and international value. The park is a monument of landscape architecture 18 centuries.

It is landscape park. In territory of park the unique hydrological system settles down: channels, ponds - stores, gateways - regulators created on the project of Peter I for maintenance by water of fountains of Petrodvorets and ponds of Konstantinovsky park. The uniqueness of the hydrosystem is that the uninterrupted functioning is provided at the expense of natural resources.
The purpose of Lugovoy park consist not only in supply by water of fountains of Peterhof, but also in creation in its territory of indicative country enterprises. The population of the specified territory provided functioning of hydrosystem and elements of a landscape of this territory.

Project participants worked up the first variant of the strategic plan of Lugovoy park development, which general line is the ecotourism development.

The sustainabable development of tourism should be based on the long-term objective including the decision of economic, social-cultural and ecological tasks. As a result of realization of the project "Green space 21" the basic stages of development of tourism in territory of Lugovoy park are developed:

1. Rating of a modern status and conditions of development
2. Drawing up of the management plan
3. Restoration of cultural - historical and natural objects
4. Development of tourism infrastructure in territory of Lugovoy park
5. Development of an infrastructure of bordering territory to Lugovoy park for the tourist industry

The first stage of the strategic plan is carried out within the framework of the present project "Green space 21. Improvement of Lugovoy park". For progress of a long-term objective the realization of other stages is planned. The realization of all stages partially will decide problems of employment of the population, which is one of the basic tasks of the strategic plan of steady development of territory.
URBAN HIGHWAY LANDSCAPES

THE PRIMARY LANDSCAPE CONCERN FOR ROADWAY DEVELOPMENT:

EROSION CONTROL

SINCE THE EARLY ROMAN EMPIRE

GRADE IT AND ADD GRASS

THE GREAT AMERICAN HIGHWAY

A MODERN NATION WITH MODERN EXPECTATIONS
THE HIGHWAY BECOMES OUR NATION’S FRONT YARDS

POST-WAR AGRICULTURAL CHEMICAL INDUSTRY

EFFICIENCY PROBLEMS SOLVED WITH INTENSIVE MOWING
AND APPLICATION OF A BROAD SPECTRUM OF HERBICIDES

THE HIGHWAY BEAUTIFICATION MOVEMENT

IN THE 1960s, THE FEDERAL ADMINISTRATION TAKES
INTEREST. LADY BIRD JOHNSON
INITIATES PROGRAMS
TO INSTITUTE IMPROVEMENTS
TO THE APPEARANCE OF
OUR NATION’S HIGHWAYS

BUT THIS AESTHETIC WAS BASED ON
MODERN AMERICAN PREFERENCES
AND DERIVED FROM BRITISH PARKS

CUT LAWNS PRUNED TREES

IN THE LATE 20th CENTURY, THE REALITY OF ENERGY COSTS
AND POLLUTION HAVE LED TO LOWERED EXPECTATIONS, AND
REDUCTIONS IN MAINTENANCE BUDGETS

BUT LADY BIRD’S WILDFLOWERS PERSISTED
IF THEY WERE GROWN FROM NATIVE SEED
URBAN HIGHWAY LANDSCAPES

IN ORDER TO UNDERSTAND THE PROCESSES BEHIND THE SUCCESS OF WILDFLOWER BEAUTIFICATION, THE WILDFLOWER CENTER’S MISSION GREW TO INCLUDE ECOSYSTEM STUDIES

SCIENCE DEDUCES THE NEED FOR ECOLOGICAL INTEGRATION
THE UNIQUE CHARACTER OF URBAN HIGHWAY CORRIDORS MERIT A NEW APPROACH TO LANDSCAPE PRODUCTION

AN ECOSYSTEM SERVICES MODEL QUALIFIES AND QUANTIFIES LANDSCAPE PERFORMANCE
POLICY MAKERS, PLANNERS, ENGINEERS, LANDSCAPE ARCHITECTS ENGAGED IN THE PUBLIC SERVICE OF LAND STEWARDSHIP:

PLEASE NOTE!
MODERATE WEATHER EXTREMES AND THEIR IMPACTS
DISPERSE SEEDS
PROTECTS PEOPLE FROM THE SUN’S HARMFUL ULTRAVIOLET RAYS
CYCLE AND MOVE NUTRIENTS
DETOXIFY AND DECOMPOSE WASTES
MITIGATE DROUGHT AND FLOODS
MAINTAIN BIODIVERSITY
PROTECT STREAM AND RIVER CHANNELS AND COASTAL SHORES FROM EROSION
GENERATE AND PRESERVE SOILS AND RENEW THEIR FERTILITY
CONTRIBUTE TO CLIMATE STABILITY
PURIFY THE AIR AND WATER
CONTROL AGRICULTURAL PESTS
REGULATE DISEASE CARRYING ORGANISMS
POLLINATE CROPS AND NATURAL VEGETATION

COST EFFECTIVE MANAGEMENT
UTILIZE NATIVE PLANT COMMUNITY STRUCTURE

HUMAN / NATURE CONNECTION
LANDSCAPE CORRIDOR FUNCTIONAL IMPROVEMENT

RESTORE ECOSYSTEM RESILIENCE
ECOSYSTEM SERVICES

THE EARLY 21st CENTURY BRINGS A NEW MODEL FOR THE DESIGN OF HIGHWAY LANDSCAPES, INCLUDING URBAN SYSTEMS:

POSTER BY PAUL K. JOHNSON, LANDSCAPE ARCHITECT AT THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK CITY WITH REFERENCE TO THE WORKS OF:
THE LADY BIRD JOHNSON WILDFLOWER CENTER SUSTAINABLE SITES INITIATIVE GREG MCPHERSON; RTT FORMAN; R COSTANZA, et al
ECOLOGICAL SOCIETY OF AMERICA www.esa.org US FEDERAL HIGHWAY ADMINISTRATION www.fhwa.dot.gov/environment/vegmgt/
From production landscape to consumption landscape
A study on the transformation of arts districts in Beijing
Li Shaogun, Leslie H.C. Chen

ABSTRACT
Along with the conversion of industrial system, urban landscape can be a mirror as a social manifestation of the deep meaning, as well as cultural and spatial research tool (Zukin, 1991). Shifted from the modern urban landscape, it has been demonstrated that the urban landscapes have been stepped into post-modern urban landscape with eclectic clustering (Gospodini, 2006). Within the backdrop of globalization, Beijing has transformed from a city under simple influences into a complex city impacted by multiple factors. As a result, its traditional urban space has started to face the challenge of reconstruction and restructure. Arts districts emerged as a unique urban landscape in Beijing. In such context, the aim of this study is to investigate the ways in which the former industrial quarter has turned into a consumption-oriented area, based on the search and understanding of dominant factors in transforming 798 Factory. Through an exploration of the formation and transformation process of 798, we argue that the urban landscape's formation is never just physical or political. It's also economic and social. We conclude that the process includes a capital accumulation process intertwined with culture and art, coupled with conflict with certain social groups. Moreover, we raise a question that the possibility to sustain so called 'creativity' in such transformation, with the missing link to the artist group which acts the crucial role in branding the cultural icon,

ART DISTRICTS
Consumption Landscape in Postmodern Cities
Arts districts, which represent the unique role on shaping the post-modern urban landscape, have been bought to enhance their fame and reputation, developed as tourist venues to stimulate the economic growth. They have been recognized as crucial in terms of manufacturing new images to find a place in a competitive global market. An arts district is given various labels: cultural district, cultural arts sector, arts & entertainment district, the artists' district... According to the previous scholar, the defining characteristic of arts district is physical form that reflected the urban spaces and it include the whole community which comprises the social change and economic development. It is also related to art spaces, not just from the physical form that old industrial lofts that artists live and work in, but also from the social aspect, they include the entire community (Tartoni, 2007).

Transformation of industrial land is a special case in the urbanization process, and the underlying implication reflects the mass industrial mode of production can no longer comply with the new round of economic development. In the light of the indication that original accumulation of industrial production are adopted to the needs of industrial development in modern society, timely socio-economic transformation performances urban spaces in transition to respond to the condition of postmodernity. While accepting postmodern urban landscape shaped with eclectic clustering, the underlying meaning of arts district can be deemed to be urban landscape with art related industry agglomeration, and their transformation exists as an unique case in respond to postmodernity in above context.

ART DISTRICTS IN BEIJING: FROM ISOLATED STATE TO DYNAMIC AGGLOMERATION
Compared with more than half century evolution of arts districts in Western countries, development in China experiences less than 20 years. Along with the growing concern of economic impact of the artistic districts, government pays special attention to these areas with consideration of public engagement. On one hand it comes up the support from the policy of creative industry development, on the other hand it also plans more and more spaces. Take Beijing for example, not only does a rapid increase in amount of arts districts started from zero to over ten distributions, but it also demonstrates the change from artist enclaves to a dynamic agglomeration to public in some of them. In the following, we will firstly provide an understanding in the formation process of arts district which demonstrates that Chinese economic reform have great impact on the emergence of arts districts.

Artist villages have strong character of spontaneity in Beijing. With the shift from a mass industrial economy predicated on governmental mode into a market-oriented mode led by economic reform and the open-door policy in 1978, the formation of them can be summarized by three important aspects: land reform policy, artists market-oriented and the agglomeration effect. Arts districts emerged from early 1999 in Beijing, however, at the initial stage of arts district, they were called "Artist Village", which not only implies their remote location in the city edge, but also represents their isolated status away from the public.

While these three factors constitute the formation of growing numbers of artist villages and present new patterns of urban development and altering the space for artistic production, the rapid transformation advent sooner after china's joining WTO (World Trade Organization) coupled with success in the bidding for Olympics. Not until early 2000s do the art district have great leap forward. Some of them were soon commercialized with international galleries, trendy restaurants, cafes and night clubs appearing on the scene under the global cultural capital investment. Art Festivals, numerous of exhibitions and performances were established by local art organizations, aided by global recognition and a lucrative international art economy. Arts districts in Beijing have gained tremendous popularity and shifted from the isolated state to public participation from local citizens to the worldwide visitors.
From production landscape to consumption landscape
A study on the transformation of arts districts in Beijing

PAERT II CASE STUDY: 798 FACTORY

Four Phases of 798’s Historic Revolution

1. Industrial Period (1951 - early 1990s)
2. Artists Agglomeration Period (From 1995)
3. Government - Oriented Period (From 2006 - present)
4. Commercialized Period (From 2006)

Economic Sustainability?
From cultural production space to cultural consumption space

Figure 2: Rising rents from 2001 to 2008

One important aspect attributes to the capital accumulation process from cultural capital to economic capital. Another aspect account for social process of struggle of different social actors: artists, cultural enterprises, property ownership and local government (after 2006). The discussion in the following paragraphs draws on inter-related literature in order to interpret the intertwining connotation of economy, culture and society in the process of 798 icon making.

Due to the decline of several years of deindustrialization, Seven Stars Group (the government-sanctioned property owner) leased out the abandoned factory to artists with contract for 3-5 years. Between late 1950 to early 2000, living together as a community, artists are the dominant actor in this period. The first phase of capital accumulation comes from value-adding process by the artists.

From early 2000s, especially after China’s joining WTO, foreign investors who brought a lot of investment funds, accelerated the second round of capital accumulation process. Leasing out more plants and changing the previous contract into annual one by Seven Stars , intensive competition for a quota to enter arts district emerged among the artist, cultural organizations and enterprises. While the increasing rent were pricing out most original artists, 798 was being shaped as a consumption space with more and more cultural enterprises moving in. However, in 2004, Seven Stars stopped further renting and 798 was facing a late to be demolished because of the future plan of Dashanzi area. While artists believed the local government and press would respond to their actions, different methods were used to battle for 798’s preservation. Although the main intention of artist group was not to promote 798 during the preservation activities, their serious action of the struggle between artist and property ownership has caught attention by local government, media and foreign press and more significantly, branded 798 as a cultural icon.

798 Art District
798 Factory is one of the factories numbered 700+ that are located in Dashanzi, an area of 65 hectares between northeastern Fourth Ring and Fifth Ring. Eight years ago, 798 was hard to access and lacked of commercial services and facilities. With the bankruptcy of some factories in the area, several factory buildings became vacant. The complex of Factory 798 was bought in 1995 by a group of German, at the behest of the Soviets. The factory, like many state enterprises, almost went bankrupt by the end of the 1990s. Most of the labor force that once surpassed 10,000 were laid off or retired.

In 1995, Beijing’s Central academy of Fine Arts, looking for cheap and ample workshop space away from downtown, settled down in the abandoned Factory 706, a factory very close to Factory 798. The temporary move ended up being permanent. Some art professors also set up their studios in this abandoned plant. It didn’t take long for the area to flourish.

Social Sustainability?
Disappearing of the Artist Group in 798

In 2006, Beijing Municipal Government decided to set up 798 as one of creative industry districts, which intends to improve the efficiency of land use and ultimately plan to further expand double size combining the neighborhood area. Total funding more than 120 million yuan was utilized to improve the physical and landscape environment, conducted by newly formed management. Undoubtedly, the local government’s policies accelerate a new round of transformation into consumption landscape.

We conclude that emergent of arts district in Beijing provides a dominant example of today’s consumption landscape mixed economy of leisure, culture and creativity. Market and arts district are evolutionarily intertwined together. Thus, urban landscape becomes more differentiated because they have characteristics which reflect the regional specialization. On the contrast, due to the rapid urbanization and globalization process, the thrive of arts districts in China is link to financial exchanges, entertainment-the business of moving money and people-where consumer pleasures hide the reins of concentrated economic control (Zukin, 1995). Arts district is a global phenomenon into cultural consumption space with global capital investment, Beijing’s local distinctiveness has weakened by the spread of national and global cultural trends.