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THE POWER OF LANDSCAPE

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Foreword

The Faculty of Horticulture and Landscape Architecture of Warsaw University of Life Sciences has the honour to organize the 21st annual ECLAS conference. Its theme has been chosen after some discussions amongst colleagues in the Department of Landscape Architecture. Finally, we decided to ask conference participants about the POWER OF LANDCAPE. We thought that in our modern society, with struggling globalization on one hand, and hopefully sustainable development principles as driving forces of its development, on the other, this theme was worth consideration. Landscape, defined in accordance with European Landscape Convention developed to be seen not only as a physical and aesthetical entity, but also as social, economic and political issue. That is the reason to discuss the power of landscape and pose question: Does it really affect our life, our behaviour? Does it influence economic and political decisions concerning future development?

Certainly, different countries have been facing diverse problems with development, redevelopment and protection of their landscapes. Furthermore, they have different experiences in fighting those problems. Those specific experiences, as well as common, more general issues are worth to be presented and discussed. Basing on such assumptions, we decided to organize our debate around four sub-themes:

1. The Landscapes of Power

In this topic there is a space for presentation of landscapes, both natural and man-made, which due to their significance have outstanding psychological impact, influence people's imagination, create identity and sense of place. We hope to gather examples of significant historical and contemporary urban and rural developments, creating the unique landscapes arising from the will and strength (formal and material) of kings, princes, and nowadays – local, regional and national authorities. But at the same time, we expect also examples of natural landscapes, which are powerful, because of their rarity, beauty and also scientific values.

2. The power of landscape for social benefit

We suppose that conference participants will consider whether preservation of spatial harmony, beauty and distinctiveness of particular regions, cities or even sites is actually gaining importance, and influences the culture, the environment as well as the quality of life. We expect that Landscape becomes more and more appreciated factor affecting people's attachment to the place. It fulfils health, well being and recreational needs of people.

3. The power of landscape as a development driver

This sub-theme arises questions about the meaning of landscape peculiarity and its values for determination of development directions of regions, cities, and specific unique places.

It also allows to reflect on the role of regional and local authorities in creating new landscapes and protecting or using existing ones.

4. Teaching and learning about the power of landscape

This sub-theme is a sort of tradition at ECLAS conferences. Usually, it is dedicated for discussion on the teaching and learning practices in landscape architecture. We hope that also in case of Warsaw conference, the participants will consider the general theme and will give more attention to teaching and learning about the power of landscape – the meaning of landscape in our contemporary life.

We believe that the conference will allow us to find some answers how to perceive, discuss and present the power of landscape and to rise new issues,which should be investigated in future.

We are very pleased to welcome in Warsaw the great, international group of landscape architects, environmental researchers and also representatives of 'neighbouring disciplines' from the boundaries of Landscape Architecture and from all over the world.

On behalf of Conference Organizing Committee

Dr Barbara Szulczewska, Associate Professor
V-ce Dean of Horticulture and Landscape Architecture Faculty

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SESSION 1

LANDSCAPES OF POWER

Dynamic landscapes and power: The context of the nexus between the cultural landscape and contemporary art

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ABSTRACT
The present research reflects on the struggle, taking place between the cultural landscape and contemporary art by dominance over each other. The article aims to show the relation of power between the cultural landscape and the contemporary artwork, thus marking out the consequences through developing potential relational models. The models emerged from the case study both on international and local scale. The conceptual framework of the research incorporates two steps. First, the matrices of concepts by Paul Franceschi have been partly adopted to develop the potential models. Second, Jane Rendell's trialectical thinking has been used to analyse the models through spatial, temporal and social dimensions. On the one hand, the art practices in the landscape work as a form of dialogue of the power, which mainly is reflected in the community. On the other hand, single artwork has a power over the landscape, which reflects the power of "creator". However, the power of the landscape can take over the investigated art elements.

Keywords: cultural landscape change, power of artwork, relational models.

INTRODUCTION

This research reflects on the role of the nexus between contemporary art and the cultural landscape. Sculpture and active modeling of land intersects with landscape art, which incorporates creation of "marked sites" by earth artist (Andrews, 1999). In many large-scale earth art cases the structure of the original landscape has been transformed and brings in the new "stories" in situ, for example, those of artists Robert Smithson or Michael Heizer. However, artists Richard Long or Andy Goldsworthy have demonstrated different relation to the landscape by representing delicate art interventions in the landscape. Lucia Galofaro (2007) demonstrates how artificial production of landscapes by artists can alter the nature of place. Attention is turned to awareness and the dialogue with users emerged as one of important factors. Monica McTighe (2012) sees the art of experience as direct users' engagement, which incorporates more than visual senses and focuses on bodily experience, too.

Both landscape and artwork can exhibit power. On the one hand, the landscape is the power. W.J.T. Mitchell (2002) notes that landscape exerts power over people, and can be investigated through emotions and meanings. As stated by de Certeau (1984) and Lefebvre (1991), the power in the landscape can be characterised by such terms as law, regulation, and prohibition. It refers to Lefebvre's "conceptualized space". As indicated by Kenneth Olwig (2005), landscape is a place that is made by people. These ideas have served as the basis to elaborate the European Landscape Convention (Council of Europe, 2000), which implies a personal understanding of the landscape. On the other hand, artwork is/has a power and can be used as a tool to demonstrate attitudes or struggles between the culture and nature. This includes the notion that contemporary artworks can take "control" over the public space, and thus a new landscape can be created. Both modern and contemporary art are pluralistic. Modern art partly is conceived as contradicting, including everything that is controversial, challenging (Groys, 2008). Still, the balance of power is proclaimed when each thesis is confronted with antithesis. Because art tends to represent divine or natural power, art becomes critical. It confronts finite, political power with images of the infinite, for example, nature, life, death.

The research seeks, first, to make topical relations linked with the power of cultural landscape and the artwork represented by the "creator", and, second, to disclose the role of society. The aim is to show the consequences through developing potential relation models. The proposed approach is one method that can be used to examine the progress of power.

MATERIALS AND METHODS

Discussion about the dynamic landscape has been examined through the contemporary art projects that contribute to a place-making. Two approaches have emerged from the conceptual framework of the research. First, the matrices of concepts by Paul Franceschi (2003) have been partly adopted to elaborate the development of models. As regards Franceschi, the opposite concepts, the positive and negative correlative concepts, and neutral ones have been displayed. The proposed models describe two interacting relational discourses in which they are conceptualized, to explore the mutual strength and power relations between cultural landscape and artwork. In this paper three conceptual relations are analysed, however other

possible relations are not referable to this research:
- ✓ contradictory relation of dominant cultural landscape and non-dominant artwork (80%>20%);
- ✓ contradictory relation of non-dominant cultural landscape and dominant artwork (20%<80%);
- ✓ dual relation represents coherence, balance between cultural landscape and the artwork (50%=50%).

Second, exploration of power is analysed using trialectical thinking applied by Jane Rendell (2006). Rendell's "critical spatial practice" encompasses the critical view of architectural space in the context of artworks. The three dimensions incorporated are the spatial (author divided this into vertical and horizontal space), the temporal and the social dimensions.

Artworks contribute to the dynamics of the landscape, which is influenced by changes, forces, motion, activity and can be viewed through the abovementioned dimensions. The models have been analysed through three selected international case studies and three local case studies. The case studies are viewed as an open landscape studio from where the data for research were gathered and later interpreted. Each case study reflects certain characteristics of the power outlined in the research.

RESULTS AND DISCUSSION

Exploration of the potential models incorporates landscape as a mode of expression and emphasizes the importance of people recognition. The survey of contemporary art and cultural landscape relations falls into one of three basic models, through which the analysis has been put forward (see TABLE 1). The elements were identified in order to look for the aspects of three dimensions through which the power is expressed.

Model 1

This model reflects the relation when the landscape is dominant, thus the artwork accepts the site and becomes invisible or slightly visible through materials used, form or other means of expression. By this medium the landscape is seen as inalienable component of the artwork. Mostly these are place responsive, site-specific and contextually specific artworks. The relationship between the landscape and the artwork is characterized as harmonious and aesthetic which vary from peaceful coexistence to beneficial interaction (Cranford, 1993). For example, artist Richard Long's direct intervention into the landscape, such as *A Line in Ireland* in 1974, represents artistic action in uninhabited place (Andrews, 1999). However, Long describes his work rather as experience of the land as opposed to representation of the landscape.

Considering the aspect of nature, it can overtake an artwork by the process of *entropy* (Smithson, 1996). Entropy describes the eventual exhaustion, collapse and disorganization of any given system. Notion of time is crucial, thus temporality is also an important component. The dominant role falls to the impact of nature factor (climate, nature elements).

Another aspect incorporates occupation of the landscape as a dominant part of the artwork through contextual and natural features (relief, water, flora, etc.). For example, the Open Air Art museum at Pedvāle in Latvia incorporates a wide range of earth art sculptures and installations, which are almost invisible, and incorporates natural elements such as meadow, trees, and the river of the cultural heritage landscape. These elements have a tendency to disappear in a time due to the entropy.

Benefits. In this case the landscape raises inspiration and can cause associations, which can be used

TABLE 1. The cultural landscape and the artwork relation models.

No.	Impact of relation between the cultural landscape and the artwork	Vertical and horizontal space dimension	Temporal dimension	Social dimension
1.	80%>20%	Invisibility; Local site materials; Intimate or private space level; Entropy; Contextuality of the setting	Duration from temporal to permanent	Artist's experience with landscape elements
2.	20%<80%	Recognition regarding the character and meaning of place; Visibility	Temporality; "Shock" of politicized art; Actualization	Provocation; Domination of artist thought
3.	50%=50%	Symbolism; Recognition of specific features of the landscape; Personal response; Emotional experience or associated narratives, memory	Everyday practice; Actualization and purposefulness of features; Re-telling of "story"	Involvement of community; Allowing people to think and act; Raising public awareness; Communication; Dialogue; Social interstice

further to develop the concept of the artwork. The artwork does not interfere in the natural processes of the landscape.

Problems. The artwork has to be experienced at present tense and can stay unnoticed to the spectators due to its short-term existence, thus the role of the documentation is important. However, mostly this model exemplifies experience and connection to the landscape of the artist then of spectator.

Model 2

The model focuses on how the artwork can take over the landscape by thoughts and actions of artists or "creators", thus demonstrating human power by incorporated subjection, alteration over the landscape. Transformation processes, which emerge due to the appearance of the artwork, bring several constrains to spectators and the landscape itself. Mostly these are large-scale earthworks, installations or discursive artworks, which determine the issues of social sphere. Artists such as Christo and Jeanne-Claude demonstrate the case of one artist power. For example, *Running Fence* located in North San Francisco completed in 1976 and *Surrounded Islands* in Biscayne Bay, Greater Miami, Florida in 1980 to 1983 exemplify this model (Andrews, 1999). Cranford (1993) terms this relationship as dialectical relationship, because the product of natural and artificial interaction is brought in through conflicting forces. Certain works by Latvian artist Aigars Bikše falls into this group, such as the installation *Two Minutes of the Cycle* of the Historical *Justice* during the site-specific project *Survival Kit* in Riga in 2009, exemplifies the antithesis towards the change of history and memories, approaching the political and citizen confrontation. According to Boris Groys (2008), individual contemporary artworks might be objects embodying thesis and antithesis simultaneously.

Benefits. This model tends to highlight and draw attention to landscape features or the semantic meaning of the landscape, as, for example, in work Running Fence. In this case separate properties are joined, thus merging the borders of territories or regions and refer to joining the land and the sea. These types of artworks contribute to the symbolic meaning and recognition of the artists. Temporary artworks that tends to make topical the subject and "shock" the audience are contained in this group, yet, at the same time, these works are more appropriate for cultural heritage sites.

Problems. It is increasing aspects of the social dimension, which includes the artist's, the "creator's", impact as a dominant thought. The artist's view is directed and constructed, altering the perception of the space. In this way a new landscape is created and it is enforced to the user. Thus, the user must navigate through artwork to experience it and sometimes it might bring restrictions for walking or seeing. However, this might cause ecological risk for certain types of artworks.

Model 3

This category represents the coherent and balancing relation of both the landscape and the artwork. It is complementary to each other (one power evokes the other). Through this correlation the social power has been displayed, thus social dimension is substantial which changes the power of the landscape. The landscape becomes the instrument of the power. Mostly this model overlaps with community art and people engagement practices. For example, the performance *When Faith Moves Mountains* by artist Francis Alÿs at Lima, Peru in 2002 can be noted. The performance shows that people from local community believe they really can change and do substantial actions. This provides the example of the emotional effect. Alÿs's approach emphasizes engagement, forcing people to think, which shows reactions of artistic action. It demonstrates that an artwork can really change the power of the landscape. In this case power is reflected back to the community. Such a local scale artwork as *Symbolic Reconstruction of the Jelgava City Historical Rampart* by young Portuguese artists at Jelgava, Latvia in 2010 can be included in this category. Contemplation on the subject of memories and the cultural heritage features were evoked by creating a new story and identity to the place in the neighbourhood. These examples show symbolism and they contribute to raising public awareness of the past.

Benefits. There is a possibility that local people of the site of the artwork continue to create their own "stories", wherewith the artwork continues to subsist independent to its "creator".

Problems. Experience of the creation of the artwork occurs in the present tense. Thus, there is a bigger possibility that this correlation after the end of the action will fall into one of other types of models.

The parasitic relationship distinguished by Cranford (1993) reflects the domination of one by other, making a comparison between the natural and artistic beauty, which refers to the combination of the first and second model. At the same time, the third model incorporates the social engagement factor more actively. All the models carry miscellaneous aspects of experiences, thus presence is significant. The correlation between the landscape and the artwork shows certain parallels to Monica McTighes's (2012) division of artworks that tend to be experienced internally and at present.

The proposed models may define and re-define the landscape with new emerging artificial objects, which can bring new meanings. The impact towards the landscape can increase or decrease. Respectively

by these changes over time, the relation can transfer to another model. For example, the entire Open Air Art museum at Pedvāle as a complex structure, which has been integrated into the cultural historic setting, can be mentioned. Due to increasing the amount of the artworks, it might aspire to pass over to the second model when artworks drive the landscape. The Symbolic *Reconstruction of the Jelgava City Historical Rampart* project is visually almost invisible due to its emphasis on participation of the local inhabitants and the performance, thus after the end of the action, it tends to fit in the first model, where the landscape becomes a dominant component.

CONCLUSIONS

On the one hand, a single artwork has a power over the landscape in a more vigorous manner, thus reflecting the power of the "creator" (the architect, artist or designer). In this case, a new landscape is created, which can both cause an inconvenience to the spectator and may have a dominant role in the space recognition. The studied case studies presented that the second model incorporates more problematic, controversial artworks, which allow people to think along and encourage interactivity and draw people's attention. Thus, the appreciation of the artwork lasts for a certain moment, taking into account the surprising, new, or exciting characteristics. However, the power of the landscape can take over the investigated art elements by the process of entropy and the artwork does not interfere with natural processes. Wherewith landscape can contribute in a more reflective way, for example, as inspiration, and can cause associations both to the spectator and the "creator". It refers more to the artist's experience with landscape elements. On the other hand, the art practices in the landscape works as a dialogue of the power, which mainly is reflected in the community. Especially when entering the social discourse, power relations play a propelling role. Particularly it is the social dimension that reflects the power through appreciation, raising awareness, understanding, allowing the people to think, encouraging communication, dialogue, engagement, interrelation and reaction.

The change process of the cultural landscape and the artwork caused by each other reflects power. Thus, dynamics has been achieved in the landscape to be experience over time. The wide range of aspects, regarding three-dimensional investigations, shows a potential for development of all proposed models. The division could be investigated as a tool for the preferable development of the landscape design and planning principles, as well as inclusion in the landscape policy strategies.

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Historical Landscape Characterization of Aegean Harbors Since Ancient Time

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ABSTRACT

Looking at the western Anatolian coast in ancient time, the settlements of Aiol, Ion and Dor, after the Troy Wars, existed on the coasts as harbor cities. The position of the settlements as both centers of trade and commerce and links between an important east-west land route and the Aegean Sea was one of the most significant factor in the growth and development of the cities. While some settlements such as Miletos, Phokai, Klazomenai were established on the peninsulas, the others such as Priene, Herakleia, Ephesos, and Troia were established on the coastal areas. Today, the majority of these ancient cities that archaeological remains are seen are far away from the shores of the Aegean Sea because of being silted up by alluvial deposits from the major rivers. The Meander, Kaystros and Scamender rivers have been causing sedimentation from the beginning of ancient ages. These rivers created deltas in the Aegean Region. The Meander River Delta has formed in time and created the Lake Bafa by filling the area of approximately 300 km^2, Latmian Gulf. Herakleia which used to be a harbor city, had become an inner city near by the skirts of Lake Bafa. This study presents current research on historical landscape characterization analyses of ancient Aegean cities, Miletos, Priene, and Herakleia.

Keywords: Aegean Region, power of landscape, historical landscape characterization, the Meander River Delta, Miletos, Priene and Herakleia.

INTRODUCTION

Landscapes reflect the interactions between people and their natural environment over space and time (Atkins *et al*., 1998). These interactions occur over time in a sequence of natural and anthropogenic forces. These forces directly and indirectly influence the landscapes and cause drastic changes in the pattern of built environments. These changes occur slowly but are dynamic and continuous processes.

The transition from environments dominated by natural processes to environments controlled by human activities were seen/documented from the ancient periods. Humans generally modify the landscapes in which they live (Atkins *et al*., 1998). Their role in shaping the landscape started with the occupation of land. They have intervened in nature, benefiting from resources by using and developing them. Besides, natural forces such as floods, landslides, tectonic activities, earthquakes, fires and drought influence the shape of landscape.

The remains of ancient settlements of Aegean Region of Turkey reflect Aegean landscape with their typical characters. Looking at the western coasts of the region in ancient time, the settlements existed on the coasts as harbor cities in the Aegean Sea. The position of the settlements as both centers of trade and commerce and links between an important east-west land route and the Aegean Sea was one of the most significant factors in the growth and development of the cities. While some settlements were established on the peninsulas, the others were established on the coastal areas. Today, the majority of these ancient cities that archeological remains are seen are far away from the shores of the Aegean Sea because of being silted up by alluvial deposits from the major rivers. Within the last 2500 years the former embayment gradually silted up and forced inhabitants to repeatedly relocate their harbors.

In this study, landscape characterization of the three ancient Aegean harbor cities was determined/evaluated in order to manage change in the historic environment by tracing the imprint of history. The landscape characterization builds up area-based pictures of how places in town have developed over time. It helps to understand the landscape and human factor better.

A methodology based on Historical Landscape Characterization is used to explain how and why the landscape looks as it does, identify landscapes

time-depth and facilitate sustainable management. The core premise of Historical Landscape Characterization and its implication in planning and conservation is that relationships between people and their environment are dynamic and ever changing. It is a map based tool/technique for understanding and managing change within the cultural landscape. It mainly deals with protection of historical landscape character, sustainable land management and past changes in an historical landscape. It is a GIS resource which facilitates an appreciation of the ubiquitous nature of the past and its role in shaping the modern landscape (Dobson, 2012).

The aim of this study is to analyze historical landscape characterization of the ancient Aegean cities, Miletos, Priene, and Herakleia.

STUDY AREA

The Aegean Sea, part of the Mediterranean Sea, covering an area of approximately 214,000 km², lies between Greece on the west and Turkey on the east. It has played a vital role in shaping the western Anatolian landscapes and its evolution throughout the centuries. The Aegean Sea was the cradle of many early civilizations. It was one of the most significant factor in the growth and development of the ancient cities, which were established on the coastal areas of Aegean Region of Turkey. This study was carried out in ancient cities of Miletos, Priene and Herakleia which were located in the Meander Delta in Aegean coastal zone (FIGURE 1).

Most of western Anatolia is mountainous and hilly with small valleys; fertile plains are well watered by rivers. The Meander River which is the longest river in the Aegean Region meanders for 584 km through western part of Turkey before reaching the Aegean Sea with a large delta ecosystem. In the fertile lands of the Meander plains, along the shores ancient Ioanian harbor cities, Miletos, Priene and Herakleia were founded (Mosler, 2009) (FIGURE 1).

Miletos was an ancient Greek city on the western coast of Anatolia, near the mouth of the Meander River in ancient Caria. In the middle of the 6th century B.C. Evidence of first settlement at the site has been made inaccessible by the rise of sea level and deposition of sediments from the Meander.

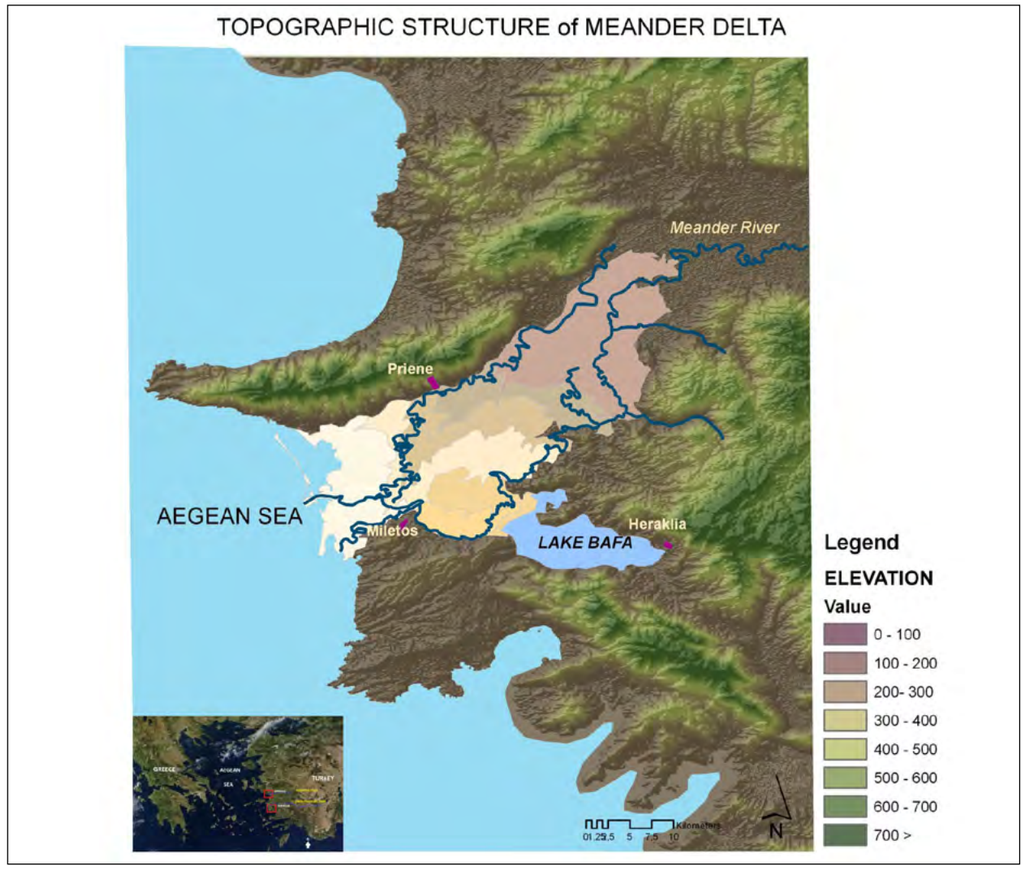

FIGURE 1. The Location of the Study Area.

In antiquity, the city possessed a harbor at the southern entry of a large bay and the harbor of Miletos was protected by the nearby small island of Lade. Over the centuries the gulf silted up with alluvium carried by the Meander River (FIGURE 1, 2).

Priene was an ancient Greek city of Ionia at the base of an escarpment of Mycale, about 6 kilometers north of the Meander River, and 25 kilometers far from Miletos. It was formerly on the sea coast, built overlooking the ocean on steep slopes and terraces extending from sea level to a height of 380 meters above sea level at the top of the escarpment. Today, after several centuries of changes in the landscape, it is an inland site. It is believed around 4 to 5 thousand inhabitants occupied the region (FIGURE 1, 2).

Herakleia, located on the south slopes of Mount Latmus and 25 kilometers east of Miletos, was originally a harbor city at the southeast corner of the Latmian Gulf. The city was always overshadowed by nearby cities, which were more favorably located at the opening of the Latmian Gulf (FIGURE 1, 2).

FIGURE 2. Ancient cities of the Meander Delta: Miletos, Priene, and Herakleia.

MATERIAL AND METHOD

The materials of the study include aerial photographs, topographic maps scaled 1: 25 000, satellite images as well as current and historic maps related to the study area. The methodology is based on historical landscape characterization, which is a tool for understanding and managing change within the cultural landscape. It is a map based technique, using a geographic information system, designed to produce a generalized understanding of the historic and archaeological dimension of the present landscape. HLC method involves mapping the cultural heritage of landscape as a continuous surface of character areas within a geographic information systems. HLC character areas, defined as geographic information system polygons, are initially used to represent existing landscape character types of the present day. These are then retrogressively explored in order to record previous types/land uses through historical maps, satellite images interpretation, and aerial photographic analysis. It surveys provide comprehensive coverage of areas and so potentially offer with a key source of map data outlining current character and its readable historic time-depth (Darlington, 2000).

The historical landscape characterization analyses was carried out in order to present past changes in an historical landscape of the three ancient harbour cities, Miletos, Priene, and Herakleia of Aegean coastal zone. The methodology is depicted in data gathering, grouping of attributes to make HLC types and presenting the output maps stages. For data gathering and grouping of attributes, current and historic maps of Miletos, Priene, Herakleia, and Latmian Gulf, the sedimentation process maps of Meander river were digitized using ArcGIS 10 software and saved the digitized data into attribute table.

RESULTS

Humans have inhabited coastal regions and assessed their rich overlapping maritime, littoral and inland resources for hundreds of thousands of years. Looking at the western Anatolian coast in ancient time, the settlements of Aiol, Ion and Dor, after the Troy Wars, existed on the coasts as harbor cities. The position of the settlements played a vital role in the development of the Aegean Region. As well as the Aegean Sea was one of the most significant factor in growth of the cities. It has played a significant role in shaping the western Anatolian landscapes and its evolution throughout the centuries.

Most of the western Anatolian is mountains and hilly with small valleys; fertile plains are well watered by large rivers. The western Anatolian Region is marked by a clear range of capes, bays, gulfs, peninsulas and islands bordering Turkey's longest coastline along the Aegean Sea.

Ancient Settlements in Aegean Coastal Zone

Ancient settlements such as Miletus, Priene, Myous, Herakleia, Troi, and Ephesos were built on the coastline along the Aegean Sea (FIGURES 1, 2, 3). The siltation of these ancient settlements were associated with the progressive delta and floodplain growth of the rivers. Therefore, during past millennia, the marine embayment has been transformed into a delta and alluvial plain (Brückner *et al.*, 2005; 2006; Müllenhof, 2004).

FIGURE 3. Topographic map of the Meander Delta.

The delta regions of the Aegean Region have witnessed the most extensive coastal changes in history. They are storing large volumes of sediment which was mainly produced by terrestrial erosion and delivered to the coast by rivers. They also document the transition from environments dominated by natural processes to environments controlled by human activities. The Meander, Kaystros and Scamender rivers formed deltas near the ancient cities of Miletus, Priene, Myous, Herakeia Troia, and Ephesos in the Aegean coastal area (Brückner *et al.*, 2005; Nurlu *et al.*, 1997).

The Meander River, which is a river in southwestern Turkey, flows through a graben in the Meander massif, but has a flood plain much wider than the meander zone in its lower reach (FIGURE 1). It rises in west-central Turkey near Dinar before flowing west through the Meander graben until it reaches the Aegean Sea in the proximity of the ancient Ionian city Miletos with the length of 548 m. In the fertile lands of the Meander plains, the ancient cities of Miletos, Priene, Herakleia were founded (FIGURE 1, 2). They were built on the shores of the Latmian Gulf, a marine embayment which was formed due to a rise of sea level in the late Pleistocene to early Holocene (Brückner *et al.*, 2005; 2006, Müllenhof, *et al.*, 2004). The decline of the cities was closely related to the progradation of the Meander River Delta.

The Meander Delta and its environs altitude ranging from 1 to 1400 m above sea level (FIGURE 1). The climate of the region is a typical Mediterranean one with hot, dry summers and mild, moist winters. The vegetation belongs to the Eu-Mediterranean zone (0-800 m) where it consists of evergreen taxa. *Pinus brutia, Olea europea, Quercus cocifera, Pistacia terebinthus, Ceratonia siliqua, Arbutus sp., Erica sp., Cistus sp., Sarcopoetriom spinosum* belong as a vegetation of forest, maquis and phrygana.

Historical Landscape Characterization of Meander Delta

In order to analyze historical landscape characterization of the Meander Delta, it has been used the sedimentation process of the Meander Delta (Brückner *et al.*, 2005; 2006; Müllenhof *et al.*, 2004) and Latmian Gulf in space and time (FIGURE 4, 5). The historic delta growth of the Meander River is one of the most spectacular cases of delta progradation in the Mediterranean Region. The sedimentation process has deeply shaped the Meander Delta from the beginning of antic ages. During the past millennia, the lake and its environs have experienced major changes related to the progradation of the Meander River Delta, fluctuations of sea level associated with the post-glacial marine transgression, and the sustained human impact on the ecosystem since late Chalcolithic times in the late 4th millennium B.C. (Knipping *et al.*, 2008; Müllenhoff *et al.*, 2004).

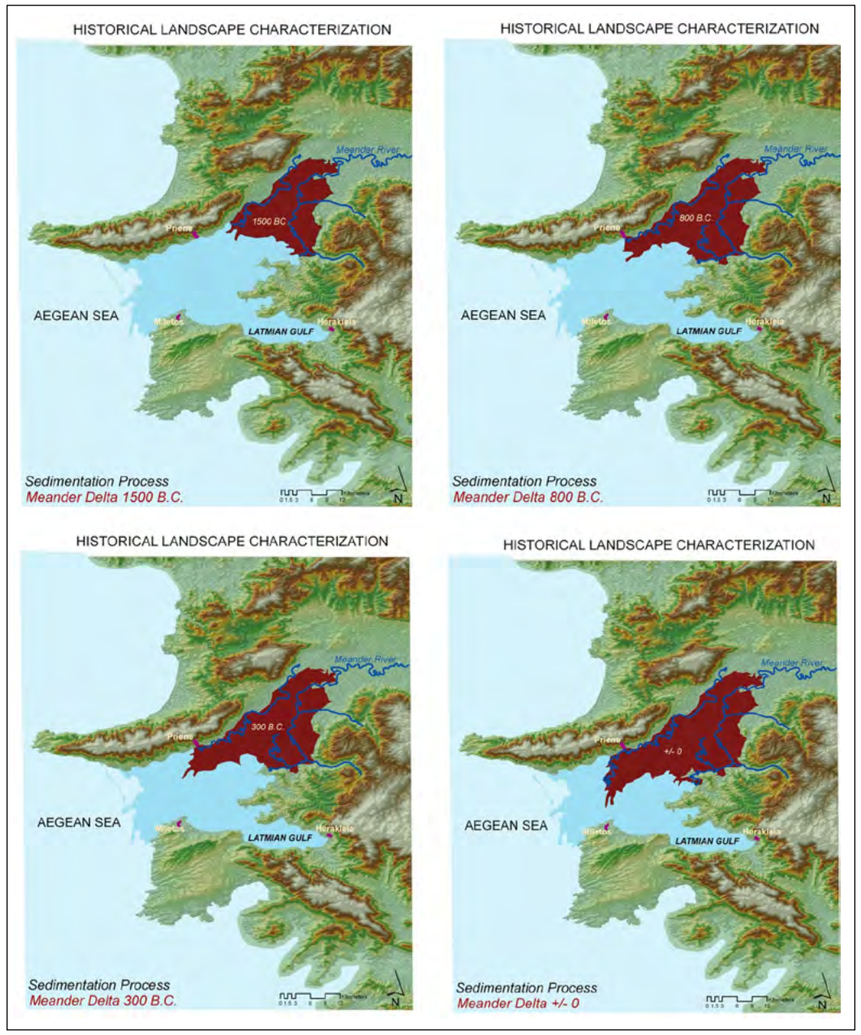

FIGURE 4. Sedimentation process of the Meander Delta (Müllenhoff *et al.*, 2004) modified slightly.

The westward shift in the shoreline has been documented in the ancient literature (Strabo), by archeological evidence from the ancient seaport cities Miletos, Priene, and Heracleia, and by palaeogeographical studies (Brückner *et al.*, 2005; Müllenhoff *et al.*, 2004). It stated that relative sea level was highest during Early and Middle Bronze Age (3000-2000 B.C.) when the transgression created an archipelago-like coastal landscape. It peaks around 2500 B.C.

Meander Delta (1500 B.C.–800 B.C.)

Archeological remains indicate that at 1700 BC it became possible to resettle the area. This implies that in the meantime relative sea level had fallen which is also shown by regressive and littoral sediments encountered in the cores. Due to this regression, increasing denudation processes and coastal dynamics, the archipelago subsequently turned to the Milesian Peninsula during the 2nd millennium B.C (FIGURE 4).

Meander Delta (300 B.C.-0)

The separation process with the first brackish influence started in late Hellenistic times, when the progradation of the northern branch of the Meander turned towards Miletus, reaching the area of the city most probably in the Roman Imperial era. The western part of the enclosed embayment thus created was infilled by the sedimentation of the new southern branch of the Meander since Byzantine times. Due to this process, at around 1500 A.D.

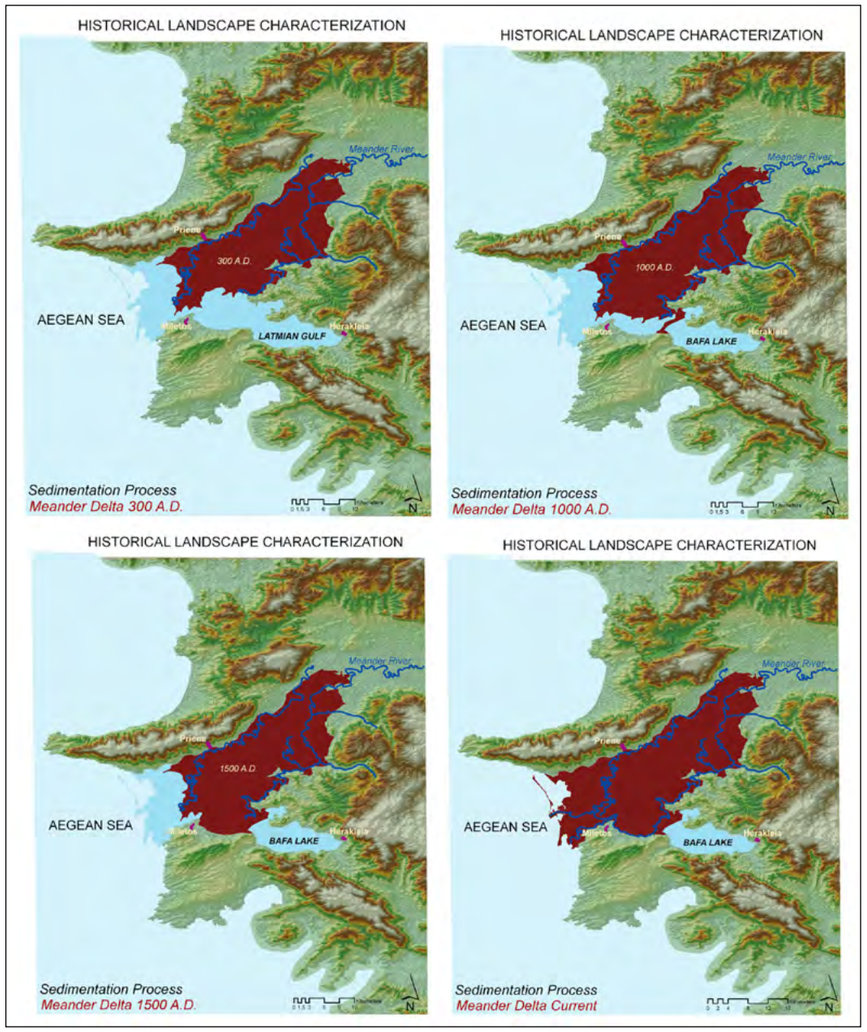

FIGURE 5. Sedimentation process of the Meander Delta (Müllenhoff *et al.*, 2004) modified slightly.

Bafa Lake finally lost its connection to the open sea (Müllenhof, 2005). Priene had already lost the port and open connection to the sea in about the 1st century B.C. This process had created a new landscape character in the study area.

Meander Delta (300 A.D.–1000 A.D.)

Hellenistic and Roman period, alluvial deposits of the Meander River gradually silted up the coasts of ancient cities of Priene and Myus. Beginning in Late Antiquity (around the 5th century), alluvial deposits of the Meander River gradually silted up the Liona and Theater harbours of the ancient city of Miletus and also the entrance of the Latmos Gulf so that by the end of the Middle Ages (around the 15th century) its connection with the sea was completely cut off. Lake Bafa developed as a residual lake in the coarse of the delta progradation of the Meander River, thereby separating a former marine embayment from the Aegean Sea. Marine, brackish, fluvial and lake sediments of different composition and sediment sources in the surroundings of the lake are described from the cores. Bafa Lake is a lake located about 10 km east of the ancient city of Miletus, and it is one of the largest coastal lakes in Turkey. Having a maximum depth of 20 m, its surface covers an area of approximately 7,000 ha. Bafa lake is a strength of the Meander Delta Region. It creates a new landscape and increase the quality of landscape with its new harmony.

Meander Delta (1500 A.D.)

Alluvial deposits of the Meander River silted up all ancient city harbors and the connections of cities with the sea were completely cut off. During the last six millenia, the former marine embayment of the Latmian Gulf has been silted up by the progradation of the Meander Delta. The delta created a new land use with its fertile soil type. Agricultural land uses sprawled from the inner delta to the coast. This new landscape type created a new powerful landscape by agricultural landscape and create new opportunities for the locals.

The lake developed as a result of the delta progradation of the Meander River. In the past six or so millenia, the river sediments have gradually infilled nearly the whole marine embayment of the so-called Latimian Gulf, thereby separating its southeastern part from the open sea.

In Roman imperial times, the peninsula became landlocked by the prograding Meander Delta, because sedimentation/by then sedimentation/ rates were especially high triggered by intensive land use, clearing of forests, and livestock farming.

Meander Delta (current)

All ancient harbors of the Meander River Delta separated from the Aegean Sea. In the coastal area of the region, the Karine Lagoon is located, which is one of the lagoons in the Meander River delta, between Miletos and Priene ancient cities.

Bafa Lake gained its protection status in July 8, 1994 as being a wetland with national significance and natural park. The area also possesses cultural resource value by including the ancient city of Latmos, hence gaining its archeological site status in December 20, 1989. As the cultural and historical values of the Bafa Lake. The main water sources of the Bafa Lake are the water floods of Meander River and the underground waters coming from the mountains at the environment (Esbah *et al.*, 2010).

Lake Bafa is situated in a tectonic graben zone within the metamorphic complex of the Meander Massif. In the west, deposits of the river Meander form a wide and flat delta and alluvial plain which separates Bafa Lake from the Aegean Sea.

DISCUSSION

Cultural landscape changes which is shaped by the human activities, also change the perception of the landscape and mainly effect the participation of settlements. Landscape values and people give power to the landscape by some kind of landscape programmes like landscape protection and land use. Sedimentation in Great Meander Delta has been changing the land use and give power to the area by creating new land uses like agriculture. The Historical Landscape Characterization analysis shows that sedimentation of Great Meander River created new land covered with fertile soil. These processes create a dynamic landscape and dynamism gives the main power to the landscape in Milotos, Priene and Herakleia.

Sedimentation process created the Meander Delta and the delta is still one of the most productive delta of Turkey. The Historical Landscape Characterization analyses has showed that the study area is still changing. In every five years, the delta is getting filled with approximately 1 cm of alluvium.

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Power or Phenomena? Landscape Change in Time; Korkuteli Case in Antalya, Turkey

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ABSTRACT

Landscape is pictorial representation of natural and cultural qualities of an area. Change on the other hand is to become different in form, content or appearance, while landscape change can be defined as changing the character, structure and function of the landscape within a time span.

Landscape change in time was analysed in case of Korkuteli, Antalya, Turkey. Six landscape types were evaluated according to their characteristics of land cover elements, visual features, perception, buildings and architecture in three time scales of day, season and year respectively.

With respect to changes in time, significant differences were found between land cover elements, visual features, landscape perception, building and architecture and landscape types in Korkuteli. Study results provided valuable information about which characteristics and landscape types were most prone to landscape change and the measures for their protection, maintenance and management.

Keywords: landscape change, time change, landscape character, Korkuteli, Antalya.

INTRODUCTION

Defined as a sensory impression of the earthly environment, landscape includes all natural and cultural qualities of an area. Radical differences in land uses, seasonal variations, pattern of agricultural yields or type of vegetation may cause changes in the landscape.

Landscape change refers not primarily to the seasonal changes caused by nature, but changes brought man (Lörzing, 2005:91) may happen in the appearance, in the structure, in the status and our opinion or feelings about the landscape. Here changing "appearance" is the very first stage of the conversion that differences in the landscape has become visually obvious.

Human intervention on the landscape plays greater role in landscape changes. However time has been a unique factor that effects landscape greatly and inevitably. Time is an observed phenomenon or duration in which all things happen in a precise instant. Units in measuring time may include hour, day, week, month or year and temporal alteration in the landscape can be by the reflection of light during the day; by seasonal processes and significant modifications between past and present.

Landscape change in time is phenomenal as seasonal changes and strongly reflects on recognisable and consistent pattern of landscape characters like colour, form or pattern. Colouring effect in the vegetation is one distinct character in the landscape that becomes visible trough seasons inspiring poets, musicians and painters for many years. Claude Monet was the incomparable painter of bright daylight; the painter of the sky, the snow, clouds reflected in water (Heinrich, 2000:7). He observed the passing effects of light on the façade, from an early hour when the morning mist had yet to lift till the last rays of the setting sun (Heinrich, 2000:56).

Lörzing (2005: 90) remarked that artists discovered landscape as a concept, but since the world and notion has been enthusiastically embraced general public. Seasonal changes and variances in the landscape have been a source of inspiration for artists which gradually shared with the public and academia.

On the other hand, contrary to temporal changes in natural systems, radical alterations in land use types throughout years may bring great transformation in the landscape, often reconstructing natural landscapes into cultural ones.

In this study landscape change in time was assessed in three time scale in case of Korkuteli District in Antalya, Turkey. Different landscape types such as urban, rural, agricultural, water and forest were chosen for the study and change in the landscape was observed in three time series of years, seasons and day. A standardised field observation form based on four main evaluation criteria such as land cover elements, visual features, landscape perception, buildings and architecture was used for the assessment of temporal landscape change in Korkuteli.

Study results revealed that landscape changes have different merits according to characters and the types of the landscape. However nature of the change on selected criteria provided valuable knowledge for the protection and management of the landscape and a common ground whether such changes are a phenomena or power which brings energy and motive.

MATERIAL AND METHOD

Material of the study is the different landscape types in Korkuteli District in Antalya, Turkey (FIGURE 1). Known as Isinda in ancient Psidia (Strabon, 2009:321; Bıçakcı, 2011:29) history of Korkuteli goes back before the Romans. Located in north-west of Antalya Region, Korkuteli is characterised by small plains and high hills and subject to semi-terrestrial climate conditions above 1200 meters which enables an inventory of temporal changes in the landscape.

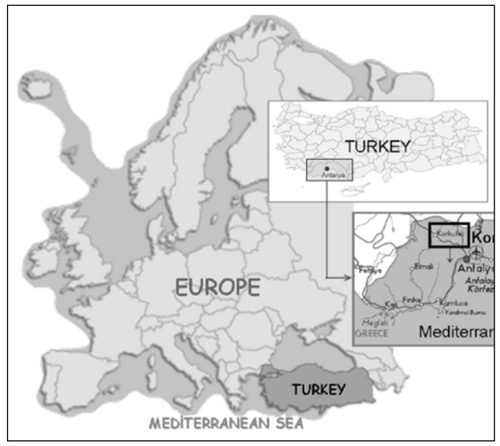

FIGURE 1. Location of Korkuteli District.

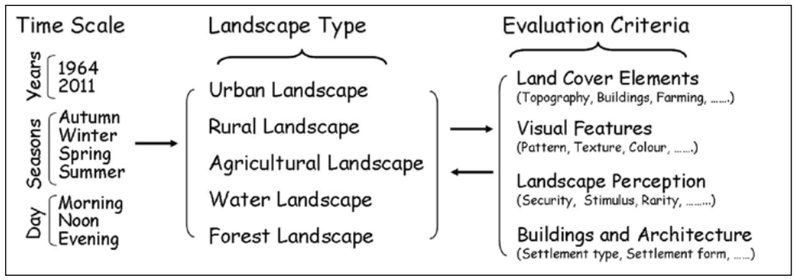

FIGURE 2. Methodological outreach of the study.

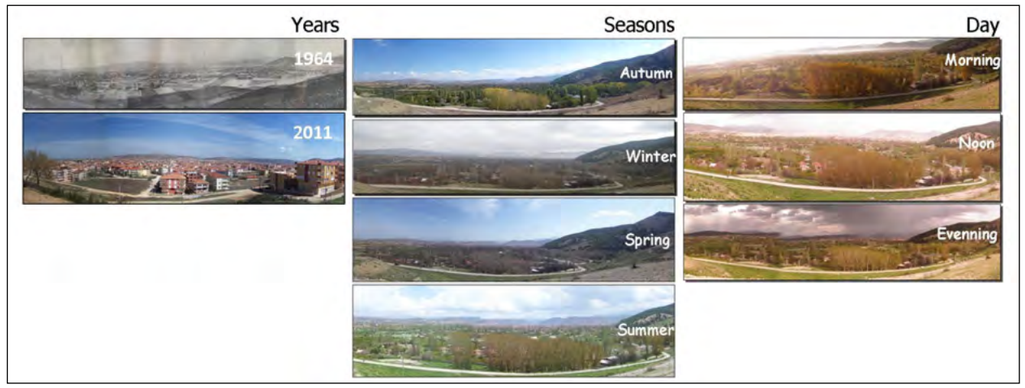

FIGURE 3. Time scales of years, seasons and day in case of rural landscapes in Korkuteli.

Method of the study is based on an evaluation of landscape change in different time series; between 1964 and 2011; between autumn, winter, spring and summer and finally between morning, noon and evening. Different landscape types were analysed as of urban, rural, agricultural, water and forest by using a field observation form where landscape characters of land cover elements, visual features, landscape perception, buildings and architecture were taken as evaluation criteria according to Swanwick (2002: 31) and Atik (2011: 168) (FIGURE 2 and FIGURE 3).

Working method in analysing landscape change in Korkuteli was based non-parametric testing of Kruskal-Wallis Analysis using SPSS Version 15.0 to indicate relation between landscape characters and landscape types with regard to landscape change in time. Hereby landscape characters were taken as main variables and grouped by landscape types where X^2 and P values (P≤001, P≤ 0,01 and P≤0,05 respectively) were used to evaluate significance levels between selected variables.

LANDSCAPE CHANGE AND CASE IN KORKUTELI

Landscape is defined as an area as perceived by people, whose character is the result of the action and interaction of natural and/or human factors (European Council, 2000). Here the form and extension of human-nature interaction outlines the content of the change in the landscape either negative or positive ways.

Referred as to become different, landscape change is based on differences of form, ecological structure and functions in a time span. Course of landscape change appears by the changing the appearance of the landscape, changing the structure of the landscape, changing the status of the landscape and changing our opinion about the landscape.

Brabyn (2009:301) wrote that landscape is the appearance of the land. Because landscape is a visual construct one of the ways of indication changes is to analyse characteristics of the landscape. Time is a fundamental natural phenomenon that brings changes to the landscape. Apparent motion of the sun across the sky reflects on the land and creates different aspects, forms and images in the landscape which in return influences our comprehension of the landscape.

Landscape changes in Korkuteli, Antalya were evaluated for rural, urban, agricultural-small, agricultural-wide, forest and water with respect to their characters. Hereby agricultural-small represents small-scale landscape consisting of fruits gardens while agricultural-wide is a wide scale landscape covering a complex of fields, fruits gardens and crop-lands.

LAND COVER ELEMENTS

Landscape changes are easy to perceive and interpret as long as they are physical (Lörzing, 2005:92). Defined as the physical material at the surface of the earth, land cover elements were classified under six categories: topography, buildings, farming, vegetation, hydrology and transport.

There were significant differences between land cover elements and landscape types in Korkuteli. According to their highest mean ranks topography in forest landscape (27,50), buildings in urban landscape (30,75), farming in agricultural (28,50) and rural landscapes (26,56), vegetation in rural landscape (25,13), hydrology in water landscape (30,00) and transport in agricultural landscape (28,50) differentiated greatly (TABLE 1).

VISUAL FEATURES

Landscape is a composition of man-made spaces on the land. Accordingly visual features were classified under six categories pattern, texture, colour, composition, form and enclosure.

Significant differences were found between visual features and landscape types except pattern. Concerning to their highest mean ranks texture in water landscape (30,00), colour in urban (24,00) and agricultural landscapes (24,00), composition in urban landscape (25,75), form in forest (27,50) and water landscapes (26,29) and enclosure in urban (24,88) and water landscapes (25,50) distinguished (TABLE 1).

LANDSCAPE PERCEPTION

Aesthetic appreciation of landscape helps us to understand the change based on perceptive issues. Lörzing (2005:94) emphasised that when we look at a certain piece of land, it will never be the same afterwards because we attached our ideas and preferences to it. Landscape perception was classified under four categories: security, stimulus, rarity and importance.

There were significant differences between landscape perception and landscape types except security. With regard to their highest mean ranks stimulus in water landscape (25,43), rarity and importance in forest landscape (30,25; 29,50) which followed by water landscape (22,57; 23,50) individualised amongst other characteristics (TABLE 1).

TABLE 1. Relationship between landscape characters and landscape types as result of landscape change in time.

Land cover elements	Landscape Types						x^2	P
	Urban	Rural	Agri-small	Agri-wide	Forest	Water		
Topography	21,25	18,19	16,86	19,00	27,50	6,50	14,908	0,011
Buildings	30,75	22,69	19,93	13,33	7,00	7,00	25,737	0,000
Farming	12,75	26,56	18,50	28,50	7,50	7,50	26,776	0,000
Vegetation	20,13	25,13	16,86	21,67	17,13	4,00	19,837	0,001
Hydrology	13,50	13,50	13,50	13,50	13,50	30,00	32,000	0,000
Transport	23,00	22,63	13,93	28,50	11,25	8,57	17,614	0,003
Visual features								
Pattern	5,50	19,56	16,21	16,17	21,50	19,21	10,029	0,074
Texture	22,00	13,75	13,79	7,67	8,38	30,00	23,914	0,000
Colour	24,00	18,50	20,86	24,00	5,50	11,00	16,706	0,005
Composition	25,75	20,50	20,43	22,83	7,50	7,50	19,729	0,001
Form	11,50	7,00	16,71	16,00	27,50	26,29	22,789	0,000
Enclosure	17,00	24,88	6,50	17,00	6,50	24,50	25,429	0,000
Landscape perception								
Security	21,75	15,56	13,50	19,00	17,63	18,21	4,612	0,465
Stimulus	8,25	18,00	17,79	10,50	12,50	25,43	11,825	0,037
Rarity	8,00	9,63	21,29	8,00	30,25	22,57	25,282	0,000
Importance	5,50	16,88	15,00	5,50	29,50	23,50	21,405	0,001
Building and Architecture								
Settlement type	28,50	23,88	19,00	19,00	6,00	6,00	28,092	0,000
Settlement form	15,00	27,25	24,00	16,33	6,00	6,00	29,102	0,000
Architectural style	14,00	27,13	22,57	14,00	5,50	5,50	29,387	0,000
Building material	15,50	26,69	24,71	15,50	6,00	6,00	28,991	0,000

(P≤001, P≤ 0,01 and P≤0,05 were valued respectively)

BUILDINGS AND ARCHITECTURE

Buildings and architecture were classified under four categories: settlement type, settlement form, architectural style, building material and transport.

There are significant differences between buildings and architecture and landscape types. Respecting to their highest mean ranks settlement type in urban landscape (28,50), settlement form, architectural style and building material in rural landscape (27,25; 27,13; 26,69) set apart greatly (TABLE 1).

RESULTS AND CONCLUSION

Landscape manifests the most interesting samples of the interaction between man and nature. Such fundamental interrelations may become evident with changes in the landscape either rendered by man along with land use types or by the phenomenon of time.Time might be regarded as destructive because of extensive alteration in the landscape, but might provide strength and vitality to the landscape in its ecology and processes. Year, month, week, day and hour are temporal properties that we can investigate how landscape changes throughout different time series and understand nature and form of the change.

Penning-Rowsell and Lowenthal (1986) pointed out that a temporary change in the consensus view of what makes an attractive landscape is very different from the discovery of some new aesthetic principles of universal and perpetual validity. Satisfaction or disagreement sensed in the landscape may well be originated by temporal processes in the overall environment. Time is a natural force behind the course of colours, patterns and other visual patterns or outlandish elements brought by man in the landscape. Consequently time brings changes to the landscape but strongly effects the way how perceive the characters in the landscape which make one landscape different from another. With respect to changes in three time scales, there are significant differences between land cover elements, visual features, landscape perception, building and architecture and main selected landscape types in Korkuteli, Antalya.

Landscape change became evident with buildings and farming in cultural landscape, topography and water in natural landscapes such as forest and water. Vegetation was most identical change in rural landscape where as an artificial pattern of transport dominated in agricultural landscape. Perceived character of stimulus was most powerful in water landscapes even though the change, because water has been a strong element of inspiration while rarity and importance remained powerful for forest landscape.

Information provided from biophysically and visual characteristics of the landscape often help to decide land use policies for cultural and natural landscapes. Farming has been a reflection of traditional land use patterns and found to be prone to time change in agricultural and rural landscapes. Similarly relating to characteristic of the country, settlement types, architectural style and building material in addition to enclosure were most representative feature of the change in rural landscapes.

Understanding the time change in the landscape would guide us in landscape management. Colour, texture, form, composition are visual features that add to quality and power of the landscape which we need to take into account in landscape protection. On the other hand building and architecture reflect the characteristics of rural landscape which need special attention to conserve local landscape identity. This study revealed that time changes the landscape significantly and there is still a common ground to discuss whether such changes based on time are a phenomena or power which may bring energy and strength to our landscapes that we need to respect and protect.

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The power of the Military Arsenal in the gulf of La Spezia: from the birth of an eighteenth century city to the regeneration of the landscape of the 'Golfo dei Poeti'

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ABSTRACT

Regeneration is not a new concept, during the Renaissance cities were designed according to a new design, reinterpreting classic models to contemporary needs, with an innovative, but always with attention to the 'genius loci'.

20 years after Rio the new gamble for humanity is to find innovative solutions for a different development. In addition to precise rules for sustainable growth, one cannot overlook the issue of the loss of identity of cultural landscapes, extensively addressed by many international documents (CEP), which affects outstanding landscapes, the daily and degraded. Today, among the latter, there are now many ex-industrial, which are mostly dilapidated and abandoned, but are evidence of a historical period of great importance for humanity.

Referring to the "Vacant NL" by Rietveld Landscape architecture at Venice architecture biennale 2010 intended as a manifesto on the "strength" of landscape architecture in order to contribute to the great challenges of modern society, existing signs built and abandoned must be reused in an intelligent way, reinterpreting and adapting to meet the needs of the present (Zoch, 2010).

The theme of regeneration of a contemporary landscape with particular attention to the "genius loci" has been studied for the Gulf of La Spezia, overlooked by huge abandoned military areas, including the arsenal (over 80 hectares), which opened in 1869 and over 20 years led the small medieval core to triple its size and become a "military" city according to a new urban plan.

Born from the idea to re-build only on the built (Piano, 2011), without cementing other open porous spaces, the objective, including the design of open spaces, to integrate the abandoned areas and the dilapidated buildings of the arsenal with the non-military city to create a unique landscape, which until now has never existed because the central military area has always been separate from the city by enclosures.

The arsenal could become the fulcrum of the entire gulf, revitalizing through the action of revaluation, reconceptualisation, restructuring, redistribution, relocation, reusing and recycling (Latouche, 2007), potentially a new "liquid" square (Bauman, 2000), a renovated agora with an old genius loci.

Keywords: regeneration, reuse, genius loci.

PREAMBLE

In recent years it has been re-introduced the concept of regeneration, although this is not a recent concept, in the Renaissance buildings and cities were designed according to a new design, reinterpreting and adapting the classic models to contemporary needs, with an innovative character, but always with careful attention to the 'genius loci'.

Although the term 'genius loci' in reference to the Spirit of Roman culture protector of places, was introduced in the seventeenth century by the Pope with the aim of underlining man's respect for nature and the landscape, in the period prior to '600 emphasis was still placed on pre-existing urban developments in the new facility. In '400 the Medici among their actions that took place in Tuscany, in a sign of political, cultural and social renovations are those of "inserting new buildings within the existing urban structure, or to transform old buildings with additions outside and inside renovations such as the Palazzo Vecchio and Palazzo Pitti, or "win" existing streets (...) giving them a character more suited to the political climate of the Principality (...)". (Spini, 1983). Still in the '400 respecting the character of the place, Sant" Andrea in Mantova, designed by Alberti, is inspired by the "templum etruscum sacrum', to emphasize the origins of the town of Gonzaga, born from the Tuscan blood.

THEME

20 years after the Earth Summit in Rio de Janeiro and the more recent Kyoto Protocol, it is clear that everyone must take care of the planet and the new challenge to human ingenuity is to find innovative solutions to a different type of development (Rifkin, 2010). In addition to precise rules for sustainable growth, one can not overlook the issue of loss of identity of cultural landscapes, extensively addressed by many international documents (CEP), which affects outstanding landscapes, the everyday and degraded. Among them, there are now many ex-industrial, mostly dilapidated and abandoned, but at the same time evidence of a historical period of great importance for humanity.

Of great interest are the addresses of the Dutch company Rietveld Landscape, that by installing "Vacant NL" at the Biennale of Architecture 2010 stress the importance and the "strength" of landscape architecture, through which you can help to overcome great challenges of contemporary society. It's necessary to intelligently reuse existing signs, both empty buildings and abandoned infrastructure, adapting and reinterpreting them to meet the needs of the present (Zoch, 2010) and integrating them into a new design of open spaces. Among the international examples, the High Line in New York, where, on a former railway embankment, a linear park which is suspended 10 metres above street level has been made. In this case, many endeavors have been used to achieve an elevated walkway with views over the city and characterized with botanical rarities. This "non-rational" work has become a centre of attraction with unexpected effects in respect to the originally generated idea.

FIGURE 1. Aerial view of gulf of La Spezia.

THE CASE STUDY: THE MILITARY ARSENAL IN THE GULF OF LA SPEZIA

The theme of regeneration of a contemporary landscape with particular attention to the "genius loci" has been studied for the Gulf of Spezia, overlooked by huge military areas now mostly derelict and abandoned and also the military arsenal, with an extension of over 80 hectar The gulf of La Spezia is the largest bay in Liguria, characterized by a minor arc of hills separated from the sea by a large flat area and bounded on the west by three islands and to the east by the mountain range of the Apuan Alps. Today, the historic villages and the city of La Spezia, which extends down the inner side of the gulf, form along the coast a "continuum". In the past, the old towns of Porto Venere and Le Grazie to the west and San Terenzo and Lerici to the east had a greater importance than the medieval town of La Spezia, which underwent a radical transformation only after the second half of the 800", with the construction of the new military arsenal even if starting from '600, it took on a greater military and strategic importance. It was infact used by the Genoese, who until then had controlled only Porto Venere, like a military bulwark, and initially built the walls and the castle, expanding the first group of houses of Poggio in the eleventh century and the walls from '300 and in '700 important defensive points according to precise calculations of trajectories and triangulations of firearms.

FIGURE 2. Areas of land to deal with the military arsenal maritime and ancillary works- Archive ISCAG-30-01-1864 – signed by Domenico Chiodo.

In 1808 the imperial decree of Napoleon, declaring the Gulf of La Spezia a naval base, as he wanted to achieve the greatest defensive bulwark of the Mediterranean and conducting a campaign of measurements, especially on the west coast to determine the most suitable place for the creation of a new military arsenal. After the Congress of Vienna (1815) the gulf passed from the dominion of Genovese--French to the dominion Savoia, but the idea of creating the largest arsenal in the Mediterranean was brought forward and a number of projects by the engineer and military architect Domenico Chiodo were carried out. From the first project proposed in 1860, Chiodo designed the arsenal in the plain west of the small old-town of La Spezia, as this was considered the most appropriate place to the greater needs of the Navy. The arsenal was envisioned as "a kind of urban spatial structure" (Fara, 1983), with a functional design to the organization of work within it, but at the same time with alignments with the historic heart expanding, which is separated by a large ring road, the current Viale Amendola, parallel to the stream Lagora and which, simultaneously, is implemented through a large square at the main entrance, from which comes the present Via Chiodo parallel to the coastline and on which engage the public gardens, intended, by the tendency of the time, for the pleasure of the growing population thanks to the increase of the work generated by the arsenal itself.

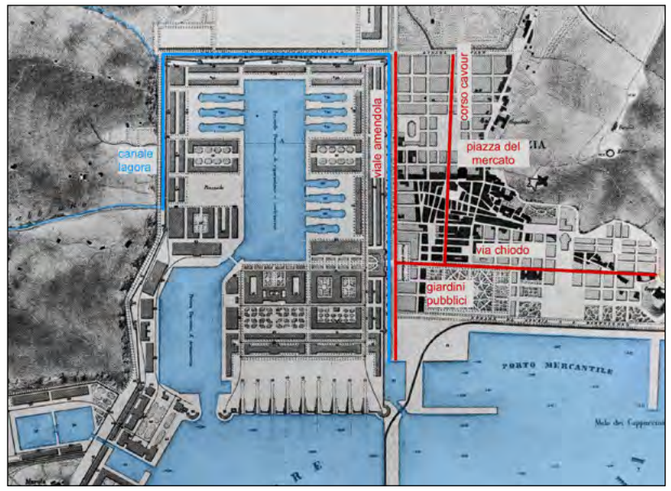

FIGURE 3. Maritime arsenal of Spezia-General Plan, Tav No.1 Atlas accompanying the reports around the main works carried out in the Arsenal Military Maritime Spezia, by the Committee of weapons of Artillery and Engineers, Rome 1881.

Since its inauguration in 1869 and over the course of 20 years, the arsenal enabled the small medieval centre of La Spezia to triple its size and transformed into a "military" city, according to a new urban plan, which followed the main arsenal alignments: Corso Cavour with a market square, built with demolition, is designed along an axis parallel to Via Amendola, while all the new neighborhood built north between the arsenal and the historic city takes the geometric lines of the military area.

Today this vast area is largely abandoned and empty, with only a few military activities persisting with a view to restructuring and reorganization of functions, without forgetting those for which it was created, but to complement. The challenge for the city of Spezia is to be able to take possession of this place always as "its own", which in a sense it was generated, but it has always remained aloof.

In fact, despite the existence of the paper alignment and common axis between the city and the military arsenal area, since its inception it has always been a hidden landscape and still its vast expanse is hardly noticeable, if not from the top of the hill behind the amphitheatre, while the view from the sea is virtually nonexistent.

DESIGN METHODS

The strategy from which to start to integrate the arsenal and the city comes from the idea to re-build only on the built (Piano, 2011) or to transform it, without cementing other open permeable spaces still available, using as a guide the original plan of Chiodo changed in a rather casual way over time, due to the lack of a program of reference with the intent to recreate a unique landscape, which up to now has never existed as such a military area, although in the centre of the Gulf, has always been separated from the city by high fences and for this reason called a "forbidden city" (Rossi, 2005).

Some innovative methods to follow are:
– a redevelopment plan through a deep rooted in the physical context to establish a perceptual contact with the place (Paddington Resevoir, Sidney, Greer/JMD design),
– to provide a landscape "in motion", flexible and able to adapt to changes, but without losing sight of the original idea of regeneration and general redevelopment (Brooklyn Park, New York – Van Valkemburg associates),
– the rehabilitation of the sites through "sustainable" landscape projects, with reduced maintenance costs and the use of recycled materials, reclaimed water and soil, where the formal research and artistic practice can interact with environmental adaptability and economic and ecological problems (Tel Aviv Port – Israel, Mayslits Kassif).

MASTER PLAN OF MILITARY ARSENAL

The following themes have been developed primarily with the aim of the regeneration of the arsenal according to the trends analyzed, thus maintaining the identity, but also to revitalize the entire system of the Gulf of Poets, through actions of revaluation, reconceptualisation, renovation, redistribution, relocation, reuse and recycle according to the theory of decreasing of Latouche (2008).

Renovation-relocation

Open the doors along the wall of separation between the city and the military area. The theme of the "wall" becomes an element of connection, it is a "suture" through which connects the arsenal with the whole system. Historically, defensive walls once abandoned have become an "innovative" element for the city. Think of the Ring of Vienna, the walls of Lucca, etc. In this case it is a "separation" between the city and the military area, but the challenge lies in opening the wall so that it retains its identity, but at the same time is not considered an obstacle to integration. The issue of access has been designed with the new uses introduced and the proposed changes necessary for better functioning and rationalization of the entire project. The existing doors in some cases are reclassified and valued, in others, due to the fact that because of the changes in the uses they do not hold the func-

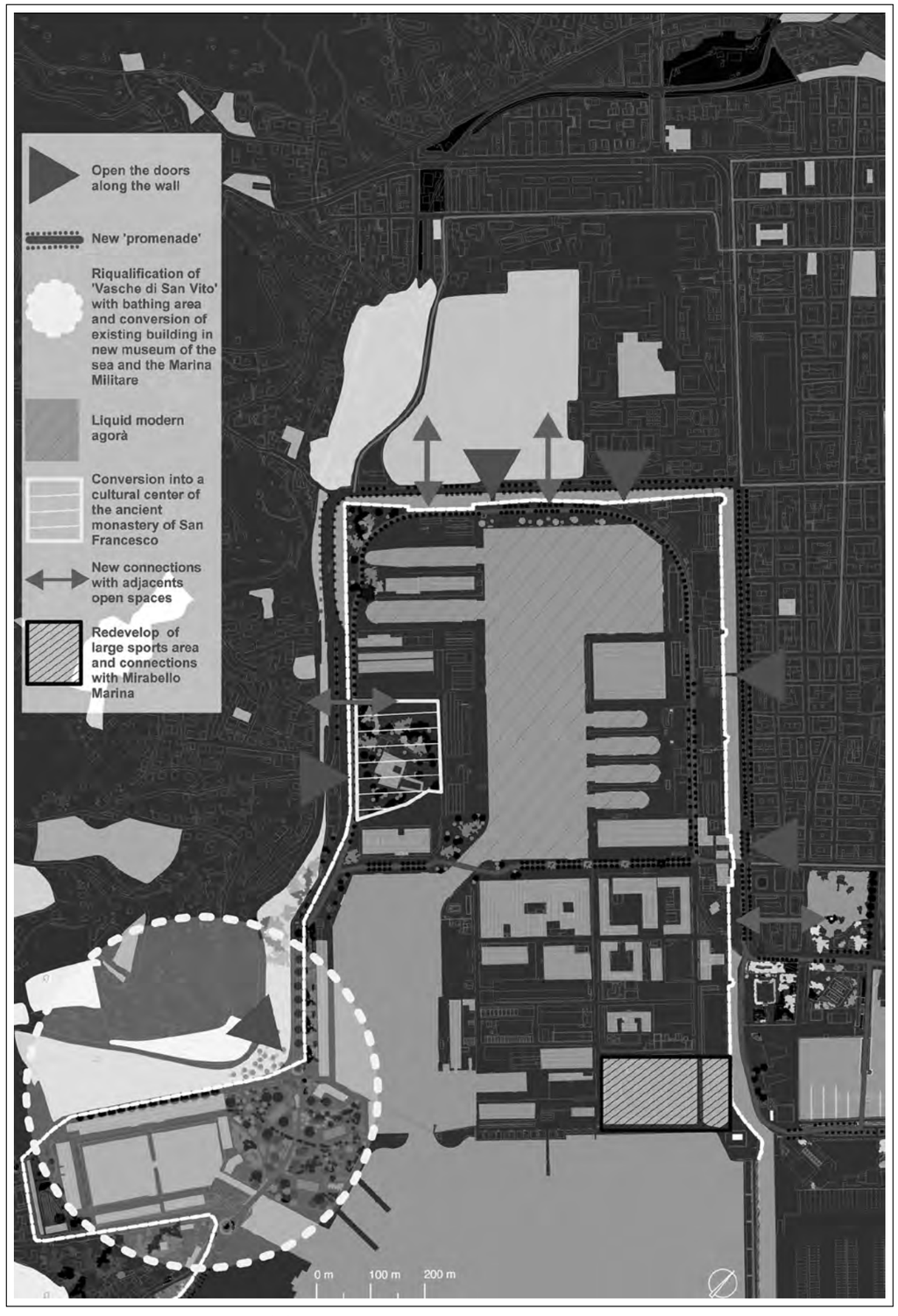

FIGURE 4. The Military Arsenal in the gulf of La Spezia: master plan.

tion of entrance anymore, they become a monument; then there are some strategic points where the long wall is opened and in this case proposes an international competition for the realization of the "new" access.

Reuse

To create the new promenade from the Pagliari Pier at Porto Venere, passing into the arsenal. In particular for this part, the design of open space projects of Chiodo, over time forgotten, has been continued, featuring large squares and avenues.

Recycle

Use some dry docks that look like squares on the water and create an agora, a renewed meeting place, not the square described by the sociologist Bauman (2002) characterized by the passage of only individuals, but a real public space intended as a meeting place, a bet against the loneliness, the revival of interest for the common good.

Relocation

Move local events and new events related to the theme of the sea and the marina into the arsenal, such as "il palio del Golfo", or the festival of the navy in order to create a new "attraction" from a small to a large scale.

Renovation

Redevelop the large sports area adjacent to the port of Mirabello and across the railway bridge above il Lagora, make it accessible directly from the tourist marina, so that it may be used by boaters and people from La Spezia.

Reuse

Make suitable for swimming the Vasche di San Vito, which are located to the west, between La Spezia and Marola. Born as a place for drying of wood, but never used for this purpose, they are in a strategic position to be used, along with some of the historic buildings that surround it, for bathing and recreation, taking into consideration that within the area of La Spezia, there is no stretch of coast where you can swim in the sea.

Redistribution

Establish many more connections with adjacent open spaces, including the Montagna, the sports facility owned by the Navy, a large open space north of the arsenal and the park of the walls.

CONCLUSIONS

A new promenade connecting Porto Venere to Lerici and that the focus in the arsenal is intended to confer with the regeneration of all the open spaces, a new power in the gulf of La Spezia and a renewed identity.

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The Sublime in Modernist Landscape Architecture: Dan Kiley and the Artificial Infinite

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ABSTRACT

The perception or suggestion of the infinite has been cited as one of the mechanisms by which we judge an object or an environment to be sublime. In *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful*, Edmund Burke described the "artificial infinite" as one of the identifying characteristics of the Sublime. The infinite "has a tendency to fill the mind with that sort of delightful horror, which is the most genuine effect, and truest test of the sublime" (Burke 1759: 67). Burke suggests that the artificial infinite can be expressed as a sequence or repetition of uniform elements (1759: 68) or as spaces with obscured or indeterminate boundaries or limits (1759: 58-67). The work of Daniel Urban Kiley, a pioneering and distinguished practitioner of modernist landscape architecture, is one of the best examples of the employment of the artificial infinite in designed landscapes. While Kiley may not have consciously referenced Burke's definitions of the artificial infinite, he was often quite explicit about his intention to create a sense of infinity in his designed landscapes. Kiley's design philosophy seems to parallel Burke's definitions, as evidenced through selected design projects, writings, and interviews. Kiley's use of the grid and other models (allées, avenues, bosquets, and linear hedges) to repeat landscape elements, along with the creation of continuous spaces and indeterminate boundaries, exemplify how he intended to create a sense of infinity in his designed landscapes (Beardsley 2009; Bleam 1993; Kiley 1963; Kiley 1993; Kiley and Amidon 1999; Meyer 2009; Porter, Kiley, Olin, Rainey, and Streatfield 2009; Walker and Simo 1994).

Keywords: sublime, artificial infinite, modernism, Dan Kiley, Edmund Burke.

INTRODUCTION

Most scholarship on 20th century American landscape architect Daniel Urban Kiley (1912-2004) can be categorised as biographical accounts, project descriptions and analysis, design critiques, or, quite often, combinations of all three. When the discussion focuses on Kiley's designs, it is his "classical" language of landscape elements inspired by André Le Nôtre and his modernist spatial theory inspired by contemporary European architecture that tends to take centre stage. But there is little understanding of how Kiley's work is related to larger themes beyond his immediate sources of inspiration within landscape architecture.

A recurring theme in how Kiley thought, wrote, and spoke about his work was the expression of infinity. From his reactions as a student at Harvard's Graduate School of Design in the 1930s to Mies Van der Rohe's Barcelona Pavilion, to his reflections on his career as one of the 20th century's most highly regarded landscape architects, Kiley's desire to express a sense of infinity in his projects was often central to his design intentions.

The expression of infinity is not central or unique to landscape architecture; mathematicians, theologians, and philosophers have perspectives on the nature of infinity. For the purposes of this study, I will focus on the definitions of the artificial infinite provided by the Irish statesman and philosopher Edmund Burke (1729-1797) to draw specific parallels with Kiley's landscape architectural work. Burke's clear definition of the artificial infinite provides a relatively accessible opportunity to situate Kiley's work within a larger philosophical context.

In *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful*, Burke detailed the characteristics that define the sublime, including obscurity, infinity, power, privation, vastness, difficulty, and magnificence. Burke reserves the characteristic of infinity for those things that are in reality finite, but that appear to be of infinite size or quantity.

> **Infinity has a tendency to fill the mind with that sort of delightful horror, which is the most genuine effect, and truest test of the sublime. There are scarce any things which can become the objects of our senses that are really, and in their own nature infinite. But the eye not being able to perceive the bounds of many things, they seem to be infinite, and they produce the same effects as if they were really so (Burke 1759: 67).**

So while it is impossible to explicitly express infinity, it is possible to suggest infinity. Burke calls this implied infinite an "artificial infinite", and he gives three mechanisms by which the infinite is implicitly expressed: 1) as a succession of uniform elements (1759: 68), 2) as something which is boundless, or boundaryless, (1759: 58, 67), and 3) as something that is in development and that is expected to continue to develop over time (1759: 70). This paper will focus on the first two mechanisms because most of Kiley's reflections on his own work seem to implicitly reference those mechanisms.

DAN KILEY AND THE ARTIFICIAL INFINITE

The work of Dan Kiley is one of the best examples of the employment of the artificial infinite in modernist landscapes as evidenced through selected design projects, writings, and interviews. Kiley was explicit and consistent about his intention to create a sense of infinity in his designed landscapes, even if he may not have specifically referenced philosophical theories of the artificial infinite. Kiley's use of the grid and other models to repeat landscape elements, as well as his creation of continuous spaces and indeterminate boundaries, exemplify how he intended to create a sense of infinity in his designed landscapes.

Kiley's landscape architectural education was a mixture of formal (if nontraditional in contemporary terms) academic experience and professional apprenticeship, with much of his education weighted toward the latter. Without any prior undergraduate education, he enrolled in Harvard's graduate programme in landscape architecture in 1936 as a "special student". While the landscape architectural programme at Harvard was still dominated by a Beaux-Arts tradition, the architectural faculty, led by Walter Gropius, was championing modernism within the architectural programme. Kiley, along with fellow postgraduate students Garrett Eckbo and James Rose, was moved by these paradigmatic changes in architecture. Kiley, reflecting on his time at Harvard, noted:

> **I think the problem with [the Beaux-Arts system of training] was that it was a dead end – it was only in and of itself, and so it ended there. It didn't free, and say, "Now you move from your base." And I think that was the very important part of fracturing it, cutting it out, and looking freshly at a whole new freedom of space. The Beaux-Arts was a two-dimensional design system, and what our departure did was to get up-to--date – get closer to Einstein and what was happening: one, two, three, infinity, rather than one, two, three, stop. (emphasis mine) (Porter, Kiley, Olin, Rainey, and Streatfield 2009: 36).**

From 1943-1945, Kiley served in the US Army in the Office of Strategic Services working for, and then eventually taking the place of, Eero Saarinen. After the war, Kiley designed the courtroom for the Nuremburg trials. While in Europe for the Nuremburg project, Kiley was able to see first-hand the work of André Le Nôtre, visiting Sceaux, Chantilly, Versailles, and Vaux-le-Vicomte. Kiley later noted that these visits to the gardens by the 17th century French garden designer were revelatory:

> **THIS was what I had been searching for – a language with which to vocalize the dynamic hand of human order on the land – a way to reveal nature's power and create spaces of structural integrity. I suddenly saw that lines, *allées* and orchards/bosques of trees, *tapis verts* and clipped hedges, canals, pools and fountains could be tools to build landscapes of clarity and infinity, just like a walk in the woods (emphasis from the original) [Kiley and Amidon 1999: 13].**

Repetition of landscape elements

Lines or grids of trees can easily be extended by the imagination beyond their physical limits. It is easy to visualize increasing the length of an allée, especially when you are within the space defined by the allée and the sense of perspective makes it difficult to perceive the end of the allée. Grids of trees, or any other serial element, can be infinitely expanded in any direction simply by adding just one more row or column. This is especially true in modernist spaces, where asymmetry and a sense of continuous space can produce no reasonably identifiable stopping point.

For Kiley, grids are particularly effective at suggesting a sense of infinity. He spoke of the role of geometry, of which grids are just one example, in the following manner:

> **I am delighted and amazed when I set a little bit of geometry in space and see it develop and grow and seek infinite relationships outward to the universe or rather with the universe (Kiley 1963: 127, sourced from Meyer 2009: 124).**

For example, his design for the 3rd Block of Independence Mall in Philadelphia, Pennsylvania (1963, no longer extant), utilised multiple grids of varying scales. Kiley's Fountain Place (Dallas, Texas, 1985) and NationsBank Plaza (Tampa, Florida, 1988) projects are both dominated by grids. In the case of Fountain Place, it is a grid of *Cupressus spp*. trees that extends uninterrupted across pools and paved plazas, seemingly ignorant of the nature of the ground plane. This persistence of the grid leads one to believe that the grid of trees could continue indefinitely, across the street and into the adjacent city blocks. NationsBank Plaza is dominated by a consistent grid of paving slabs that pass through areas of lawn, groundcover planting, or pools.

Burke's primary definition of the artificial infinite closely relates to Kiley's use of a series or grid of elements:

> **Succession and *uniformity* of parts, are what constitute the artificial infinite. 1. *Succession*; which is requisite that the parts may be continued so long, and in such a direction, as by their frequent impulses on the sense to impress the imagination with an idea of their progress beyond their actual limits. 2. *Uniformity*; because if the figures of the parts should be changed, the imagination at every change finds a check; you are presented at every alteration with the termination of one idea, and the beginning of another; by which means it becomes impossible to continue that uninterrupted progression, which alone can stamp on bounded objects the character of infinity (emphasis from the original) (Burke 1759: 68).**

Since infinity cannot be literally represented, it must be suggested by other means, and Burke identifies these means to be the limited succession of uniform parts. The presentation of these elements need not be restricted to nature or art, the traditional realms of aesthetics. Based on specific examples provided by Burke, these elements can be products of human agency, from something as simple as a linear series of marks…

> **Whenever we repeat any idea frequently, the mind by a sort of mechanism repeats it long after the first cause has ceased to operate. […] If you hold up a strait pole, with your eye to one end, it will seem extended to a length almost incredible. Place a number of uniform and equidistant marks on this pole, they will cause the same deception, and seem multiplied without end (Burke 1759: 67).**

to something that requires much more complex coordination and execution, such as works of architecture and landscape architecture

> **I have ever observed, that colonnades and avenues of trees of a moderate length, were without comparison far grander, then when they were suffered to run to immense distances. […] Designs that are vast only by their dimensions, are always the sign of a common and low imagination (Burke 1759: 70).**

Continuous spaces and indeterminate boundaries

While allées, avenues, bosquets, and linear hedges can themselves be used to suggest a sense of infinity, the spaces that they define can suggest a different sense of infinity. Inspired by the sense of spatial flow exhibited in modernist architecture, such as in Mies van der Rohe's Barcelona Pavilion (1929) (Bleam, 1993: 88), Kiley recognised the power of these vegetative figures to highlight the neglected ground and create a distinctly modern sense of space:

> **What I think has excited me and excites me now is that poetry of space, where space is continuous; where two-dimensional space gets broken down into a movement – dynamic movement that never ends, but extends to infinity. Movement that is ever-continuous and elusive, like a maze (Porter *et al.*, 2009: 43).**

Kiley's Miller Garden exhibits an early yet complex expression of the concept of continuous space, which extends from the interior of the house to the woodland at the west end of the property. Views from the rooms inside the house are allowed to continue uninterrupted to the woodland at the edge of the meadow, creating a "flawless extension of interior space to the larger, continuous space out of doors" (Walker, Simo 1994: 173). Generous eaves at the perimeter of the house create spaces that are neither fully interior nor exterior, thereby blurring the boundary between architecture and landscape. Even allées that run perpendicular to long views across the meadow incorporate tree spacing ample enough to allow views across the allée to the meadow. As with the Barcelona Pavilion, movement through the exterior spaces is non-hierarchical and democratic; there is no defined sequence of movement through the spaces:

> **[Kiley's plan for the Miller Garden] leads one gently from space to space through a witty and ambiguous game of discovery. […] The spaces one moves through are clearly defined yet fluid, ever expanding outward from the house to the street and the river (Walker and Simo 1994: 191).**

This sense of continuous movement through multiple spaces, connecting house to garden to the landscape beyond, serves to integrate the house within a larger context. Legal and political boundaries, such as property lines, setbacks, and jurisdictional borders, are respected but not made visibly evident. For Kiley, this sense of continuous space is a primary means of connecting a site to the world beyond and creating sense of infinity:

> **Design, [Kiley] says, "should relate outwardly to a context, but should also explode spatially – to the infinite." (Kiley 1993, sourced from Beardsley 2009: 103).**

Representations of continuous space and indeterminate boundaries continue in projects after the Miller Garden. For example, Fountain Place (Dallas, Texas, 1985) is dominated by a grid of trees that passes insistently over pools and paving. The Nations Bank Plaza (Tampa, Florida, 1988) incorporates an irregularly spaced mass of Crepe Myrtles that meanders through double allées of Palm trees. At the Henry Moore Sculpture Garden at the Nelson-Atkins Museum of Art (Kansas City, Missouri), two grids of *Gingko biloba* trees march downslope across alternating and perpendicularly-oriented

hedges and lawn panels, unbound by the boundaries provided by a stone walkway.

Kiley's employment of continuous space and indeterminate boundaries seems to reflect one of Burke's alternate definitions of the artificial infinite, which is not as explicitly identified as his primary definition regarding a succession of uniform elements. However, we can consider a spatial application of the artificial infinite by looking at what Burke wrote about infinity and the sublime in general. In particular, Burke associates a lack of perceived boundary(ies), or limit(s), with the artificial infinite, and it is this characteristic that allows us to consider applying the artificial infinite to spaces.

The first characteristic Burke describes as expressing the sublime is obscurity, noting that:

> **…let it be considered that hardly any thing can strike the mind with its greatness, which does not make some sort of approach towards infinity; which nothing can do whilst we are able to perceive its bounds (Burke 1759: 58).**

For Burke, that which is unbounded and unlimited suggests an infinity and is therefore sublime. Burke's concept of a lack of boundaries and its association with the infinite is specified in his discussion on the infinite as a source of the sublime, when he states that "the eye not being able to perceive the bounds of many things, they seem to be infinite, and they produce the same effects as if they were really so" (Burke, 1759: 67). Burke seems to suggest that a sense of infinity can not only be achieved through an apparently limitless quantity of tangible elements, such as columns or trees, but also through an apparently boundless (or even boundaryless) quality of intangible elements, such as space.

CONCLUSION

Inspired by 17th century French gardens and 20th century modernist architecture, Kiley utilised landscape elements such as allées, avenues, bosquets, and linear hedges, and the spaces between them, to imply a sense of the infinite. Making a connection between Kiley's design intentions and Burke's aesthetic conceptions of infinity provides an opportunity to both broaden and deepen our understanding of one of the most highly regarded practitioners of modernist landscape architecture.

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Small is big: Local interventions and the power of accumulation

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ABSTRACT

This paper examines how a series of well-considered local designs begin to articulate a landscape of power. While some recent urban design practice has depended on grand, iconic interventions to give a landscape artistic and aesthetic legitimacy, this paper examines the cumulative weight of relatively modest landscape interventions in Barcelona, Curitiba and the Saxony-Anhalt region of Germany. It will further look at the design practices of Mathur/da Cunha and Enric Miralles, all of whom actively engaged the cumulative power of representation as they explored ecology and design. At the same time, the paper will examine some of the most common "sustainable" practices used in landscape architecture; their efficacy often hinges on their cumulative effect. A more nuanced reading of ecologically responsible design suggests that accumulation is not simply the repetition of a particular technology but a series of potent, localized interventions that together have aesthetic, ecological, economic and imaginative force.

Keywords: accumulation, landscape, urbanism, sustainability.

ACCUMULATION AS AN URBANISTIC STRATEGY

Accumulation, the collecting, gathering and heaping of matter, is a process of particular potency for landscape architects. Natural cycles of decay and sedimentation make new ground, new form and new processes. Industrial production and consumption creates waste sites of accumulated debris in land, water and air. Each constitutes a terrain of operations for landscape architects and environmental designers.

However, accumulation is not only a defensive response to conditions brought about through industrial or natural processes. It can itself be also a powerful urban design or landscape strategy; one that endows the public realm with meaning, reinforces "civitas" and allows for the reconfiguration of the physical and social fabric of the city.

In Barcelona the accumulation of many well designed urban plazas and public spaces transformed its fabric for the 1998 Olympic Games as part of the strategy of architect and planner Oriel Bohigas. He saw the public spaces of the city as catalysts of relationships, an integrative vision of the city, one that posited "…the role of public space in terms of higher structures such as the dialogue between center and periphery, the relationship to amenities, the sectorial vision of the asystemic nature of the city and the new unifying and legitimating value of the plan (Bohigas, 1991)."….For Bohigas, the reconstruction of the physical form of the city was also a means responding to its social, cultural and artistic aspirations.

Jaime Lerner, one-time mayor of Curtibas, Brazil, another city well-known for its urban design, suggests,

> *Strategic punctual interventions can create a new energy and help the desired scenario to be consolidated. This is "Urban Acupuncture": it revitalizes a "sick" or "worn out" area and its surroundings through a simple touch of a key point. Just as in the medical approach, this intervention will trigger positive chain-reactions, helping to cure and enhance the whole system (Lerner, 2001).*

More recently, too, a series of IBA urban regeneration projects undertaken in Saxony-Anhalt were predicated not so much on a unified utopic vision but on a series of highly specific interventions that had the accumulated ability to economically and spatially transform a region and respond to environmental and social imperatives. Enclosing fallow land and marking it with red doors to encourage citizen appropriation was complemented by cultural interpretive trails in a kind of controlled "micro-perforation" in Lutherstadt Eisleban (IBA, 2010). In Dessau-Rosslau a strategic reduction of urban cores created contiguous meadows within which areas of 400 sq. meters could be claimed by citizens for particular public uses. The cumulative effect of such small strategies is great: they aim to protect the human scale of the town, tighten infrastructure, address social imbalances and recognize the town's Bauhaus roots (IBA, 2010).

PERCEPTUAL ACCUMULATION

Such strategic accumulation can not only be applied to physical and formal studies. Theorists like James Corner describe the act of walking and the imaginative space of the city or landscape that such a journey engenders as metaphorical and experiential accumulation of artifact, memory, experience and movement. Corner writes, "The geography of a place becomes known to us through an accumulation of fragments, detours and incidents that sediment meaning, "adding up" over time (Corner, 2002)." When artist Ai Wei Wei landscaped the floor of the Tate Modern with 9 million porcelain sunflower seeds, he also created a physical accumu-

lation of seeds, an accumulation of the work of hundreds of hands working in China and a conceptual, imaginative accumulation that sparked consideration of individual and collective effort, production and consumption and the part within the whole. (http://aiweiwei.tate.org.uk/).

REPRESENTATIONAL ACCUMULATION

It is an aspect of this idea of accumulation that is more mundane and more rooted in the process than the product of design that I would now like to examine. It is the use of the repeated, sequential models or drawings in environmental design fields from architecture and landscape architecture to geomorphology and botany. Such techniques of making suggest methods for designing places that could be considered sites of accumulation: landscapes of conceptual, ecological and physical power.

First, I would like to briefly situate the use of serial, sequential images within a context of making and representing environmental experience. Donald Appleyard, an American urbanist, abstracted the highway and carefully recorded the choreography between car and place through sequential photographs, perspectives and notational observations in his book View from the Road (Appleyard, 1964). Le Corbusier described his buildings as a *promenade architecturale* or as a sequence or series of experiential episodes (Le Corbusier, 1965).

Sequential images of changing morphology and dynamics are also used by geomorphologists who study rivers; physicists who record changes in particles composition; biologists who record morphological changes in an organism over time; and anyone interested in expressing metamorphosis and narrative, emotive space, human experience, time and duration.

Landscape architects iteratively explore morphology through series of models and drawings. The changing morphology of a model or drawing is a response to a changing perception of environmental conditions. It accommodates conflicting demands, user experiences, historical and natural constraints, programming, legal requirements, economic and aesthetic considerations. The accumulation of many small acts of representation and an attentiveness to small details of execution, form and morphology become a means of situating design practice in a relational field.

Architects Enric Miralles and Mathur/da Cunha depend on sequential representation as a means of eroding boundaries between object and body, between street and human movement, between water and land, between building and landscape, between earth and sky. Each begins to render the field of environmental design as a continuum of interwoven, mutually affective forces rather than as a collection of discrete objects, processes or bodies. I would like to use this framework of design, ecology and accumulation to suggest that a landscape of power is both relational and integrative, that it is conceptually thick. Such a landscape is a means of organizing a constellation of insights, questions and convictions about what is important and what we ought to pay attention to as much as it is about arranging ground, vegetation, water, and sky.

MIRALLES

A series of photographs of a child and a chair by Enrique Miralles shows a consideration of human occupation and interest. The form of the chair invites different kinds of exploration by the child and the exploration of the child also suggests shifts in the form of the chair and finally in the design of a climbing apparatus for a school. Miralles does not stop at the surface of the chair but examines the interrelationship between body and object, not stopping until he reaches a full size prototype. This kind of exploration might be considered the most preliminary manifestation of a relationship between morphology and ecology, between form and human occupation. Miralles is well known for his prolific stacks of sections, rotated and located in relation to the plan. At its most basic, the section is simply a measured drawing that displaces the observer. Instead of hovering above a territory, the section situates an observer within a height, and depth: it frames inhabitation. When the section is systematically repeated it becomes suggestive of human passage, of movement as we see in Miralles's drawing for the Plaza St. Catarina in Barcelona.

When Miralles overlays sections he seems to immediately be testing plan geometries against his own

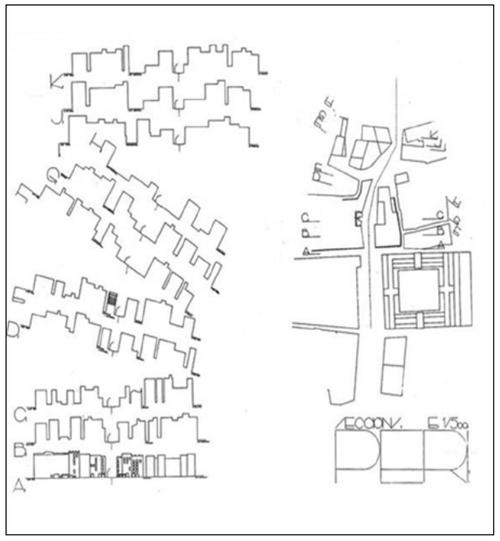

FIGURE 1. Enrique Miralles, Plaza St. Catarina.

vision of how spaces might unfold through human movement. He simultaneously explores the position of the detail in the whole, and grapples with space not as a single enclosed expanse but as a journey that expands, contracts, compresses and opens again. His onetime partner Carme Pinos describes the drawing based design practice.

> *I believe we understand space in relation to mobility: Movements that rebound in space and measure it. Spatial visions are overlapped: the building and what is behind it, the landscape and the building all at once (Pinos, 1998).*

Neither Pinos nor Miralles are architects whose structures stop or start at the exterior walls. He is an architect who dissolves the built and disciplinary boundaries between landscape, architecture, and sculpture. And he does this in representation as well as construction. We see this when he systematically includes trees on his plans and sections, and recognizes that vegetative structure defines space as much as built form.

The topography that is shown on plans and in preliminary design sketches show not just an imagined built form but a reading of the existing landscape. In sequential section, Miralles shows that he is able to move seamlessly between interior and exterior as landscape seeps built structure and the built structure seeps into landscape. In Igualada Cemetery and the Scottish National Parliament there is a conflation between structure and built and natural topography. One senses that each architectural intervention is not simply located, but that landscape and building have mutually shaped each other through an iterative process of making – a making that

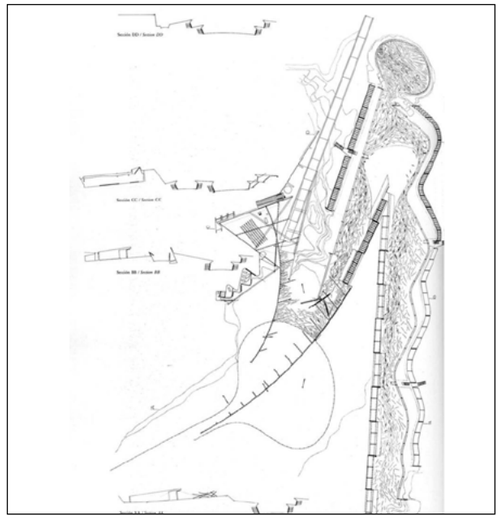

FIGURE 2. Enrique Miralles, Igualada Cemetery.

enables a powerful, poetic engagement with siting, spatial sequence, natural light, color and materials, human occupation and tactility. For Miralles, it was the sequential overlay on plan that enabled him to confront and maintain the interrelationship between landscape, building and human occupation throughout a design process.

MATHUR/DA CUNHA

For Mathur/da Cunha, the use of sequential sections and overlays arose from a critique of current planning visualizations and their insufficiency for describing the shifting conditions of the Mumbai estuary. They too want to address complex interrelationships, to show the accumulated perceptions of a place rather than identify a perceived fundamental condition.

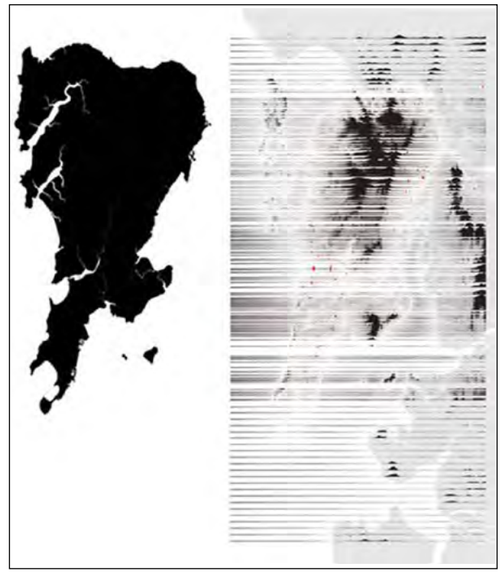

FIGURE 3. Mathur/da Cunha Mumbai.

When they reconstruct the map of Mumbai in section, they reconstruct it as a porosity, as a visual sponge through which the freshwaters of the monsoon and the salinity of the sea soak. As a first move, the sequential section expresses the reciprocity and ambiguity of land and water. The negative space of water and mass of land interpenetrate each other, and it is the relationship between them that is graphically evident and not their isolated conditions.

Mathur/da Cunha identified that the sequential section was particularly suited to the estuary in which they are working. They noted:

> *It is through section, horizon and time that we represent the landscapes of Mumbai's estuary. We organize them by their significant*

performance as enterprise, deposition, saturation and appropriation. These landscapes are not mutually exclusive …They are rather mutually inclusive each activating unique materials and moments of an estuary (Mathur, 2009).

Just as the sections of Miralles become expressive of human movement along a trajectory, the Mumbai sections capture the quality of human movement in relation to the materiality of the site. Perspectival photographs are spliced into the section profiles and interspersed with images of the ground conditions. The relational nature of drawings intensifies as the measure of topography and water are brought into relationship with visual and tactile perception. At the same time, the drawings become suggestive of the temporal intersection between human and natural flows. As the drawings move from analysis and observation to proposition, the authors use the visual ground developed in their analytical drawings as a landscape into which their new interventions are seeded. Mathur/da Cunha consider their drawings as the landscape in which they will act; as analogous to the actual act of constructing.

Their projects, or rather their accumulation of projects, though unbuilt, are notable in at least one respect. While some might say the drawings are simply information aestheticized, their design interventions are not cosmetic: they are not the typical public space project of event and urban spectacle, esplanades of custom designed light fixtures and inviting benches. Nor are they what might typically be considered a spatial manifestation of power and control such as the broad avenues that characterize political power or the mastery of natural forces suggested by large dam projects.

Rather, each intervention is designed to engage natural process and human occupation that reside not in the exceptional but in the everyday acts of living and working on the Mumbai estuary. A cumulative act of analysis thus gives rise to a cumulative, territorial series of design interventions that themselves become part of the sedimentation of the Mumbai estuary. The 12 design interventions proposed by Mathur/da Cunha are each explained in four kinds of drawings that encapsulate a process of naming, sectioning, seeding interventions and programming occupancies in time and place. They range in scale from walkways, trenches and ramps, to a flight of barges and phytoremediation zones and are part of a lived, inhabited space. They form a network of relationships and associations that in turn gives rise to new processes; and accommodates existing patterns of monsoon flooding, vegetation and human use.

WETLAND CONSTRUCTION

A few years ago, I worked at a bioengineering firm on several large scale restoration projects on the east coast of the US. We were heavily reliant on sequential sections – not because our group of ecologists, engineers, and geomorphologists thought they would be most useful to express conditions in an estuary or because we had a poetic and practical vision about the interplay of terrain and water but because the New Jersey Department of Transportation demanded road profiles for cut every 50 feet of the highway near where we were to do a salt marsh restoration. The project resulted in over 300 sections and sharpened our understanding of how moving a drafted line shifted an entire terrain of water, plants and salinity.

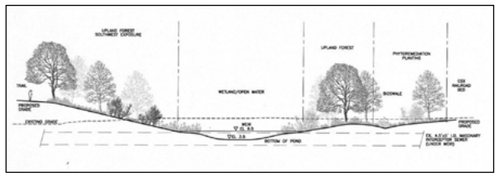

FIGURE 4. The Bioengineering Group. Wetland Section.

For each cut, three data of water level were delineated and the topographic shifts were demarcated together with appropriate plant communities. We remade, replaced and restored natural landscapes and while the project did not make obvious connections to socio-cultural or political processes and the drawings were strictly technical, we did understand the fluctuations of tides and their relationship to vegetation and the morphology of local streams that seeped into the Chesapeake Bay and what impact a road instead of a wetland might have on local flooding and storm surges. Like the sailors around the Mumbai peninsula who navigated the seas through an understanding of sectional depth, we also understood the salt marsh as the dynamic edge of the horizontal extension of land and the vertical variation of water, as a tension between land and sea.

At the same firm we would design a system of constructed wetlands, urban forests, and wet and dry meadows for the Cambridge water department with an environmental restoration firm that made stronger connections between urban and natural water systems. In the storm water wetland in particular, we revealed how the flow of water through a city was collected, filtered through high and low marsh, and released. Infrastructural elements such as concrete culverts were stamped with interpretive information and a series of boardwalks threaded through the project to reveal pockets of finely differentiated habitat ranging from hatchery beds for alewife, a kind of herring and urban uplands consisting of maple forest.

The kind of cumulative effect of this project and others within the Cambridge watershed was, thanks to a liberal water department, one of the consistent exposure and revelation of urban hydrological systems from drinking water in reservoirs and distribution to the collection, filtering and cleansing of storm water, the engagement of the community through participatory planting and educational programs and consistent detailing by local artists as a series of projects were constructed throughout a wider territory as well as in the immediate neighborhood. The project in its restoration of wetlands, recultivation of upland forest and creation of a storm water detention system was perhaps not exceptional, but it was in its reconceptualization of both park and urban hydrological infrastructure and in the partnerships it formed between architect, ecologist, engineer and citizen.

CONCLUSION

Each of the projects described express in some way the cumulative power of making whether poetic, experiential, or ecological. They illustrate that an engagement in the many, many repeated gestures of making and drawing is an engagement with materiality, process, natural and human systems. Sequential drawings, photographs and models and ultimately design projects are not simply repetitious, but relational and not simply physical accumulations, but instigators of conceptual and spatial thickness that themselves become catalysts to an ecological framing of design questions.

None of the work is simply the repetition of formally compelling design interventions. Nor is it the technical repetition of "green" solutions that are conscientiously but not always convincingly applied so that the same windmills, wetlands, and green roofs appear everywhere. These do not demonstrate what I would call accumulation. In the drawings and the projects shown, design is a means of exploring not the surfaces of things but their depths: where the human body butts up with a chair, the shore with the sea, fresh water with salt, the real and the metaphorical, the urban and the wild, the walker and the terrain he passes through, the human work of harvesting and the natural processes of sedimentation. The physical form of drawing and ultimately the design itself flex and respond to minute environmental changes in a mutual process of making and remaking and result in an environment that is resilient and self sustaining, the product of an intersection of technology, aesthetics and natural and human systems. Where power of landscape now resides is not simply in the decorative provision of parks, avenues, plazas but in the intellectual restraint and responsibility that come from revealing the particularity of a landscape and ones' role within it.

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The Power of the Subtle Intervention: "wabi-sabi" in Hydropower Landscapes in Norway

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ABSTRACT

The hydroelectric power development in Telemark in central Norway during the 1950ies, triggered a growth in awareness of environmental damage and in nature conservation. The Norwegian Water and Electricity Authority, organised as a Directorate of Water resources (NVE), established a landscape department at the beginning of the 60s in a response to the growing protests from conservationists and others. Landscape architect Knut Ove Hillestad was the first head of that department and represented landscape and environmental interests at NVE for almost 30 years during the 60ies, 70ies and 80ies. Hillestad contributed to the protection of nature and cultural values during the expansion of the hydroelectric industry, with his well developed sense of aesthetics. This sense, derived from his studies and encounters with both modernism landscape architecture and historical landscapes, inter alia in the Far East, was by no means in opposition to his commitment to ecological issues [1]. Hillestad's aesthetic view can be compared to the Japanese tradition of wabi-sabi: the beauty of transient, imperfect and incomplete objects. Through subtle interventions like regulations that defined minimum water flows, the establishment of operational thresholds or weirs, and a wide range of other low key measures, environmental damage caused by dam building for hydroelectric power was limited. He also published several books on various topics related to this work. Hillestad's input highlighted the profession of garden architecture in Norwegian society in a whole new way focusing on the interaction between the inherent beauty of nature and the rough aesthetics of the industrial plants of hydropower. This paper offers an analysis of this development and of Hillestad's contribution to the dominant approach to aesthetics in the Norwegian landscape architecture community during this period, modernism, which in certain ways differ distinctly from wabi-sabi.

1 Anna Jorgensen discusses this in her paper "Beyond the view: Future directions in landscape aesthetic research" (Landscape and Urban Planning 100 (2011) 353 – 355) and points to the need to address new aspects of this, and that such inquiry may show that the distance between "scenic" and "ecological" aesthetics is not so big after all.

Keywords: hydroelectric power, landscape aesthetics, Knut Ove Hillestad.

INTRODUCTION

Hydropower represents 99% of power production in Norway, and it has a long history. Until the mid 20th Century the environmental consequences were limited, but with the major technological advances emerged what has been named an "industrial wonder", the hydropower development became one of the most significant factors in Norwegian post-war economies, and the landscape consequences of some of the first major hydropower plants were dire [2]. The environmental damage resulted in a growing awareness of landscape qualities that were threatened by this development. The nature conservation movement in Norway was boosted, and so was the landscape architecture profession. Up until the 1950ies and early 1960ies landscape architects in Norway called themselves "garden architects" and their numbers were small: only 5 –10 graduated per year. From the late 1960ies this number was more than doubled, and the profession changed names from Garden Architects to Landscape Architects as a direct result of the engagement of the profession in the hydropower projects [3].

In the early 1960ies new regulations were developed by the Directorate for Water Resources, including strict control with the landscape consequences: All major hydropower developments were required to include rehabilitation schemes based on environmental impact assessments. The general design concept should be to adapt as much as possible to the surrounding landscape. But how was this to be achieved? There was limited knowledge and experience in Norway, and the first landscape projects in Norwegian Hydropower development were undertaken by a Swedish landscape architect.

In 1963 the Directorate for Water resources established a Department for the Landscape and Environment. The landscape architect Knut Ove Hillestad was appointed as the head of this department, and remained in this position for almost three decades. He was responsible for developing the professional and aesthetic standards for this sector of

2 In "Landscape Planning in Norway" Magne Bruun (1990, p.225) analyses "the hydro-electric era" and shows how this played an important role in the professional development of landscape architecture in the country.

3 In 1965 the first commission for planning and design by landscape architects in a major hydropower project was made. Two young landscape architects in Oslo started this work, and the same year they named their firm "Landskapsarkitektene A/S" (The landscape Architects Ltd) and a few years later the rest of the profession followed suit; the Norwegian Association of Garden Architects became Norwegian Landscape Architects Association in 1969. (Jørgensen, K. and V. Stabel 2010, p.19)

landscape architecture. His work has hardly been the subject of research earlier[4]. The topic of "industrial landscape aesthetics" is generally approached from the point of view of transformation or rehabilitation of former industrial estates[5] , like the famous Landschaftspark Duisberg Nord, which has been analysed and admired for its post-industrial heritage aesthetics. In the 1960ies the view of industrial and landscape aesthetics were totally different kind. The following analysis attempts to expose the foundations of the aesthetics of the hydropower landscapes in Norway, as it was developed by Knut Ove Hillestad from the 1960ies and onwards. It is a story about the power of subtle interventions.

FIGURE 1. Sysendammen in Hordaland (1980) Hillestad (photo) wanted to have it designed as an arc, but when this was rejected for economic reasons, he promoted the grandness of the dam in the natural landscape.

Industrial hydropower aesthetics

His interest and highly developed sense for aesthetics seems to have been Hillestad's main motivation for wanting to take up the pioneering work of directing the landscape management in connection with the hydropower development in Norway[6]. He has left behind a series of publications about dams in the landscape, power lines and landscape, gravel pits in the landscape, weirs in regulated rivers etc.[7] These books have been the main source for this study. They seem to have been motivated as much by the need to educate the general public and the profession of landscape architects, as the need to convince his colleagues at the Directorate of Water Resources that landscape aesthetics matter. It matters not only as a way to reduce conflicts with tourism and recreation interests, but as an inherent aspect of intervening in natural settings like the Norwegian mountainside.

In Hillestad's publications – the "Power and environment" series as well as newspaper articles about hydropower and landscape – he emphasizes as a main principle that one should "always strive to obtain clear and simple form" and that the large constructive elements like dams and major buildings, should be exposed and treated as "equal partners to the landscape's own forms"[8]. These aesthetics principles seem to some extent like a pragmatic approach: the main principle is to protect the natural environment and reduce the landscape impacts as much as possible. The interventions and damages could not be avoided. But the dams, power lines, stone quarries, gravel and rock tips, etc. should be designed in accordance with what might be named "an industrial aesthetics" – rough and ostensibly crude. On the one hand the forces of nature should be encouraged to let corrosion, degradation and moss and plant invasion cover and naturalise the sites. In the case of major constructions that never would blend in with the surrounding nature on the other hand, the contrasts between the objects and the natural surroundings should be enhanced by avoiding partial naturalisation. One might ask where Hillestad sought inspiration for this aesthetic approach, and whether there were other motives behind than pragmatism?

FIGURE 2. Kvilesteinsdammane, built 1970 and restored 2000 (Photo: V. Leivestad).

4 Yngve Nilsen published a small booklet in 2010 on Hillestad's work in the Directorate of Water Resources, focusing on how he managed to establish landscape and nature values on the agenda in a rather technologically biased environment (NVE 2010).

5 See for example Ellen Braae: *Konvertering af ruinøse industrilandskaber* PhD Thesis, Aarhus School of Architecture 2003, and Svava Riesto: *Digging Carlsberg* PhD thesis LIFE, Copenhagen University 2011

6 "Knut Ove Hillestad was a landscape architect, and his most prominent personal capacity was his sense of aesthetics. This was what brought him into NVE" (NVE 2010, p. 6)

7 The series is called "Kraft og Landskap" (Power and the landscape). 20 issues were published between 1972 and 1993, most of them written and illustrated by Hillestad himself. The series continued after he retired and the final issue was published in 1993.

8 Both quotations are from the newspaper article "Kraftutbygging og landskapspleie" (Hydropower and landscape stewardship) in *Morgenbladet 2*. May 1968.

In the 1960ies landscape architecture in Norway became heavily influenced by a modernist design language, inspired by the works of landscape architects like C.Th.Sørensen and Roberto Burle-Marx[9]. Especially in post-war modernism, there was a clear tendency in landscape architecture to use a geometrically based design language with motives from architecture, art and horticulture[10]. The result was often a refined aesthetics, where pieces or elements of nature would be framed by or at least balanced against constructive objects. Christopher Tunnard was proponent of this in England and America[11] , and in Norway examples e.g. by Gabrielsen and Grindaker show how this was translated to Norwegian circumstances. A specific source of inspiration was Japanese architecture and garden art[12]. Many Norwegian landscape architects made study visits to Japan, and were inspired both by the traditional Japanese garden and by e.g. the contemporary gardens by Tadao Ando. The overall trend was to create ostensibly slick and manmade environments as contrasts to natural elements like trees, or to the surrounding nature.

Industrial projects received less attention from designers in the 1960ies and 70ies, but business areas and office complexes like the Veritas Centre at Høvik near Oslo, where the landscape was designed by landscape architects Hindhamar, Sundt & Thomassen, show a typical approach where the modernist architecture by Lund & Slaatto sits as a contrast against the manicured green park landscape. When industrial architecture was designed in virgin nature, similar results could often be seen. In 1967 the NVE engaged the architect Geir Grung, a leading architect in post-war modernism in Norway for the design of a number of the major administration and other buildings in connection with the major power projects in the country; e.g. the Røldal-Suldal Plant (FIGURE 3).

FIGURE 3. The Røldal-Suldal Administration building.

The legacy of Knut Ove Hillestad

On the background of a review of examples of Hillestad's work, his strategies to achieve the aesthetic goals can be summarized in the following way: Use of clear and simple forms, blending man-made interventions in with the natural landscape to reduce contrasts, and, when appropriate, the opposite: enhancing the contrasts and making the man-made elements stand out. The challenges regarding the first strategy were often overwhelming; the enormous dimensions of the projects and of the destroyed landscapes seemed to call for drastic interventions. But his methods seem as obvious and simple as the results: he directed quarries and tips, so that they were closed properly. He would enhance natural growth by adding soil, sowing and planting when necessary. In regulated rivers he established weirs and set minimum water quantities. For many of the interventions a key factor was patience. It is not true that time heals all wounds, but in hydropower landscapes management, the natural processes that take place over years, often contribute to the aesthetic results. And the outcomes of interventions in such environments are seldom obvious; sowing or planting might fail due to draught or floods, and rivers may react differently to changes than anticipated. In many cases the interventions had a research character, and they were sometimes also published as such. One specific project called "The Biotope Adjustment Project" gained a specific position in a battle between NVE and the Ministry of Environment for the leading position in the biological research in regulated waterways in Norway[13].

The aesthetics that Hillestad developed and promoted during his almost three decades in NVE was, as we have seen, partly similar to the modernist design principles of the time. But there are a few distinct differences between Hillestad's and the general modernist aesthetics of the time that call for a further investigation and, maybe some speculation of whether he also had other sources of inspiration.

The everydayness of industrial aesthetics: a "wabi-sabi" of the north?

Wabi-sabi is a Japanese term for the aesthetics of the rustic, humble and imperfect. The two words wabi and sabi have slightly different meanings; sabi

9 See Jorgensen, K: "A turning point in Norwegian landscape architecture – The Hydro Park, Oslo" in Nordic journal of architecture No.1. Vol 1. 2011

10 Malene Hauxner develops this argument in her book *Open to the sky* (Arkitektens Forlag, København 2002)

11 See note 5

12 See Walker, Peter and Melanie Simo: Invisible gardens: The search for modernism in the American landscape (MIT Press, Cambridge, Massachusetts, 1996) pp. 202–203

13 The Ministry of Environment was sceptical to the idea that NVE's research might show that "managed" or "regulated" nature actually could enhance biological conditions. (NVE 2011 p. 31)

FIGURE 4. Weir in Hareidselva 1985. (Photo Jon Arne Eie).

refers to beauty related to aging, like patina, and wabi refers to the beauty of austerity, simplicity and even poverty[14]. In the literature wabi-sabi has been named "the most conspicuous and characteristic feature of traditional Japanese beauty" and it is claimed that it "occupies roughly the same position in the Japanese pantheon of aesthetic values as do the Greek ideals of beauty and perfection in the West."[15] Naturally, wabi-sabi has been central to the development of the Japanese garden tradition, as imperfection and the withering processes of nature are inherent elements of garden art. Being a rather comprehensive aesthetic system, wabi-sabi can be, and indeed has been, interpreted in many ways.

In the post-war period it has become a fashion also in the west and the spiritual and moral aspects of the wabi-sabi way of life has often been linked to minimalist design and other aspects of modernism. There are nevertheless significant divergences between the two: where modernism presents an ostensibly slick facade and believes in the control of nature, wabi-sabi presents an ostensibly crude surface and believes in the fundamental uncontrollability of nature. Both modernist and wabi-sabi aesthetics are likely to have influenced a Norwegian landscape architect with aesthetic ambitions like Hillestad. He may never have confronted the notion of wabi-sabi, although he did show interest for the Far East and even visited Thailand on a study tour in 1973. In addition to the minimalist influence of Norwegian architecture there another significant source of influence:

Ian McHargh's book "Design with Nature" from 1969 made a huge impact on the way of thinking for landscape architects all over the world. and surely also Hillestad and other actors in the Norwegian hydropower planning community. McHargh's thinking has been compared to the wabi-sabi thinking[16], but his conversation with philosopher Alan Watts – the author of books like "The way of Zen" – shows that he deliberately developed his thinking along other routes[17]. The development of his planning methodology – designed to promote the health of the entire planet Earth was based on scientific proof of cause and effect. He realised that in order to gain impact and prevent destruction of nature, he had to rely on scientific arguments. His concern for nature was to a large extent based on his opposition to the Man-centred view of the world, and admiration for nature and the ecological processes. McHarg was trained as an artist however, and his view of nature's beauty nevertheless shows similarities to the wab-sabi aesthetics.

Hillestad's approach to landscape planning was similar to McHargh's, and similarly based on an aesthetic view with parallels to wabi-sabi. Hillestad may also well have been influenced by other main sources in the landscape architecture literature with an aesthetic view of the world focused on the everyday landscape. A prominent example is J. B. Jackson. He celebrates the vernacular, ordinary landscapes, e.g. in his book *Discovering the Vernacular Landscape* from 1984, and also his journal Landscape starting in 1950. Also books like *The interpretation of ordinary landscapes* (D. W. Meinig, 1979) and *The Concise Townсape* (Gordon Cullen, 1961) may have been inspiration for Hillestad's view of everyday landscape aesthetics.

CONCLUSION

Landscape aesthetics in hydropower landscapes in Norway are a lesson in the power of subtle interventions. Other strategies than subtle interventions are and have been available. One can easily imagine a more transformative approach for example, but it seems likely this would cost more and give less satisfactory results. The subtle interventions strategy that Hillestad developed may seem to have been a virtue of necessity, but through the analysis of the projects and of the development as a whole, including his own and other publications about this, it has become clear that it was a consciously developed strategy. This strategy is related to the general modernist and minimalist style of landscape architecture in this period, but it also show some other distinct qualities similar to the wabi-sabi tradition: a quiet celebration of the ordinary, rough, everyday landscape of Norwegian hydropower landscape.

14 Clifton C. Olds, professor emeritus at Bowdoin Collegetalks about this in his excellent web-site "The Japanese Garden" http://learn.bowdoin.edu/japanesegardens/index.html.

15 Koren, Leonard (1994). *Wabi-Sabi for Artists, Designers, Poets and Philosophers*. Stone Bridge Press p. 21

16 See Aldrete-Haas, José Antonio: The Reconstruction of Paradise, Pramana Press, 2009 p.14

17 Ian McHarg hosted a TV series of conversations with influential scientists, religious leaders and intellectuals called "The House We Live In" in 1960-61. See Walker, Peter and Melanie Simo: Invisible gardens: The search for modernism in the American landscape (MIT Press, Cambridge, Massachusetts, 1996) pp. 275-276

Changing Powers in Medieval Landscape of Spiš

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ABSTRACT

Castles, governing medieval landscapes and representing the power, have created beautiful landscapes, often admired and depicted by artists. Such a powerful landscape is the landscape of Spiš region in Slovakia, governed by ruin of Spiš Castle. However, today its powers over the landscape are undertaken by new phenomena, governing today`s landscapes. But the beauties of this historical landscape are regarded to be a value, the main attractor of the site, even listed in the World Heritage List, so the ways how to preserve them, competing with new powers of socio-economical forces, market, urban development, transport, tourism, etc., need to be constantly studied and answered.

The paper discusses the powers, which have created the medieval landscape of Spiš, military, political, religious, mercantile, cultural, represented by ensembles of authentic groups of fortified settlements and buildings in unique natural landscape setting. On the other hand, it discusses the socio-economical and cultural driving forces of contemporary landscape change. The research aims to examine the measures adopted to balance these forces in order to preserve the qualities of historical landscape. The main tools guiding development and management of the area – the spatial plans at regional and local levels, connected environmental impact assessment procedures, cultural heritage management plan and protection within the framework of cultural monument and nature protection are examined.

The research shows, that adopted measures focus mainly on aspects preserving the authenticity and integrity of historical buildings and ensembles themselves, and do not give adequate attention to the specific aspects influencing the values of landscape setting as a whole. For instance, nature protection, preferring ecological approach and cultural monument protection, focusing mostly on building construction preservation, forget to pay attention to more subtle elements, for example, characteristic historical tree alleys, connecting manor houses and medieval towns, creating the phenomenon of "composed" landscape. Several other constraints of better management and spatial development guidance are identified: at local level, where small, economically and expertly underdeveloped municipalities need various forms of help and methodical guidance, up to regional and central institutional level, where strengthening of consciousness on preservation concepts of cultural landscape values is required.

Keywords: landscape governance, medieval landscape, landscape values, world heritage management, Spiš region.

INTRODUCTION

Castles, significant landmarks visible from long distances, dominated the medieval landscape and represented the governance, the sovereign power of the monarch and nobility (Creighton, 2005; Liddiard, 2005). In Slovak territory they started to lose their utility functions after the series of conflicts between the Ottoman Empire and Habsburg Empire came to an end (after the Battle of Vienna in 1683 and after the Battle of Mohács in 1687). Many of them were destroyed in the period of anti Habsburg uprisings during the battles, or after, as potential places of further rebellion (Plaček, Bóna, 2007). From 18th century, most of the castles had been abandoned and fell into ruins. But even as ruins, they do not lose their imaginary powers over the landscape, so many times reflected in folk tales and legends. Their historic and aesthetic values had been recognized very soon, in the period of their abandonment, when the owners made the first attempts of their preservation, for example by establishment of museum expositions (Plaček, Bóna, 2007). Their scenic beauty, their "picturesque formulae" has been admired by artists and depicted in landscape paintings, forming the "picturesque taste" in the second half of the 18th century (Andrews, 1989). Today, they no more represent the political powers of the current political landscape (Warnke, 1995). Their powers over the landscape are undertaken by new phenomena, governing today`s landscapes. Today`s landscapes are shaped by the same forces, socio-economical, market, cultural, political, which have formed medieval landscapes. Contemporary landscapes reflect just their current requirements. The main feature of these forces today is their global character, enabled by technological achievements in transportation and communication technologies, which is reflected in landscapes. According Zukin (1993) "the spread of global cultures (especially those that emanate from Hollywood and Disney World) tends to weaken local distinctiveness". Landscape identity depends on complex mediation between local and global, as Zukin (1993) notes "now more than ever and in the future even more than now".

In this context, the equalizing effect of contemporary landscape change increases the values of historical landscapes, as representatives of unique identity and local distinctiveness. In the same time it increases the requirements to adopt sufficient measures to preserve their qualities. The ways how to preserve the values of historical landscapes in the competition with new powers of socio-economical forces, market, urban development, transport, tourism, etc., need to be constantly studied and answered.

MATERIALS AND METHODS

The example of a powerful landscape of Spiš region in Slovakia, governed by ruin of Spiš Castle is used to examine the measures which are adopted in order to preserve the qualities of historical landscape and to balance the socio-economical and cultural driving forces of contemporary landscape change.

The historical landscape of Spiš, for its qualities listed in the UNESCO World Heritage List, epitomizes a representative type of Slovak landscape. It has been shaped during the history by military, political, religious, mercantile and cultural forces, represented by ensembles of authentic groups of fortified settlements and buildings, which have remained till today remarkably intact. Remarkable landscape values of Spiš result from a rich concentration of cultural monuments in multiple historical layers within the unique natural landscape setting (Tomaško, 2000). The Romanesque and Gothic period, represented by the Spiš castle, dominating the landscape scene together with the churches of Spišské Podhradie and Žehra, are complemented by architecture of the "Spiš Renaissance". The picture of Baroque landscape is completed by small vernacular architecture, chapels and tree alleys along historical roads, connecting historical Spiš cities and noble residencies of Csaky family around Spiš castle, which together with composition of parks, surrounding residencies in Hodkovce, Bijacovce and Spišský Hrhov and using the borrowed perspective of the Spiš castle (Tomaško, 2004), created the elements of designed or "composed" landscape.

To explore the measures adopted to preserve the qualities of historical landscape, the main tools guiding development and management of the area – the spatial plans at regional and local levels, connected environmental impact assessment procedures, cultural heritage management plan and protection within the framework of cultural monument and nature protection have been examined, in the area of middle Spiš, in district of Levoča (FIGURE 1) in Prešov region and district of Spišská Nová Ves (FIGURE 2) in Košice region.

FIGURE 1. Levoča district in Prešov region. Source: http://sk.wikipedia.org/wiki/Zoznam_krajov_na_Slovensku.

FIGURE 2. Spišská Nová Ves district in Košice region. Source: http://sk.wikipedia.org/wiki/Zoznam_krajov_na_Slovensku.

Already this division, of historically always administratively compact area of Spiš, directly under the Spiš castle, does not help coordination of management and decision making and can be regarded as an obstacle for a sound management of the area.

RESULTS AND DISCUSSION

The examined area of Spiš region, is the area of specific regime, where the boundaries of inscribed World Cultural Heritage property and the boundaries of its buffer zone are determined, and where the Management plan of the World Cultural Heritage site have been elaborated (Kilián, Fintová *et al.*, 2008). Its natural and cultural heritage values are secured both within the framework of nature protection and within the framework of cultural monuments protection. However, the research shows that adopted measures for the preservation of historical landscape values are not sufficient.

The protection of the area within the framework of cultural monuments protection focuses mainly on aspects of preserving the authenticity and integrity of historical buildings and ensembles themselves, where it has achieved relatively satisfactory results, but it does not give adequate attention to the specific aspects influencing the values of landscape setting as a whole. Historical parks and gardens are protected within the legislation of cultural monuments protection, but historical and cultural values of historical tree alleys, composed elements in landscape, are not covered by protection. On the other hand, the protection of the area within the framework of nature protection, under the Act No. 543/2002 Coll. on Nature and Landscape Protection, focuses mainly on aspects of preserving the ecological values of nature, where again satisfactory results have been achieved. Several specific protected areas are designated in the examined area, recognizing the high natural and ecological values of Spiš environment. But in the Catalogue of protected trees only 5 individual trees are listed in the whole district of Spišská Nová Ves and just 4 individual trees in the whole district of Levoča, no one tree alley. Nature protection, preferring ecological approach and cultural monument protection, focusing mostly on building construction preservation, forget to pay attention to values, which are combination of natural and cultural. Research shows, that the institute of "local sights", which possess the potential to discern the values important for local communities is not used in practise, as well as the category of "protected landscape element", within the categories of nature protection (which is recorded only one in the whole territory of Slovakia).

Several other constraints of better management and spatial development guidance are identified. At local level, the area around Spiš castle is specific by a long-lasting and neglected issue related to unemployment and poverty of the Roma population (Kilián, Fintová *et al.*, 2008). Small, economically and expertly underdeveloped municipalities need various forms of help and methodical guidance, especially in the field of spatial planning. Most of the area surrounding the Spiš castle lacks spatial planning documents, as a duty to elaborate them applies only to settlements with more than 2000 inhabitants. Management of building activities and development, which belongs to local competencies, is adjusted on the level of individual local decisions. The absence of important management tools – spatial plans at local level represents a serious problem. The tools of spatial planning have a special important position, they secure that the local development is in line with the whole society's interests. The methodology of acquiring and elaboration of spatial planning documentation, incorporating strategic environmental assessment procedures, enables incorporation of professional requirements in the desired development (Kilián, Fintová *et al.*, 2008; Štěpánková, 2002). In the field of protection of cultural and natural landscape values the issues of preservation of characteristic views, silhouette and panoramas are very important. However, in Slovakia the methods of landscape character assessment are not used in planning and decision making processes (Jančura *et al.*, 2010). The ways, how to anchor into spatial planning and landscape ecological documents not only the essential ecological stability of landscape, but its aesthetical stability, too, still should be studied (Gál, 2000). Miklós (2010) sees as the main problem of successful implementation of these ambitions the "soft" definition of values, based on "perceptions, interactions and factors", which allow various interpretations.

New constructions of transport and technical infrastructure represent the major impacts into the characteristic look, silhouette and panorama of the studied area. The routing of roads, the motorway D1, section Jablonov – Studenec – Beharovce, as well as the planned future solution of connection and bypass of Spišské Podhradie and Spišské Vlachy is solved at the level of spatial planning of higher territorial units, with assessment of their impacts on the environment Transport infrastructure, the main power governing contemporary landscapes, is able to create the phenomenon of "drive through" or "drive by" landscapes, often without visual contact with the place, especially when the noise barriers are applied. On the other hand it opens new vistas, points and lines of perception of landscape. As a technical work of art, it is able to bring a new quality into landscape. In the case of Spiš area, the new transport corridor of D1, allows to reassess the functions of historical roads and preserve their tree alleys, for example the lime alley along the route I/18 from Beharovce to Spišské Podhradie. Minor visual impacts represent building activities on the edges of settlements, in close proximity to the castle hill and other aspects, which represent reversible changes and influence for example the night perception of the castle panorama. However, the cumulative effects of minor changes and gradual decrease of authentic elements in landscape, can lead to a consequent loss of the main value of Spiš landscape – integrity of its cultural layers.

CONCLUSIONS

Landscapes of specific values require specific regimes, they require application of specific tools and methods in spatial planning and decision making processes and the use of all available, even parallel tools and methods for identification and protection of their values (Gál, 2000; Vodrážka, 2000). The case of historical landscape of Spiš shows several constraints of preserving the values of historical landscape. Gradual decrease of authentic elements in landscape, can lead to a consequent loss of integrity of its cultural layers, which is regarded to be the main value of historical landscape of Spiš. The adopted measures of cultural monument protection focus mainly on aspects of preserving the authenticity and integrity of historical buildings and ensembles themselves, and do not give adequate attention to the specific aspects influencing the values of landscape setting as a whole. Nature protection prefers ecological approach and forgets to pay attention to cultural values of landscape. The research shows that attention should be given to strengthening of preservation concepts of cultural landscape values, their recognition, protection, restoration and maintenance in order to preserve the powers of historical landscape of Spiš.

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The Landscapes of Non-Alignment: Belgrade Riverbanks and the (Re)Structuring of Socialist Power Relations

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ABSTRACT

The paper examines the development of two Belgrade urban interventions dedicated to the Non-Alignment Movement: the 1965 Friendship Park [Park prijateljstva], located at the meeting spot of two Belgrade Rivers, and the 1975 House of Friendship complex [Dom prijateljstva], located in the area of the Sava Amphitheatre. The research is based on architectural, urban and landscape designs; the reactions they caused in various professional magazines and daily newspaper; and the re-evaluation they are subjected to in the contemporary, post-socialist historiography.

We presume the landscape constructed through these designs as a fundamental part of the structuring and restructuring processes of socialist power relations, the ones intrinsic to the Yugoslav "golden age". The acquisition of historically unoccupied and previously un-developed parts of the riverbanks is seen in this sense as a way in which Yugoslav society constructed the policies of difference and equivalence, through the use of landscape design. Furthermore, we aim to show that today – seen through the contemporary issues of climate change and sustainability – Belgrade landscape is once again an element of a discourse that elevates it to a level of pre-given objectivity.

Keywords: Yugoslav socialism, non-alignment, Friendship Park, House of Friendship, identity.

INTRODUCTION

Non-Alignment is considered one of the most widely recognized traditions of the socialist Yugoslavia. As the country's main foreign-policy concept, non-alignment's international familiarity is most adequately matched only by the position it held within the cultural framework of Yugoslav society. The main instigator of Yugoslavia's international engagement – Josip Broz Tito – was seen by many Yugoslavians as the very embodiment of the doctrine. This status was secured not only by the fact that Tito was one of the founding figures of the movement, but also with the feverish foreign-policy activities of the Yugoslav President. Meticulously documented by supporting TV crews, Tito's constant travels to every corner of the globe were adequately supplemented with live performances featuring the supreme leader himself – with cheering crowds welcoming Tito as he returned to his socialist realm.

For all of its political significance, the non-alignment seems to have left only a small mark in the Belgrade environment. With a park and a monument dedicated to it, non-alignment appears not to have been considered vital in the over-all plans of Belgrade urban development. Nevertheless, the locations selected for the purpose of materializing the very significance of the movement speak for themselves; the designation of parts of Belgrade riverbanks – traditionally considered one of city's main (unused) urban potentials – to non-alignment representation and functioning suggests the very importance of its place in the symbolic network of Belgrade landscape.

This paper deals with two Belgrade interventions dedicated to non-alignment. We will look into the 1961-1965 Friendship Park [Park prijateljstva], located at the meeting spot of two Belgrade Rivers, Sava and Danube, and the 1975 House of Friendship complex [Dom Prijateljstva], located in the area of the, so-called, Sava Amphitheatre [Savski amfteatar]. Looking into original designs, the reactions they caused in the media, and their post-socialist interpretation, we will investigate the relations inherent to the very treatment of landscape throughout the different phases of the design's initial development and its latter readings. Unlike the available architectural history which interprets these interventions simply as expressions, either of political production of space – Mišić (2011) – or of subversive activities present within socialism itself – Perović (2000) – we will move deeper into the complex web of relations between non-alignment and Yugoslav socialism – with the special emphasis on the role landscape played in these projects.

Starting with W. J. T. Mitchell's (2002) and John W. Wylie's (2007) research and a number of works dedicated to the history of socialist Yugoslavia, we propose a stance which sees the landscape present within the two Belgrade interventions dedicated to non-alignment as part of a cultural production inherent to the Yugoslav "golden age". We aim to show that the first and the second intervention can be seen as the introduction and the culmination of power relations intrinsic to the period spanning between the dark ages of post-WWII and 1980s periods.

INVENTING A TRADITION: FRIENDSHIP PARK AS SYMBOL OF PEACEFUL CO-EXISTENCE

The Non-Alignment movement was founded in a brief historical period spanning between 1954 and 1961. According to Petković (1974: 48), its appearance was mostly influenced by Gamal Abdel Nasser, Jawaharlal Nehru, Sukarno, and Tito, the Yugoslav President. By the time the first conference of the movement was held in Belgrade – from 1st to 6t of September 1961 – Yugoslavia had entered a time of political and economic stability. The turbulent post-war years, marked by shortages, low living standards and, most of all, a foreign threat epitomized by Stalin, were well behind the young socialist federation. The better years seemed to be ahead, with economic growth, political stability, and – as suggested by Marković (1996: 20) – a special brand of "socialist consumerism".

The significance of the Belgrade conference was materialized not only by a great number of foreign delegations and journalist participating, but also by a scope of preparatory works which took place

FIGURE 1. Jawaharlal Nehru planting a tree in Friendship Park in 1961.

in Belgrade just before the grand happening. This pre-conference period was marked, as suggested by Mišić (2011: 134-135), by a large number of activities aiming to improve the image of the city[1]. As a culmination of these urban interventions, a park was set to emerge out of the soil of the left bank of the Sava River[2]. Formalized in accordance with the basics of non-alignment doctrine[3] , this green space was reported by the daily press as being a "symbol of fight for peaceful co-existence and friendship among people of the world"[4].

Designed in 1961 by Vladeta Đorđević, the first proposal for the park featured strict orientation toward the building of the Federal Executive Council [Savezno izvršno veće] on one, and Belgrade fortress on the other side of the river. The Park was formed by a series of trees, which were seen as eventually developing into a unique area – Alley of Peace [Aleja mira], with merging tree-tops as symbols of the unity of "non-aligned countries" and their, as suggested by Mišić (2011: 136-137), fight for the right of "small peoples around the world". The unity, equality and number of countries which took part in Non-Alignment Movement were seen as represented by the trees planted by leading politicians from around the world and the very length (180 metres) of the alley.

The rest of the design – its more ambitious aspects – was never developed. Instead of becoming an open-air museum, where all the countries could exhibit their national symbols, art and other artefacts, the park was competed in 1965, in accordance with the winning entry of a public competition. Semi-built, the project designed by architect Milan Pališaški was read as a "peaceful and dignified" landscape design, based on strict axial design with geometrical divisions which emphasized its monumentality[5] .

1 These included the ceremonial decoration of the city streets, special attention dedicated to the routes taken by conference attendees, and the erection of two monuments. At first it was planned to build three obelisks, but only two were completed – one on Marx and Engels square, which was temporary, and one in small green area near Brankov Bridge [Brankov most]. See: Mišić, B. (2011) Palata Saveznog izvršnog veća u Novom Beogradu. Beograd: Zavod za zaštitu spomenika kulture grada Beograda

2 The left bank of the Sava was, at the time, already engulfed in the massive development of New Belgrade, which was planned as a modern, socialist city. Occupying the left bank of the Sava River, the new city was the clearest result of a stance which treated open-air locations as the materialization of socialism's dedication of space to the realm of common. The riverbanks – flanking the built urban structure – were defined as large-scale green areas, impregnated only by periodically placed buildings of political and cultural significance. See: Blagojević, Lj. (2005) Novi Beograd: osporeni modernizam. Beograd: Zavod za udžbenike and Glavički, M. (1984) 'Regulacioni plan Novog Beograda', u Arhitektura urbanizam 29, pp. 5-14.

3 See: Petković, R. (1974) Teoretski pojmovi nesvrstanosti. Beograd: Rad.

4 See: Maticki, M. (1961, 30. avgust) U Beogradu će se podići Park prijateljstva. Politika, p. 36.

5 See: 1. Anonim. (1965) 'Idejno rešenje za izgradnju i uređenje Parka prijateljstva u Beogradu' in Arhitektura urbanizam pp. 35-36, 87-88.

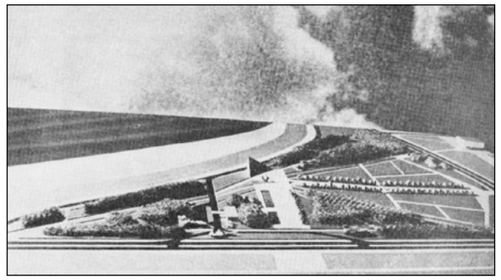

FIGURE 2. Winning entry from the 1965 Friendship Park competition. Author: Milan Pališaški.

ADDRESSING TITO

The next big Belgrade urban intervention dedicated to non-alignment appeared one decade later, in a manner distinctively different to the one in 1961 and 1965. This time, there was no official ceremony urging the formation of a landscape, or a competition organized to support it. The 1975 intervention arouse as a self-initiative within the main Belgrade planning institution, dealing with the issues of the future development of the Sava Amphitheatre, a location stretching on both sides of the Sava River.

Sava Amphitheatre has been traditionally considered one of main resources of Belgrade urbanism. Belonging to the riverbanks area, it represented one of main places of ideological investment in Belgrade urban environment. With the its bank occupied by the train station built in late 19th century and the left bank largely un-built due to its centuries-long border status[6] , this area was viewed repeatedly as – to use Wylie's words (2007: 115) – a "stage", onto which important practices were to be played out.

In a similar fashion, the initiative that emerged in 1975 approached this area as an un-used potential worthy of a function as significant as the Non-Alignment Movement. As suggested by Perović (2000: 7), the initiative was prompted by plans to remove the existing train station, and fears that the same might be engulfed in the massive housing development. So, in order to avoid this scenario, the initiative dedicated this space to a new centre, one that would primarily be the place of non-alignment.

Emerging at the height of self-management populism[7], the House of Friendship publication featured a centre defined as a challenge to the principles employed throughout the earlier socialist housing development. Unlike the mostly self-referential status of settlements built in the 1950s and 1960s, the centre was seen as connected with the various major Belgrade urban points. Also, it was defined as a mega-structure, comprised of a series of multi-functional cells – unlike the previously built, largely mono-functional socialist housing settlements and blocks. Nevertheless, the new centre continued the practice of previous urban proposals for the area, in the sense of treating the location as an empty plate[8] – ignoring the fact that the left bank of the river was populated, with the small, single-family housing settlement of Bežanija Beach [Bežanija plaža][9].

FIGURE 3. The urban disposition of House of Friendship urban complex 1975.

The House of Friendship publication ended with a series of "antroposemas", designed by architect Bogdan Bogdanović. Antroposemas were actually photographs of architect's Mostar Partisan cemetery, built in 1965. As observed by Perović (2003: 170), Bogdanović's memorials were a peculiar combination of elements, with the landscape design being one of the most important of these. Bogdanović used landscape as part of his, as suggested by Manojlović-Pintar and Ignjatović (2008: 98), "artificial archaism" – staged scenes of interlocking of monuments and their surroundings.

The presence of Bogdanović's memorials in the context of a representation of such a diverse movement as non-alignment was quite appropriate. The Yugoslav doctrine of non-alignment, as defined by Tito (1977: 52-53), Kardelj (1980: 404) and Petković (1974: 49), saw the movement's basic principles as emerging from the background of independence struggle during WWII (and latter conflict with Stalin). More importantly, the internal differences of the movement participants were huge, as can be traced by looking at some of the founding figures – Tito, a war-forged Marxist revolutionary and Nehru, a Gandhi-oriented statesman.

6 See: Blagojević, Lj. (2005) Novi Beograd: osporeni modernizam. Beograd: Zavod za udžbenike.

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7 The initiative followed the the constitutional changes enacted the previous year, which were seen by many as a culmination of the self-management development of Yugoslav socialism. The political changes were swiftly followed by changes in the planning doctrine, the ones which proclaimed the power of the working people over the issues of urban development. See: Vasić, Z. (1976) 'Samoupravno planiranje' in Urbanizam Beograda, 37, pp. 20-21.

8 On the issues of New Belgrade's supra-historical reality of existence, see: Blagojević, Lj. (2005) Novi Beograd: osporeni modernizam. Beograd: Zavod za udžbenike.

9 See: Jovanović, S. i Perović, M. R. (1975) Dom prijateljstva. Beograd: Zavod za planiranje razvoja grada Beograda.

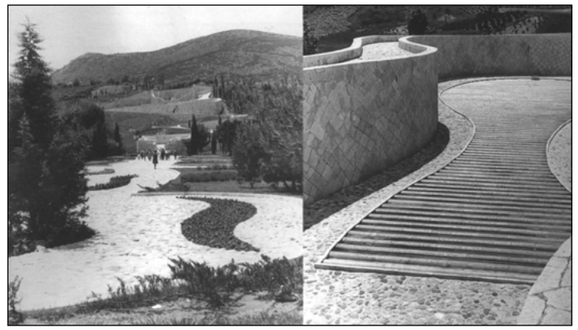

FIGURE 4. The disposition and details from Bogdan Bogdanović's Mostar Partisan Memorial Cemetery, 1965.

In this sense, the ideological practice used by Bogdanović to transcend the burden of WWII relations between various Yugoslav nations, was put to similar means in the case of the non-alignment monument. As he appealed to higher, humane dimension of previous conflicts, distancing himself from the issues of individual and group responsibility, Bogdanović managed to use the same doctrine in 1975, forming a special kind of policies of dentity – of a Third-world front – united by its underlying humane dimension.

The new centre of Non-Alignment was never developed – its project emerged in 1975, five years before the death of Tito. The second half of 1970s was the last period of Yugoslav tranquillity – the 1980s brought the political problems, emerging in the absence of the supreme leader, and economical turmoil, arising in the demise of credit-fuelled socialist consumerism. Simultaneously, the future of Sava Amphitheatre was slowly transferred into the realm of quite different social relations. Unlike the addressing directed at Yugoslav power structures – epitomized by Tito himself – in 1975, the latter dealings with the re-building of the area involved quite different actors. In 1979, an institution that would latter become synonymous with Serbian nationalist revival (Serbian Academy of Sciences and Arts) took the helm of one of such events, in cooperation with the same planning institution that produced the non-alignment centre proposal. As Yugoslavia's faith in the 1980s became increasingly influenced by social groups other than the Party, the Sava Amphitheatre became the key of an attempt aiming to turn Belgrade into a centre of Serbian culture, one that would radiate, as suggested by Despić (1985: 7), on the "whole of Yugoslavia".

BELGRADE RIVERBANKS: FROM POLITICS TO ECOLOGY

The recent faith of the Friendship Park – one of two remaining symbols of Belgrade's non-alignment history – has been marked by a quite an uncommon event. In September 2011, a 50-year anniversary of the movement's first meeting was held in Belgrade[10]. For a capitol of a country that has endured a status of a Pariah State for most of the 1990s, the shear size of the event – attended by 106 delegations – was indeed extraordinary. This event – along with a number of other ways of reviving the still-revered golden age of Yugoslav socialism – speaks of a future that possibly awaits the Friendship Park.

Yet another kind of, equally political, future looms ahead of the Belgrade riverbanks – Friendship Park and Sava Amphitheatre included. With the ever-more present issues of climate change and sustainability, especially their ecological underlining – the huge green areas are becoming increasingly important, as natural resources. Having in mind the fact that all green spaces help larger urban areas and cities to deal with the issues of climate change[11], and the fact that parks have double, mitigation[12] and adaptation[13] significance, their status of a given objectivity is today more secure that ever.

10 See: Milinković, D. (2011) Nesvrstani u Beogradu: svetu treba više pravde, http://www.novosti.rs/vesti/naslovna/aktuelno.289.html [April 2012]

11 For more information see: Neighbourhoods, Cities and Regions Analysis Division: Climate Change and Urban Green Spaces, (2010), http://www.communities.gov.uk/communities/publications/research-stats/.

12 Climate change mitigation can be defined as human interventions designed to reduce the sources of greenhouse gas emissions (GHGs) or enhance the capability of sinks to store these gases. It is known that parks are the first and most probably, the best line of defense agains climate changes. Non only can parks clean the air or modify local wind circulations, but they can also mitigate the impact of global changes and minimize local climate change resulting in prolonging or even preventing more widespread global climate changes as cities continue to increase in both size and number

13 The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as the "adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities." Besides processes which are taking part in the during mitigation this large green areas are also suitable for making plans and projects for the adaptation to climate changes. There are sttrong evidences that open space which are palces within urban structures and cities, rather than as a green belt might be more efective in helping adaptation. These informations should have implications for policies and planning process in order to encourage development of under used green space inside the cities. This could be the case with "Frendship Park" which can be redevelopted and used as an experimental site for different kind of landscape and architecture projects. Although landscape architects already work with architects to increase the energy efficency of alreadz built and new buildings, maybe they should try to do that with existing green areas and parks.

CONCLUSIONS

We might look at the Belgrade riverbanks" landscape of non-alignment as being doubly invested in Yugoslav cultural practices. It functioned as – to use Mitchell's (2002: 2) words – a "naturalized social and cultural construction", an artificiality made to seem pre-given and objective. As such, it joined, on equal terms, a series of Serbian and Yugoslav 20th century political interventions that emerged in the perspective of the final bringing to means of the potentials residing in landscape itself.

At the same time, it represented something inherently Yugoslav, in the sense of a socialist golden age. The landscape of non-alignment can be seen as being an instrument of both the socialism's invention of traditions, part of the high-aiming ambitions of the developing society, and as a latter culmination of these same traditions, in the shape of a direct addressing of Yugoslav power holders. We might claim that the latter, in its complete ignoring of the already present population of the Sava Amphitheatre, speaks differently to Kardelj's (1980: 447) claim that self-management and non-alignment are mutually dependent. On the contrary, if something can be claimed, it is that landscape was an essential part of socialist power distribution, one that treated the main urban potentials as being solely the responsibility of the highest layers of Yugoslav society.

Today, with the recent return of the Non-Alignment Movement to the political sphere of Serbian society, and with its ever-more stronger orientation toward ecological issues, a future seems set for Belgrade riverbanks. They are to continue to be constantly re-naturalized, as an element whose seeming objectivity reflects the might of the present or desired social and political order.

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Landscapes of Power: Visual Impacts of Renewable Energy Generation Projects on the Landscape

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ABSTRACT

Landscape Architecture has a long tradition in assessing the visual effects or impacts of projects proposed by other disciplines. Through this work landscape architects contribute to the preservation of the beauty of our environment. In particular, projects for generating energy can have a considerable negative visual impact on our environment. Massive landscape impacts are caused through the mining of fossil fuels. On the other hand, renewable projects that generally are considered to be more sustainable can cause serious visual impacts on the landscape. This includes e.g. hydro-power projects, wind energy projects as well as projects for generating biofuels.

Typically, such projects have in common that they are located in rural or even unspoilt natural landscapes.

Given the legally binding EU target to increase the share of energy from renewable sources in the Community's gross final consumption to 20% by 2020, there is likely to be a potential serious conflict on the horizon due to the resulting effects and impact on the landscape as it can be assumed that our landscape will have to change quite dramatically in the near future in order to accommodate these needs.

Keywords: landscape assessment, visual impacts, renewable energy, wind turbines, EU-policy.

INTRODUCTION

The discipline of Landscape Architecture has a long tradition in assessing the visual effects or impacts of projects proposed by other disciplines. Through this work landscape architects contribute to the preservation of the beauty of our environment.

In particular, projects for generating energy can have a considerable negative visual impact on our environment. Massive landscape impacts are caused through the extraction of fossil fuels. For example, because of their sheer scale, brown coal surface mining projects can dramatically change not only the visual appearance but also the ecological functioning of entire landscapes (Hehl-Lange, Lange, 1999), including the pumping and consequently change of groundwater level, air pollution through dust clouds as well as acidification and destruction of natural soil structures.

While it is widely accepted that such utilisation of fossil fuel resources is harmful to an entire eco-system and to the visual landscape, also more sustainable approaches to generating energy will have effects on the environment; perhaps less so from an ecosystems perspective, but from the point-of-view of visual impacts. That is, renewable projects that generally are considered to be more sustainable can cause serious visual impacts on the landscape. This includes hydro-power projects (Lange, 1994), wind energy projects (Lange, Hehl-Lange, 2005) as well as projects for generating biofuels.

THE POLICY CONTEXT OF RENEWABLE ENERGY

Renewable energy is mostly seen from the perspective of positively influencing global climate change. However, in terms of energy supply and energy dependency (e.g. on the limited resources oil and gas) there are also strategic considerations to be taken into account in respect to security and defence.

In recognition of the environmental, humanitarian and economic risks posed by climate change, at least in terms of policy, decisive steps are now being taken to stabilise and reduce the anthropogenic greenhouse gas (GHG) emissions. On the level of the European Union the Renewable Energy Directive (Directive 2009/28/EC) established a binding target for the Member States to increase their share of energy from renewable sources in the Community's gross final consumption to 20% by 2020 (cf. Haberl *et al.*, 2012). Currently, the average in the whole of Europe is at around 12%. This means overall there is still a long way to go.

These steps have included a substantial re-envisioning of how energy should be generated and supplied. Within the UK for example, the 2009 Renewable Energy Directive sets an ambitious target for the UK to deliver 15% of its energy consumption from renewable sources by 2020. This compares to 3% only in 2009 (DECC, 2009). The scale of the increase over the next 8 years represents a huge chal-

lenge and will require strong contributions from all three sectors of electricity, heat and transport (UK Bioenergy Strategy, 2012). It is also pointed out that the potential scale of bioenergy deployment in terms of sustainably-sourced bioenergy contributing to the overall provision of renewable energy, and although highly uncertain, could contribute by 2020 around 8-11% to the UK's total primary energy demand. While international supplies, especially from North America, will be a key contributor to this deployment (UK Bioenergy Strategy, 2012) it can be assumed that supplies from within the UK would have to be increased drastically.

RENEWABLE ENERGY PRODUCTION AND LANDSCAPE

The required increase in renewable energy production is not only a huge challenge in general, it will also be a huge challenge to accommodate these needs in the landscape, not only in producing renewable energy but also in transporting energy to the consumer.

A key factor that will shape the planned expansion of renewable energy production will be public opinion. For example, in the context of renewable electricity generation in the UK, on- and offshore wind farms are anticipated to play a central role; however, recent figures from Renewable UK (2010) point to worrying trends in the rate with which new generating capacity is being approved, in part due to opposition from those living in the vicinity or view of proposed schemes (e.g., McClaren-Loring, 2007; Jones & Eiser, 2010).

It is assumed that an increased focus on offshore development should aid progression towards these ambitious renewables targets. Indeed, offshore wind farms have obvious advantages over onshore schemes in terms of scale efficiency and the fact that there are fewer, if any, residents in the immediate vicinity. However, their distance from consumers means that offshore development comes with associated trade-offs, particularly with respect to elevated building and maintenance costs and increased transmission losses (compared to onshore schemes of the same scale). Moreover, offshore wind farms are not always out-of-sight and do not entirely eliminate the need for onshore infrastructure, and thus they still may still encounter opposition from local residents, which could pose a problem for planning (e.g., Devine-Wright & Heath, 2010).

The relative benefits and costs of on- and offshore development will invariably mean that the expansion of the wind power sector will comprise a mixture of offshore (both deep-water and near-shore) and onshore turbines (in rural, sub-urban and urban contexts). Indeed, the UK government anticipates that by 2020, there should be 28GW of operational wind power capacity, with equal amounts coming from on- and offshore schemes (DECC, 2009).

Furthermore, while conventional power plants tend to be placed as close as possible to the consumer to reduce the loss of energy through transmission, especially large scale wind farms tend to be located in remote areas, e.g. in rural or even unspoilt natural landscapes. Not only is this a threat to potentially highly attractive recreational landscapes such projects will also need construction of new transmission lines. This is likely to cause additional visual impacts and could result in potentially serious conflicts between the goal of sustainable energy production and the goal of preserving the beauty of our environment, resulting in further public opposition.

CUMULATIVE EFFECTS ASSESSMENT AND CUMULATIVE LANDSCAPE AND VISUAL IMPACT

One particular area of future research, which is currently largely neglected, relates to Cumulative Effects Assessment (CEA) and cumulative landscape and visual impact (CLVI). CLVI has long been a requisite of Environmental Impact Assessment (EIA) for wind-farm development and is defined as: "Additional changes to landscape and visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it) or actions that have occurred in the past, present or are likely to occur in the foreseeable future" (Landscape Institute, 2002).

Until recently there were few specified guidelines within the UK on how these cumulative effects should be defined, measured or quantified (see Entec, 2008). Thus, CEA has historically been largely subjective, prompting confusion amongst planners and developers and a general failure to adequately address the issues it was designed to assess (e.g., Cooper & Sheate, 2002). Recently published guidelines have helped to identify and improve areas in which there are inconsistencies in the CEA pertaining to quantifiable risk (e.g. aviation radar, ornithology, etc.); however, guidance on other issues, and notably CLVI, remains much less well-defined; principally on account of its more subjective, socio-technical nature.

Whilst CLVI does result from quantifiable aspects of a proposed development(s) (e.g. number of turbines) it is also determined by a range of less objective factors (e.g. interactions with existing infrastructure, personal evaluations of landscape use or amenity) making it difficult to assess.

Acknowledging that some guidance on CLVI assessment does exist (e.g., Scottish Natural Heritage, 2005), it is clear that current methods for such assessment are, at present, inadequate.

FIGURE 1. What is the impact of a single wind turbine?

FIGURE 2. What is the impact of three wind turbines?

FIGURE 3. How much do wind turbines matter when there is already an existing hydro-project? Windpower and hydropower, Sierra Nevada, Spain.

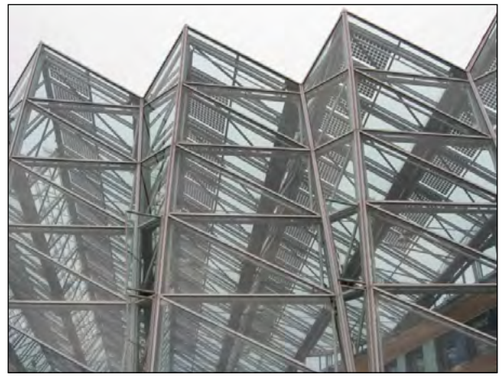

FIGURE 4. Why not always combine buildings and energy generation, rather than consumption? Federal Environment Agency, Dessau, Germany.

CONCLUSION

Public perception of the (anticipated) visual impacts of renewable energy projects will influence the acceptability of proposed schemes (cf. Lange & Hehl-Lange 2005; Wolsink, 2007). Consequently, opposition grounded in these concerns is likely to grow as e.g. wind turbines (see Jones *et al.*, 2011), hydropower, solar energy plants, biomass/biofuel, geothermal energy and even tidal power as well as the associated infrastructure become and increasing common feature in our landscapes; and interact with other existing and proposed projects. At the same time, given the legally binding EU targets and the consequences in terms of how energy needs to be generated, there is likely to be a potential serious conflict on the horizon due to the resulting effects and impact on the landscape as it can be assumed that our landscape will have to change quite dramatically in the near future in order to accommodate these needs. It will need well-educated and motivated landscape architects to plan such developments in order to avoid or to mitigate in particular potential impacts on remote or pristine landscapes. This will include approaches to e.g. protect relatively "untouched nature" and to focus on areas where there is already a considerable landscape impact due to other structures or land uses.

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Characterization guidelines for churchyard in Latgale Upland

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ABSTRACT

Latgale Upland churchyards are one of the most important parts of the cultural historic space of Latvia. The study is based on the materials from expedition made in the summer and autumn of 2011, as well as the literary studies. Architecturally compositional form of a church, supplemented by other churchyard elements, is a key part of the churchyard. Research and description of the individual elements gives specific cultural space characteristics of each investigated area. Each study of churchyard area schemes formation is based not only on the church – as the expression of domination point. Separate churchyard elements are also important. We can mainly find fences and crucifixes in churchyards. More specific is the presence of burial, tree, and bell tower in these churchyards. Some of these elements are specific for different confessions. The aim of research is to establish general guidelines for recording and characterization of the churchyards in Latgale Upland, and in perspective that could be used as basis for making the landscape typology. The research provides information that is important for further local territorial development plans, focusing attention on the preservation of region's cultural values and identity. The research gives precise description of the churchyard elements and their performance.

Keywords: churchyard, churchyard elements, churchyard typology, regional identity.

INTRODUCTION

Landscape of Latgale Upland is a picturesque mosaic landscape with lakes, serpentine roads and diverse relief, woods and fields. Unlike other Latvia landscapes, Latgale has vivid lake and sacral landscapes. And the whole Baltic Sea region has been a meeting place for various cultures – Orthodox from the east, Christianity from the west, Islam with the Tartars (Rydén, Migula, Andersson, 2003). We can find different types of sacral buildings – churches, synagogues, praying houses – in this region, but not all of them are surveyed in this stage of research.

The aim of the research is to provide basic churchyard types of churchyards in the territory of Latgale Upland and then these guidelines can be used for other churchyard characterization in Latvia and other similar territories. The sacral landscape of Latgale is unique; it has a different development history than the rest of Latvia (Pidža, 2011). Churchyards of Latgale are one of the most important parts of the cultural historic space of Latvia. Latgale has had to start its life from scratch five times, mainly because each time there has been a complete change of ethnicity and socio cultural field (Fjodorovs, 2009). The church with its architecturally compositional form is the key part of the churchyard; the character is also made by other landscape elements, which supplement the church architecture. In research is chosen to use term churchyard instead of churchyard, because in theses territories inside are no burials, rarely there are buried priest or placed some memorial plaque.

There is need for precise indicators to indicate the different types of churchyard (Wascher, 2004; Ode, Tveit, Fry, 2008). This research takes a look at the landscape indicators in smaller scale and they are narrowed to specific churchyard cultural landscape elements.

Landscape elements are individual elements that make up the landscape. They are generally quantifiable and can be easily described. Elements are functional, decorative and they can be symbolic too. And the symbolic meaning of these elements is a part of a landscape identity (Ņitavska, 2011). Landscape units are sections of landscape with different dimensions and chorological structure. Each landscape unit can be distinguished by its own, relatively stable natural and anthropogenic factors (Niemann, 1982). Capturing a visual impact has a limitation, which is why a field trip is very important.

In landscape visual analysing and describing the place and its relationships with process and person are important similarly to other related research fields (Scannell, Gifford 2010; Mazumdar, Mazumdar, 2012). In sacral landscapes the process and the landscape character are in close connection. Space dimension and elements are defined by the amount of people and events that use the place –those are individual sacral activities or big festive events. There are not enough researches in the field of sacral churchyards and people attachment to these places (Mazumdar, Mazumdar 2012). On the other hand, many studies have been made about sacral places from social or economic point of view (Williams, 2010; Kong, 2010).

This landscape research focuses on describing different churchyards in contrast to landscape evaluation which identifies what makes one landscape better or worse. This research is important, because there are no similar researches made about visual

characterization of a churchyard in Latvia. This research is more for creating base data for future, to create an opportunity for seeing the changes. For now there is no data about churchyards in Latgale and how they looked and developed in the past. Method concentrates on landscape elements. Similar method is used to indicate land-uses by human-made objects (Hersperger, Langhamer, Dalang, 2012).

MATERIALS AND METHODS

Expedition of churchyards of Latgale Upland was done from June till October in 2011; a survey of 68 churches in the Latgale Upland was carried out. It was made in good weather conditions during the daytime. Before going on the field trip, an object survey table was created, based on previous researches. The table consisted of all the expected objects that could be found in the churchyard.

In the research a combination of field observation, landscape photographs and orthophotos was used. And for this research it has been chosen to look at the church landscape in the churchyard scale. The division of churchyard of Latgale Upland was made taking into account confession and churchyard placement in urban or rural landscape.

Data material was ranged by Microsoft Excel.

RESULTS AND DISCUSSION

These indicators can be seen as context sensitive, because all elements are closely connected with the symbolic meaning of the place and territory function. It is important to use relevance filter (Ode, Tveit, Fry, 2008), because nowadays churchyard has close relationship with public participation, but there is lack of landscape planning or management. New methods always are needed when we start to study new directions.

Out of 68 churchyards observed in the research 2 are Lutheran, 13 Orthodox, 14 Old believer and 39 are Catholic churches. Forty from all the surveyed churches are placed in urban landscapes. Other churches are in rural landscapes, where there are not even farmsteads in close proximity. Usually the church can be reached in a two hour walk. But due to the migration from countryside to cities urbanization around churches is shrinking. Distance from a church in the Latgale Upland to the closest urban centre is from two to seven kilometres and parishioners are usually from even more distant places.

After composing all the materials seven small scale types of churchyard were established. The main characteristics of a churchyard are summarized in FIGURE 1 and TABLE 1. FIGURE 1 shows territorial proportions of churchyards. Types of churchyard are described further.

Lutheran churches are only located in urban landscapes. Within the research territory there are two Lutheran churches, and they are placed in Krāslava and Rēzekne. Latgale is the only region in Latvia, where Lutheran churches are a rarity; it is because of the different regional development history. Lutheran churchyards are rather small and consist only of grass and some trees. There is no symmetry in these churchyards. Trees are placed chaotically. There are no other elements in the churchyard. These churchyards have no fencing, they are more like public green territories or communication squares.

An Orthodox churchyard in rural landscape greatly reminds of the area of technical importance. There is an outdoor toilet, a wood shed and other technical buildings. In front of the church there are some benches. More or less territories are near forests and on the side of forest road.

Orthodox churchyards in urban landscape are ascetic. Churchyard territory is used for technical purposes. Churchyards are both big parks and small churchyards. Visually light and quite transparent fences widen the churchyard and do not strictly divide the churchyard from the surrounding landscape. Fencing is mainly created by metal mesh fence or forged metal fence with brick fence posts.

An Old believer churchyard in rural landscape is a place in landscape that has close views. Churchyards look deserted, in some way they are calm and ascetic. Because of migration tendencies these territories are increasingly less used. From all the churchyards in the research territory, we can only find a free standing bell tower in one, and it has a unique construction, it is unlike any other in the region. In urban landscape old believer churchyards are not so ascetic. Globalization and levelling in rural landscape is not so sensible.

An Old believer churchyard in urban landscape is typical with small wooden churches that are hidden in tree clumps and are placed far from main streets. Churchyards are reserved and private, as old believers themselves. Old believer is a life style, not only a ritual. Thereby, in contrast to the very bright and colourful building colouring, churchyards are ascetic and simple. Fencing is transparent, metal mesh fence with brick fence posts is mainly used, while gates are pompous, bright colored set from tree parts. There are a lot of high trees of different kinds in the churchyard. Burials are not historical but cemeteries have been made in the last five decades.

A third part of the Catholic churchyards are in rural landscape. These churchyards are different, with variable combinations of landscape elements. Unlike other churchyard types that are described in this research they have meditation zone, and a more solid fencing. There we can find tree plantations in the perimeter, which together with solid fencing create a closed churchyard space. Limited accessibi-

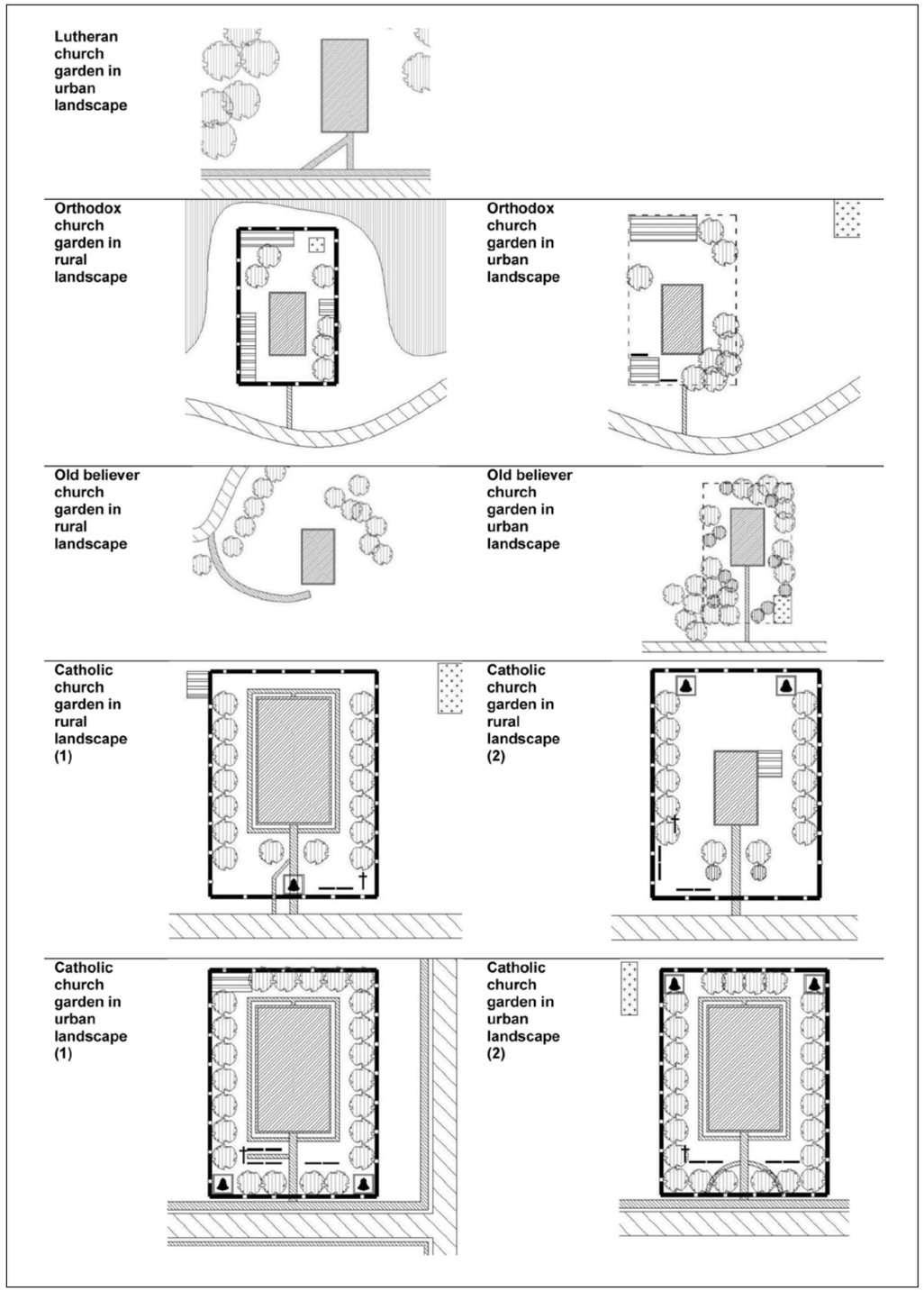

FIGURE 1. Churchyard types in Latgale Upland described through most typical composition schemes of churchyards, where: church; trees; walkway; street/road; free standing bell tower; bench; area of technical importance; burials; crucifix; massive/solid fencing; transparent fencing; forest.

lity is characteristic for Catholic churches and churchyards more than for other territories. Fencing is made of a stone wall, or a forged metal or wooden fence. And gates consist of one or three parts, but they are not too pompous. Churchyard composition is asymmetrical, because the meditation zone with crucifix and royal ornamental plantings are placed on one side of the front churchyard, while the other stays empty. Crucifixes in the rural landscape of Latgale are a phenomenon. But in the churchyards of catholic confession it is an almost inherent part. Crucifix is very common for catholic landscapes. This is the most symbolic element of churchyard, but it is also decorative and functional. Half of the research territories have symmetrical tree groups. Cemeteries are invisible graves in the churchyard between flowers and trees.

Catholic churchyards in urban landscape have very notable isolation. Fencing is mainly solid, higher than eye level. Fencing is usually reduplicated with a tree row. A stone wall forms the base for a forged metal fence or wooden fence with brick fence posts. Fence and gate materials match the church decoration materials. Meditation zones are picturesque with variable ornamental plants.

Conifers complemented with perennials and colourful summer flowers are used in the meditation zones. Typical for these churchyards are free standing bell towers, sometimes the main entrance is made through these bell towers. There can be one or two free standing bell towers in the churchyard placed in the front or the back of a church. Burials are mostly of prominent people who have played an important role in the church's history.

TABLE 1. Churchyard types in Latgale Upland described through characteristic churchyard elements of Latgale.

	Placement according to urban centres	Garden composition	Fencing	Trees	Free standing bell tower	Crucifix	Burials in or near garden
Lutheran church garden in urban landscape	In biggest cities	Asymmetrical	Without	Irregular	-	-	-
Orthodox church garden in rural landscape	7 km from closest urban centre	Asymmetrical	Very massive	Irregular, mainly pines	-	-	Some
Orthodox church garden in urban landscape	In biggest urban centres	Asymmetrical	Metal fencing	Irregular	-	-	More outside territory
Old believer church garden in rural landscape	2 to 6 km from closest urban centres	Asymmetrical	-	-	-	-	-
Old believer church garden in urban landscape	In urban different urban centres	Asymmetrical	Transparent fencing	Dense trees	-	-	Close to nowadays cemetery
Catholic church garden in rural landscape	2 to 5 km from closest urban centres	Asymmetrical	Solid fencing	Symmetrical	Typical	Typical	Some
Catholic church garden in urban landscape	In urban different urban centres	Symmetrical and asymmetrical	Solid, massive fencing	Noticeable regular perimeter trees	Typical	Typical	Some

Trees are decorative, functional and with historically developed and enduring symbolic meaning.

Description of the individual elements gives the specific cultural landscape characteristics. Each type of the churchyards has differences in architecturally compositional form, and also in element groups, that supplement the church architecture. Landscape differences are made not only by element presence, but also by the type and form of each element.

Churchyard character is made and complemented by using different materials for similar element groups in each of the established churchyard types. Most of the features of churchyard are taken as self-evident, especially in the catholic churchyards where there are strong liturgical demands upon these territories and elements.

With looking through elements we perceive more objective information and get distance from imagination landscapes.

CONCLUSIONS

This is a small introduction into churchyard elements we can find in the Latgale Upland. All the elements described in the research are found in the churchyards in the Latgale Upland and are important characteristic elements. Churchyards are unique thanks to these specific elements.

In this kind of research it is important to have field survey, as it gives a wide range of data and a possibility of getting a valid expression of the landscape character. The confessional membership of the church territory is also very important, because in main lines it already defines the landscape character. The research provides information that is important for further local territorial development plans, focusing attention on the region's cultural values and identity preservation. In further research there is need to define more precise element characteristics – materials, size, distances between them. It is important is not only to give a common description, but to find the differences and element variations as well.

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Seaside Park in Liepāja – the masterpiece of the 19th and 20th century Latvian garden

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ABSTRACT

The city of Liepaja (Libau) was established at a shore of the Baltic Sea, on a land strip created by Liva and Perkone rivers and bounded off by Tosmare Lake. The vastness of the Baltic Sea and pine woods at the seashore made Liepaja an attractive location for living. In the 19th century Liepaja became a health resort, which furthered the development of the city. A great attention was paid to improvement of the city environment and transformation of moving sand dunes into very green area of recreation. The town centre of the health resort, according to the demands of the noble bathing guests, was designed to be suitable for therapy, recreation and entertainment. In 1860 the heir of the throne of Russia, Grand Duke Nikolaj Aleksandrovich, traveled to Liepaja together with the members of the tsar family.

The greenery in the Jurmala park was planned according to a 1899 project by landscape architect Georg Kuphaldt (1853–1938), the director of Riga's gardens and parks. Following the aspirations of Liepaja's mayor Karl Gottlieb Sigismund Ulih, the oldest part of the park developed into modern European health region with a unique architectonic and spatial composition. The ensemble was completed by a bathing establishment, which was built in 1902 according to city's principal architect Max Paul Bertschy's (1840–1911) project. In the beginning of the 20th century buildings, sidewalks and street greenery together with city parks and squares created a unique urban planning ensemble and defined the identity of the city.

Until the Second World War the composition of the plantation was systematically developed. Jurmala park became the largest landscape park in Latvia and a great example of a scenic and dendrologically varied system of plantings on the Baltic Sea coast. By incorporating elements of nature in the city environment, it is possible to achieve a harmony between the natural and the man-made.

Keywords: city environment, park, dendrology, composition, identity.

INTRODUCTION

In England during the second half of the 18th century gardeners created landscaped parks with a diverse assortment of plants. Around 1770 architect John Wood, the Younger (1728–1782) implemented the idea of expansion of the resort city Bath, which became one of England's most beautiful cities. Picturesque streets with circular squares at their intersections, row houses, meadows and planted groves formed a unique urban environment planning.

In Germany Friedrich Ludwig von Sckell (1750–1823) created expressive landscape parks (Majdecki, 1978: 631), but the great Prussian gardener and landscape architect Peter Joseph Lenné (1789–1866) created the first public gardens. He was one of the founders of the Potsdam Royal gardener school in 1823 (Kaaver, 2007: 65). The director of Rīga's gardens and parks Georg Friedrich Ferdinand Kuphaldt (1853–1938), who originally comes from a small German town Plön (Kanstein, 1998: 43), from 1876 to 1878 studied at the Potsdam Royal gardener school (Kaaver, 2007: 67). Well-known landscape architect used theoretical and practical knowledge to design many public parks in Russia and Europe. From 1890 to 1892 Kuphaldt designed the Juliusz Heinzel Park in Łódź (Kaaver, 2007: 122). In 1899 a project for the improvement of greenery near dunes in Liepāja's Seaside Park was developed (Rāte, 1995: 3). Professor Raimonds Cinovskis (1930–1998), the head of the Dendrology laboratory of the Botanical garden of Latvian Academy of Sciences, noted in his study "The Seaside Park of Liepāja" that the author of this project was Kuphaldt (Cinovskis, 1994: 1–2).

Almost forty years the city architect of Liepāja Max Paul Bertschy (1840–1911) took part in the development of Liepāja's resort and Seaside Park. His creative work significantly influenced the urban development in Liepāja.

Today, the ideas behind the Seaside Nature Park's design have not been sufficiently explored. The methodological research and theoretical positions in Latvian parks" design developed by Anne Kaaver and Hemma Kanstein, as well as Latvian architects Irēna Dāvidsone and Ilze Māra Janelis etc.

The aim of the research is to analyze the design and the plantings" composition of the Seaside Park and, as well as to identify its dendrological and architectural jewels, so that Liepāja's city environment would not lose its identity and its uniqueness could be preserved for future generations.

The basic methods to reach the tasks in view are: the research and analysis of archives" materials, field-work and photo fixation, as well as inspection greenery of Seaside's Park in nature.

ESTABLISHMENT OF HEALTH RESORT IN LIEPĀJA

In 1795 Liepāja passed to the control of the Russian Empire, where mineral waters were used for medicinal purposes. Since 1810 Liepāja was already known as a bathing and treatment place. In 1812 the town council issued a special resolution for establishing separate swimming places for men and woman at the beach. In 1834 a privately owned cold and warm sea water bath establishment *Merbi* began to operate.

In Russian Empire at the first half of the 19th century climatic and balneological health resorts began to develop. A concept of aesthetics and content of treatment, recreation and entertainment places was formed. Recreation and treatment facilities were built in the park near mineral water springs. During the thirties of the 19th century the first health resort towns in were established, but in larger cities a specific resort zone was formed.

EMPLOYMENT OF PUBLIC GARDENS

During the 19th century rapid industrial growth contributed to a wide range of urban transformations in European cities. Due to rapid development of industry and a decrease in the proportion of natural elements in cities, human-designed parks and green plantings began to replace the natural landscape. Man-made parks, boulevards and squares became major city components and replaced the nature landscape. Rural parks plantations" mostly consisted of domestic trees and durable perennial flower species, but the knowledge for establishing plantations in public gardens and on streets was yet to be acquired. Seedlings were obtained from the surroundings forests, while garden forming techniques as well as most luxurious eminent plants were brought from the Mediterranean Europe. On June 8th of 1817 in Rīga the Wöhrmann Garden was opened. It was arranged by gardener J. Shmeisler and contains exotic trees, a rose-garden and a restaurant (Kaaver, 2007: 103). The first public garden in Liepāja was established in 1842. A beautiful Swiss-style pavilion with a restaurant and space for concerts was built in the park and became a popular meeting place for intelligence and wealthy people.

On January of 1857 the principal architect of Rīga City Johann Daniel Felsko (1813–1902) together with engineer Otto Dietze (1832–1890) created a project for redevelopment of the fortifications territory in Rīga. They planned a semi-circle shaped public greenery surround the Old Rīga to separate it from blocks of administrative and apartment buildings. In 1859 a garden designer Vendt from Lübeck formed a park along the canal (Krastiņš, 1988; 92–95).

On November 8th of 1860 the Saint Petersburg–Warsaw railway line was opened. Its section Rītupe (*Schogowa*)–Daugavpils (*Dünaburg*) crossed the territory of Latvia. Railroad traffic contributed to the growth of health resorts. In 1860 a cold and hot sea water bathing establishment for therapeutic treatment was built at the beach in Liepāja in the honor of the Grand Duke of Russia Nicholas Alexandrovich (1843–1865). Around 1867 Liepāja's seashore was still intact. A sand dune protected the city from sea-winds and separated the beach from the urban area. As the sea retreated, the coastal area began to expand. Carl Gottlieb Sigismund Ulich (1798–1880), the burgomaster of the Great Guild of Liepāja, proposed to the city council a project for establishing a facility for mud bath therapy. In 1870 the Swiss-style Nicholas' warm seawater bathing establishment was inaugurated. Traveling dunes and wet meadows were replaced by planted trees and arranged greeneries of the Seaside Park. The further development of Liepāja city has been closely associated with establishment of parks and greeneries.

PLANNING OF LIEPAJA IN THE LAST QUARTER OF THE 19TH CENTURY

In 1871 Paul Max Bertschy became the city architect of Liepāja. On the same year a railway line from Liepāja to Kaisiadorys (near Vilnius) was opened and a passenger railway station by Bertschy project was built in Liepāja, thus contributing to the urban growth of the city.

Treatment and leisure facilities encouraged people to visit Liepāja. Beautiful scenery had great importance for a resort city, thus Liepāja was planned with a great care. Two boulevards connected the city center with the health resort area – Peldu Street and Kurhaus Prospect, whose end became a center of social life during the bathing season. In 1875 to the north-west of the Seaside Park a *kurhaus* with a wellness hotel, a restaurant and a hall for concerts, dance and theaters' performances, large enough to accommodate 500 spectators by Bertschy project was built. Around 1875 wealthier residents of Liepāja in the vicinity of kurhaus began to develop one of the most beautiful places in the city – a quarter of summer cottages, which was located in a trapezoidal plot of land intersected by two diagonal streets.

The compositional symmetry of the planning was emphasized by a wide pedestrian path. The Swan pond became the compositional center. In 1876 a Navigation school by Bertschy project was built and marked the beginning of the Kurhaus Prospect. The first luxurious villas with verandas, terraces, balconies and flower gardens appeared in 1877 and 1878.

FIGURE 1. In 1892 Bertschy designed the Kaiser pavilion at the beginning of the 20th century [LM].

FIGURE 2. The Seaside Park's paths and greenery at the end of the 19th century [LM].

PUBLIC PARKS AT THE END OF THE 19TH CENTURY

At the end of the 19th century national parks became popular around the world, but their purpose and function were being discussed. In European cities landscape parks were formed with convenient systems of paths. Regular plantations and landscape were included in a single composition. Rīga was the fifth important city in the Russian Empire after Saint-Petersburg, Moscow, Warsaw and Odessa. The director of Riga's gardens and parks was a German gardener Georg Kuphaldt influenced by Russian gardening traditions and created park ensembles using suitable compositional methods characteristic to the eclectic style. In 1881 he developed the Wohrmann's Garten composition of plantations with acclimated exotic trees, bushes and flower layers in the grassland, known as Tepichbeet (Кичунов, 1912: 98), as well as a network of scenic routes. Plantations create contrasts of colors, forms and lines. In the spring of 1889 near a sundial he created the first rosary in Riga (Kaaver, 2007: 71, 75).

In Russia the development of health resorts gave national significance. Landscape parks with serpentine walkways were created near the kurhaus in health resorts along seashore of the Baltic Sea: Pärnu, Kuresaare (Arensburg), Hapsalu, Narvajoesu, Liepāja, Palanga. In January of 1889 Kuphaldt developed a "Plan for expansion and beautification" (Kaaver, 2007: 75) of the Pärnu greenery. The Seaside Park together with the summer cottages and gardens were established under the guidance of gardener Carl Haan. In 1894 Narva-Joesuu officially became a resort. Near kurhaus was created Dark Park as a natural pine forest and the Light Park with sunny meadows and tennis courts. Water reservoir with an island and a small pavilion made the landscape more expressive. In 1897 Kuphaldt developed a reconstruction project for Kadriorg Park to create a place for recreation near Tallinn.

Kuphaldt was interested in the latest developments of the public garden art. In May of 1899 he participated in Saint-Petersburg's International gardening exhibition which took place in Tauria Gardens and was organized by Alexander Fischer von Waldheim (1839–1920), the director of Warsaw Botanic garden (Kaaver, 2007: 81).

In Liepāja the Seaside Park was developed gradually. Around 1887 a walking trail to lady's bathing-place and beach was built. On November 8th of 1890, the city council approved special building law provisions designed for Liepāja, which were partly modeled after those of Riga (Sāne-Alksne, 1991: 97). Special construction laws were developed for the elite buildings in the Seaside Park. The Kaiser (FIGURE 1) and musical pavilions designed by Bertschy was built. However, a metal bridge for connecting two sand banks was not realized. In 1895 the Liepāja city council adopted a decision to form a new park between Peldu and Krasta (now Liepu) Streets and extensive planting works took place.

In 1899 a street railway from the city center to kurhaus began to operate and a project for the planning and greenery of the Seaside Park was developed. The extensive territory of the park was divided into several functional zones, such as the active recreation zone with tennis courts, playgrounds and quiet zones. Wide alleys led to the main gathering places, but walking paths on the outskirts of the park were narrow (FIGURE 2).

The Seaside Park's future development was associated with recreation and treatment facilities. In 1902 a bathing establishment and a tea pavilion on Swan pond's island by architect Bertschy project was built. Around 1903 near the bathing establishment and in the southern part of park a network of trails and a system of landscapes and views was created. Near the ladies' bathing-place the main exit to the beach with decorative entrance gates was formed. Fountains and a sundial enriched the landscape of the Seaside Park (FIGURE 3).

Park's diverse landscape formed pines, horse-chestnut, lime, oak, maple, ash and many another species of trees. Groups of trees in terrain greenery prevented erosion of hillsides (Епанчин, 1891: 7). The ecology of plants was taken into account in Seaside Park's greenery and domestic trees excellently coexisted with numerous foreign plants. Groups of correspondent kind of trees formed birch-trees (Betula pendula, Betula x aurata and Betula pubescens), maples (Acer platanoides un Acer pseudoplatanus), horse-chestnut (Aesculus hippocastanum and Aesculus hippocastanum "Memmingeri") (Cinovskis, 1994: 15–18) and etc.

FIGURE 3. Layout of the Seaside Park around 1916 [LNMa].

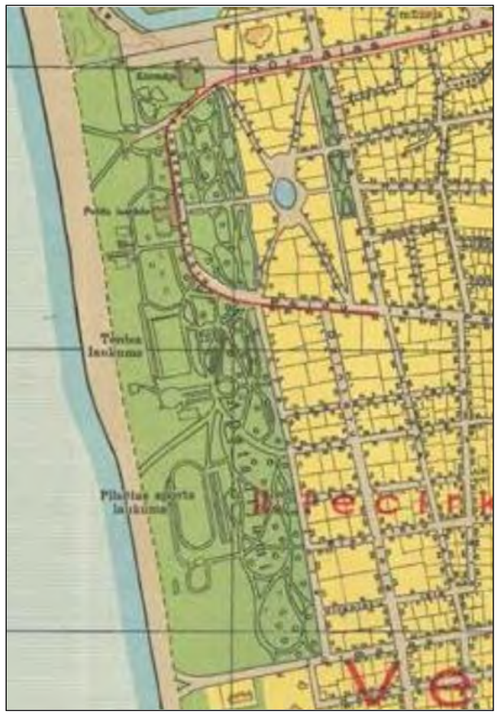

FIGURE 4. Layout of the Seaside Park in 1935 [LNMb].

The Seaside Park in Liepāja is unique because of its planning structure that consists of two parts, designed in different styles and at different periods of time. Each part of the park has its own purpose. The oldest part of the park was created in the eclectic style at the end of the 19th century. It consists of walking promenades and lime avenues in a centric composition around the Swan pond and relates to the structure of city planning. However, the newest part, created at the beginning of the 20th century, is a landscape park located to the south of the resort area. Its composition is not related to the structure of city planning, but the dense tree plantations protect houses from the harsh winds of the Baltic Sea.

THE SEASIDE PARK AT THE TIME OF THE LATVIAN REPUBLIC

Liepāja became important industrial center in Latvia. Factories were located in the northern part of city – isolated from the resort area. In 1925 high-quality treatment mud was discovered near Liepaja and the bathing establishment began to flourish. On the southern side of the Seaside Park the Workers sport union of Liepāja built City's stadium (now called "Daugavas stadium") for international sport competitions. From 1926 to 1928 sand banks were formed around the stadium. For improvement of the Seaside Park the "Beautification project of the Liepāja kurhaus and its surroundings" was developed. It envisioned a new kurhaus building and adjustments in the planning of the last part of the Kurhaus Prospect. In 1928 a new musical pavilion by architect Pauls Kundziņš (1888–1983) was built, but in 1933 the bathing establishment was rebuilt. The intended changes in territory planning were realized only partly as can be seen in Liepaja's plan of 1935 (FIGURE 4).

Under the guidance of the main gardener of Liepāja (1936–1939) A. Leimanis the southern side of the Seaside Park was reconstructed. Public gardens were supplemented by junipers and yew-trees. The spacious lawns with landscape bushes made greenery lighter, more joyful and colourful. An outlook

area with sheds was installed near the sea and flower beds were formed at stadium's entrance. It is possible that the reconstruction project may have been advised by the prominent Latvian landscape architect Andrejs Zeidaks (1874–1964), who's work was focused on Latvian landscape. In 1930ies there were approximately 130 species of trees and bushes in the Seaside Park. On March 28, 1937 kurhaus burned down. To protect the city from cold sea winds from 1937 to 1938 a 7 meter high coastal-bank at the end of Kurhaus Prospect was formed.

RESULTS

At the end of the 19th century and at the beginning of the 20th century the greenery design of Seaside Park in Liepāja reflected the newest trends in park planning from Western Europe and Russia. Trees and shrubs were planted according to their scenic value, thus creating biological groups that are all accustomed to the Baltic climate and the same soil conditions. Local species of trees together with many foreign plants created a wide dendrological diversity in the park—it is a great example of an outstanding natural landscape that adds uniqueness to the urban environment. This experience provides us with an opportunity to achieve future success in greenery planning to establish the identity of the city.

The power of the Seaside Park's landscape can be sensed throughout the city of Liepāja. The identity of the city's landscape is formed by lime avenues and promenades, which resemble green corridors constructed perpendicular to the shore and are incorporated in the planning of the city. They provide an opportunity for people to access the sea, as well as for the sea winds to fill the city with pure and fresh air.

CONCLUSION

1. The development of the Seaside Park in Liepaja influenced and exchanged the planning of the city and its greenery system.
2. In the last quarter of the 19th century Paul Max Bertschy used compositional principles of Eclecticism to design the Seaside Park oldest part. The planning, greenery compositions and artistic image of the Seaside Park's southern part were influenced by the stylistic principles of Art Nouveau and reflected the achievements in the garden art of corresponding era.
3. The rational approach to land use at the time of Latvian Republic affected the design and visual image of the Seaside Park, as well as reflected a new understanding of the aesthetics of park landscaping.

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MATERIALS FROM ARCHIVES, COLLECTIONS AND LIBRARIES

LM – Liepaja Museum. Postcard collection.

LNBa – National Library of Latvia, the cartography material KtL1-1/51 (Plan von Libau).

LNMb – National Library of Latvia, the cartography material KtL1-3/186 (Liepājas plāns. Rīga: P. Mantnieka kartogrāfijas institūts, 1935).

Strengthening regional identity by renewable energy landscapes

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ABSTRACT

In June 2011, the German government made a far-reaching decision: Until 2050, 80% of the energy consumption has to be provided by renewable energies. This ambitious goal will have a significant impact on the German cultural landscape, because the main types of renewable energy sources – wind power, solar collectors and biomass – need a lot of surface area. So far, these renewable energies are mainly seen as a burden for the landscape and their acceptance in the (German) society is low. Yet, landscape architecture could have the power to generate a win-win situation by using these elements to create an even stronger landscape identity than without renewable energy sources. To achieve this, it is crucial to change the perspective from the energy sources themselves – which is currently dominating – towards the landscape.

To prove this hypothesis, the following research questions will be addressed: What is the role of landscape architecture in designing these new landscapes? Is it possible to strengthen a regional landscape identity by designing with renewable energy sources? What is the relation between the generic elements of renewable energy sources and the specific characteristics of regional cultural landscapes?

To discuss these questions, the paper will start with a short reflection on the social and economical importance of renewable energy sources and their effect on landscape theory. In the main part, three designs of a recent studio undertaken at the Leibniz University of Hannover will be presented. In the conclusion, the role of these complex regional design visions for creating post-fossil landscapes will be discussed.

Keywords: renewable energy, large scale landscape design, landscape identity, design research.

INTRODUCTION

If our society would change towards an energy supply mainly by renewable energy sources, a dramatic change in our landscape would happen due to the high visibility and surface demand of renewable energies like wind turbines, solar collectors or biomass. At least in Germany, this change will certainly come: In June 2011 the German government decided to quit from nuclear power and to transform its energy supply. This so called "Energiewende" (transformation of the energy system) demands that until 2050, 80% of the electric power consumption and 50% of the heat consumption have to be provided by renewable energies (BMU, 2012). Some regions even go further, for example the metropolitan region "Hannover-Braunschweig-Göttingen-Wolfsburg" with four million inhabitants has declared to reach 100% supply of electricity (including electric mobility!) and heat by renewable energies until 2050 (Nowak, 2011). Germany is probably the most radical example for the transformation of the energy system, but since the post-fossil era will certainly come sooner or later, this process will very likely happen in many – if not all – countries.

I would like to argue that these developments will not only mean some additions to our landscape, but instead a complete transformation of our contemporary landscape to which the profession of landscape architecture urgently needs to reflect its position and involvement. My argumentation for a radical landscape change builds upon one of the most convincing descriptions of our landscape history written by the environmental historian Rolf Peter Sieferle (1997). He identified three general landscape types in human history until today. First came the "natural landscape" until 10.000 B.C., followed by an "agri-cultural landscape" until 1750, and since then we live in the "total landscape". His criteria for this division were only two: Cultural self-organization and energy system.

In the first phase, the 'natural landscape', hunter and gatherer societies go with the natural flow of energy without modifying it in any significant way. The picture changes with the invention of agriculture about twelve thousand years ago. In the 'agri-cultural landscape' the society is capable of producing an energy surplus through the cultivation of crops and the use of wind and water power. As a result of the comparatively low mobility and limited flow of information, we see a great variety of small-scale adaptations to local environmental conditions – in both urban and rural settings. This is followed, starting about two hundred fifty years ago, by a long transformation phase typified by industrialization and modernization. Fossil fuels make it possible for goods to be produced and transported on a massive scale. Homogeneous industrial landscapes come into existence, resulting initially in a heterogeneous mixture of industrial archipelagoes and traditional 'agri-cultural' landscapes. As the new wave spreads exponentially, the process of industrialization and modernization extends across town and country, and traditional elements 'evaporate'. A homogeneous type of landscape – the 'total landscape' (Sieferle, 2004) – comes into being.

When Sieferle wrote his account in the late 1990s, a fourth type of landscape was not on his screen. But if we observe his two factors which determine a human landscape, we clearly see a new landscape type appearing: Regarding the energy system, it is obvious that we will change from a fossil system towards a post-fossil one. And also for the second factor, the cultural self-organization, a significant shift becomes visible. Jeremy Rifkin describes this as the restructuring of human relations from vertical to lateral: "The locus of control over energy production and distribution is beginning to tilt from giant fossil fuel based centralized energy companies to millions of small producers, who are generating their own renewable energies in their dwellings and trading surpluses in info-energy commons." (Rifkin, 2011) A post-fossil society will be characterized by decentralized networks and its scope is regional. This new type of cultural self-organization, together with the new energy system, will lead to a new landscape which we might give the working title "post-fossil landscape".

After landscape architecture only very recently got a grip on the phenomena of the total landscape, like suburbia, industrial areas or traffic infrastructures, the question is if we are now able to design the upcoming post-fossil landscape from the beginning on. What is our role in the complex mix of stakeholders who build these new energy landscapes? What are the chances to increase the quality of the built environment by renewable energies? If we do not address these questions in time, similar processes might happen as in the 1960s and 1970s, when cities and landscapes were designed for easy automobile traffic from a one-dimensional perspective. This led to a massive loss of quality in the built environment which we slowly try to reverse today.

At Leibniz University of Hannover, we have started to deal with these issues in 2010 when we tried to create an identity to a new, politically established metropolitan region by using renewable energies (Design Studio "What the hell is WOBBSGÖH", Summer Term 2010). Currently, we are designing a 250 kilometer stretch of the Autobahn A7 as an "energy alley" (Design Studio "Energieallee A7", Summer Term 2012) . This builds upon an idea of the German solar pioneer Hermann Scheer, who proposed the longest decentralized power plant of renewable energies in the world along this Autobahn, which crosses Germany from North to South over 1000 kilometer (Hermann-Scheer-Stiftung, 2011). In this paper, the focus is on the results of the just finished studio "Post-Oil-Region – the example of the Bremen region" (taught together with the regional planner Prof. Rainer Danielzyk; winter term 2011/12, Bachelor of Science Landscape Architecture and Environmental Planning, Fifth Semester; additional tutor: Dipl. Ing. Börries von Detten). The goal of the studio was a design vision for the region of Bremen in the year 2050 under the premises of the "Energiewende", i.e. 80% of the electric power consumption and 50% of the heat consumption have to be provided by renewable energies.

The studio started with a research phase on renewable energies as well as the landscape of the region. After this, a mix of analytical methods (e.g. land use diagrams or topographical models), intuitive studies (e.g. atmospheric collages) and interviews (with residents as well as stakeholders) set the basis for the regional design vision. Each group had to prove that the amount of renewable energies in their designs would match the expected demand of electricity and heat in 2050, for which we had calculated numbers preset. The students should focus only on three types of renewable energies: Wind turbines, solar collectors and biomass, because geothermal energy and water energy have not a significant potential in this region. In the following, three different approaches will be presented.

FORMAL APPROACH: ENERGY RINGS (LISA OHLS, JENNIFER RAUF, LUISA WALTERBUSCH)

This design places renewable energies in circular rings around the cities or larger villages in the region. Only the city of Bremen is not included because it has not enough open area around it. Since a city from this size (550.000 inhabitants) without an urban hinterland can – by principal – never be self-sufficient in terms of renewable energies, the other cities and villages have to support Bremen. The ring around the cities or larger villages has a sufficient distance to the settlement area and should provide the necessary amount of electricity and heat needed for the respective city or village, plus an additional amount for the city of Bremen. The goals of this concept are manifold: By creating a closeness of the residents to renewable energies as well as a profit sharing by community wind- and solarparks, it aims to increase the identification of the residents with the new energy sources. Furthermore, by the precise relation between the local energy demand and the surface area needed, a fair distribution of charges is reached. It is necessary to stress that the energy rings are first and foremost a strategic device – aesthetically they are surprisingly insignificant.

LANDSCAPE TYPOLOGY APPROACH: SPACE OF STRUCTURES (CONSTANTIN MÄHL, MELANIE SYRING, BENTE TREMP)

This team started with an in-depth analysis of the regional landscape characters. Six typologies with different structures have been identified. The arrangement of renewable energies builds upon these structural features and articulates the distinctive qualities of each of the six regional landscapes.

Chain Space

This landscape type developed along the edge between geest and marsh and is characterized by chains of settlements and woodlands. Wind turbines and biomass areas are also arranged in chains to support this character. The wind turbines are set at the higher level of the topographical edge and allow a better readability of the topography.

Mesh Space

A dense mesh of drainage ditches in this former peat bog area still dominates the landscape character. Only wind turbines are used for renewable energy supply in this area. They are placed in fields of 15-30 pieces on the intersections of ditches, creating a windpower mesh as an additional landscape layer.

Band Space

Settlements are orientated along drainage channels which creates a linear appearance of the landscape. Wind turbines and photovoltaic are combined in rows to support the landscape character.

Mosaic Space

This spatial type covers the city of Bremen and its suburbs. In this mosaic of different building typologies, only photovoltaic and solar thermal collectors are possible.

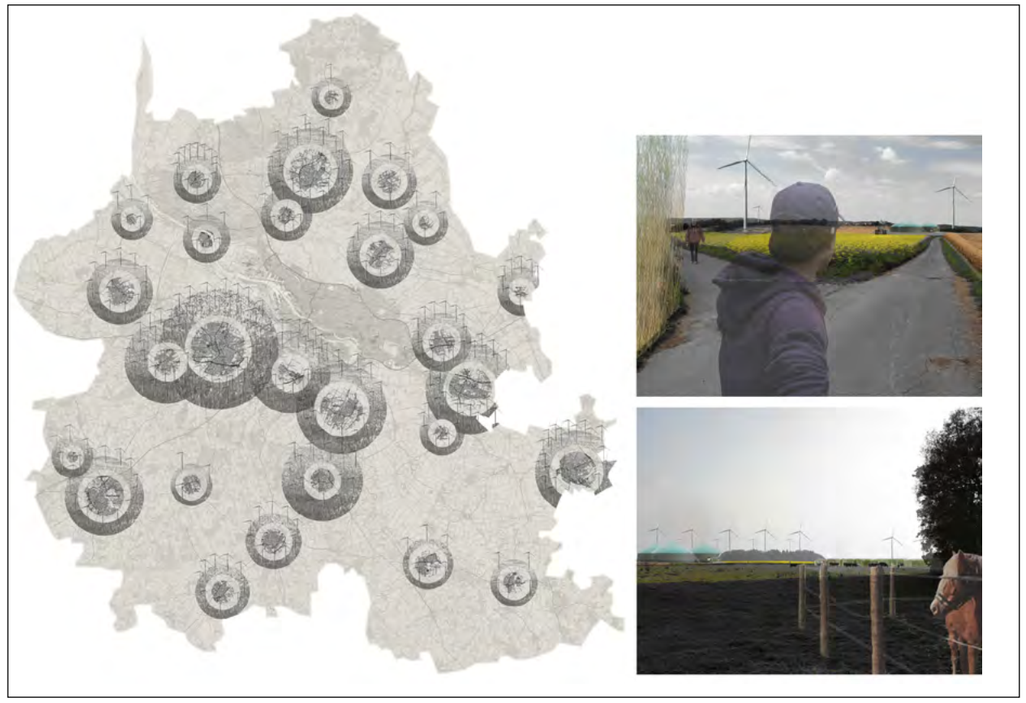

FIGURE 1. Energy Ring Concept (left), Perspectives (right).

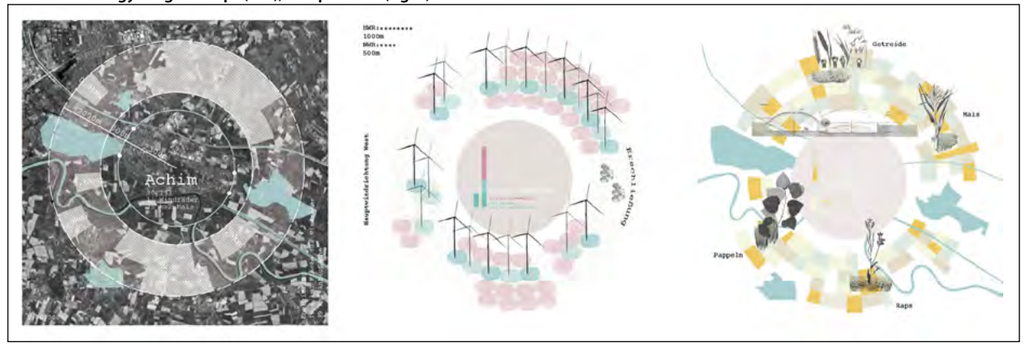

FIGURE 2. Example of an energy ring for the city of Achim. Left: Structure and location. Middle: Distribution of renewable energies for electricity production. Right: Distribution of renewable energies for heat production.

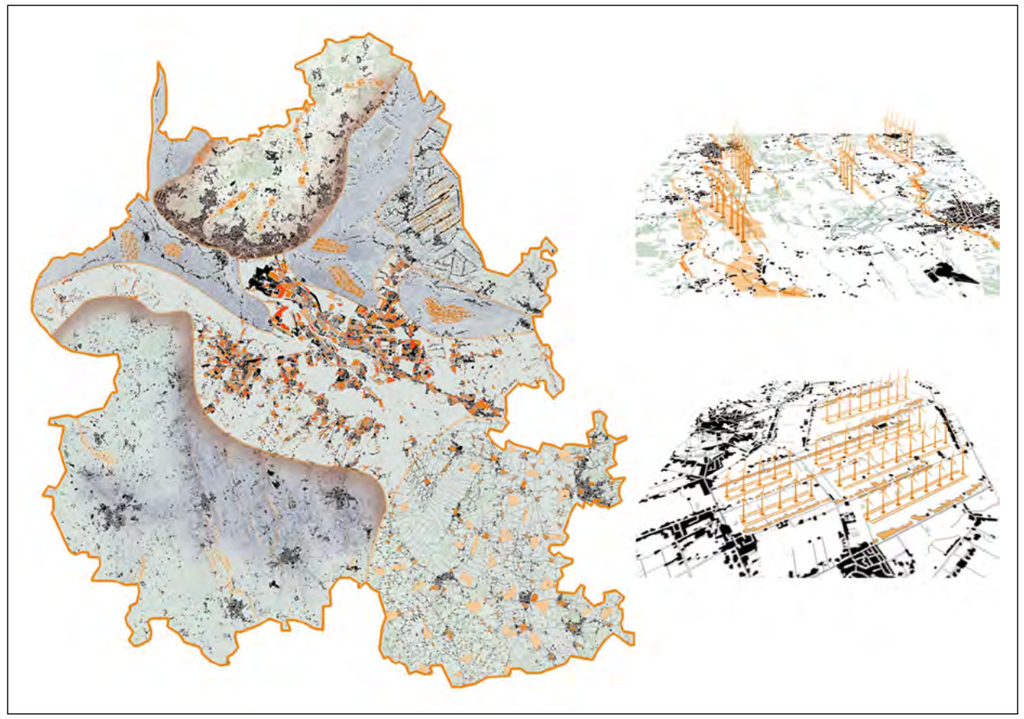

FIGURE 3. Landscape Typologies (left), Example "Band Space" (right, above), Example "Furrow Space" (right, below).

The designers give no rules for their distribution and the character of the mosaic will be intensified by the accidental spreading of these rooftop elements.

Furrow Space

This area of the region is characterized by several rivers which cut into the Northern German plain. Wind turbines and biomass areas are set along these cuts to emphasize the change in level.

Point Space

In this less densely settled part of the region, villages and farms are like small dots in a green sea. To support this small-scale character, wind turbines will be placed only in small groups of 3-5 pieces and biomass areas will have a limited size and an accidental distribution.

By this composition of renewable energy sources, which is sensitive to the existing landscape characteristics, the designers hope to increase their acceptance among the inhabitants.

PATH NETWORK APPROACH: IN SIGHT OUT – ON THE PATH OF RENEWABLE ENERGIES

The focus of this design is an existing bicycle path with a length of 220 kilometers ("Grüner Ring Region Bremen"). It circles around the city of Bremen in a distance between 20 to 40 kilometers and covers the main landscape types of the region – Marsh, Peat and Geest. The goal of this group was to arrange renewable energies along this path to enhance the aesthetic experience. To achieve this, the group concentrated on the distribution of wind turbines. They were placed strategically along the path, while biomass and solar collectors where distributed evenly in the region.

In a scenographic concept, the students explained their strategies: Some placements of wind turbines work with the topography, e.g. single rows along topographic edges increase their readability or small groups on existing elevations serve as landmarks. In flat areas, double rows of wind turbines are used to create deep perspectives, or large fields in loose order support the vastness of the Weser plain. In total, all strategies treated the existing qualities of the landscape in a sensitive way and generated new visual relations as well as aesthetic effects. The concept proves that an intelligent spatial design with wind turbines can improve the future experience to ride or walk this regional path.

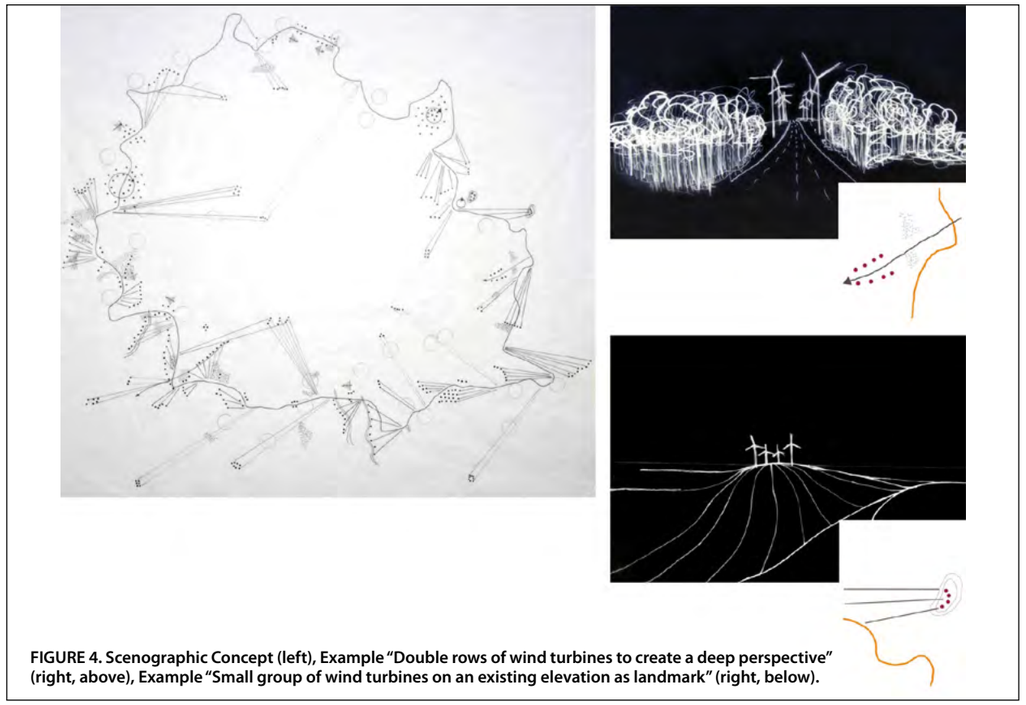

FIGURE 4. Scenographic Concept (left), Example "Double rows of wind turbines to create a deep perspective" (right, above), Example "Small group of wind turbines on an existing elevation as landmark" (right, below).

CONCLUSION

The change from a fossil society towards a post-fossil one will result in a completely new landscape which – according to Sieferle – will be only the fourth landscape type in human history. In Germany, there is currently a high dynamic to develop this new landscape by installing all types of renewable energy landscapes – yet landscape architects are hardly involved in shaping and designing these landscapes. It is urgent that the profession researches its possible contributions and gets involved in this large scale landscape transformation. The results from the design studio "Post-Oil-Region" show that landscape architects can play a role as stewards for the quality of the built environment. With their ability to read the qualities of a landscape they can create design visions which work creatively with the logic of regional landscapes. This goes beyond the currently dominating monofunctional, utilitarian approaches of placing renewable energies. The three proposals described above reveal another quality of a designerly approach: They express that there is not one, "true" solution which can be scientifically derived and needs to be accepted, but many good solutions which all could fit. Thus, these spatial visions can play a productive role in public participation processes because a quality-debate about the built environment becomes possible. Here, landscape architects should get actively involved, which is currently hardly the case. Instead, the processes of determining locations for renewable energy sources are dominated by questions of ownership, technology or economics. These are absolutely essential questions – but if our future post-fossil landscapes should have a strong regional identity and a high visual quality, landscape architects need to be integrated in shaping them.

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One landscape of 1937

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ABSTRACT
1937 was a year of political, ideological and even armed confrontations, of turbulences, a year of creativity and struggle, of confusion and hope, just like in the context of the economical crisis of our days. The "*Exposition Internationale des Arts et Techniques dans la Vie Moderne*" which took place in Paris in 1937, has the physical and psychological power to create the identity and sense of Trocadéro Hill, the most important location of this exposition. It was a place where all the movements of the time and many countries were present. From the antiquity to the present days, the landscape, urban or not, is the result of the political and/or economical power. Let us remember Chinese or Versailles palaces, the Rockefeller Centre with its roof gardens and so on. The 30's are a very interesting period for the urban open space, for industrial design, for technological development and for great changes in peoples" life. BUT, in Spain, the civil war was in progress and in early 1937 Guernica was bombed by the German air forces. Great artists and architects expressed their opinion with force. Picasso's black and white painting "Guernica" was one of the masterpieces exposed in the Spanish pavilion, the "Peace Column" was erected just in the axis of Palais de Chaillot and 20 "water cannons" were placed in the upper side of Warsaw fountains, symbolically separating the pavilions of Germany and Soviet Union. It was a reaction against the ideological confrontation between German national-socialism and communism. Both German and Soviet pavilions were symbolically placed one against another, in a symmetric opposition but with similar political meaning: the totalitarianism. The arts were flourishing but the economic crisis pushed countries towards totalitarian doctrines. The photos of the time are extremely expressive, reflecting the physical and psychological results of these confrontations. After only two years the Second World War burned Europe. Even now, this is a place of remembrance and reflection, a place with huge psychological power.

Keywords: architecture, urban open space, ideology, totalitarianism.

INTRODUCTION

The urban landscape is constantly changing. Some events, mostly the international ones, induce major transformations; Olympic Games and international expositions have the greatest impact upon the urban landscape even though the event lasted for a short time. The international exhibitions were deeply analysed to see the way new technologies and materials could change social life. They were also analysed to see their importance in people's education and knowledge. A new approach in this field is to analyse them as *urban landscape*.

We can say that international exhibitions are "classical" events. It is about the unity of time, space and action; they have a short time "to live", their area is "limited" to several tens or hundreds of hectares and they are always organised according to a leading theme. So, we can say that international exhibitions are "classical" events in urban landscape.

An international exhibition is a great show where people, architecture, engineering, movements, trends, visions and sometimes ideologies are brought together for a limited time, on a limited area, according to a major theme.

According to the Bureau International des Expositions, until the Second World War, from 28 listed international exhibitions, 7 took place in France:

1. Exposition Universelle (1855) – Champs-Élysées
2. Exposition Universelle (1867) – Champ de Mars
3. Exposition Universelle (1878) – Champ de Mars
4. Exposition Universelle (1889) – Champ de Mars and Trocadéro
5. Exposition Universelle (1900) – Champ de Mars and Trocadéro
6. l'Exposition coloniale de 1931 – Bois de Vincennes
7. Exposition Internationale des Arts et Techniques dans la Vie Moderne (1937) – Champ de Mars and Trocadéro

Since 1867, the Champ de Mars was the "host" for some international exhibitions and 1878 was the year when the axis Champ de Mars – Trocadéro Hill became an important feature in its composition. This axis turned into a significant place in Paris, a place with a particular identity, mostly because of the Eiffel Tower, erected in 1889, the actual symbol of the city and of the Palais de Chaillot, completed in 1937. The year 1937 brought another dimension to the exhibition and to the urban landscape with the new political ideologies: communism and national-socialism / fascism, expressed first of all in architecture and urban design but also in arts and social behaviour. In the large context of the international exhibitions organized in Paris, the International Exposition dedicated to Art and Technology in Modern Life – 1937 (Exposition Internationale des Arts et Techniques dans la Vie Moderne) is unique because of the physical and psychological statements of the confrontations between the two ideologies. This is the main reason for choosing it for a large case study focusing on the Trocadéro Hill. In our days, the pavilions of that year are gone, but the history and the geometry of this location are still present. The axis is still very strong, highlighted by the new Palais de Chaillot, by the Trocadéro gardens and fountains and by the Eiffel Tower.

URBAN LANDSCAPE AS A BATTLE FIELD (RESULTS AND DISCUSSION)

Until now, the international exhibitions were analysed from the point of view of technical novelty and educational impact but never as urban landscape.

The International Exhibition dedicated to Art and Technology in Modern Life – 1937 is now analysed for the structure of the urban open space, the plastic expression of the whole complex and each of its components and for its significance as a warning/premonition of the international armed confrontation that will have begun only two years later.

The composition of the main site of the International Exhibition of 1937 was dominated by the axis Trocadéro Hill – Champ de Mars. From the esplanade of Chaillot Palace, on the top of the hill, one can see the whole composition, completed by the Eiffel Tower, the Champ de Mars and other eight pavilions situated on the banks of the Seine River. In 1937, Trocadéro Hill was the location for the most of the "invited countries" pavilions.

Dynamism and competition are the characteristic features of the international expositions. The first one was induced by the succession of different events, by fireworks, water features, vegetation and the by the large number of visitors.

These events draw crowds in one place or another. The visitors and the little vehicles for them induced a "Brownian movement" on the esplanades of the exposition. The water is present in this exposition along the main axis, Warsaw Fountain and transversal on it, the Seine River. The basins, the jets and the large mirror of water of the Warsaw Fountain have a playful appearance and the 20 canons of water spread force and freshness; they point the Eiffel Tower and emphasize the importance of the main axis. The vegetation was the binder of the whole composition by flanking the main axis.

The architecture is another dynamic element, by the diversity of the volumes, colours and the character of the façades. Two of the pavilions, those of the Soviet Union and Germany, dominate the whole ensemble by proportions, dimensions and dynamism. These two important elements of the composition are symmetrically placed onto this axis, one against the other. Both pavilions had a neoclassical design, same as the Chaillot Palace and Trocadéro Fountain. Despite their ideologies, the two countries, Germany and the Soviet Union, adopted the same image and mostly the same dimensions for their pavilions. They complete each other and emphasise the same vision, with the same meanings and with the same purpose for both political ideologies (Soviet communism and German national-socialism). The totalitarianism was expressed in their architecture as a way of national propaganda. The images of these two pavilions still remain the most dominant icons of this exhibition. Both pavilions have a heavy and aggressive appearance. They were the only two pavilions completed on the opening day and they were awarded with the gold medal for their architecture.

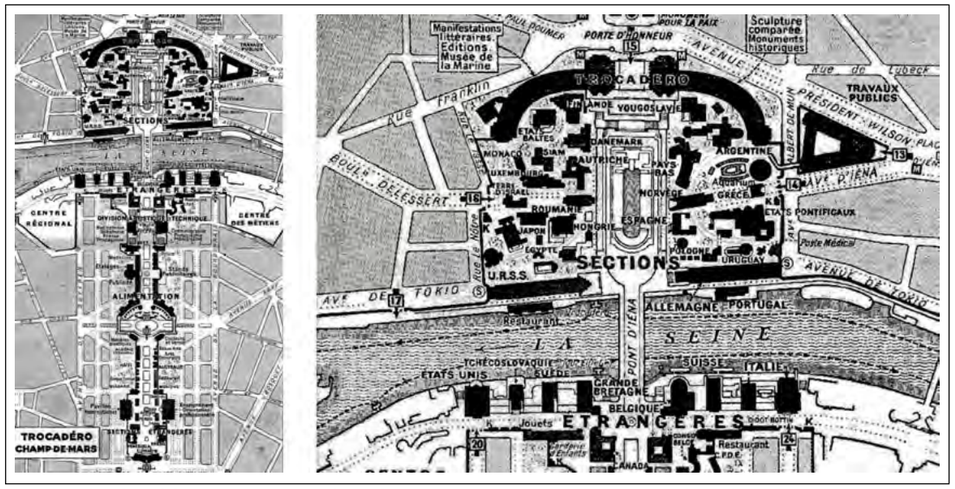

FIGURE 1. The plan of the main axis; Source: http://lartnouveau.com/art_deco/expo_1937/plans/plan04.htm.

FIGURE 2. Urban landscape; Sources:
Top left – www.expositions-universelles.fr/1937-exposition-internationale-urss.html
Top right – www.3dsaloon.fr/phpbb3/viewtopic.php?f=26&t=1472&start=10
Bottom left – www.culture.gouv.fr/public/mistral/memsmn_fr?ACTION=CHERCHER&FIELD_7
Bottom right – www.worldsfaircommunity.org/topic/6923-then-and-now-todays-history-geography-lesson/.

The Soviet pavilion designed by Boris Iofan had a strong horizontal façade crowned by a dynamic statue: "Worker and Kolkhoz Woman" made by the prominent Soviet sculptor Vera Mukhina. The whole structure was aggressively pointing to the main axis and to the German pavilion. This one had a vertical façade, with strong pilasters, crowned by the imperial eagle with the Nazi swastika. Both had to represent the power and permanence of their ideologies. The competition between the participating countries is always present in an international exposition but, in 1937, the competition became confrontation between Germany and the Soviet Union. The reason for that was the ideological.

The outdoor landscape, the urban landscape of Trocadéro Hill had to be completed with the indoor landscape of the pavilions, closed, oppressive and impressive.

The most spectacular exhibit of the Soviet pavilion was a map of the Soviet Union, made of rubies, diamonds, topazes, amethysts and other precious stones.

"Large cities were marked with precious stones framed in gold. Leningrad was marked with an alexandrite; the North Pole was marked with a diamond. Moscow was marked with a ruby star with a hammer and sickle, made of 17 diamonds." (http://englishrussia.com/2011/11/03/the-precious-map-of-the-ussr/)

Lighting effects and triumphal phrases dominated the interior of the German Pavilion, designed by Waldemar Brinkman. It was a closed space with heavy bronze doors, huge chandeliers etc. and the imperial eagle and swastika as emblems of the Third Reich. Visitors had to be impressed.

The artworks present in this exposition and especially those of the Spanish pavilion, were those who fired a warning against war and campaigned for peace (Picasso's Guernica, a remembrance of the German airborne attack upon the little Basque town), for human rights (Calder's mercury Fountain, a tribute to the resistance of workers in the mines of Mercury in Spain) and against fascism (the vertical sculpture "the Spanish people have a path that leads to a star" by Alberto Sanchez Perez). Even if it was opened seven weeks after the official opening day, the modernist Spanish pavilion, the work of architect José Luis Sert, earned a prise for its design and architecture. Unlike the German and Soviet pavilions, in the Spanish pavilion the interior and exterior space were fluidly linked one to another and the arts were advocates of peace.

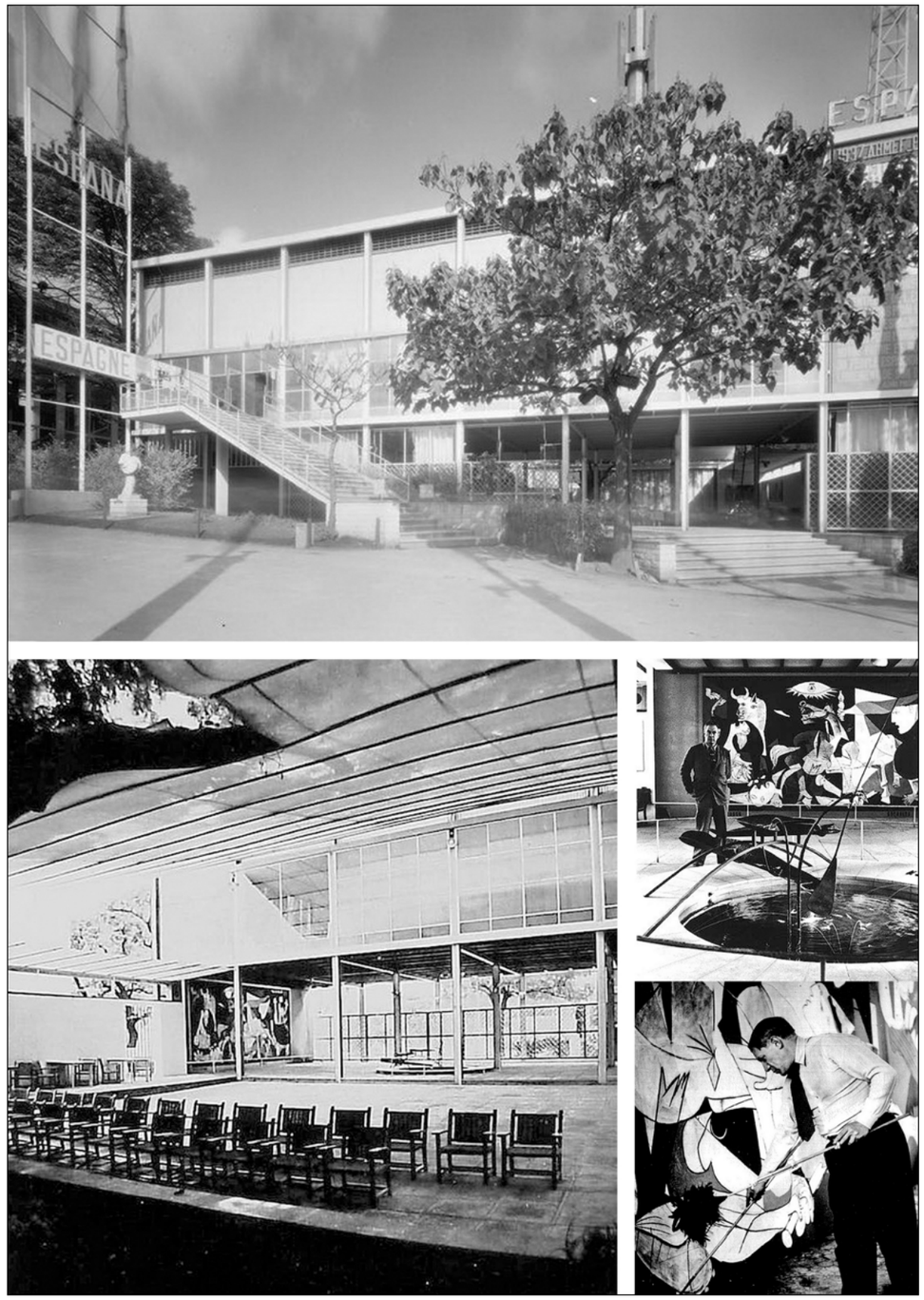

FIGURE 3. The Spanish pavilion;
Top: The Spanish pavilion, photo: François Kollar; Source: Médiathèque de l'architecture et du patrimoine, diffusion RMN
http://www.culture.gouv.fr/public/mistral/memsmn_fr?ACTION=CHERCHER&FIELD_7=SERIE&VALUE_7='EXPOSITION'%20ET%20'1937
Bottom left: "The Mercury Fountain" and "Guernica" in the ground floor of the Spanish pavilion; Source: http://catalogo.artium.org/dossieres/4/guernica-de-picasso-historia-memoria-e-interpretaciones/el-pabellon-espanol-de-la-expos-1
Right: Alexander Colder and his "Mercury Fountain"; Source: http://catalogo.artium.org/dossieres/4/guernica-de-picasso-historia-memoria-e-interpretaciones/el-pabellon-espanol-de-la-expos-5
Bottom right: Pablo Picasso painting "Guernica"; Source: http://www.flickr.com/photos/recuerdosdepandora/6628382451/.

CONCLUSIONS

Here is a proof of the power of image and of the power of landscape: in 1940, Hitler wanted to show his triumph by being photographed on Chaillot esplanade, with the Eiffel Tower as background. It was a symbolic gesture with a clear meaning. To subdue this iconic landscape means to subdue the whole France. By this image, he was asserting his supremacy upon a nation.

FIGURE 4. Adolf Hitler in Paris, 1940; Sources: Left: http://iconicphotos.wordpress.com/2009/08/12/hitler-in-paris/ Right: http://en.wikipedia.org/wiki/Adolf_Hitler.

Today, the physical landscape of Trocadéro is not the same in detail, but the relevant elements are still present. The Human rights esplanade of the Palais de Chaillot (named like this in 1948), the Trocadéro Fountain with its basins and especially with the 20 canons of water, the Eiffel Tower and the Champ de Mars are now the main elements of this place. They have the psychological power to remember the significance of this location.

Now, the peace axis is much stronger than in 1937, because it is not crowded anymore by the pavilions, with their particular architecture. The old succession of elements was completed with another one: the Wall for Peace located on Champ-de-Mars, in front of l'Ecole Militaire. This installation, created by the artist Clara Halter and the architect Jean-Michel Wilmotte, was vandalised several times by graffiti racists and anti-Semites. Peace, cooperation and understanding are still targets. The pavilions disappeared, they were demolished, but the confrontation is still living, despite the attempts of the French authorities. The identity and in the same time the sense of this place is COOPERATION against CONFRONTATION.

Remembering the International Exposition of 1937 as a dark prediction of the Second World War, we have to think deeply about it and to make the right choice: PEACE.

ACKNOWLEDGMENTS

The theme of this conference is extremely important for the actual European and international situation and has major implications in the field of landscape architecture. I express my gratitude to the organizers of the conference for choosing this theme and for initiating a debate on political implications in landscape.

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The Power Of Landscape: The Kibbutz Cemetery

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ABSTRACT

The social vision of the kibbutz as a collective society gave rise to a new spatial typology. This paper will examine the emergence of the new conception of landscape that was developed as an integral component of kibbutz planning and design, focusing on the design of the kibbutz cemetery as a new landscape type. The kibbutz cemetery offers a secular alternative to the normative, State-controlled religious cemetery. The traditional Jewish rituals of mourning have been recast in a secular setting, defined by a new landscape of gardens and groves.

While kibbutz mourning rituals have been studied, the physical landscape of the cemetery has not been studied in a systematic way. In addition to shaping a new set of secular traditions, the cemetery landscape helped to establish a sense of identity and belonging through a number of means: by establishing a site of shared history and a concrete connection to a heroic past; by providing a locus for formal national commemoration in the military cemetery and holocaust memorials that have become integral features of the kibbutz cemetery; and finally through the landscape itself. Its unique landscape character gave the cemetery an intense sense of place and rootedness in the larger landscape of Israel. (Enis, Ben Arav, 1994: 88) In contrast to the urban cemeteries of the day, the early kibbutz cemeteries were designed by landscape architects as simple, lushly planted gardens, frequently sited strategically to overlook the regional landscape. I will discuss how, on the one hand, the landscape operates as an everyday landscape woven into everyday life, and on the other hand, as a symbolic landscape which is experienced by iconic views to the regional landscape. The "rhetoric of the view" provided an important mechanism for creating belonging. The paper will document and interpret early kibbutz cemetery design in order to explore how the landscape was used, in material and symbolic ways, to shape culture and identity.

Keywords: kibbutz, cemetery.

THE POWER OF LANDSCAPE: THE KIBBUTZ CEMETERY

The cemetery is a sacred space-for the dead, and for the living. Its spatial organization reflects its society and is shaped by symbolic meaning, social norms and cultural traditions. While there has been much regional variation in the form of the Jewish cemetery worldwide, its basic elements have remained constant, as dictated by Jewish law and custom (Newman, 1986). The location of the cemetery was influenced by the laws of impurity associated with the dead (tum'ah) which required the cemetery to be located some distance from the nearest house. Its open form, typically devoid of planting is based on the Talmudic rule that "whatever belongs to the dead and his grave may not be used for the benefit of the living" (Berenbaum, Skolnik, 2007).

In this paper I will look at a unique cemetery typology that evolved within the secular Zionist context of the kibbutz, the communal agricultural settlement that emerged in Israel at the beginning of the twentieth century. The kibbutz was a new democratic society based on equality, collective land ownership and shared property, based on an amalgam of socialist and Zionist principles. The ideology of a collective society transformed all facets of life, from work to family life, creating new social institutions, educational systems and new typologies of buildings and landscape.

The centrality of landscape in kibbutz planning and design also played an important role in transforming the kibbutz cemetery. In contrast to urban cemeteries of the time, it was a simple, intimate space, designed as a lushly planted garden, frequently sited strategically to overlook the regional landscape. The kibbutz cemetery developed as a secular alternative to the normative, religious cemetery.[1] (FIGURE 1) Here traditional Jewish mourning rituals were recast in a secular setting defined by a new landscape of gardens and groves (Enis, Ben Arav, 1994: 88). The landscape itself became a central figure, in marked contrast to the urban cemetery in which the planting of trees was taboo. The cemeteries were frequently professionally designed by well-known landscape architects of their day (FIGURE 2 and FIGURE 3).

While kibbutz mourning rituals have been studied as an example of the secularization of Jewish ritual, the physical landscape of the cemetery has not been studied in a systematic way. How is the landscape used here in material and symbolic ways to shape culture and identity? What is the power of the landscape to provide a spiritual framework for this new secular society?

The kibbutz cemetery plays a key role in the kibbutz culture beyond the context of mourning. It produces of sense of identity and belonging through

1 Jewish cemeteries in Israel are administered by a State-supervised religious body in charge of burial practice. (Chevra Kadisha). Despite a 1996 law which states that all Israelis may choose civil burial, the cost of which will be covered by National Insurance Institute just like religious burial, state funding has not become available to provide alternatives on a large scale. Several Kibbutzim, such as Einat and Givat Hashlosha, have made the sale of cemetery plots into a profitable business.

FIGURE 1: Mount of Olives cemetery, Jerusalem – a Jewish cemetery from Biblical times until the present.

a number of means. First, it establishes a site of shared history. The gravestones offer a historical record of the kibbutz and its founders, providing a concrete connection to a heroic past. Historian Muki Tzur has noted that to the kibbutz cemetery has always served as a place of ritualized inspiration, in part taking the place of prayer in the new secular kibbutz society. In the 1930s the new immigrants would go to the cemetery to visit the graves of the "founders" to gain strength to adapt to the difficult new reality (Ben Gurion, Shua, 1990). The significance of the historical narrative embedded in the cemetery as a source of pride and inspiration is echoed in many descriptive accounts. In some cases these cemeteries have continued to function as secular "pilgrimage" sites, such as the grave of the renowned poet Rachel in Kibbutz Kinneret.

FIGURE 2. Oren – Weinberg Shlomo 1945. Kibbutz Giv'at Brenner – Landscape Plan and Plant Design for Cemetery.

Second, the kibbutz cemetery has increasingly become locus of the formal national commemoration that takes place on the annual Remembrance Day and Holocaust ceremonies. Since the Six-Day War in 1967, many kibbutzim have added separate military sections that follow the codes of military burial for those who fell in war. Many have also added large ceremonial gathering spaces. Thus they have taken on the added function of a military cemetery, transforming the kibbutz cemetery into a site of national memory culture.

The third means of establishing a sense of identity and belonging is through the landscape itself. Its unique landscape character gave the cemetery an intense sense of place and rootedness in the larger landscape of Israel. The cemetery uses landscape in complex ways; it is a performative space creating an everyday landscape, as a way of normalizing death and bringing into everyday life; but it also uses landscape in a pictorial way to mine its symbolic meaning. Denis Cosgrove wrote: "a landscape is a cultural image, a pictorial way of representing, structuring or symbolizing surroundings." (Cosgrove, Daniels, 1988:1) One of the important ways in which in which its symbolic meaning is constituted is through its site, chosen to frame specific views of the landscape. The view is used rhetorically to create a symbolic landscape, which geographer D.W. Meinig has defined as "part of the iconography of nationhood, part of the shared set of ideas and memories and feeling which bind a people together" (Meinig, 1979:164). The symbolic landscape, experienced through the view, provides an important mechanism for creating a sense of home. I will show how the cemetery landscape operates on two levels: as a garden, or everyday space located in proximity to the kibbutz, as well as a symbolic landscape, whose meaning is reinforced through its visual relationship to the regional landscape.

The first kibbutz cemeteries and mourning rituals developed locally and spontaneously and did not become institutionalized until much later. The early settlers were young. The first deaths were not a result of old age, but were unnatural deaths caused by work accidents, disease, Arab and Bedouin attacks and suicides. Many small children died of diseases. A number of the early cemeteries were located on the sites of the first deaths in the community, whether by road accidents or by local attacks. Only later was the cemetery sited and designed as part of the overall plan of the settlement.

There was also an improvisational quality to bereavement ritual in the early years. While the kibbutz member rejected Jewish tradition, few alternative practices emerged in place of religious ceremony. There were some accounts of singing and dancing early on, followed by later customs of reading poetry and literature during the funeral (Ben Gurion, Shua, 1990). Later, funerals were conducted in silence. Only in the the 1960s, when the first pioneers were already aging, was there a focused discussion on bereavement rituals within the kibbutz movement, and the codification of mourning customs. In 1970 the Social and Culture Committee of the United Kibbutz movement drafted guidelines for mourning customs. Some of these contradicted traditional Jewish burial practice (such as burial in a coffin rather than the traditional direct burial in the ground, use of flowers near the coffin, and the use of candles) (Schiller, 2005). They also specified that all gravestones should conform to consistent sizes and forms and that a standard format of the epitaph should be established by each kibbutz.

Unlike its urban counterparts, the kibbutz cemetery is designed as a garden. Landscape historian

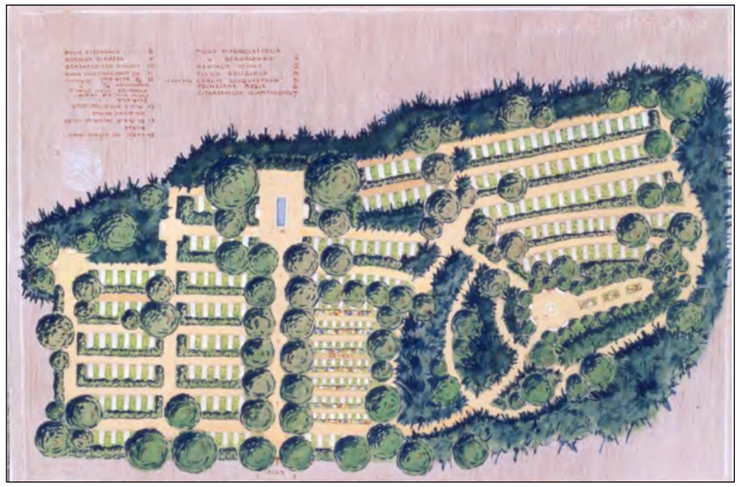

FIGURE 3. Oren – Weinberg Shlomo 1946. Kibbutz Ma'os Hayyim – Landscape Plan of Cemetery.

John Dixon Hunt has noted: "Gardens are intermediate zones–liminal enclaves between outside and inside, town and country, social space and private space – and therefore they lend themselves symbolically to the commemoration of the dead" (Hunt, 2001) .The garden, he suggests, takes on a mediating role between the living and the dead. Set apart from daily life, the garden provides a space of withdrawal from the city into a contemplative realm.

The kibbutz cemetery does not operate as a contemplative "space apart", but just the opposite: it is deliberately woven into everyday life. This is evident in the many debates surrounding the question of where to site of the kibbutz- such as Givat Brenner, Ayelet Hashachar, Beit Hashita, Ein Harod (Ben Gurion, Shua, 1990); whether it should be close to the kibbutz or further away. Though each kibbutz resolved the question of location in different ways, many kibbutzim opted to maintain continuity between the settlement and its cemetery, as one member wrote "because death is part of life." The everyday aspect of the garden is a motif in many of the descriptions. One member wrote: "It is good that the cemetery is close to the houses, and it is good that whoever needs to go there can get there. The excuse is that you have to water the plants, but really the need is different – to live memory always, not just on days of mourning, but also on holidays, and days of joy, because memory is a bridge, not just to the past, but is also an opening to the future" (Ben Gurion, Shua, 1990: 272). The cemetery was imagined as space for "respectful commemoration along with casual everyday use" (Ben Gurion, Shua 1990:270) – a place in which to take a walk, a place to which groups of children would come with their caregivers to see the flowers blooming.

There are frequent references in the writings of kibbutznikim about the significance of natural environment in shaping identity and creating a sense of belonging. In a 1944 eulogy a member of Beit Hashita wrote about the cemetery: "The place, the spring and the grove established the character of our lives and created a sense of connection to home." There is also a spiritual side of nature that emerges from the writings, using nature imagery as prayer. A kibbutznik at Beit Hashita writes: "whoever comes to walk among the gravestones or to commune with his dear ones, will hear a silent prayer stealing in the evening wind through the pine trees, the cypress trees bursting to the sky, and the white candles of the squill he will find himself praying with all his senses" (Ben Gurion, Shua 1990: 270).

The cemetery landscape operates on several planes: it is both and everyday space, an intimate garden that is physically engaged in all of its materiality, watered, weeded, cultivated, enjoyed for its scents, its shade. But the intimate space of the garden is also designed as a kind of balcony, or belvedere, from which to view another, distant landscape. The cemetery is typically sited on a high point, where possible, or in a location that is open to the distant view. This view ties the kibbutz to the land and the regional landscape – a symbolic landscape to be experienced visually. This principle appears among the basic design principles for rural cemeteries, including kibbutzim, outlined by landscape architect Joseph Zeligman in 1974 (Zeligman, 1974). Siting criteria include such functional considerations as

soils and aspect – especially with respect to wind direction – access, and quiet. The only visual consideration he notes is the integration with the surrounding landscape, achieved by siting the cemetery on a hill, where the topography allows, to provide views to the landscape.

The symbolic landscape, experienced through the view, provided an important mechanism for creating belonging. The connection with the land was a cornerstone of Zionist ideology. Historian Boaz Neumann has documented the early pioneers" ecstatic desire for the land that was expressed in their deep connection to the physical landscape, its plants and wildlife (Neumann, 2011). Art historian Tali Tamir underscores the pivotal role of the landscape for the early settlers: "The Zionist story takes place outside: it is the story of public space." (Tamir, 2010). Tamir claims that Zionist culture could not create a home. Home was to be made not in the private realm, but through the landscape.

In the kibbutz cemetery, the traditional Jewish rituals of mourning have been recast in a secular setting in which the landscape plays a primary role. Landscape operates at multiple levels: its power is felt at the scale of the everyday, bringing death into the rhythms of life through the form of the garden and the intimacy it creates. Yet, I argue, the kibbutz cemetery also engages the landscape at a larger scale by virtue of its sitting and its use of the panoramic view. The rhetoric of the view connects the intimate space of the cemetery to a larger symbolic landscape of home and homeland.

FIGURE 4. Kinneret Cemetery with view to the Sea of Galilee.

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The Ecologıcal Power Of The Antalya Cıty: Endemıc Plants

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ABSTRACT

"Endemic Plant" coming from the words "Indigenous, Endemo" in Greek is defined as unique to a particular part of an island, a mountain, a country or a continent.

Turkey, located at the intersection of three important gene centers, stands out as an important gene center having a distinguished ecology and biodiversity. There are more then 10.000 flowering plant species in Turkey and 3.950 of them are known to be endemic to Turkey. Turkey's floristic richness is crystal clear compared with the total 2.500 endemic plants in European countries.

The regional distribution of endemic plants in Turkey: the Southeastern Anatolia 64, Marmara 102, Aegean 171, the Black Sea 277, Central Anatolia 335, the Eastern Anatolia 471, lastly 862 in the Mediterranean Region. As the figures show most of them are in the Mediterranean Region. The rest of the endemic species distribute in more than one geographic region. In total there are 20 endemic plant species in Antalya settlement. 5 of them are in urban, 15 of them are both in urban and residental areas.

Biological diversity and genetic resources are societies" economic, ecological, cultural and spiritual values and a connection with their past. It is the guaranty regarding the security of food supply. This is the unique source of higher yield, resistance against diseases, insects, cold and drought. Therefore, biological diversity and genetic resources are indispensable natural abundances that we hand down and they cannot be ignored.

This richness brings responsibilities to Turkey and Mediterranean Region. It should not be forgotten that endemic plants are world heritage site. Turkey has to preserve this richness. The scope of this study is to create a template to guide all countries to organize a database about endemic plants, overhaul the existing IUCN Red List "classes and standards" contents. Also, it aims to make projects to preserve all of the endemic plants without disregarding any of them and to "review the countries" policies.

Keywords: endemisim, endemic plants, ecology, Antalya city.

INTRODUCTION

The Anatolia has still extremely interesting and valuable source of plants material. Many plants of Turkey's natural vegetation are used as ornamental plants in Western countries (Köse, 1998).

Turkey is one of the richest country into the world in terms of its natural vegetation (Davis *et al.*, 1965-1985). According to recent records in Turkey, there are more then 10.000 flowering plants and ferns species, approximately 10.500 taxa., 3.950 of flowering plants are known to be endemic to Turkey and are not exist naturally in other countries" nature (Burak, 2009).

Antalya city, which is extremely rich city with number of 862 endemic species in Turkey, and its endemic plants presence in IUCN Red List classes will be researched; the scope of these proposals will be explored with establishing the balance between conservation and protection of endemic plant species in this study.

MATERIALS AND METHODS

Antalya is a city on the Mediterranean coast of southwestern Turkey. There are 15 districts in Antalya which are showed in FIGURE 1.

The main materials of this study are some books, papers and other written sources; researches, maps, plans and various forms of visual materials about the importance of endemic plants in Antalya city and Turkey.

Written and visual materials about Antalya city, endemism, endemic plants on nature conservation and biological diversity were collected in the inventory phase which is the first step of the study. This content based on "Endemic Plants of Antaly City" Göktürk and Sümbül (1996), "The current conservation status of some endemic plants of Antalya Province" Göktürk and Sümbül (2002), Red Data Book of Turkish Plants (Ekim *et al.*, 2000) and IUCN Red List classifications had been based on. In second phase of the study, collected materials were analysed and findings were revealed. In third and last phase, which is the evaluation of the results, findings were discussed, relationship and interaction between endemic plants of Antalya city and nature conservation, biological diversity, international politicies were evaluated.

PHYTOGEOGRAPHICAL REGIONS OF TURKEY

The meaning of phytogeography is the branch of biogeography that is concerned with the geographic distribution of plant species and their influence on the earth's surface (Anonymous, 2012). A phytoge-

ographical region is defined as an area of uniform climatic conditions and having a distinctly recognisable type of vegetation (Anonymous, 2008). There are four phytographical regions in the world. These regions are Circumboreal, Mediterranean, Saharo-Arabian and Irano-Turanian. Turkey's phytogeographical regions are; Euro-Siberian, Mediterranean and Irano-Turanian phytogeographical regions. In this research, in order to examine the city of Antalya, Mediterranean phytogeographical region will be discussed.

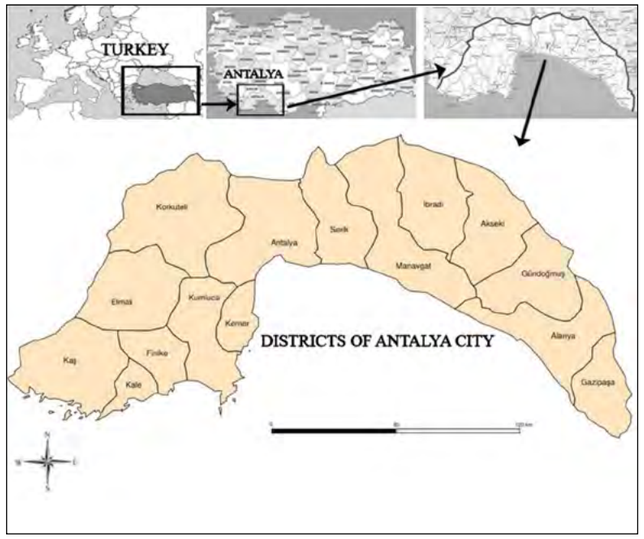

FIGURE 1. Study area.

Mediterranean Phytogeographical Region

Mediterranean phytogeographical region has seem in whole of countries which are around Mediterranean. All of the places have been seen in the Mediterranean vegetation belongs to the Eastern Mediterranean region in Turkey. The vegetation's characteristic features, which is formed with the impact of Mediterranean climate, are maquis, many bulbous plants, annual herbaceous plants and shrubs in the form of pillow-shaped plants. Maquis are consisting of everygreen shrups and spread under 1000 m high. In more deeply grounded regions in accordance with the climate, forest vegetation becomes dominant. The predominant type of the forest vegetation is Calabrian pine tree (Turkish pine-Pinus brutia). Sweetgum (Liquidambar orientalis (MILL.) is region's most notable relict species and only takes places as forests only in Anatolia. Above 1000 m. there are Larch, cedar, Taurus fir, juniper and arceuthos drupacea trees, above 1700 m. there are pillow-shaped perennials become more common. Euxin elements are found in the interesting flora of Amonos Mountain (Özhatay, 2009).

ENDEMISM AND ENDEMIC PLANTS IN TURKEY

Some plants and animals species which live in encountered in other areas and at a certain point of the earth means "endemic" this event is called "endemisim". Dimensions of the area for an endemic plant can be too narrow or too wide. However, the important point in this reason is plant and animal species" dimension areas concern about a specific point. Otherwise, endemisim can not be mentioned.

The family of Compositae is the richest family in terms of endemic species in Turkey flora (TABLE 1), the highest rate of endemism is in Campanulaceae family. Astragalus is the richest genus with its endemic species (TABLE 2) (Özhatay, 2009).

TABLE 1. Ten richest families in Turkey in terms of endemic species (Özhatay, 2009).

Family	Number of endemic species	Endemism (%)
Compositae	447	36.8
Leguminosae	406	37.9
Labiatae	257	44.7
Scrophulariaceae	211	51.5
Cruciferae	210	38.3
Caryophyliaceae	194	39.9
Liliaceae	169	36
Umbelliferae	136	30.1
Boraginaceae	113	27.9
Campanuiaceae	76	52.3

TABLE 2. Ten richest families in Turkey in terms of endemic genus (Özhatay, 2009).

Genus	Number of endemic species	Endemism (%)
Astragalus	276	61.3
Verbascum	186	79.8
Centaurea	111	62
Eleracium	68	63
Allium	65	41.1
Campanula	62	55.4
Alyssum	55	57.9
Silene	55	40.4
Galium	51	48.1
Onosma	46	73

Turkey was divided to 29 units with the grid system which were used for determine to Turkey has the highest rate of endemism between western and eastern sectors (Anatolian diagonal). 10 of 29 unites have 20% or higher rate of endemism in the grid system (Kutluk and Aytuğ, 2001) (FIGURE 2).

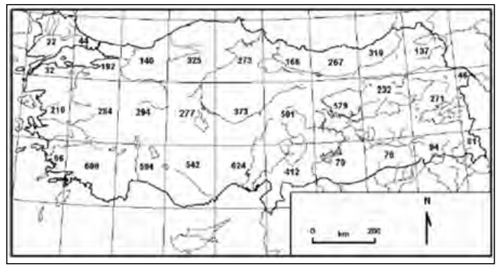

FIGURE 2. The distribution of the number of endemic plants in Turkey (Kutluk and Aytuğ, 2001).

ENDEMIC PLANTS OF ANTALYA CITY

Antalya, a city that is among the important tourism centers of Turkey, is situated in the Mediterranean Region. The Mediterranean Region is in a leading position with the 639 endemic species it includes (Ekim *et al*, 1989). The 491 of the endemic species of Turkey grows in the city limits of Antalya. According to Ekim and his friends (Ekim *et al.*, 1989); the area between Antalya-Muğla where endemic species are found at most besides, Taşeli Plateau, Mut-Ermenek-Gülnar and Anti-Taurus Mountains is one of the endemism center (Göktürk and Sümbül, 1996). There is a list about endemic plants of Antalya city below (FIGURE 3).

FINDINGS

Within the framework of nature conservation, IUCN Red List and Turkey's situation, there are many purposes on and "Red Data Book of Turkish Plants" stands out. All endemic and not endemic plants of Turkey which were determined or not determined in the flora of Turkey, listed up in it. The plants which are not endemic but endangered were considered individually. These plants were categorized as ferns and seed plants; seed plants categorized as open and closed seed plants. Their families, genus, species and sub-species taxons are categorized in an alphebetic order. All of these classes are categorized in the basis of IUCN Danger Classes which was published in 1994.

The majority of Turkish endemics only grow in specific geographic regions. The number of endemic species in the Mediterranean region is approximately 25% of the total number of endemic species (Ekim *et al.*, 2000) which means that the number of endemic species in the Mediterranean region is around 750. About 500 of these endemic species also grow within the province of Antalya and around 200 of them are only found within the province of Antalya (Ekim *et al.*, 2000).

Antalya is known to have a great biological diversity with a very rich endemic flora and some floristic studies have been made for Antalya. There is a figure about the floristic studies of Antalya endemic plants below (FIGURE 4).

Assessments and recommendations were developed in the conclusions part in the light of all these informations.

LOCATION	ENDEMIC PLANTS	FEATURES	FLORISTIC STUDIES
South-West of Antalya	*Pinus brutia*, *Spartium junceum*, *Quercus coccifera*, *Cistus salviifolius*, *Juniperus foetidissima*.	Termessos National Park	Antalya has a large number of national parks including Olympos Beydağları, Köprülü Kanyon, Termossos and Altınbeşik. Floristic studies of these parks have already been completed, namely of Olympos-Beydağları National Park by Pesmen (1980); Köprülü Canyon National Park by Ayaşlıgil (1987) and Termessos National Park by Alcitepe (1998). Besides these, there are a number of floristic studies such as The Flora of Elmalı-Çığlıkara and Bucak Cedar Forests by Çetik (1977); The Flora of Antalya City by Göktürk and Sümbül (1997); The Flora of Taşeli Plateau by Sümbül and Erik (1990); A Floristic Study on Sarısu-Saklıkent, Antalya by Dinç (1997); The Flora and vegetation of Bakırlıdağ by Eren (2000); The Flora of the vicinity of Manavgat river by Işık et all. (1995) and the vicinity of Belek has been studied by Bosgelmezet all. (1995). Additionally, part of the flora of the Belek region has been published under the title "250 Plants of Belek" as a contribution to tourism by Sümbül, Göktürk and Işık (1998).
North-West of Antalya	*Onobrychis cornuta*, *Astragalus angustifolius subsp. angustifolius*, *Acantholimon acerosum*, *Acantholimon ulicinum*, *Saponaria pumilio*, *Silene caryophylloides*.	Saklıkent Tourism Center (Ski Resort), Karçukuru, Bakırlıtepe and Çalbalı Mountain	
North-East of Antalya	*Rosa dumalis var.antalyensis* is the best known endemic which grows only on Bozburun mountain.	Bozburun Mountain (one of the richest areas in endemic species)	
Coastal regions	*Cephalaria isaurica*, *Cephalaria gazipashensis*, *Alkanna macrosiphon*, *Origanum saccatum*, *Sideritis argyrea*.	Tourism Centers (they are under pressure from urbanization which constitutes a threat for the survival of rare and endemic species)	
West of Antalya	Maquis species such as *Phillyrea latifolia*, *Fontanesia phillireaoides*, *Quercus coccifera*, *Olea europea*, *Myrtus communis*, *Paliurus spina-christi* and *Cistus creticus* are dominant at the lower altitudes in this area, whereas *Pinus brutia* becomes dominant as the altitude rises. *Silene echinospermoides*, *Verbascum proctratum*, *Verbascum nudatum var. nudatum*, *Verbascum chrysochaeta* and *Asperula stricta subsp. elmaliensis* are some of the endemic plants that grow in this area from which seeds were also collected.	Tourism Centers (The region between Finike and Elmalı)	

FIGURE 4. Floristic studies of Antalya endemic plants.

CONCLUSIONS

Measures should be taken about protecting species richness which is under pressure by biotic and other factors. Various protection status should be augmented.

There has to be legal sanctions about conservation of endemic plants.

The public's awareness has to be raised. The regions which endemic plants are located has to be defined and cleared in the city and regionl plans by digitalization.

Conservation of endemic plants, both in regional, national and global scale is extremely important. Many of the endemic plant consists of medicinal and aromatic plants. For human health, the presence of endemic plants is extremely important. Therefore, the disappearance of these plants should be prevented, precautions should be taken.

In every city in order to introduce the existence of endemic plant species, endemic plant gardens, botanical gardens have to be located to different public spaces. Existing areas have to be developed.

Endemic Plants

Apiaceae/Umbelliferae
Bupleurum pulchellum
Seseli gummiferum Pallas ex Smith subsp.corymbosum (Boiss.&Heldr.)
Tordylium lanatum(Boiss.)Boiss.

Asteraceae/Compositae
Anthemis ammophila Boiss. et Heldr.
A.rosea Sm. subsp.cernea (Boiss.) Grierson
Onopordum boissieri Willk.
Centaurea solstitialis L. subsp. pyracantha (Boiss.) Heldr.
Picris campylocarpa Boiss. et Heldr.
Centaurea dichroa Boiss.&Heldr.
Centaurea pestalozzae Boiss.
Helichrysum

Boraginaceae
Onosma strigosissimum Boiss.
Onosma nanum DC.
Onosma taurium Pallas ex Willd. var. brevifolium DC.
Alkanna pinardii Boiss.
Alkanna tinctoria (L.)Tausch. subsp. subleiocarpa (Hub.-Mor.) Hub.-Mor.
Alkanna macrophylla Boiss. et Heldr.
Alkanna macropsiphon Boiss. et Heldr.
Alkanna pamphlica Hub.-Mor.&Reese
Omphalodes ripleyana P.H.Davis

Caprifoliaceae
Lonicera nummulariifolia Jaub.&Spach subsp. glandulifera (Hub.-Mor.) Chamberlain

Malvaceae
Alcea apterocarpa (Fenzl)Boiss.

Liliaceae
Allium sandrasicum Kollmann, N. Özhatay et Bothmer
A. junceum Sm. subsp. tridentatum Kollman, Özhatay et Koyuncu
A.robertianum Kollmann
Bellevalia clusiana Griseb.
Hyacinthella heldreichii (Boiss.) Chouard
Muscari bourgaei Baker
Muscari musarimi Medicus
Ornithogalum albigenum Stapf.
Tulipa armena Boiss. var.lycica (Baker) Marais

Plumbaginaceae
Acantholimon acerosum (Willd.) Boiss. var. brachystachyum Boiss.

Iridaceae
Crocus biflorus Miller subsp. Isauricus Mathew
Crocus biflorus Miller subsp. punctatus Mathew
Crocus cancellatus Herbest subsp. Lycicus Matthews
Gladiolus anatolicus (Boiss.) Stapf.

Poaceae/Gramineae
Alopecurus lanatus Sm.

Illecebracea
Paronychia argyroloba Stapf.
Paronychia davisii Chaudhri

Brassicaceae/Cruciferae
Aethionema subulatum (Boiss.&Heldr.)Boiss.
Alyssum erosulum Gennar et Pestal.
Alyssum huetii Boiss.
Alyssum macropodum Boiss.& Bal.var. macropodum
Alyssum pterocarpum Dudley
Draba brunifolia Stev.subsp.heterocoma (Fenzl)Coode&Cullen var.nana (Stapf)Schulz
Erysimum kotschyanum Gay
Isatis floribunda Boiss.ex Bornm.
Isatis cappadocica Desv.subsp.alyssifolia (Boiss.)Davis
Iberis carica Bornm.
Matthiola longipetala (Vent.) DC.subsp.pumilio (Sibth et Smith) P.W. Ball
Mattihola montana Boiss.
Ricotia carnosula Boiss.et Heldr.
Ricotia sinuata Boiss.&Heldr
Ricotia varians B.L.Burtt.

Campanulaceae
Campanula lyrata Lam. subsp. lyrata
Campanula podocarpa Boiss.
Asyneuma linifolium (Boiss.&Heldr.) Bornm.subsp.linifolium

Crassulaceae
Rosularia globulariifolia (Fenzl) Berger
Rosularia chrysantha (Boiss.)Tahkt.

Oleaceae
Fraxinus ornus L. subsp. cilicica (Lingelsh.)Yaltırık

Hypericaeae/Guttiferae
Hypericum ternatum Poulter
Hypericum olympicum L.subsp.auriculatum Robson et Hub.-Mor.
H. polyphyllum Boiss. et Bal.subsp.suncordatum Robson et Hub.-Mor.
H. aviculariifolium Jaub.et. Spach. Subsp.aviculariifolium var. Avicullariifolium
H. avicullariifolium Jaub.et. Spach. Subsp.depilatum (Freyn et. Bornm.) var.depilatum

Rhamnaceae
Rhamnus nitidus P.H.Davis
Rhamnus pichleri Schneri&Bornm. ex Bornm.

Vitaceae
Ampelopsis orientale (Lam.) Boiss.

Rosaceae
Amelanchier parviflora Boiss. var. dentata Browicz
Crataegu aronia (L.) Bosc. ex DC. var. minuta Browicz
Pyrus serikensis A.Güner &H.Duman
Rosa dumalis Bechst. var. antalyensis (Manden) Ö.Nilsson

Galium dumosum Boiss.
Galium floribundum Sm. subsp. airoides Hub.-Mor. ex Ehrend
Galium pamphylicum Boiss.&Heldr.

Caryophyllaceae
Dianthus elegans D'Urv.var.cous (Boiss.) Reeve
Petrorhagia hispidula (Boiss.et Bal.)Ball et.Heywood
Petrorhagia pamphylica (Boiss.et.Ball.) Ball et.Heywood
Velezia pseudorigida Hub.-Mor.
Arenaria acerosa Boiss.
Arenaria angustifolioides Kit Tan&Sorger
Arenaria deflexa Dec.subsp.microsepala McNeill
Arenaria mons-cragus Kit Tan&Sorger
Gypsophila pilulifera Boiss. et Heldr.
Minuartia pestalozzae (Boiss.) Bornm.
Saponaria chlorifolia Kunze
Saponaria pinetorum Hedge
Silene echinospermoides Hub.-Mor.
Silene oreades Boiss.&Heldr.

Dipsacaceae
Cephalaria cilicica Boiss.&Kotschy
Cephalaria elmaliensis Hub.-Mor.&Matthews
Cephalaria gazipashensis Sümbül
Cephalaria isaurica Matthews
Cephalaria peshmenii H.Sümbul
Cephalaria scoparia Cotandr.&Quezel
Pterocephalus pinardii Boiss.

Hamamelidaceae
Liquidambar orientalis Miller var. integriloba Fiori

Fagaceae
Quercus aucheri Jaub. et Spach.

Rubiaceae
Asperula stricta Boiss. subsp. elmaliensis Schönd.-Tem.
Asperula stricta Boiss. subsp. monticola Ehrend.
Galium canum Req. Ex. DC. subsp. antalyense Ehrend.

Lamiaceae/Labiatae
Ajuga bombycina Boiss.
Ballota glandulosisima Hub.-Mor.&Patzak
Calamintha pamphylica Boiss&Heldr. subsp. Davisii (Quezel&Codandr) P.H.Davis
Dorystoechas hastata Boiss.&Heldr. Ex Bentham
Marrubium bourgaei Boiss. subsp. Bourgaei
Marrubium heteredon (Bentham) Boiss.&Bal.
Nepeta cadmea Boiss.
Nepeta phyllochlamys P.H.Davis
Origanum saccatum P.H.Davis
Origanum minutiflorum O. Schwarz&P.H.Davis
Origanum solymicum P.H.Davis
Phlomis bourgaei Boiss.
P.leucophracta P.H.Davis et Hub.-Mor.
P.grandiflora H.S.Thompson var. grandiflora
P.lycia D.Don
Salvia caespitota Montbret&Aucher ex Bentham
Salvia chrysophylla Stapf
Salvia pisidica Boiss.&Heldr. Ex Bentham

Euphorbiaceae
Euphorbia cardiophylla Boiss. et Heldr.
E.falcata L. subsp. macrostegia (Bornm.) O.Schwarz
E.anacampseros Boiss. var. Anacampseros
Euphorbia pestalozzae Boiss.

Papaveraceae
Papaver apokrimenon Fedde
Papaver spicatum Boiss.&Bal. var. luschanii Fedde

Globulariacea
Globularia davisiana O Schwarz

Ericaceae
Erica bocquetii (Peşmen)P.F.Stevens

Pinaceae
Abies cilicica (Ant. Et Kotschy) Carr.subsp. isaurica Coode et Cullen.

Fabaceae/Leguminosae
Astragalus lycius Boiss.
Astragalus pinetorum Boiss.
Astragalus sorgerae Hub.-Mor.&Mey
Ebenus boissieri Barvey
Glycyrrhiza asymmetrica Hub.-Mor.
Lathyrus belinensis N.Maxed
Lathyrus lycicus Boiss.
Trigonella arenicola Hub.-Mor.
Trigonella polycarpa Boiss et. Heldr.

Ranunculaceae
Delphinium queneri P.H. Davis
Ranunculus demissus DC. var. major Boiss.

Lamiaceae/Labiatae
Sideritis argyrea P.H.Davis
Sideritis erythrantha Boiss.&Heldr. Var. erythrantha
Sideritis condensata Boiss. et Heldr.
Sideritis libanotica Labill. subsp. linearis (Bentham) Bornm.
Sideritis lycia Boiss.&Heldr. Apud Bentham
Sideritis stricta Boiss.& apud Bentheam
Stachys cretica L. subsp. mersinaea (Boiss.) Rech.
S.cretica L. subsp. anatolica Rech.
S.buttleri R.Mill.
S.pseudopinardii Batt. et Hub.-Mor.
S.aleurites Boiss. et Heldr.
S.bombycina Boiss.
S.serikantha P.H.Davis
Scutellaria rubicunda Hormen subsp. brevibrecteata (Stapf.) Edmondson
Teucrium montbretii Bentham subsp. pamphylicum P.H.Davis
Thymus revolutus Celak
Wiedemannia orientalis Fisch., et Mey.

FIGURE 3. Endemic plants of Antalya city.

There are examples in Antalya city: Botanic Garden of Akdeniz University, Medicinal and Aromatic Plants Garden of Muratpaşa Municipality. Landscape architects have to develop themselves to take part in these areas. People who works in botanic gardens which will be established, know lots of information about plants because of their possibilities in these gardens. This knowledge has to be written down in the fullness of time.

A "National Herbaryum" should be established in Turkey and even in Antalya City because of it's proper climate and geography.

It is important to protect the species in IUCN Red List categories "CR", "EN" and "VU". These plants are specified as the most endangared plants. Professional botanists who investigate floristic researches have to show attention to the species which are specifed in the categories "EX", "EW" and "DD". These plants are not in the danger category because of lack of knowledge and thought to be lost in nature due to current information.

The plant's situation which are in "DD" (Imperfect Data) category in content of IUCN Red List, has to clarify. At the end of the studies about these plants, it is possible to know if they are alive or not.

We have immobilized the plants which are Antalya city's endemics but do not take place in the IUCN Red List. For example; (*Vitaceae*) *Ampelopsis orientale* (Lam.) Boiss., (*Fabaceae*) *Astragalus prusianus Boiss. tmoleus Boiss. var. bounacanthus (Boiss.*) Chamberlain, *Astragalus schizopterus Boiss.* species should be taken into IUCN Red List.

Regular updates of the IUCN Red List should be done regularly. It's speech has to be understandable and has to contain more picture.

Researches should be done and supported about the cultivation of endemic plants.

Breeding activities should be developed.

The usage of endemic plants which are cultivated in landscape designs should be supported.

Endemic plants are part of the natural vegetation in their particular area. The plants that have to be selected and applicated to the areas in plant design applications, should have high adaptation tolerance as natural plant species. Accordingly, application of endemic plants to thir natural areas conribute to the nature and increase the natural plant existance in environment.

It is important to protect endemic plants as they are an importat part of biological diversity and germplasm.

Information meetings should be done, be made available to wider audiences through the media and the internet.

The units of universities which give education about environment, nature and plants sciences has to give more attention about endemic plants. The courses about endemic plants should be developed and deficients must be resolved.

If all these recommendations will come true, the power of endemic plants in landscape could be came off.

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Louis XIV's Floral Paradise: Power, Seduction and Prophecy Revealed

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ABSTRACT

The legendary gardens of Versailles under King Louis XIV, 17th century King of France, are best known for their emphasis on strictly ordered and geometric nature. Most notable are the tightly controlled hedges, allées, and intricately-patterned parterres, creating finite formal geometries, or "green architecture". Although King Louis favored rigid formality and design in his gardens, he also had a more private, but nonetheless avid, passion for horticulture and flower collecting. This paper investigates Louis's enthusiasm for horticulture and flowers and why it is relatively unknown today. The far more public, main gardens of Versailles were designed, at Louis's bidding, to project the grandeur of the kingdom.

However, underneath this broadly publicized image, King Louis had a more personal enthusiasm for horticulture. He was a leader in the popular *curieux flueriste*, or curious florist, movement, which focused on the collection and cultivation of the rarest and most exotic flowers. For both men and women, this collection and cultivation demonstrated one's taste, distinction, and wealth. For the King, this hobby also displayed his power and control, here, over nature. King Louis ordered the Grand Trianon to be richly decorated with some of the finest flowers to assist in the portrayal of his powerful god-like image as the Sun King, and as the harbinger of the Second Golden Age with its eternal springtime. He also dispatched his own curious florists to collect rare flowers for him, and richly rewarded their acquisitions, which were subsequently displayed in his Trianon gardens at Versailles and at Marly. However, the most rare and exotic of these plants were sent to Louis's private gardens, for the sole viewing pleasure of the king and his mistresses. Unbeknown to most, Louis's great gardens had been more than just tightly controlled "green architecture" In the private areas of his royal gardens, Louis had created a floral paradise driven by ego, seduction, and prophecy.

Keywords: curieux flueriste (curious florist), Versailles, Louis IV.

INTRODUCTION

When considering the gardens of Louis XIV, 17th century King of France, "green architecture," "where landscape and architecture overlap", tends to be a concept that comes to mind (Solomen, 1988: 111). King Louis's gardens embodied an image of ordered nature: the strictly controlled green hedges, the infinitely long allées of meticulously pleached trees, and the geometric, tightly ordered parterres are undeniably the predominant features in the gardens (FIGURE 1). When describing Louis's gardens at Marly, Christopher Thacker notes that "raw nature here is converted into green architecture" (Thacker, 1997: 158). For most who visit the King's gardens, ornamental horticulture appears as a secondary, or even non-existent, element in Louis's gardens. Important horticultural components, such as flowers, only seemed to be used in the Sun King's gardens to add blocks of color to the intricately patterned green parterres – but only if they were short growing and easily tamed. The modern day gardens of Versailles give the impression that King Louis XIV appreciated plants primarily for their contribution to the overall geometry of the garden with little concern for their individual attributes. While this characterization may be a general opinion, the entire picture may not be visible.

Although King Louis XIV favored rigid formality in the design of his gardens with less attention to aspects of horticulture, it was actually Louis XIV who ushered in the forced cultivation of flowers during the 17th century (Goody, 1993: 182). Elizabeth Hyde presents research that shows evidence of massive floral displays, primarily at the Grand Trianon at Versailles and Château de Marly (2005). In a smaller garden, these floral displays would have been supremely dramatic and very likely the focal point of the garden. However, the even greater displays of fountains and endless "green architecture" at the king's vast royal estates tended to dwarf everything else in comparison.

The gardens of King Louis XIV, especially those of Versailles, played a crucial role in his construction of the all-powerful, god-like Sun King, a construction that has been frequently referred to as "the fabrication of Louis XIV," as well as the *roi-machine*: "the manipulation of a vast array of techniques to polish, elevate, and spread the public image of the monarch" (Berger and Hedin, 2008: 4). Louis's gardens embodied this image to no end. Ian Thompson explains:

> *If a time-traveling journalist was to profile the Sun King's enthusiasms in bullet-point fashion, high on the list, higher even than dancing, playing cards, bedding courtesans or following his beloved hunt, would be gardening and making war. In many ways these activities were complementary; both were driven by a quest for glory (2006: 111).*

In fact, within the gardens of Louis XIV many of the flower borders and parterres de broiderie were arranged such that the flowers mimicked the garlands bestowed upon military victors and champions of France (Mukerji, 1997: 128-130). Gardening, like waging war, was an avenue for Louis to exhibit his wealth and power.

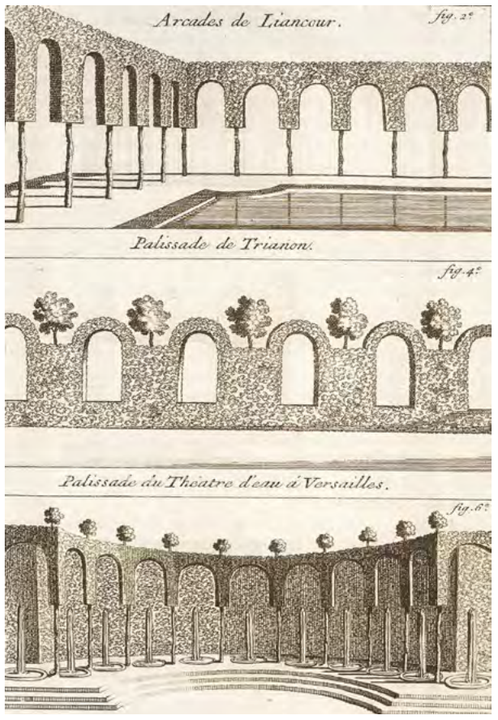

FIGURE 1. ***La Théorie et la practique du jardinage*** **by Antoine-Joseph Dezallier d'Argenville, 1709. These examples of "green architecture" in King Louis XIV's gardens demonstrate the order and control that he wanted to convey to the viewer.**

At Versailles, Louis XIV himself was the proud host of diplomatic tours and royal promenades. According to Robert W. Berger and Thomas F. Hedin, Louis designed and repeatedly revised the grand routes through his gardens, "continually searching for the ideal circuit through his magnificent gardens, his greatest monument to posterity and an enduring wonder of the world" (2008: 4). During this reign, King Louis strove to find the path through his gardens that would best demonstrate the grandeur of his kingdom.

André Le Nôtre is well known as Louis's gardener and as the designer of the seemingly infinite vast gardens of Versailles. However, "Le Nôtre's tastes were more inclined to the play of water and the grand structural effects where his command of the landscape was so dazzling" (Baridon, 2008: 110). Le Nôtre's passions were intensely focused on large, grand fountains and vast landscapes. According to Thierry Mariage, Le Nôtre's design preferences favored an "overview of the whole and its parts over an emphasis on decorative details" such as flowers (1999: 85). Such were the principles projected at Versailles. It was actually under the horticultural hand of Michel II Le Bouteux, son of Michel I Le Bouteux, who served the Duke of Vemdôme, that the grand floral displays appeared (Thompson, 2006: 35, 37). Le Bouteux was the flower specialist for Louis XIV and managed the Trianon gardens (Thompson, 2006: 37, 163). In fact, it was his son, Jean-Michel Le Bouteux, along with Claude Desgots, André Le Nôtre's assistant, who eventually took over Le Nôtre's responsibilities after his retirement in 1693 (Thompson, 2006: 30, 275).

There were a number of factors contributing to the flower's rise in popularity in France before Louis became the major player in this trend. Until the sixteenth century, flowers resided firmly in the women's realm, primarily due to their frequent associations with "beauty, sensuality, and sin" (Hyde, 2005: 15). Beginning in the sixteenth century, however, flowers began to be viewed more fashionably and by the seventeenth century were perceived as things that were socially acceptable and interesting to collect, even for men. It was at this point that men began expressing greater interest in them (2005: 3, 34-35). According to Hyde, "by cultivating flowers, male connoisseurs would demonstrate throughout the early modern period their ability to resist the seductive forces of nature and even learn how to control her" (2005: 35).

Enter the *curieux flueriste*, or curious florist. According to Elizabeth Hyde, curieux flueriste was a seventeenth century term that referred to a person who focused on the collection and cultivation of flowers (2005: 37). She explains that "seventeenth-century floriculture existed in a metaphorical space between the cultivation of the mind and cultivation of the flower" (2005: 89). Chandra Mukerji states that "in this period of surprising social mobility, where taste was said to reveal the natural virtues of those of high rank, patterns of refined consumption like collecting or dressing exquisitely, just like good manners and fine body carriage, were important social resources" (1997: 172). The flowers collected by the nobility demonstrated their taste, distinction, power, wealth, and control. Particular species of flowers were more popular than others during this flower craze, with the most fashionable being tulips, irises, narcissi, lilies, carnations, anemones, ranunculi, hyacinths, and auriculas (Hyde, 2005: 60).

As flowers gained more and more attention throughout France, it was no surprise that the "flower mania" soon captured the interest of King Louis XIV. Hyde describes how Monsieur le Chevalier de Saint Mory, a very well known and respected curious florist at the time, presented the Sun King with new, multicolored auricula specimens (2005: 137). These flowers included striped varieties, previously unknown to Louis, and this astonished him greatly. Hyde says:

> *The presentation to Louis XIV of auriculas so newly developed that they were unknown to the king reveals the curious florist were the driving force in the breeding of new varieties. They were shaping the taste for fine flowers, and the king was following their lead. (2005: 137)*

The curious florists led the charge of new floral technology such that Louis, being so impressed and so inspired by their innovative creations, aspired to be the premier florist of the time. For the Sun King, his ambition for flower collecting was powered by ego and pretension: as Thompson states "If rare flowers carried prestige, then Louis had to have more of them than anyone else" (2006, 196). Infinite displays of expensive flowers equaled infinite displays of wealth and fine taste. If Louis could own and control such wondrous floral exhibitions, it demonstrated that he possessed the power to control nature, which he believed equated with paralleled control of his kingdom.

FIGURE 2. ***Hortus Regius from Hortus, sive index onomasticus plantarum quas excolebat Parisiis*****, 1659, frontispiece. Paris Bibliothèque Nationale de France, cliché E 29297. King Louis XIV wanted to be seen as the great Sun King, as well as the harbinger of the Second Golden Age.**

Peter Burke describes the charisma necessary for Louis to fabricate the appearance he strove to project to the world, claiming that his "charisma required constant renewal" (1992: 11). Burke continues, noting that his charisma "was the essential aim of the presentation of Louis, on his stage in Versailles, as it was the aim of re-presentation of the king in the media of communication" (1992: 11). Perhaps this is another one of the major reasons why Louis's gardens were so fully utilized as a medium of communication to the world in this endeavor: they could be constantly renewed and manipulated to suit the changing needs of the King. According to Thompson, during certain seasons Louis would order Le Bouteux to change the flowers in the Trianon every day, and on special occasions, twice a day (2006: 164). This massive plant exchange was achieved through the use of two million pots buried in the flowerbeds (Lablaude, 1995: 104). Thompson describes the Sun King's aim to impress and astound his guests with great floral feats:

> *Louis liked to take his guests on a winter stroll to the Trianon. Having admired the beds on the way into the building for luncheon, how astonished they must have been when they emerged after the meal to discover fresh flowers of different colours in the borders they had seen not long before. (2006: 164*)

It was important to King Louis that he be able to demonstrate his ability to manipulate nature to his esteemed guests, thus reinforcing to them his great power and control.

Another driving force behind the flower's rise in favor to the Sun King was to portray the coming of the Second Golden Age, bringing with it an eternal springtime (FIGURE 2). This was prophesized by the ancient Roman poet Virgil in his poem, *The Fourth Eclogue*. Virgil writes, "the Age of Iron gives way to the Golden Age/ the time of your Apollo's reign… of smiling flowers blossoming around you" (1999; lines 11, 12, 30). Hyde discusses the fulfillment of this prophesy at length:

> *Louis XIV's reign had been hailed at his "miraculous birth" as the long-awaited return to the golden age. In the gardens of Marly and Trianon, where plantations of spring-flowering bulbs and summer flowering perennials and annuals were coordinated to ensure their flowering "en tout sesons," Louis could demonstrate that the prophesy had been fulfilled. (2005; 172)*

Louis depended greatly upon flowers to express this eternal springtime. Roman poet Ovid described the Golden Age in his work, *Metamorphoses, as "a'* season of everlasting spring, when peaceful zephyrs, with their warm breath, caressed the flowers that sprang up without having been planted" (qtd. in Hyde, 2005: 171-172). Louis not only wanted to

FIGURE 3. ***Seconde Journee, Concerts de musique, sous une feuillee faite en forme de salon, ornee de fleurs, dasns le Jardin de Trianon [Second Day, Concert, under a canopy of leaves made in the form of a salon, adorned with flowers, in the garden of the Trianon*****] by François Chaveau; from Andre Feblibien, Les divertissemens de Versailles, Paris, Imprimerie royale (1676). Courtesy of Elizabeth Hyde. Photograph by John Blazejewski, Index of Christian Art, Princeton University.**

emulate in his gardens the everlasting spring described in Ovid's poem, but he wanted his gardens to fully embody it.

Louis enlisted the garden to emphasize his role as the embodiment of the Second Golden Age. Rich floral displays and decoration adorned great fêtes and ballets held in the gardens of Versailles, primarily in the Grand Trianon and the bosquets (FIGURE 3). These events were massive, lavish, and elaborate forms of court entertainment provided for Louis's guests, and they provided the medium through which Louis displayed his fine taste and control over nature. Many of them portrayed the Second Golden Age in grandiose plays that starred King Louis himself, along with his current mistress, who typically filled the role of Flora, the goddess of flowers (Hyde, 2005: 172-179). Hyde refers to Flora as "a harbinger of political and military spring, signifying peace imposed by the young king" (2005: 177). To maintain the appearance of the eternal springtime of the Second Golden Age in his gardens, Louis's flowers were continually replaced, before the petals could fade or lose their alluring perfumes. In fact, his gardeners went to great lengths to ensure that neither the king nor any of his visitors ever saw a dead leaf, faded petal, or even a blooming plant that was not presently in bloom (Thompson, 2006: 164).

It is interesting to note that although the Grand Trianon at Versailles was a venue for large events such as the great fêtes, ballets, and plays, the gardens at the Trianon and at Marly were still considered the more private, personal gardens for King Louis and his personally selected guests, whereas the main gardens of Versailles were open to a very large public audience. The smaller scale of the Trianon better accommodated Louis's desired effect for the fêtes, ballets, and plays, creating an intimate feeling, a drastically different ambiance than that of the main gardens of Versailles. The smaller setting was far more colorful, with a high concentration of fragrance, thanks to the massive floral adornments that were generally absent in the main gardens of Versailles (Hyde, 2005: 152). The Grand Trianon's intimate, vibrant, and fragrant environment also contributed to Louis's portrayal of eternal springtime and of the coming of the Second Golden Age, especially for his fêtes and ballets (FIGURE 3).

Guests were allowed into the Grand Trianon and Marly by invitation only, and Louis extended the majority of these invitations to women (Hyde, 2005: 152). Because the Trianon area was one of Louis's favorite places to bring his mistresses, the flowers were selected to cater to these women. Hyde states that "the nectar of the Trianon flowers allowed Louis XIV to encourage by proxy the powers of persuasion in his garden of living perfumes" (Hyde, 2005: 154). The floral scents of Louis's gardens could be quite strong; according to Thacker, duc de Saint-Simon said that one day in the Trianon, he had "seen the king and all his courtiers leave the gardens because of the overpowering fragrance of the tuberoses" (1997: 157). These floral perfumes were more concentrated within the smaller confines of the Trianon than they would have been in the vast main gardens- sometimes too concentrated.

Beginning in the 1700s, King Louis, eager to extend his collection of "curious flowers," attempted to grow a collection of more exotic and rare flowers at Marly (Hyde, 2005: 158). This proved unsuccessful, as the designated growing area for these rare flowering plants was unsuitable, and the plants failed to flourish (Hyde, 2005: 158). Thus, the floral expanse at the Grand Trianon continued to reign supreme. Marly, however, remaining an integral component to Louis's Second Golden Age as well as to his image as a curious florist, preserved its status as a floral hotspot despite failing to serve the king's interest in furthering his collection of exotic species (Hyde, 2005: 158-159).

According to Hyde, the king had an insatiable interest in obtaining all types of plants, and he offered generous stipends to his *curieux flueriste* in return for the rarest exotic flowering plants (2002, 5). These costly acquisitions generally ended up in the King's own private gardens, "walled off from the rest of the [Trianon] park," for the sole viewing pleasure of Louis and his mistresses (Hyde, 2005: 156). For example, in 1688 and 1689, these rare flowers included "anemones, double wallflowers, cyclamens, and 26,290 hyacinths" (Hyde, 2005: 156). With the astounding number of hyacinths in his garden, Hyde muses that the king might have encouraged the great popularity of the hyacinth during the eighteenth century (Hyde, 2005: 157).

King Louis XIV embodied the idea of a curious florist, his passion for flowers extending beyond the collection of flowers. Thompson notes that King Louis XIV would even perform manual labor in his

gardens on occasion, including jobs such as planting and pruning (2006; 201). These were considered menial tasks to some during this time, especially by the nobility, and it was seen as shocking that the king engaged in such lowly acts (Thompson 2006; 201).

After a time, the specific types and vast quantities of flowers necessary to furnish Louis XIV's gardens were becoming expensive and difficult to acquire and maintain. By 1669, in an effort to make the royal gardens more self-sufficient, Louis XIV and his finance minister, Jean-Baptiste Colbert, proceeded to enlarge and create additional numbers of pépinière,

FIGURE 4. ***View of the parterres of the Grand Trianon*** **(1693) by John Cotelle. Réunion des Musées Nationaux. These parterres demonstrate the colorful and intimate environment created by the profusion of flowers.**

or small nurseries. (Hyde 2005; 160). Although successful, the pépinière alone were insufficient in supplying the immense numbers of plants required for Louis's gardens. As a result, the king purchased a strategic piece of land at Toulon along the French Mediterranean coast and created a nursery (Hyde 2005; 162). The Mediterranean climate made this property ideal for the cultivation and production of the plants favored by Louis. After the reign of Louis XIV, Toulon was abandoned and fell into disuse (Hyde 2005; 197).

In his old age, it was reported that the Sun King would cling to the Trianon, with its eternal springtime, and frequented the area regularly, as though in an effort to reclaim his lost youth (Mukerji 1997; 279). However great the Sun King might have been, he was not immortal and King Louis XIV of France died in 1715. According to Hyde, no records of bulb shipments after that year have been discovered (2005; 197). The Sun King's great gardens and nurseries descended into decline and disuse under Louis XV, his great grandson and successor (Hyde 2005, 197-198). Michel Baridon explains that Louis XV did not possess "the same attentive concern, the same restless passion for gardens that Louis XIV had had" (2008; 205). Louis XV was an amateur scientist who, instead, "puttered in his private Versailles apartments concocting perfumes" (Hyde 2005; 198). Louis XV had no desire to impress visitors with magnificent, expansive, and expensive gardens; his purpose, instead, was "to display and increase the rich natural resources" of France (Baridon 2008; 207).

The interest in and study of flowers changed after the passing of King Louis XIV in 1715 as it became acceptable for both men and women to practice botany (Hyde 2005; 202). According to Hyde, "by the 1830s the sentimental "language of flowers" was invented for women who incorporated it into expressions of love and friendship," while men tended to focus on the "hard sciences" (Hyde 2005; 202). Although flowers were still collected, they had been used and overused to such an extent that they had almost become commonplace. As Hyde remarks, "the heyday of the curious florist had passed" (2005, 202). Flower collecting was no longer unique. The florists after Louis XIV's time, including King Louis XV, were more concerned with the scientific study of horticulture rather than any cultural merit that came with plant collecting (Hyde 2005; 202).

The legendary reign of the great and powerful Sun King, Louis XIV, still lives on in the minds of those around the world today. Unbeknown to most, Louis's great gardens had been more than just tightly controlled "green architecture'. In the private areas of his royal gardens, Louis had created a floral paradise driven by ego, seduction, and prophecy. However, visitors to the modern day gardens of Versailles are not able to view the same gardens that Louis XIV looked upon during his lifetime. The magnificent eternal springtime display of flowers representing the great king was not everlasting after all. It faded with his passing and is little known today to the many who visit.

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Aesthetic and cultural values of the Vineyard landscape

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ABSTRACT

According to historical notes and archaeological findings the vineyards cultivation in Slovakia are documented since 500 years BC. Vineyards are very significant cultural subtype of the agricultural landscape. They passed over different space and structure changes from the past till nowadays in dependence of land ownership, cultivation technology, wine policy in production and business.

The visual aesthetic and culture historical value of vineyard landscape was assessed on study area Nitrianske Hrnčiarovce cadastre near Nitra city, in moderate warm climate conditions suitable for vine cultivation. Area cadastre is 991.33 ha, from those forest cover 32.08%, arable land 35.91%, vineyards 11.89%, gardens 6.80%, built up area 4.96%, other components together 8.36%. Vineyard on the slopes mainly creates narrow plots historically original in mosaic structure and high visual values. In the foreground of old vineyard, the new large area ones were established in 60s in modern technologies. Following vineyard marks were evaluated: a) Potential of visual exposition – relief inclination, exposition, exceeding, parcel area, b) Potential of aesthetic perception – unique character, variety, harmony, orientation, growing seasonal changes, c) Potential of culture historical values – age of vineyard, area plots, archaic vine technology, anthropogenic relief, old functional buildings, sacral architecture elements, archaeological localities. Each characteristic was assessed by value index (1-4, from lowest to highest) and calculated total visual culture value. To positive marks belongs e.g. small plot structures, anthropogenic relief, old and renewed vineyard buildings and sacral architecture, old and large size fruit trees, the traditional and old vine cultivation are valuable but very rare in occurrence. To the negative marks, those decreased culture – historical and visual aesthetic value belongs e.g. abandoned and successive grown-up of some plots, large area new vineyards with progressive technologies however visual exposition is high, new and disharmony architectonical constructions as are recreational cottages and wine houses, disturbed anthropogenic relief and visible erosion formation. Study area has generally medium final value according to results.

Keywords: vineyard assessment, visual and cultural heritage.

INTRODUCTION

The cultural landscape is worth while symptomatic category that has been expressed synergy influence of nature and man. It is as result of man activity in landscape in the utility- economy, ecology culture and aesthetic meaning. Of the mutual fellow-life man and nature, influencing, management a setting of landscape there has arisen a history valuable and contextual representative phenomenon of new cultural landscape (Supuka, 2010: 77). Culture landscape has continual dynamic development character. There are incessant anthropogenic influences, alternative land-use forms, but also arising of the new elements of spirit culture, architecture, art and technical works in landscape.

Žigrai (2000: 230) has characterised the cultural landscape according to dimensions as are follow: temporal, space, social-culture, economy, technical, ecology-environmental.

Landscape means an area as perceived by people, whose character in the result of the action and interaction of natural and/or human factors. Landscape contributes to the formation of local cultures and it is basic component of the European natural and cultural heritage contributing to human well-being and consolidation of the European identity (UNESCO, 2008).

Cultural landscapes contribute to shaping local and regional identity and reflect history as well as coexistence of people and nature. Apart from negative traces of human diverse interference in landscape there are also shown positive influences where man shapes landscapes by means of traditional use, in conformity with natural conditions as well as conscious care, especially in rural areas and small towns (Hernik, 2009: 20).

Cultural landscape is defined also in act No. 49/2002 of SR on protection of the monument fund as a part of monumental zone, which is territory with history settlement arrangement cultural landscape with monumental values and/or territory with archaeology findings, those are topographically delineated (Dvořáková, 2011: 22).

Based on the presence of land use forms the historical agriculture landscape types should be defined according to dominancy and/or combination of following mostly small-scale elements: arable field, permanent grassland, orchards, vineyards, accompanying non-forest woody vegetation and dispersed settlements. The vineyard historical landscape structures as specific subcategory of agriculture landscape were identified in six types according to following elements, their dominancy and combination occurrence: small plot vineyards, orchards, grassland, arable land, viticulture buildings, non forest woody vegetation (Špulerová *et al.* 2011: 164).

Development and vineyard landscape structure changes with emphasize to plot area size, historical and cultural values were elaborated in contribution of Supuka, Verešová, Šinka (2011: 229)

The aesthetic values of vineyards were also assessed at Svätý Jur locality, close to Bratislava capital, from viewpoint of visual through connection and aesthetic quality attributes (Štefunková, Cebecauer, 2006: 230).

Dower (1998:7-142) has done the England landscape classification in regard to nature and culture phenomena. Similarly was elaborated regional landscape typology of Slovenia according to land cover and land use different forms, nature, culture and aesthetic values (Marušic, Ogrin, 1998: 5-116).

Vineyard landscape represents specific subtype of agriculture culture landscape in Slovakia also, that has covered almost 22 thousand hectares mostly at southern regions with climate favourable conditions. The aim of contribution is to be introduced own specific method approaches and to assessed visual-aesthetic and culture-historical values of vineyard landscape on the study area of selected cadastre territory Nitrianske Hrnčiarovce close Nitra regional city.

MATERIAL AND METHODS

Characteristics of study area

The cadastre territory of Nitrianske Hrnčiarovce is located on southern slopes of the Tribeč mountains in Zobor geomorphologic division, and situated at an altitude of 154 to 617 m a.s.l. and terrain inclination of 6° to 14° north to south. Bedrock is formed by Neogene and Quaternary sediments, soils are sandy-loam and loam, the natural plant community represents oak-hornbeam Carpation forest. Climate conditions are characterised as moderately warm to warm with annual average temperature of 9°C and 650 to 700 mm precipitation. Area cadastre is 991.33 ha in area size, from those forest cover 32.08%, arable land 35.91%, vineyards 11.89%, gardens 6.80%, built up areas 4.96%, other elements in secondary landscape structure represents together 8.36%. Vineyard cultivation in this territory has long time tradition, more intensively started in time of Great Moravia, of 9th century (Supuka, Verešová, Šinka, 2011:231).

Aims and evaluation content

Vineyard land use cover at study cadastre consists of two parcels category. One are with typical small size parcels in area from 500 m² till 5000 m², together 546 parcels with 34.33 ha total are as well-preserved parcel structure of historical-continuation values. Second land cover represent vineyards established in 60s of 20th Century, in large size parcel structure, more than 10 000 m² and are managed by new intensive cultivation technology. They have no marks of historical landscape structure.

The aims of evaluation were landscape segments with small-size historical vineyard parcel structures.

Visual-aesthetic and culture-historical marks were evaluated according to following criteria:

a) Potential of visual exposition (in bracket is value index)
- aa) Relief inclination: <5° (1), 5-12° (2), 12-25° (3), 25°< (4)
- ab) Relief exposition: N, NE, NW (1), E, W (2), SE, SW (3), S (4)
- ac) Relative relief exceeding: <10 m (1), 10-50 m (2), 50-100 m (3) , >100 m (4)
- ad) Vineyard parcel area: <500 m² (3), 500-1000 m² (5), 1000-5000 m² (4), 5000-10 000 m² (2), >10 000 m² (1)

b) Potential of aesthetic perception
- ba) Unique character – traditional cultivation vineyards technology and historical buildings: traditional (3), mixed (2), contemporary intensive (1)
- bb) Variety – anthropogenic relief and plot mosaic structures: high variety (3), medium (2), uniform structure (1)
- bc) Harmony – balanced vineyard inner structu re and with surroundings: high harmony (3), medium (2), low (1)
- bd) Orientation – vineyard identification elements which contributes: to orientation: high (3), medium (2), low (1)
- be) Growing season changes – space and color changes of vineyards and accompanying fruit trees over seasons: high (3), medium (2), low (1)

c) Potential of culture historical value of vineyard – characterized by occurrence of representative marks as are: age over 100 year, area plots under 0.5 ha predominantly, archaic cultivation technolo gy, elements of anthropogenic relief, functional utility buildings in specific architecture, elements of sacral architecture old and rare fruit trees, old and regional vine sorts and cultivars, archeological locality and findings: high, 6-9 marks (3), medium, 3-5 marks (2), low, 1-2 marks (1)

The total visual aesthetic a culture historical vineyard value is than given as sum of particular acquired scores by formula TV = a + b + c.

RESULTS AND DISCUSSION

The potential of visual exposition vineyard landscape in study area was elaborated by a GIS tool and digitalization (DMR) of measured criteria. Individual value score for each relief criteria (inclination, exposition, exceeding, area) were defined by relation VS = Vi x Oc (VS – value score, Vi – value index, Oc – occurrence value score in % of assessed vineyard plots). Results are shown in FIGURE 1, where sum valuation (SV) is given on last columns also for all criteria of vineyards visual exposition. At criterion of relief inclination there are low values relatively, because assessed vineyard parcels are placed on slopes within ranges under 12° inclination. Relief expositions are largely within sector SE, S, SW what is useful as favorable climate growing conditions and sun radiance increase visual effect. The relief exceeding is parallel and supplementary visual

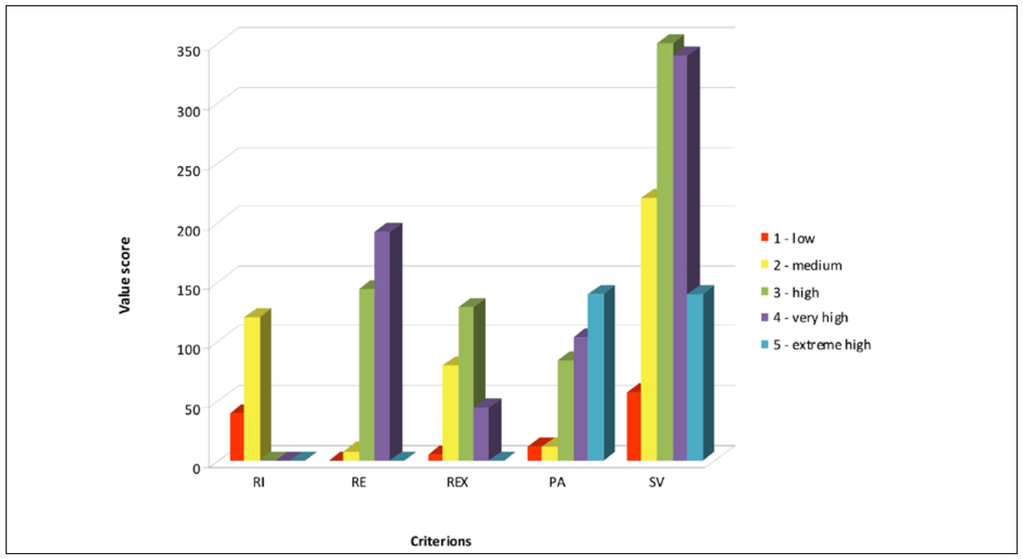

FIGURE 1. Potential of visual exposition according to characteristics.
Notes: – Criterions: RI – relief inclination, RE – relief exposition, REX – relief exceeding, PA – parcel area, SV – sum valuation

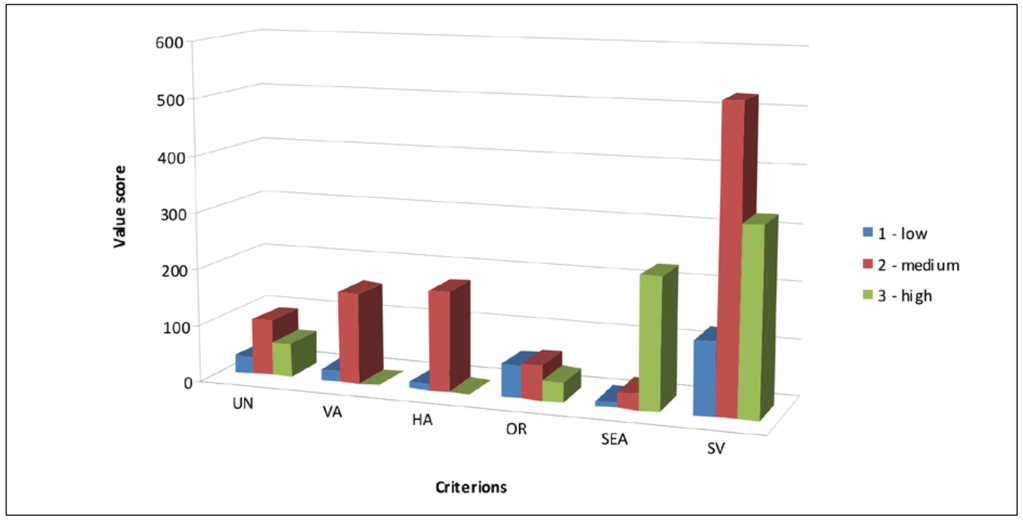

FIGURE 2. Potential of aesthetic perception.
Notes – Criterions: UN – unique, VA – variousness, HA – harmony, OR – orientation, SEA – season changes, SV – sum valuation

indicator together with inclination. Highest number of vineyard parcels are under 0.5 ha, but only seven parcels in size over 1.0 ha covers about 65% of vineyards as new technology arranged space in foreground of vineyard landscape segment within cadastre. These particular comments and notes are all reflected in the sum of visual exposition valuation.

Regarding to potential of aesthetic perception criteria as are described (FIGURE 2), they need personal knowledge and experiences in applying assessment process. At characteristic of unique the plot area and shapes are original, but tradition vineyard cultivation technologies and vine sorts are rare and changed in progressive form very often. The mosaic vineyard parcel structure as characteristic of variety are seen mostly from air photos, but in real ground conditions many parcels are abandoned and under up-growing process by shrubs and weeds. This situation is seen in criterion of harmony and contributes to decreasing of both characteristics. The orientation is established on presence of some vertical dominants inventoried inside and outskirt of vineyard structure as are high fruit trees, functional building, visible relief patterns etc. They are important space element contributions mapped in study vineyard territory. Season (growing) changes consist of coloration process at flowers, fruits and leaves of vine plants and fruit trees, also in volume and crown space changes between growing and dormancy season. Study area is sufficiently enriched by those element demonstrations and support aesthetic perception value. To the most effective fruit trees contributing to perception value belongs cherry, pear, peach, apricot, plum, service tree those have occurred very often in old vineyard parcels. As result of assessment procedure, the potential of aesthetic perception of vineyards is almost high in spring and autumn seasons as well.

Third subgroup of complex vineyard assessment is potential of culture historical values. Criteria are given in methods chapter, therefore some supplementary outlook to them. On study area dominantly was identified these valuable indicators. Almost 82% vineyard plots are more than 100 year old, but vine plant and fruit trees should be changed in different age rotation in dependence to life span, harmful occurrence, new sort incoming to technology etc. In spite of that vineyard landscape is in dynamic continuation at the same locality. Area plots showed the similar result, when 90% of parcel plots are under 0.5 ha area.

Criterion of archaic cultivation technology is now days very rare and covers only about 10% of plots because a new technology brings higher yield, grape healthy and quality. Anthropogenic relief and its forms were mapped at 30% of plots, mostly terraces and stone walls on the steep slopes. Many specific wine making, store and leisure buildings established in history regional architecture are abandoned, no usage and/or after reconstruction to modern weekend cottages. Only 37% are well-preserved in original shape, very rare and valuable are underground wine cellar more than 200 m long. On the all vineyards territory were mapped only two statues of St. Urban vineyard patron. Old fruit and species rare trees were found at 45% of parcel plots which represents chestnut tree, service tree, black mulberry, walnut the all often reached over 200 year old, cherry and pear over 100 year old and especially regional sorts. Almost on 10% plots were identified old vine sorts especially in grape taste and color (note – many traditional sorts were damaged by disease Phylloxera vastatrix in second half of 19th century). Within archeological localities, one place was identified on cadastre territory connected in neighbor Nitra principality.

According to marks and elements inventoried in the cadastre of Nitrianske Hrnčiarovce the vineyard landscape segment should be assessed as medium culture historical values, because 3-5 differentially marks were identified on parcels in average.

FIGURE 3. Small vineyard parcels with buildings and surrounded by fruit trees.

COCLUSIONS

Assessment of the culture historical and visual aesthetic values of vineyards are new and very actual approaches in the framework of cultural landscape structure identification and typology. Slovakia has favorable climate conditions to vine cultivation with long history background. Paper presents original method and practical applying in vineyard landscape assessment as important category of cultural landscape heritage in harmony with European Landscape Convention as well.

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FIGURE 4.
Very rare and old fruit tree in vineyard, service tree (*Sorbus domestica L.*).

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Landscap es as ecosystems: what is lost when science gains the privilege of interpretation?

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ABSTRACT

The paper deals with the ecological shift in nature conservation and landscape planning and asks for the necessity of a cultural and aesthetic view of landscape. In the beginnings of German nature conservation, landscape was protected as a cultural heritage: for its beauty, individual character, or in the sense of "Heimat" (homeland). Later, conservation and landscape planning were influenced by scientific approaches, resulting in the modern view of landscapes as ecosystems, which can be described in the terms of scientific ecology. Now, these ecosystems are the subjects of protection due to their functional services for society.

Why did this shift towards the ecosystem concept, and thus scientification, take place? 1) Conservation was incorporated into the modern democratic state, where decisions need to be rationally comprehensible. For this reason, artistic and cultural aspects were regarded as non-essential or inappropriate, while a science-based approach seemed appropriate. 2) From the point of view of German history, the ecological approach made it seemingly possible to dispense with the former racist concept of "Heimat" in National Socialism. 3) Analyzing the ecosystem concept in the science of ecology, an ambiguity crystallizes that has an integrating function for different perspectives on landscape: For some ecologists, landscape-ecosystems are physical-technical, machine-like objects. Others remain in the organicist tradition, assuming that systems produce, develop, and maintain themselves and that they can be destroyed. The latter view is compatible with some aspects of the initial cultural concept of landscape.

What are the implications of this scientification? The beauty and cultural values of landscapes have ceased to be an issue. The ecosystem approach is driven by an interest in technical knowledge and promises the possibility of managing complex systems, optimizing their services, and making them available for use. That is why the ecological perspective on landscape has lately been criticized as reductionist and inappropriate.

A revival of nature conservation's initial view of landscape in its cultural and aesthetic values is an opportunity to once again respond appropriately to the fact that people find nature and landscape beautiful and emotionally fascinating and that they appreciate them as cultural symbols of the good life.

Keywords: nature conservation, landscape planning, ecosystem, reductionism, cultural meaning of landscape.

INTRODUCTION

Whether nature conservation and landscape development are cultural or ecological obligations is one key issue of the ongoing debate on perspectives of conservation in Germany (e.g. Körner *et al.* 2003; a&b Haber, 2006). Should landscapes and natural assets be protected due to their ecological functions or due to their cultural values? Is it possible to derive guiding principles for landscape management from ecology or do we need to discuss the cultural background of conservation aims?

This paper describes the historical shift in German landscape management from cultural heritage protection to ecological planning. It explores the latter focusing on the scientific view of landscape as ecosystem, its causes and implications and emphasizes arguments for a revival of a cultural orientation.

Although this paper portrays a discussion prevalent in Germany, the question whether landscape management should be regarded as an ecological or a cultural obligation is a universal issue (see e.g. Freyfogle, Newton, 2002).

The field of landscape management has always been pluralistic; there are – and always have been – differences between e.g. state-managed conservation, landscape planning, conservation practiced by associations. Nevertheless, in this paper "nature conservation" is used in a grossly simplistic way to depict and to sharpen the mainstream approach – then and now – and the key positions that are, and have been, adopted in conservation and also – in a wider sense – in landscape development.

LANDSCAPE AS AN OBJECT OF CULTURAL HERITAGE CONSERVATION

Right from its emergence in the German speaking countries at the end of the 19th century, the conservationist movement has been inhomogeneous. It can essentially be summarized as being the care of the traditional rural landscape in terms of *scenery and cultural heritage.* This "Heimatschutz" (homeland conservation) was largely regarded as a *cultural movement and society's moral obligation* (Rudorff, 1897; cf. Körner, 2001; Lekan, Zeller, 2005; Frohn, Schmoll, 2006).

According to Ritter (1963), in the early modern era the ability to perceive landscape emerged together with the natural science that describes its objects as meaningless and separated from the subject.

Unlike the ancient medieval *theoria*, science is not able to represent the "whole nature" as a comprehensive, meaningful, and divine creation. But landscape can do this: Landscape represents *aesthetically* the whole of nature. This whole is rather subjective: it consists solely in the mind of the beholder. The Enlightenment associates the subjective judgment of natural beauty with the progressive ideas of freedom and rationality. In the Counter-Enlightenment in contrast, especially in Herder's philosophy, the landscape beauty is an o*bjective quality*: an outcome of the unfolding of individual culture in its specific country. Hence, beauty is both the expression and measure of the degree of individuality and the perfection of the cultural development attained in each case. This also means a *teleological* reformulation: As the beauty of landscape comprises its perfection, everything in the landscape is useful for each other in a perfect manner.

In this sense, the early conservationists' aim was primarily to develop the familiar, but endangered scenery of landscape formed by pre-industrial agriculture, which was changing considerably as a result of industrialization and urbanization. This approach was not based on natural sciences, but on the *emotional and aesthetic appreciation* of landscape. They wanted to maintain and also to shape artistically the picture of rural landscapes as an expression of "Heimat". Landscapes were viewed as individual, holistic units of nature and culture, following the ideal of a unity of "Land und Leute" formulated by Riehl (1854) according to Herder's philosophy: A cultural landscape is shaped by the specific cultural practices of the people living there. Therefore, traditional practices should also be protected and developed in an adequate manner.

For the most part, this early movement was culturally conservative, anti-capitalistic and critical of civilization to the extent that they opposed the dominance of any utility-oriented way of thinking (e.g. Rudorff, 1897). This modern rationalization was countered with aesthetic, artistic and emotional arguments and appreciation for the scenic and cultural aspects of landscape.

LANDSCAPE AS ECOSYSTEM

In the second half of the 20th century, scientific-ecological attitudes strongly influenced landscape management. Conservationists regarded themselves primarily as "applied ecologists" – and continue to do so today. Most of them have proceeded to devise ecological landscape planning approaches seeing landscapes as an object of ecological science: a material object and a system of functions, an ecosystem. "Landscape can be conceived as a landscape ecosystem, representing a functional unit of a defined part of the biosphere" (Leser *et al.*, 1998)

First and foremost "ecosystem" means a unit that includes organisms in a given area, which interact with the physical environment. Classical ecosystem theories describe the system's transfer of matter, energy and information. Thereby (groups of) organisms are usually regarded as "components" that, along with abiotic components, fulfil functions within and for the system.

Most theories consider ecosystems to be subjectively constructed entities, confined by criteria depending on a specific but freely chosen concern of the researcher. This concern is related to a *use* or a *benefit*, e.g. climate stabilization, species preservation. As such, an ecosystem does not exist as a self-demarcated, visible unit like a lake or a forest; it comes about through a scientific operation. Scientists actually construct ecosystems according their specific interest in ecosystem services even if this construction merely consists in making a selection from what exists physically. This "construction" is aimed at the *technological domination and utilisation* of nature (Voigt, 2009, 2010). The modern argumentation for nature conservation is based on this scientific and purposive-rational fundament.

This is an astonishing and radical change: the conservationist movement has adopted the purposive-rational patterns of reasoning favored by its opponents. To be worth protecting, natural assets have to be useful.

WHY DID THIS SHIFT TOWARDS SCIENTIFICATION TAKE PLACE?

This shift towards ecology and utility is often justified by the argument that in liberal, democratic states, decisions need to be rationally comprehensible. Artistic and cultural aspects are regarded as less essential or less appropriate than a rational, science-based approach, which therefore took their place. Additionally, the development in Germany is often explained from the perspective of German history: The shift was necessary because of the role conservation and the racist concept of "Heimat" played in the ideology and imperial politics of National Socialism. The scientific approach made it seemingly possible to dispense with this former, ideological attitude and assume greater relevance in a democratic Germany (Runge, 1990; Körner, 2001). Actually modern landscape planning continued what began in the era of NS: the promotion of technically relevant science, the foundation of a planning science and the rejection of the conservative concept of homeland, which all were necessary, because of the expansion of the German landscape in the conquered territories in the east (cf. Gröning & Wolschke-Bulmahn, 1987; Rössler, 1990; Trepl & Voigt, 2009).

Another aspect is the ambiguity of the ecosystem concept that has an integrating function for the different perspectives on landscape (Voigt, 2009, 2010): As described above, to most ecologists, landscape-ecosystems are physical-technical, machine-like objects that provide services. Others remain in the organicist tradition and conceptualize the ecosystem in analogy to an organism: a circular dependency exists between its parts; it produces, develops and maintains itself, and it can be destroyed. This viewpoint is widely found in nature conservation and is compatible with the initial cultural concept of landscape: A cultural landscape as an inseparable unit of "country and its people" is comparable to an individual organism. It can only develop as an individual; it cannot be planned or constructed extraneously. Development means realization of the origin, differentiation of the inner foundations in a subsequent development to the utmost diversity adequate to the nature of the place (Trepl & Voigt, 2009).

WHAT ARE THE IMPLICATIONS OF THE "ECOLOGICAL SHIFT"?

One crucial argument against the replacement of landscape by the ecosystem concept is that numerous qualities of landscapes are not considered, especially its cultural, emotional and aesthetic values. Neither the perception of beauty or individual character nor the opportunity to enjoy solitude, peace and freedom, or the promise of adventure is covered by the scientific ecosystem concept. Instead, ecosystem services have become the subject of protection with the argument that nature's performance and functionality are preconditions for human survival and well-being. Of course, non-ecological aspects have not completely disappeared. For example, one of the four service categories in the *Millennium Ecosystem Assessment* report (2005) are cultural services, which include cultural, intellectual and spiritual inspiration and recreational experiences. But how are these aspects seen? Due to the resolute utility-oriented approach they are considered as scientific objects and landscape, including its beauty and cultural meaning, is regarded as *resources* for recreation or inspiration. This is not only a far cry from what it meant to earlier conservationists who protected landscape against the threat of the relentless spread of the pure utilitarian mindset. Also, talking about cultural services provided by an ecosystem is somehow contradictory: Ecology describes nature as ecosystems by scientific terms, such as materials cycle, energy transfer or population growth rate, but is *unable* to say anything about its aesthetics or meaning. Therefore ecosystem-nature cannot be beautiful or sublime, neither breathtaking nor harmonic. Nevertheless the ecosystem service approach implies that ecosystems provide aesthetic and cultural benefits for people in the same objective manner as provisioning, regulating or supporting services. But is this adequate? Thereby the role of the subject in the aesthetic judgement is neglected as well as the difference between service and symbolic meaning or cultural value. While provisioning, regulating or supporting services refer to objective functions, the so called cultural services reflect the ability of the subject to interpret nature and to apply various meanings and values. To deal with individual or cultural meanings and values in terms of utility is grossly simplistic and reductionist.

The notion of "landscape as ecosystem" – used in the life world context – bears the cultural meaning of control, construction and the use of self-generating and self-preserving systems. This is far from what nature and landscape means to most people. When nature conservation refers to the meaning of nature as ecosystem, *what is to be preserved is precisely getting lost*: not a particular species, but what nature has always meant when one speaks of landscape and what stood in contrast to constructing, controlling and using. And when this happens, what people nowadays find especially interesting about nature and what provides the reason for them to protect nature disappears as well: the opportunity of experiencing nature aesthetically or sensually – and oneself within it.

Regarding nature protection, there is another point to think of: In the ecosystems theory's perspective, an ecosystem consists of components that fulfill functions or services. The elements forming such a component are functionally equal. Most of the elements are species; therefore each species can be replaced by one equal in terms of functionality. This way, the protection of a species can only be justified by its contribution to services. Trees might be protected because they produce oxygen, but it is not possible to protect certain types of trees – there is no difference between them in their role as producers. The uniqueness of a species or a specimen is not covered by this argument.

One other implication of the ecological approach is that ecologists have been expecting – and have been expected – to find normative guiding principles for environmental planning decisions. This is an impossible task: Ecology, being a science, cannot provide means of assessment, guidelines or standards for the development of landscape. An ecologist is able to determine and describe the features of an ecosystem, but unable to decide in what condition it should be. For these normative decisions one has to discuss values, set standards and derive goals in a social decision-making process. This is not the case, however. Instead, conservationists pretend to derive their goals and objects from ecological findings, concealing the cultural substructure of their preferences (Trepl, 1983; Eisel, 2005).

CONCLUSION

By solely referring to ecology, the field of landscape planning bases itself on an inappropriate science and shrouds the cultural structure of conservation. By reducing landscape and its aesthetical, symbolic and cultural value to measurable benefits and services, the diversity and uniqueness of landscapes and species as well as the multitude of individual and cultural symbolic values are disregarded. This leads to misunderstandings and has practical consequences like dwindling acceptance when attempting to convey the goals of nature conservation to the public. But a "revival" of a culture-oriented view of landscape development is an opportunity to respond appropriately to the fact that people find nature and landscape beautiful, emotionally fascinating and that they appreciate them as cultural symbols of a good life. On the basis of an analysis of the manifold cultural and symbolic meanings objectives for the protection and development of certain forms of landscape can be declared and properly discussed in modern pluralistic societies. Both, ecological and cultural perspectives are needed – on a high level: only on the basis of sound ecological knowledge the species that are fascinating or important for landscape beauty can be protected.

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The power of river in the contemporary urban landscape architecture

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ABSTRACT

The river is a very attractive element of the landscape of the city, considering nature and special river equipment. Nowadays, the river's banks with their natural vegetation and very often historical, postindustrial architecture, give the chance for management of new green spaces in the cities. This is the way to improve the quality of citizens' life. In the same time we should ask the question: is the management of river banks the right solution for the rivers basins, because of high value of natural environment of river, especially in Polish cities like Warsaw?

Tendencies and achievements of river banks management in European metropolis

We can observe new tendencies in management of river's banks since the early 80-ties of XX century on a big scale in such agglomerations like Paris, London and Berlin, which is very special in contemporary urban' planning. These cities have different political, economic and traditional culture conditions, so the results are specific for each of them. These examples are very important for Polish designers but we should realize that we have different economical and historical situation and we have not got such a big agglomerations in Poland. However, we can observe that Polish designers not only take inspirations from European examples but they also propose a very original solutions in our cities.

New landscape architecture in the urban river banks in Poland – selected examples

In Poland we have a lot of interesting examples of river banks transformations, which turn into contemporary urban gardens, although the phenomena is smaller. The author mentions two examples, which represent two different urban and architectural situations:

– the garden of Centre of Science "Kopernik" on the Vistula river bank in Warsaw (the example of contemporary educations and recreation space),

– the garden of "Wyspa Młyńska" (Island of Mills) in Bydgoszcz, (the example of adaptations of historical areas on the river bank).

Some reflections

– the power of river in contemporary cities-diverse problems and possibilities,

– achievement of polish cities in the context of this phenomena in the big metropolis in Europe,

– the problem of landscape management of river banks in the context of protection of natural river vegetation.

Keywords: rivers, river banks, Vistula.

Representation of 'time' in Rome's urban landscape

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ABSTRACT

The notion of 'time' is essential in human cultures. In landscape architecture 'time' is one of the most important concepts because the landscape always accommodate changes in natural elements over time in different cycles of days, seasons and life spans. This paper elaborates on other physical representations of 'time' in urban public space, with the city Rome as an example. Rome is one of those places where we strongly experience the passage of time.

'Time' is an abstract concept that can be captured only by metaphorical representations. In the urban landscape, physical metaphorical representations of 'time' are either a moving object or a process of change. Rome has many examples of both in its urban fabric.

A common metaphor for time is floating water, constantly moving without a beginning and without an end. The basic ancient principle of water supply in Rome is to keep the water flowing by gravity from the sources in the mountains down to the city. Spring water is flowing constantly through the Eternal City since ancient times, and it is displayed in fountains and water taps all over the city.

Processes of change are represented in Rome's urban landscape through the reuse of architectural fragments from past time and through the transformation of structures and urban space into new uses. Many of the buildings erected in the 15th century and later, reuse fragments from ancient buildings. Some remaining ancient buildings have been transformed for a new and different purpose, and thereby been preserved. The obelisks of Rome can serve as an example of objects that have been reused several times in public space. Ruins in their decadence are maybe the most obvious reminiscent of the passage of time. And so are the visible historical layers of Rome: ancient Rome, medieval Rome, papal Rome and modern Rome.

All these physical representations of 'time', so very present in the city of Rome: floating water, transformations of structures, reuse of fragments or objects in a collage like fashion, and ruins in decay, have also been inspirations in garden design through history.

Keywords: time, metaphor, reuse, transformation, collage.

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Can a river system be a main driver for guiding landscape quality objectives?

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ABSTRACT

River systems are one of the main driving forces that provide various effects to landscape such as physical, social and psychological. Place attachment is one of the aspects of the psychological effects. According to Stokols and Shumaker (1981), congruity between needs and the physical and social resources of the environment, attachment is developed. Attachment is defined as "a positive affective bond or association between individuals and their residential environment" (Giuliani 2003). Referring to the definition of attachment; this positive affective, emotional bond can be used for guiding the definition of 'landscape quality objectives' (LQO) in "the formulation by the competent public authorities of the aspirations of the public with regard to the landscape features of their surroundings" as stated in The European Landscape Convention (ELC).

In this regard, the paper examines the relationship between place attachment and expectations for the management of a river ecosystem, a main driver of landscape. By determining this relationship, it is aimed to guide the process of defining the landscape quality objectives on the case of Karasu River-Upper Euphrates Basin.

Karasu river, called as "Euphrates" by locals is located in Upper Euphrates Basin in the north-eastern part of Turkey, and is the key driver component of Erzincan Plain with use for irrigation, energy and water sports purposes.

To explore the place attachment and expectations of local people in the case area, two questionnaire forms are designed. First form has two parts; first part is built for the investigation on whether locals value 29 different landscape components of the case area, second part is built for the investigation on the importance degree of 10 main problems observed by locals in the case area. Second questionnaire form is built for the measurement of the place attachment of local people through the 12 true/false statements.

According to the findings, the river has a major role in creating identity and sense of place by developing the place attachment of local people for the area. Therefore, the river becomes a psychological driver which can be functional in formulating landscape quality objectives.

Keywords: place attachment, ELC, landscape quality objectives, Upper Euphrates.

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Water in Power: Sacred landscapes of the 'talaab' system in India

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EXTENDED ABSTRACT

Water plays a very important role in the cultural life of people of the Indian sub-continent. Since centuries the main source of water in India have been the annually recurring monsoons (Yasuda *et al*., 2004) and hence the country has a rich, sophisticated and diverse heritage of rain-water harvesting and management devices (Agrawal, 1997). The 'talaab', which roughly translates to 'pond' in English, is one such device. It is one of the most ubiquitous and indispensable monsoon water-managing devices in the Indian landscape totaling to approximately 1.3 million in number (Singh, 2008). This paper documents how the power of water in the life of Indian people manifests itself through small physical expressions associated with the talaab. It further surveys the talaab landscapes in urban and rural contexts to describe and map these markers built adjoining the talaab and documents their role and state. This study was carried out through data collection from published literature, online web portals and field studies. The sites for these studies are in central India, in the city of Raipur, the capital of the state of Chhattisgarh, where the tradition of making and maintaining a talaab was the strongest (Mishra, 1993).

A total of 98 talaab were studied in the city of Raipur of which 95 had some form of a religious marker built adjoining it. These ranged from tiny idols situated under a tree to elaborate complexes. The number of people using the different talaab for daily ablutions ranged from a few hundreds to a few thousands depending on the neighborhood.

In Hinduism, there is a daily religious rite of saying a quick prayer after the morning bath and this has been the reason for the creation of temples subscribing to different Hindu Gods and Goddesses around the talaab. Islamic traditions and many other religions also employ sites adjoining the talaab for their religious rites. Earlier, these religious markers were used at the start and end of cultural practices that encouraged and celebrated the cleaning, upkeep and maintenance of the talaab as a community activity. In contemporary India in this region, there is general lack of civic waste management facilities and the more affluent sections living adjoining the talaab dump their waste and garbage in the talaab because they are no longer dependent on the talaab water. However, the lowest section of society is still using this water for all non-potable water uses, as they do not have access to piped water. Thus, the degradation of talaab environs is the most in neighborhoods where there is more economic diversity leading to variable dependence on talaab water. The affluent sections bathe and pray in their homes. In such areas, the religious markers are completely surrounded by trash, frequented only by the few who still bathe in the talaab water and show how economic class distinctions transcend religious dictates. Even in neighborhoods where there is complete dependence on talaab water, there is much trash that pollutes the water. In this case, the spiritual significance associated with the talaab water itself becomes one of the reasons for its degradation. This is so because religious rites practiced in homes and in temples in India use many different items and these items and idols are then let off in the talaab water. Earlier these items were made of biodegradable material but with technological advancements or perhaps one should say regression, more and more of non-biodegradable material are being used to make these items. Because of its sacred use, these items cannot be thrown with other garbage and thus become a major contributor towards the talaab water pollution.

The spiritual significance attributed to the element of water in India manifests itself in many ways: through religious rites, rules, landscapes and architecture. Through studies it emerges that almost every talaab designed for anthropogenic uses had a small sacred element associated with it that is an integral part of its existence. These acted as community gathering spaces and were the settlement's public space. Further, most of these sacred spaces are deteriorating as the majority of settlements in India experience a disconnection with local water management; a disconnection mirrored in the loss of meaning, of the power of the spiritual significance of these elements associated with the talaab water and its ultimate deterioration.

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Warsaw landscapes of power

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ABSTRACT

Landscape is a combination of natural and cultural factors which mark the space continuously and create the following layers. Confirmation of such an understanding of a landscape is its definition included in the European Landscape Convention. Both factors can give a special power to a landscape. However their meaning and influence are variable. Power of landscapes can also change from purely physical to a mental form.

To determine Warsaw landscapes of power, the authors used historical comparative analyses based on archival cartographical and iconological materials, actual city photomap, own photographical documentation and publications. The method applied in the research is based on the concept of natural and cultural power which interact with one another. Based on the archival documentation it was possible to indicate which sites in the following stages of historical development of the city performed landscape of power role and created its identity. It was also determined which elements of Warsaw landscape gave to a site special physical or psychological power which stimulated spatial and economic development of the city. In the results of research contemporary Warsaw landscapes of power were shown. It was also determined whether the sites performing a role of Warsaw landscapes of power in previous historical stages also today perform this role and how their power evidences today.

Warsaw was located in a place with special power lying in the nature which allowed for the city economic development. The power of this landscape lied in the nature skillfully explored by a man. The source of this power were the escarp, the river and the natural vegetation. Warsaw obtained typical medieval urban plan with central square, regular system of streets, dense building quarters, high church and castle towers and was surrounded by city walls. The city developed beyond the city walls, along the escarp, to the South and to the North. The escarp and the river constituted a basic structure for the new parts of the city. The most important and the most magnificent secular building and churches were located on the escarp. Also the Warsaw streets system was shaped according to the terrain configuration and superficial water system. (Sosnowski, 1930). The Warsaw landscape of power still was the Vistula river valley however its power started to evidence in different way. The river and the escarp, which formerly performed defensive role, gained the new compositional function in urban structure (Wolski, 2007).

In baroque, flat, vast terrain of the postglacial plain became a landscape of power, an ideal site for establishment of large-scale royal and magnates' residences inspired by Versailles. This power lied in a potential to shape garden and urban compositions. In the second half of the 18th century, the city landscape of power became again the river valley with the escarp. Numerously established residences were located in landscape of power – places of the escarp twist or close to the edge of ravines and streams valleys crossing the escarp line (Majdecki, 1965). These places possessed natural conditions to create a garden composition and visual values because of big altitude of the escarp.

Next significant period for Warsaw landscapes of power is the end of the 19th century when the Russian fortress was created. Two rings of fortifications established on both sides of the Vistula became the city landscape of power. The Citadel, a center of the fortress built on the northern part of the escarp dominated the cityscape not only visually but also mentally (Królikowski, 2002). Although many fortifications have been destroyed, the Russian fortress determined urban planning of Warsaw at the beginning of the 20th century. It could be seen the influence of the power of double ring of fortifications which stimulated centric development of the city. Newly established garden cities and parks on a basis of the ruined fortifications were shaped in centric form. However, transportations routs were developed along the escarp and the river course.

The World War II caused in the Warsaw landscape enormous destructions reaching up to 80-100%. The destruction was caused by the human factor unfamiliar to the city – power of Nazis (Matusik, 1997). The first destruction was caused by defensive fights in 1939. After the Jews' uprising the Ghetto was destroyed. The great loss of the cityscape were caused by fights during the Warsaw Uprising.

After the war, the power of Warsaw landscapes had to be restored. The major influence on the landscapes of power shaping had ideological factor. The Old Town was reconstructed and historical road system along the escarp was recreated. The attempts of large-scale projects realizations such as wedge-ring system of green areas were undertaken. These projects referred to the ring of fortifications and to the natural green wedges related to the Vistula and the escarp. On one hand, they restored power of landscape related to the river and the escarp, on the other hand, they considered the power of the military landscape of the city.

Further actions were not any longer favorable for the Warsaw landscapes of power restoration. The ideology which influenced the landscape, did not refer to the tradition and did not respect formerly recognized landscapes of power. In the cityscape occurred monumental buildings, quarters of housing estates raised according to the same scheme, new roads and parks-cemeteries established to commemorate the soldiers killed during the World War II. The location of these investments often seemed to be accidental. Some of them intentionally were located within the space which was considered by the Warsaw citizens as prestigious to give it the new ideological meaning.

Such policy of the city development, which last till the beginning of transformation (90's of the 20th century) caused enormous havoc in the Warsaw landscapes of power. Paradoxically, socio-political system change did not improve this situation. Warsaw landscapes of power were perceived as prestigious and attracted new investments such as office buildings or housing estates. Although improper decisions have been eventually recognized, the restoration of former landscapes of power meaning is possible only partially.

The escarp lost its meaning in the cityscape. Within the downtown, the terrain elevation is practically invisible because of building development. Within the landscape of the southern and the northern part of the city, with low-density housing, massif of the escarp is much more visible. The Vistula with its old river-bed and the nearest surrounding area and large forest complexes still perform important role in the contemporary Warsaw landscape.

A plan of establishment of the Warsaw Natural System is also an attempt to restore the city landscapes of power. Its main structure are the river and green wedges diversified into basic areas (riversides and wedges in the southern part of the city, parallel to the river) and supportive areas complementing the system.

The Warsaw landscapes of power are an example of dynamic changes, the combined influence of natural and cultural factors and also moment of almost complete landscape destruction and restoration. Despite numerous transformations, power of natural landscape seems to be still visible in the cityscape. The fundamental element of the natural power of Warsaw landscape is the Vistula and pseudo-natural vegetation of the eastern riverside. Its meaning has been emphasizes in the structure of the Warsaw Natural System which construction is based on the river course. The escarp, the second important element of the natural power of the Warsaw landscape is not clear dominant in the contemporary cityscape. Intense process of its development has led to its physical degradation. Today prestige and power of this landscape reveal more in mental and psychological dimension.

The Warsaw landscapes of power were also influenced by cultural factor. Till today, in the cityscape can be seen the road system based on the escarp and the river course or on a basis of the former large-scale baroque urban composition of the royal residences which stimulated the western direction of the city urban development. The Russian fortress has lost its meaning and the disproportions between interior and exterior ring of forts development have been equalized. The Old Town reconstructed after the World War II is still important Warsaw landscape of power.

Keywords: Warsaw landscape, landscape identity, cityscape, landscape of power.

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My backyard or yours? The discourse on landscape and power in a decade of awareness rising

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ABSTRACT

The landscape is a result of the way we produce and consume energy, from coppice for fuel production and waste areas of agricultural land as fodder for transport animals; water-powered mills and windmills in the agrarian society and the early Industrial Revolution, to modern society's large-scale power stations, electricity pylons and a massive infrastructure network based on fossil fuels. Energy is also embodied in the landscape, such as in buildings and crops. Today when we talk about the increase of more renewable energy, it's sometimes hard to see the extent and how the landscape will be affected. Selman (2010) suggests that in order to seriously combat global warming, radical changes in energy production that will affect the landscape on a large scale are required. New landscapes are expected to appear in efforts to reduce fossil fuel for transport by the increase of renewable energy, as well as by the reduction of carbon footprints by increasing biomass production. Selman also believes though that we are adaptive to new landscape components that initially were seen as alien and disturbing. Throughout history people seemed to have learned to accept and even got attached to new types of industrial elements as well as new crops in the landscape.

Conflicts of interests in planning situations related to energy issues are very common. Conflicting interests may be in common that they all deal with sustainable development, such as green energy on the one hand and unspoiled, attractive landscapes on the other. Most commonly, local residents to a planned renewable-energy project often display a NIMBY attitude (Not In My Backyard). Hence many people are in principle in favor of green energy, but would rather not have wind turbines in their own home environment.

This paper reflect on the discourse used in media as well as research related to energy impact on the landscape in planning and policy making documents, particularly on the discourse and the debate (conflicts) related to green energy and landscape values. It also discusses which factors may influence changing attitudes to renewable energy and its impact on the landscape.

Keywords: renewable energy, landscape, discourse analysis.

Differentiation of energy amounts in the living environment space as a key for protection of biological diversity and assessment of landscape quality

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ABSTRACT

The possibilities for assessment of a landscape by monitoring succession stages with respect to the occurrence of native species and energy amounts in space are discussed. The higher the variability of the energy amounts in space the greater the biological diversity. In the light of the UN Biological Convention on Biodiversity, the UN Climate Change Convention and Natura 2000 it is suggested to adopt the occurrence of selected native animal species as indicators of landscape quality.

Keywords: energy, biological diversity, landscape, succession.

"The power of landscape" as a main determinant of the seventeenth-century residence composition

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ABSTRACT

One of the basic manifestation of the humanistic outlook and the realistic attitude towards nature was the sense of landscape beauty that appeared first in Renaissance and was carried through other epochs. In the seventeenth century, among the ways of its application was the manner in which aristocratic residential complexes were designed, namely their opening to the surrounding landscape through loggias, terraces and pavilions that provided the scenic views. The mannerist residences situated on the slopes of Frascati hill: Villa Aldobrandini, Villa Ludovisi, Villa Mondragone, served as models for development of palace and garden complexes in an Italian style (Ciołek, 1954: 49-59). The main compound of the composition which made the mentioned villas exemplary was their favourable location in the landscape: on the hill-side to the North, overlooking the hilly suburban area, the town of Rome and the ruins of ancient Tusculum (Azzi Visentini, 1998: 105). The model of residential estate developed in Italy became very popular in the seventeenth-century Poland. In the first half of the century, although still designed as part of the fortress complexes, the aristocratic residences took the full use of natural qualities derived from surrounding landscape. The chief examples of this phenomenon are: Krzyżtopór near Ujazd belonging to Krzysztof Ossoliński, Podhorce of Stanisław Koniecpolski (presently within the borders of Ukraine), Puławy of Stanisław Herakliusz Lubomirski as well as many Warsaw palace and garden complexes located on the crown of Warsaw Scarp. Not many of these originally intended relations between the residence and the landscape are being perceived nowadays. Since they represented, as it has been pointed out, one of the basic values in the group of selected monuments, in the process of conservation they should be restored and protected, wherever it is possible. The Florence Charter states that historic garden cannot be isolated from its own environment. In accordance with the recommendations of the Charter it should be preserved and conserved in appropriate surroundings, with the protection of their values.

Keywords: landcape, landscape protection, historic monument, the seventeenth-century residence.

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Relicts of agricultural and settlement landscape in the Biedrusko military training ground

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ABSTRACT

The area of Biedrusko has been a vast military training ground since the early 20th century. Until the end of the 19th century there were 7 villages in that area. When the area was taken over by the military the local inhabitants were displaced and building structures were partly demolished. Since that time the training ground has been intensively used by the military, but not over its entire area. The unused part of the area has undergone renaturalization processes.

After 110 years of the training ground operation certain elements of the former cultural landscape, connected with the existence of villages in that area, are still preserved. Remnants of the road network, composed plantings (particularly avenues of trees) and housing development, etc. are still evident. An exceptional research value of the training ground for specialists in many fields of science stems from the possibility to observe changes occurring in the landscape excluded from intensive use. It is of interest for a research team to follow spontaneous changes in the cultural landscape to observe the visibility of landscape structures and to evaluate their durability.

Keywords: cultural landscape, durability of landscape elements, historical rural landscape, military training ground.

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The cemetery – a landscape of power

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ABSTRACT

This paper deals with place making strategies, meaning making functions and normative notions in relation to contemporary Swedish cemetery planning and design. The main subject for the studies is the architecture competition for the new cemetery at Järvafältet in Stockholm, where local involvement with the citizens and their ideas about the landscape, its activities and the power of nature has been important for the competition program as well as for the design of the winning proposal by Christine Jensen. The role and power of the actual landscape and nature in relation to the architect's intentions are important issues that will be treated in the paper.

Research methods used are principally archive studies of questionnaires with citizens as well as documentation from the architect competition as well as interviews. Comparative studies with important historic cemeteries such as Skogskyrkogården in Stockholm and Östra kyrkogården in Malmö will also be part of the research.

Presented results will involve the discussions about how landscape architect's design and planning relate to individuals creation of their own meaning of death, within the frame of a multicultural and a multireligious society, which often implies a visibility of cultural conflicts in the moment of decease, funeral or grief. How do architects handle that death becomes an area for negotiation between different cultural, religious and individual opinions or needs? And which qualities do individuals and designers put into these funeral landscapes to empower them?

The project that is the base for the paper comprises several scientific disciplines and is principally focusing the following questions; 1) How is the cemetery created as place, through planning and design? and 2) How do individuals make use of the cemetery as a place for memorialisation and meaning making?

The project will contribute with an overall understanding for conflicts, norms, strategies for planning and negotiation, and how these strategies influence and empower the physical environment through individual initiatives or professional design actions.

Keywords: cemetery landscape design, place making, power of nature, landscape of death, meaning making.

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SESSION 2

THE POWER OF LANDSCAPE FOR SOCIAL BENEFIT

Tolerance as the Premise for Conservation of Historic Urban Landscape

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ABSTRACT

What are necessary for the conservation of historic urban landscape? Of course not only historic substances (things like buildings) but also social interests for them are needed. Without social interests or people's support, the conservation would not work into power. Although historic substances would fully exist, they must be threatened if they would be disdained or neglected. How to grasp the piled layers of history of urban areas? It would be associated with tolerance of understanding of townscapes. Townscapes should be media that people know their own history of town. The festival associated with townscape since ancient time is relay of memories from generation to generation and sustains social interests moreover often encourages inhabitants. Old festival is supported by inhabitants even now. However there are also conflicts among old and new. The time has gone long before so that something old used to have been respected. Especially after the World War II there is a trend that people have been assumed old things futility in townscapes if we look back on the history of city-development in Japan. This climate is intolerance and incomprehension for the historic urban landscapes. Therefore machinami-hozon (conservation of vernacular houses) movement came out in the 1970's of Japan. On the other hand how is the standpoint of conservation? The excess pursuit of purity and integrity of historic substances would provide a trend of contempt for mixed old and new. It must be called also as intolerance. If we would image the landscape that we visit the Japanese garden that was made 300 years ago, we see that garden and simultaneously the visitors who wear new fashion. Nobody recognizes it inharmonious. In Vienna we see wealth of buildings of various ages as parts of piled layer of town history. But meaningless chaos should not be acclaimed. In order to understand the complexity of landscapes we should have power for reading and discerning generation process of townscapes and ability for fighting the intolerance.

Keywords: historic urban landscape, historic garden.

INTRODUCTION

The significance of Historic Urban Landscape may be probably never denied. But the concept of the conservation seems to be separate. It causes variety of conservation substances. However the concept of conservation for landscape is quite different from thing substance something like dishes or pots that are totally and strictly examined from aspects of authenticity and integrity. It is necessary to discuss, what the premises for conservation of landscape (before Historic Urban Landscape) are. At first how to grasp complex of landscapes in addition the relation between landscape and power. And next I would like to consider how to sustain social interests that is needed. At last it will be mentioned what has been realized after the loss of landscape.

However should have landscape power?

How can we recognize landscapes? It depends on how to recognize it and also what as landscape to recognize. If we would understand the complex of historic urban landscape, we need power of discernment for sequence, segmentation, conversion and etc. of landscape elements and ultimately power of tasting of landscape. What are necessary for the conservation of historic urban landscape? Of course not only historic substances (things like buildings) but also social interests for them are needed. Without social interests or people's support, the conservation would not work into power. Although historic substances would fully exist, they must be threatened if they would be disdained or neglected. How to grasp the piled layers of history of urban areas? It would be associated with tolerance of understanding of townscapes. Townscapes should be media that people know their own history of town. There had been hard time for conservation of historic urban landscape. Especially after the World War II there has been a trend that people have been assumed old things futility in townscapes if we look back on the history of city-development in Japan. This climate is intolerance and incomprehension for the historic urban landscapes. Therefore *machinami-hozon* (conservation of vernacular houses) movement came out in the 1970's of Japan as reaction movement against intolerance to historic townscapes. On the other hand how has been the standpoint of conservation?

The excess pursuit of purity and integrity of historic substances would provide a trend of contempt for mixed old and new. It must be called also as the other intolerance. Landscape consists of normally various elements. Majority of urban landscapes would be disqualified, if they would be evaluated through the scale of so-called Historic Urban Landscape. But meaningless chaos should not be acclaimed (FIGURE 1). There would be misgiving that the trend of pursuit of purism would crush the potential of almost urban landscape. Important is that regional people should have interests in generation and conversion of their own landscapes and then find their own pride of place in the piled layer of history of town. It concerns with the confidence of the regional people. And it is just power of landscapes for them.

FIGURE 1. Historic Garden and background of the Tokyo Dom (baseball stdm.) (photo. by T. Oomae 1977).

FIGURE 2. EMBURI in Hachinohe (photo. by T. Oomae 1977).

Sustentation of social interests

As referred, for the conservation of historic urban landscape are needed not only historic substances but also social interests. How could we realize the sustentation of social interests? Since ancient time inhabitants have been keeping their own festival every year or periodically in many regions of Japan even now. Since the festival dancing, songs and parade are symbolized or abstracted, it seems like something quite different from actual practice or radical meaning. But as far as it contains something to remind memories, we can notice some messages from ancient people through the festival as relay of memories. The festival may be one of methods for sustentation of social interests. In fact there are many towns or streets which have early built-in equipments or facilities for festival. The festival concerns closely with townscape and identity of inhabitants of these towns. However these cases refer not to all Japan. The issue of the other regions is gap among old customs and new life styles.

The festival EMBURI (FIGURE 2) is held in February every year in northern part of Japan. The dancing and songs of EMBURI are symbolized as praying for rich harvest of crops. EMBURI is carried out according to legend since 12th century. But townscape where EMBURI is performed is totally changed to residential area. There were a lot of rice field normally one half century ago. The agricultural landscape vanished, but the agricultural festival is performed now in residential area of city or sometimes on the stage of town-theater. This is a gap of today and its fate or consequence that almost intangible heritages follow. The gap would be solved moderately through the limitation of period and place for festival. People could remind vanished landscapes of their childhood at least, if the festival would remain in their own hometown. However we should consider what to do for next generation. It is necessary to take time for studying and discussing, which space or what of landscape we should prepare for the festival.

Landscape could be changed or sometimes fully forgotten or neglected in which people no interest. But landscape that would be recognized no more could be reminded. I would like to introduce such a case. There is a mountain named Azuma-kofuji (1,705 m) with Yukigata (remained snow shape) in Japan. The shape of the Yukigata seems like a rabbit, which shows Yukigata with the shape of "sowing rabbit" at the time of snow melting from the end of April till the beginning of May yearly (FIGURE 3).

The rabbit-Yukigata was written in book in 18th century and described by the farmer of sericulture in his diary in 19th century. In the region people used to say, when the rabbit appears on the mountainside of Azuma-kofuji, it's a signal for sowing on the fields and the time of the hatching work of silkworms. The high quality and technique of sericulture of this region was famous since 8th century, and the business was very prosperous. The rabbit was a charm of this region at that time. But the custom of rabbit-charms in this region went out in the 1930's. Because of change to industrialization of filature works the traditional manufacture vanished. Since then people forgot snow rabbit on the mountain side. But after the World War II, especially 1960's the local newspaper took up the snow rabbit and began to campaign for the reassessment of local culture and custom of the inhabitants. It was a steppingstone of memories. The campaign encouraged regional people and reminded about the snow rab-

FIGURE 3. Snow Rabbit on the mountain side of Azuma-kofuji, former almanac (Fukushima).

bit of mountain side. Snow rabbit has been popular as icon of spring landscape among citizens and the "rabbit" became 1996 official mascot of the city. Since then it has to work harder not only in winter for civil service. Anyway the skyline or mountain landscape (higher level) we see from town (lower level) is not changeable as eternal, although many things inside town may be so changeable. We can see it eternal even far away, while we recognize and keep it in mind.

Loss of Landscape

The Great East Japan Earthquake and Tsunami destroyed and washed away many lives, homes, families, villages, fields, towns also embodied Historic Urban Landscape and any established ideas. In addition the disaster of radiation made to appear areas where people cannot live. It is deadly to the conservation of landscape united with social interests. There is the case of "snow rabbit" I referred in Fukushima. What kind of feeling do people have and how do they see it of their own homeland after the disaster?

There are many sites even now that have been by tsunami washed away. It seems as if the sites would return to primitive landscapes of the time before civilization (FIGURE 4). Coast areas where rice fields had been, partly subsided as if they would return to sea. Return to rice field or as it stands (sea) is under consideration. So what people do by trial and error would be piled as historic layers in their own landscapes. The loss of landscape gave us moment to rethink the miracle like something ordinary or daily life and to consider the significance of the relation among town, history and landscape more deeply. Certainly where was damaged by disaster is very limited, if we look globally. It was surely local phenomenon of nature on the earth. But the experience of loss of landscape showed to us from what the historic urban landscape did begin, namely what is the generation of landscape. Landscape itself contains something dynamic. That idea should be adopted into the concept of conservation of also listed Historic Urban Landscape.

What is tolerance herein?

Before the definition of tolerance we have to discern what should be changeable or unchangeable in urban landscape. And in addition it should be allowed to exist something changeable and to adopt new consequence for conservation of historic substances in urban landscape.

FIGURE 4. Here was residential area and rice field. (Natori shi, Miyagi ken 2011).

CONCLUSIONS

Power:

Has landscape power? Landscape is medium that reminds something for people and sometimes gives us courage and dismay. It is a very significant "raison d'etre". Therefore we wish to make or keep it positively. The issue of "power" is mainly in the side of people not landscape.

Gap:

We can visit and see Historic Urban Landscape. It means a fact of coexistence of "past and present day". We should admit that our visit itself arouses the gap. For this reason we can learn the difference of times through awaking to the gap. Anyway what we see now either old or new = now = no gap. But meaningless Chaos will be refused.

Tolerance:

The concept of conservation concerning to Historic Urban Landscape should behave not like strict ruler but should be helpful and effective more and more for majority of (latent Historic) Urban Landscape.

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Interaction between landscape design elements and place identity concept in urban landscapes

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ABSTRACT

As suggested by Stedman (2002), sense of place is conceived as an overarching concept, which encompasses other place-related constructs, such as place meaning, place attachment and place identity. In this study, the relationship between place identity and landscape design concept is examined in a contextual way to understand the effects of materials used in public areas in point of creating sense of place. Place-identity has been described as the individual's incorporation of place into the larger concept of self defined as a "potpourri of memories, conceptions, interpretations, and related feelings about specific physical settings" (Proshansky *et al*., 1983), Place attachment is considered a part of place-identity which is more than attachment and it is comprised of perceptions and comprehensions regarding the environment (Proshansky, Fabian, 1987). The aim of this research is to define some significant features of landscape design components with both hardscape and softscape elements, which comprises the urban landscape fabric, and their effects on creating sense of place in public areas. According to this aim, a research question is defined as being 'do landscape design components have an effect on public places' identity and their user profile?'. In the context of this question, streetscapes and squares are studied for analysing their character in terms of architectural and aesthetic features. Some studies suggest that, vitality, order and historical significance are important for defining streetsscapes' identity. In terms of streetscape, the transition space between the private and public realms, Hillier proposes that configurations of building facades may be viewed as an arrangement of shapes (Fiske, 1987; Hillier, 1996). An alternative method uses the human eye to separate a streetscape into formal elements and groups of elements whereas, a study serves to find an answer to the identity of public areas and their sustainability with walkability. In conclusion, densely used public places such as streets and squares are examined in terms of their landscape design concept and a general view is put forward to characterize their place identity and user profile according to the architectural and aesthetical components created with design elements.

Keywords: place identity, public use, landscape design, urban landscape.

INTRODUCTION

Civilisation is a drive to live together in society, in close proximity, and to gain progressive benefit from that physical association. Human settlements -villages, towns and cities – are the physical manifestation of human communities and civilization[1]. A city is a dramatic event in the environment (Wall, Waterman, 2010).

Urban places have an essential position in the formation, adaptation and reproduction of the urban identity (Uçkaç, 2006).

As suggested by Jacobs (1993), when he thinks of a city, the first thing that comes to mind is the street. If the street is interesting, the rest of of the city is interesting. Pedestrian preference is effected by street's basic design components as being building and façade structure-type, roads, pathways and also the landscape which shapes the place character with its elements. According to Hasol (1995), place is the main topic of the architecture discipline and it can be defined as 'an area providing people to become apart from its environment and enable to sustain their life activities in this surrounded district. If we focus on open space concept, it is a place, which is shaped by artificial or human effects, with providing areas for various space usage type in different character with sorting or combining them (Gold, 1980).

The objective of this paper is to analyze the two most urbanized parts of Istanbul in point of public space concept. Public space is an open or closed area used by people without any restriction also, not regarding control on with or without accessibility (Francis, 2003). Furthermore, they are gathering areas for people with providing to share their common special days in a wide perspective from streets to squares, parks and their surrounding buildings with composing the important part of urban environment (Erdönmez, Akı, 2005). In this study, the relationship between place identity and landscape design concept is examined in a contextual way to understand the effects of materials used in public areas in point of creating sense of place. Place-identity has been described as the individual's incorporation of place into the larger concept of self defined as a „potpourri of memories, conceptions, interpretations, and related feelings about specific physical settings" (Proshansky *et al*., 1983).

There are some basic reasons for public spaces' being unsuccessful and inefficient potential for people such as; designing uncomfortable sitting areas, lack of gathering areas, inaccessible places and ways, non-functional design elements, vehicle dominance, empty and useless areas and poor activities (www.pps.org, 2011).

As suggested by Stedman (2002), sense of place is conceived as an overarching concept, which encompasses other place-related constructs, such as place meaning, place attachment and place identity.

Urban identity contains attributes and elements, which distinguish it from other cities, and they are specific for that city's character. There are two categories for the definitions of cities as natural (climate, geology, topography, vegetation) and artificial environment (buildings, roads and open spaces) (Uçkaç, 2006).

In this study, urban identity is analysed on a small scale urban part through the urban landscape elements. Effects of the identity elements on space perception, related to the existing cases, are also interpreted through site photos. As a result, streetscape and squares are the main concepts in this part. In terms of streetscape, the transition space between the private and public realms, Hillier proposes that configurations of building facades may be viewed as an arrangement of shapes (Fiske, 1987; Hillier, 1996). Also, streetscape plays an important role in public perception by the pedestrians, who experience it daily (Jung-Ko *et al*., 2011). Also, squares are effective public areas for people, especially in special days of societies.

MATERIALS AND METHOD

The aim of this research is to define some significant features of landscape design components with both hardscape, softscape and urban furniture elements which comprises the urban landscape fabric and their effects on creating sense of place in public areas. According to this aim, a research question is defined as being 'do landscape design components have an effect on public places' identity and their user profile?' According to this question, streetscapes and squares are studied for analysing their character in terms of architectural and aesthetic features. General ideas are put forward by a reflective viewpoint with analysing the urban character of these case study areas through their existing usage types with mAkıng a comparison between them in point of hardscape, softscape and urban furniture elements.

'Place' concept is analyzed through psychological, physical and social criterias (TABLE 1).

TABLE 1. Concept Plan.

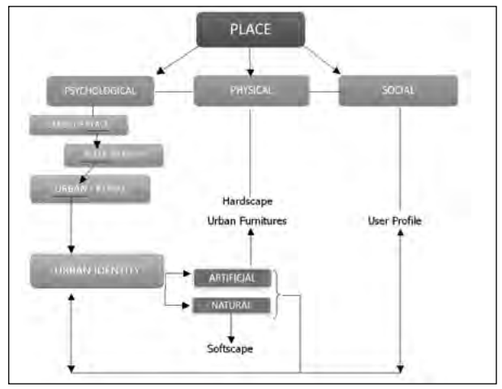

FIGURE 1. Old and new situation of Kadıköy (Photo: Özgün Arın, 2011; www.panoramio.com, 2012).

1 Gordon Cullen.

Kadıköy and Beşiktaş, which are one of the most densely populated boroughs of Istanbul in Turkey, are selected as case study areas. Beside of changing their urban structure gradually in a physical and social way, their old historical and cultural character are also the main reason for to be studied in this research.

Before the 17th century, the district was a suitable bay for as a harbor. In the 17th century, the bay is filled and turned into a 'royal garden'. In 1930, it took the 'borough' statue (www.wikipedia.org, 2011). Beşiktaş-Üsküdar Quay construction is an important phase for the region's urban improvement (FIGURE 2).

FIGURE 2. Development of the quay infrastructure (www.panoramio.com, 2012).

Kadıköy is one of the oldest settlement at the Anatolian side of Istanbul. The site was an important center during the Ottoman Period with its public and infrastructure services which provided it a different character from the other settlements of Istanbul for that time. Until the Republic Period, it had a various population structure. The first social improvement was seen by the begining of the inner city ferry operations and opening of the Haydarpasa-Izmit Rail at the second half of the 19th century.

During 1950s, first slums were settled in this region as a result of the rapid urbanization process. At present, Kadıköy is one of the important sub-metropolitan centers in Istanbul including middle and upper income groups with a commercial and service sector density (FIGURE 1).

Second study area, Beşiktaş is a densely used area including commercial and social facilities for people. There is a wide range of space use dynamism, especially around the squares and their environment.

In Kadıköy, Bahariye Street is chosen as the case study area. There is a mixed use type along the street and secondary roads combine the main axe with the commercial buildings based service use in the settlement. Pedestrian circulation works between the tram route which continues along the main axe and the buildings. In Beşiktaş, study area is a square located at the endpoint of Barboros Boulevard, where traffic and pedestrian circulation is the dominant factor in this area. Also, the square is near to the main axe Çırağan Street (FIGURE 3).

Urban Furnitures-Hardscape and Softscape Elements

In Kadıköy, urban furnitures are designed together in an unsuitable way with creating complexity along the street. Sitting elements, bins and boundaries are in a complexed composition. Wood is the common furniture material used for these elements. In contrast, especially at nights, lighting elements can dominate the street character. The main problem along the axe is the narrow road width between the tram route and building façades for pedestrians. Hardscape elements are generally composed of concrete stone block types in the street. 'Vandalism' is the key problem for both hardscape and urban furnitures in this area. Also, there is a lack of space for the urban furnitures and pedestrians in Bahariye Street. However, the Street has a strong settled streetscape character with its mixed use facilities and living building façades for a long time.

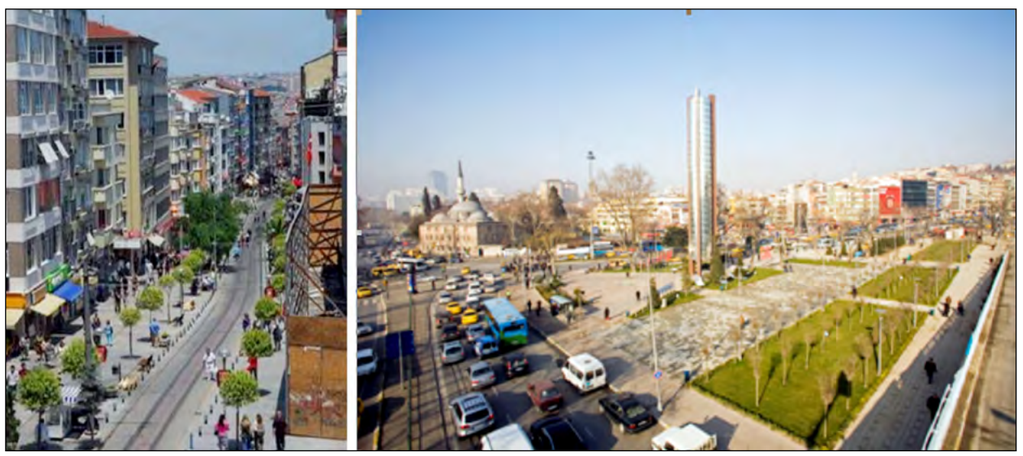

FIGURE 3. Bahariye Street (left side) and Beşiktaş Square (right side) (www.panoramio.com, 2012).

In Beşiktaş Square, the area and its environment has the same urban furniture type and materials as seen in Kadıköy. From an urban identity perspective, the main difference is square's being a transition space for the pedestrian activity in this area. Hardscape elements can create a square identity in this large gathering area. 'The Monument of Atatürk Republican Democrasy', which can be seen from far points in Istanbul, has a landmark effect of this area and it is an important urban identity element in Beşiktaş (FIGURE 4).

In Bahariye Street, trees in medium height dominate the axe along the street and flower pots are used in some definite places near the tram line. Flower pots are located with the other street furnitures in a complex arrangement. Beşiktaş Square has a more ordered planting design view in terms of emphasizing the pathways in square between green areas with definite tree and shrub species. Also, vandalism is less seen in this area in comparison with Bahariye Street. Planting compositions create a background effect for the open spaces and orientation for the pedestrians (FIGURE 5).

There is a various user age group domination as a result of the facilities in both of the case study areas. In Bahariye Street, teenage groups has an important effect on defining theplace identity of the street. Cinemas, shops, cafes and other social facilities serve for all the user groups especially in daytime whereas, at night security problems occur. In Beşiktaş, user profile is less prominent because of the square's transitional character. Every age group uses the square, which is one of the most crowded urban centre of Istanbul, for sitting or gathering activities.

RESULTS AND DISCUSSION

Two case study areas are evaluated in the context of the 'place' concept. Place is categorized into main three topics: psychological, physical and social.

In the psychological part; it is observed that, Bahariye Street has a more settled urban identity in comparison with the Beşiktaş Square as a result of its

FIGURE 4. Kadıköy and Beşiktaş physical urban identity elements (Photo: Özgün Arın, 2011; www.panoramio.com, 2012).

historical and social character. Beşiktaş Square is emphasized with 'The Monument' as a gathering area. Also, the square's physical changes in the last years has an important effect on changing its place identity.

From a physical perspective, artificial (urban furnitures and hardscape) and natural (softscape) elements have a significant role on the usage type of the case study areas. Bahariye Street is under the negative effect of vandalism especially, in point of street furniture and hardscape elements whereas, Beşiktaş Square is less damaged from this social problem.

Urban furnitures should define the area, in which, they are located in aesthetically and have a symbolic meaning for the city. In a study, it is founded that urban furnitures do not have a unity, continuity and can not make a relation with the built environment (Bayraktar *et al*., 2008). The same results are valid for Bahariye Street, where softscape design is more organized and successfull in Beşiktaş Square than the Street in terms of plant types, their design, location and green area quantity.

As a third evaluation criteria socially, Bahariye Street and Beşiktaş Square have mixed group of users. In a detailed analysis, Bahariye Street has a more settled user profile than Beşiktaş because of its historical site character. So, it can be inferred that, pedestrians prefer this area for its public services and various site uses. As a result, comparison between the two case study areas and the general place identity situation of Bahariye Street and Beşiktaş Square is put forward in TABLE 2.

CONCLUSION

As a result, the research question 'do landscape design components have an effect on public places' identity and their user profile?' is a key way of understanding the place identity through physical and social factors. Streets and squares are the basic components and transition points in an urbanized area, where pedestrians fulfill their social requirements. It is found that, landscape design components have a significant effect on defining public place identity in point of user profile and site dynamics in the urban landscape. Study areas are successful in both architectural and aesthetical manner with their building façades, landscape design elements and user profile. Pedestrian activity and urban identity conservation should be regarded as the main issue through the design process. Streets and squares should be designed conveniently for the pedestrian activity in cities to gain a real sense of place for the inhabitants and visitors of this artificial and natural combined living areas.

TABLE 2. Results of the Case Study Areas.

	PSYCHOLOGICAL	PHYSICAL			SOCIAL
	Urban Identity	**Hardscape Elements**	**Softscape Elements**	**Urban Furnitures**	**User Profile**
KADIKÖY (Bahariye Street)	Historical and commercial character (Tram route, shops-cafes)	Concrete stone block is used along the street	Tree axe is dominant along the street	Complexity along the street	Mixed type of user groups
	Settled urban identity		Disordered planting design concept	Wood is the common used material	Vandalism
			Definite plant types are used	Boundry elements are redundant for movement	Security problem
				Lighting elements are significantly dominant at night	
	Reflects streetscape character	**Lack of space for the pedesterian movement**			**Rehabilitatation is a requirement**
BEŞİKTAŞ (Square)	Transition place	Concrete stone block is used in square	Planting compositions create background effect and provide orientation for the pedesterian activity	Unity-continuity and relation with the built environment	Mixed type of user groups
	Gathering area		Diversity in planting design from the view of plant types	Wood and iron are the common used materials	
	Landmark point (The Monument)				
	A crowded urban centre in Istanbul	**Efficient space for transitional activities**			**Reflects user diversity of the square**

FIGURE 5: Softscapes of Bahariye Street (first line) and Basiktas Square (second line) (Photo: Özgün Arın, 2011).

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Openspaces of housing estates between 1950 and 1990

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ABSTRACT

Although the first housing estates appeared in Europe approx. at the beginning of the 19th century, the concept was closely connected to urban developments after WW2. Within this timeframe it is most significant in residential developments of former Socialist countries. In this region the housing estates can be considered as the symbols of Socialist urban design, which became a dominant element in city-structure and cityscape. Beyond their characteristic built- up methods they had large openspaces which were mostly green surfaces, having an important role in forming style and character of this neighborhood.

Landscape design of housing estates is a special task for our profession. The arrangement of openspaces is largely determined previously by built-up methods, by placement and character of the buildings. In this respect this task differs from designing the landscape of a new park, where connection to the architectural environment is less direct. In addition openspace design of housing estates is also influenced by landscape architectural trends of certain periods.

In the present study we analyze the typical development of openspaces surrounding housing estates built in different decades, in accordance with different built-up methods.

Openspaces of housing estates can bear different size and functions from intimate gardens for everyday use next to buildings to rather large scale dividing surfaces between blocks. Connecting and separating these two green surfaces of different scale by landscape architectural tools has changed significantly during this period parallel to changes in material and plant use. From composition point of view, it is interesting to follow up the stylistic connection between the architectural built – and landscape architectural environment. Nevertheless one shouldn't forget about the changing normative planning-regulation of these decades, influencing the ratio of open and built-up spaces and the minimum amount of green surface.

Today, among urban values of the housing estates perhaps the relative spacious openspace structures are the most important ones, having positive space-structural and ecological influence not only in their immediate environment, but also in a larger city- scale as well. During restoration of housing estates the protection of these valuable open spaces should have priority.

Keywords: green surface, enclosure, modern functionalistic design methods, social realism.

INTRODUCTION

The topic of the dissertation is the openspace design of housing estates in the second half of the 20 th century, between 1945 and 1990. The openspace design of this era is absolutely undiscovered from a professional aspect, and this research deals with a segment of this huge subject.

The goal is to get familiar with this special openspace design task which was typical in that era, moreover, to track its changes and to evaluate the openspace design works of different periods from the point of contemporary art trends. The recognition of the present values of housing estates' openspaces built in the era in focus, is extremely important especially nowadays prior their renovations, to avoid destruction of existing values. By learning the openspace design of housing estates typical in the era, the final goal of the dissertation is to provide a useable help for the decision makers, for NGOs and designers in the revitalization process.

MATERIALS AND METHODS

Due to relative few sources in professional literature, the conclusions of the dissertation are based first of all on analysis of plans of the period. Landscape architects, active in the researched period, with whom interviews were made helped in the interpretation of plans and in placing them into specific contexts typical of their formation.

During the selection of analyzed plans it was an important consideration that each selected plan should represent the period in which it was designed and demonstrate its most typical features mostly from space enclosure, composition and plant--usage point of view. In selection of housing estates to be analyzed another important criteria was to choose the ones which have references in the professional literature of the period and according to the current professional literature are considered as valuable, progressive and characteristic works. A special effort was made to find housing estates with typical built-up system of the period. In addition, during the selection of plans to be analyzed, the existence of a relatively complete documentation available was an important consideration. (In Hungary after the cessation of big state-owned planning firms in 1990 a considerable portion of plans were lost or destroyed.)

The built-up systems and openspaces of housing estates built in the researched period of 45 years are not uniform. Characteristic changes, specific trends can be observed, which enables us to classify further periods within the analyzed era (Bakay, 2010). The specialty of housing estates' openspace design is, that the size and proportions of openspaces are determined up to a certain level by the built- up system, and the space walls are basically influenced by the quality of building facades. The location of commercial units and primary educational institutions within the housing estate is also a key factor in openspace structure. Therefore, the most important changes in architecture and built-up system of housing estates can also be tracked parallel with the changes of openspace system. The demonstration of architectural and urbanistic reviews is followed by the presentation of openspace solutions supported by pictures and original plans.

During the analyzed era openspace-use functions have changed (relation of car- and pedestrian traffic, methods for providing enclosure, composition principles). In addition to this, some specialties appeared in certain periods. Between 1950 and 1990 a series of legal regulation and planning guidelines were introduced dealing with placement and sizing of housing estates' openspaces and required proportions to be provided for different openspace--use. The changes of these regulations and guidelines have also influenced the size, placement and structure of openspaces in housing estates.

The housing estates built in different periods within the researched are were analyzed by the same criteria to help comparison and to emphasize differences. These criteria are the following:

Criteria to analyze the character of the buildings:
- Size of housing estates (number of flats)
- Typical built– up system
- Typical building height
- The architectural character of the buildings
- Construction method
- Location of local shopping facilities
- Location of primary educational facilities

Criteria to analyze the openspaces:
- Inner road system
- Existence and location of parking lots
- Recreational functions in semi-public gardens next to blocks
- Separation of semi-public gardens and public green surfaces
- Composition
- Existence of local parks of housing estates
- Characteristic of plantation
- Characteristics of used building materials
- Characteristics of used plants
- Characteristics of used street- furniture
- Normative regulations regarding the sizing of recreational openspaces

Most of the housing estates in the research are located in Budapest. Some of housing estates analyzed in details in the research: Gubacsi hídfő Housing Estate (19th. District, built between 1955-1956); József Attila Housing Estate 1st phase (9th. District, built from 1959-1962); Lakatos Street Housing Estate (18th. District, built between 1962-65); Kelenföldi Housing Estate (11th. District, built between 1969-1974); Újpalota Housing Estate (15th. District, built between 1969-1975); Pók Street Housing Estate (3rd. district, built 1982-86); Kaszásdűlő housing estate (3rd District, built between 1982-86).

RESULTS AND DISCUSSION

The review of openspace design of the researched era can be subdivided into periods of decades.

OPENSPACE DESIGN IN HOUSING ESTATES OF 1950S

In the 1950s during the social realistic times a great emphasis was put on the openspaces of housing estates in newly built industrial towns, since according to Marxist ideology man is determined by his environment, so a high quality living environment "makes" people better.

Social realism, the main architectural design style of the 1950's, was seemingly opposing the modern artistic ideas. However, considering the main principles in creating enclosures of housing estates (in terms of the separation of neighboring units and grouping objects into functional entities) we may find some basic ideas of modern environmental design. Regarding landscape architecture, the functionalist approach basically meant the formation of enclosures between buildings, resulting in the recreation of inner gardens that provided a special functionality and also served as a boundary for open space (FIGURE 1) (Bakay, 2012).

FIGURE 1. Typical courtyard garden with playground in a housing estate of the 1950s; source: www.sztalinváros.hu.

The division of openspaces and the adequate shading was realized by using appropriate assortment of plants that could provide it. (ORMOS, 1967) Logically constructed, straightforward walkways served for pedestrian traffic in the most frequented directions-excluding trespassing traffic. The realization of coherent, connected green surface areas was a common characteristic of the garden design typical for the era, so it was an important factor for landscape designers to provide a connection and continuity between courtyard gardens and external green areas.

Openspace design in housing estates of 1960s:

The design of openspaces for housing estates based on functionalist principles was completely fulfilled between 1960 and 1989. The fundamental design principle of functionalism, namely the functionality and purpose determines the form and material used, the industrial and mass production resulted in the lack of decorative elements and simple geometric motifs used in design of the open spaces of housing estates in the 60's and 70's (FIGURE 2).

In the 1960s, based on Le Corbusier's principles (Czepczynski, 2007), according to which modern contemporary multi-story residential buildings float at in vast green surface, there is no need for further division of openspace by wooden vegetation creating characteristic sunny and shady areas.

FIGURE 2. Courtyard in housing estate of the 1960s; source: MTI photo, FSZEK OKL collection, Budapest.

Openspace design in housing estates of 1970s:

The panel building technology spread in the 1970s, causing a drastic change in the size of housing estates. It was a hard task to create human scale, intimate, and well useable courtyards between 33 meter high and many hundred meter long building giants.

The plant- application practice typical in the previous decades was family-garden scale with single trees or small groves. The change of scale in housing estate architecture in the 1970s required a similar change of scale in the division of openspaces as well. With respect to plant application large and relatively homogeneous, forest-like plant mass appeared between some blocks and at the edges of housing estates, in accordance with the architectural scale and rhythm (Greiner, 1966). The method of space division and separation by artificial mounds appeared in this decade as well, often combined with mass plantation (FIGURE 3). Besides their space dividing role they proved to be efficient in sound-isolation along main roads with heavy traffic at the borders of housing estates (Bakay, 2010).

FIGURE 3. Courtyard with geoplastisc built in the 1970s in Budapest; source: Radó, D. (1985) Budapesti parkok és terek, 58 pp.

Openspace design in housing estates of 1980s:

In the 1980s some post-modern features appeared in the typical modern functional openspaces of new housing estates (e.g. Japanese garden in a courtyard or a wooden gate motiv in public park of a housing estate). These elements provide a unique character and identity for openspaces of housing estates.

At the same time there was a growing need for privately owned or at least self-maintained small gardens belonging to some of the flats (FIGURE 4). Where there was no possibility for creating private gardens, semi-private public gardens were created among the blocks, which were separated from the public areas – if it was possible – by fence.

FIGURE 4. Private or semi-private gardens in the housing estates of 1980s; www. lakotelep.hu.

CONCLUSIONS

Openspace design in the second half of the 20th century belongs to undiscovered periods of our professional history. Openspaces of this period are well definable landscape architectural works with characteristic and unique style, which were born under the spell of functionalism, but under the restrictions of economical aspects as well.

The researches convinced me that behind openspace design works in housing estates, which is seemingly a schematic and monotonous design task, a tremendous amount of research, experience and creative effort of designers lay, which tries to humanize the schematic architectural environment of housing estates lacking human scale, to create a home-like feeling for the residents in common courtyards, next to local centers, in local public parks. With simple, often cheap tools they tried to create some cozy atmosphere in the grey concrete jungle, and to introduce some diversity in the monotonous built-up system.

The revitalization of housing estates has already started. Although, only the renovation of buildings has taken place so far, the revitalization of openspaces is expected soon, these openspaces are extremely neglected, due to total lack of maintenance.

The research revealed the conditions that determined the creation of housing estate's openspaces during the analyzed period (typical requirements regarding openspace-use, the space-dividing methods and compositional principles, the ways of plant-application, the characteristic plant- and material uses and their changes).

This study can support the theoretical foundation necessary during the revitalization of housing estates' openspaces.

Although significant functional changes and appearance of new, modern landscape architectural building materials are to be expected during revitalization of housing estates openspaces, the goal of the dissertation is to reveal the „hidden" values of housing estate openspaces. These can be found first of all in their openspace structure, in the relative abundance of available open and unbuilt spaces and in the significant amount of well-developed tree population (Bakay, Szilágyi, Hutter, 2011). The revitalization could aim to satisfy the growing demand for closure, intimacy, for spaces with private or limited public use, which demand can be observed since the 1980's, but has been increasing in the last years. This need be reached by introducing further enclosures or physical separation. A new goal could be to create real community spaces on housing estates' openspaces. However, all these goals should be achieved without decreasing the size of openspaces. In addition, coherent green surfaces shouldn't be fragmented either, moreover the existing massive tree population should remain intact as well.

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Developing a Theoretical Framework to Evaluate Children's Experience in Urban Open Spaces

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ABSTRACT

The Urban population is increasing all around the world. Many of these urban residents may rely on urban open spaces (UOS) for their recreational, social, educational and health needs. Those spaces are precious to city people for improving the quality of their lives; however, they are more important to children.

Part of the role of landscape architects is to create and manage quality open spaces for people's social and recreational needs and provide them with escape points in the city environment. The evaluation of experience in UOS are beneficial for understanding the social benefit for children in urban landscapes and also important for creating UOS that function well for children.

Individual theories in the literature are beneficial for researchers; however, a general framework for the evaluation of children's experience in UOS is required. The aim of this paper is to examine different theories of different researchers and develop a theoretical framework which will lead to the design of better research methodologies to effectively evaluate children's urban experience.

Keywords: urban open space, controls and boundaries, social benefit, children, urban landscape.

INTRODUCTION

According to the U.S. Census Bureau (2004), the global population exceeded six billion, and is expected to reach nine billion by 2050. Almost half of the world's population live in urban areas. Ninety percent of the population of EU countries live in urban areas (Thompson, 2002; Pickett and Cadenasso, 2008).

The Large growth in urban population with mobilization has made appreciable changes in our urban environment (Woolley, 2003). Most of the world's big cities have lost their traditional identity. Gehl and Gemzoe (2003) explain that the traditional role of UOS was for people to meet, exchange goods, talk about city and their society, and where festivals, feasts and town meetings took place. Some open spaces have lost their role, with the accumulation of cars and buildings because of non-planned and rapid urbanization. Gehl and Gemzoe (2003) add that some cities like Venice are well kept in a traditional way; however, most cities in the world are out of balance and dominated by traffic. UOS can deliver numerous benefits when they are designed or maintained correctly. Human experiences in UOS are widely researched by many researchers such as Carmona (2010), Gehl (1996), and Woolley *et al.* (2011). Many different benefits, uses and controls have been found. Findings of researchers are actually criteria for creating quality urban environments for children's needs.

BENEFITS, BOUNDARIES AND USE OF URBAN OPEN SPACE

Benefits of Urban Open Spaces to Children

The Benefits of UOS are economic, health, social, environmental and educational benefits, active recreation, passive recreation, community and cultural focus (Carmona *et al.*, 2008; Woolley, 2003). This paper discusses children's benefits from UOS and neither environmental benefits nor economic benefits will be covered as they are less directly associated with children.

Whyte (1980) mentions that children's play in urban spaces is not about the non-existence of play grounds, it is about their liking to play in an urban context. Being able to examine, challenge and understand the city and the adult world fascinates children (Cele, 2004). UOS give children opportunities to play freely, discover things themselves, develop new skills, plan and manage their own time, and help their motor and communication skills to be developed.

Physical activity levels are being increased during the outdoor experience and study shows that the existence of open spaces in neighbourhoods is positively related with the physical activity levels of children (Aarts *et al.*, 2010). Recent studies show the physical activity level of children has been decreasing in many countries (Griffin *et al.*, 2004; Cleland *et al.*, 2010), which leads to increasing childhood obesity in urban areas (Kaur *et al.*, 2003; Krassas and Tzotzas, 2004; Ogden *et al.*, 2006; Rigby and Baillie, 2006).

UOS also have some psychological benefits. UOS support shared identity of the multicultural urban context and enhance the feeling of belonging (Gaffiken *et al.*, 2010). Although being with strangers in the same place may raise safety concerns, it also increases the chance to be unknown. In UOS people become private in the anonymity of the civic crowd, which may allow them to escape from everyday life (Thompson, 2002; Woolley, 1997). This is also the case for children. Being with strangers gives children a break they need, an escape from adult life, an opportunity to socialize and helps their healthy physiological growth. Open spaces are extremely valuable for children's social interaction with other children. Lack of UOS interaction might cause poor ability in motor skills, to deal with stressful situations, to assess and manage risks and poorer social skills, leading to difficulties in negotiating social situations such as dealing with conflict and cultural differences (NPFA, 2000).

Boundaries and controls of Urban Open Spaces

These benefits of UOS are shaped by some boundaries which restrict children's use of UOS. Woolley *et al.* (1999a) found that although over seventy percent of children visit their town centres at least once a week, there were issues they dislike. The factors they mentioned include the presence of drug users, beggars and homeless people, unmanaged underpasses, motor vehicles, graffiti, rubbish, crime and vandalism (Elsley, 2004; Woolley *et al.*, 1999a). In Woolley *et al.* (1999b)'s study children described town centres as busy, noisy, dirty and polluted. Only a small percentage of children chose words such as lively, fun or friendly. Moreover, According to Elsley (2004) parental worries such as bullying, stranger danger, and the presence of motor vehicles also negatively affect children's urban experiences.

In addition, some children are excluded from UOS. Carmona (2010) categorized the groups as Inhabitants (controllers), visitors (controlled) and strangers (undesirables); who falls into the last category depends on the particular city. However, groups like skateboarders or bikers are not welcome in town centres on either side of the Atlantic. Németh (2006)'s research about Philadelphia's "LOVE Park" reveals how an exclusionary approach was taken after renovation of the park. The city council banned skateboarding in the love park using planting pods, a 300-dollar fine and 24-hour policing in the area. Despite different proposals from various organizations, the city council declared that skateboarding was banned in the city forever. Council proposed to build a skate park at the edge of the town centre. A similar approach was taken in Sheffield in the UK to exclude skate boarders from the town centre, i.e. the Peace Gardens after renovation, due to damage to urban fabric and potential danger to other users. In the Peace Gardens exclusion was achieved by design elements such as curved corners, rough granite surfaces and obstacles in the hand rails, and it is controlled by the city centre ambassador team (Woolley *et al.*, 2011). Skateboarders are again forced to use newly built skating ramps at the edge of the inner city.

Woolley *et al.* (2011) explain controls as social, physical and legal controls. From the above examples it is clear that physical controls (obstacles, planting pods, curved corners), social controls (police enforcement or ambassadors), and legal controls (fining and by-laws) were used to exclude children from the area. When the exclusion approach is taken, controls become boundaries for children. For instance, physical controls such as planting pods are actually intentionally designed boundaries for specific groups of children. In addition, not only intentionally designed spaces but also lack of design might be exclusionary for young and disabled children (Carmona, 2010). Lack of detail such as Obstacles on the footways, difficult crossings, poor access, unnecessary disruption on footways, poor conditions for cycling and walking makes life miserable for vulnerable groups and excludes them from UOS (Gehl Architects, 2004).

In summary social boundaries can be described in terms of drug users, beggars, homeless people, crime, bullying, stranger danger and vandalism and exclusionary social controls. Other mentioned problems such as unmanaged underpasses, motor vehicles, graffiti and rubbish fall into the physical boundaries category.

USE OF URBAN OPEN SPACES

Jan Gehl in his revolutionary work in 1996 classified people's use of open space as necessary, social and optional. These three categories are closely related with benefits and boundaries of UOS.

Necessary uses include going to school, supermarket or work, waiting for buses and any activity you necessarily do in everyday life. Amin (2002) mentioned that some spaces just serve as transit spaces with very little or no contact with strangers. These spaces are transit roads for pedestrians and only movement experience rather than movement and social experience (Carmona *et al.*, 2003). Gehl and Gemozoe (2003) argue that such spaces are only used by people when it is necessary, not used as they want to. Gehl's findings (1996) suggest there is no direct relation between quality of space and necessary activities. However, necessary activities' role for creating social interaction should be understood.

Any activity which depends on people's willingness to do it can be described as optional activities (Gehl, 1996). Walking, playing, sitting in a park or sunbathing are examples of this. Optional activities

are closely related with physical planning and a significant amount of increase in this type of activities can be monitored when optimum quality of environment is provided.

The last category in Gehl's categorization (1996) is social use of spaces. Having conversation with others, community activities, and activities involving seeing and hearing people are in this category. This type depends on other people for it to occur. Social activities happen anytime, anywhere. For instance, while walking to work, seeing friend and chatting are among the simplest forms of social activity. Gehl suggests that low intensity contact is starting point. As low intensity contact creates foundation for optional activities, better open space experience can be created. Mean and Tims (2005) agree that low intensity social interaction would create more beneficial social spaces. However, chances of meeting depend on the quality of the actual environment. It is all in the hands of architects and planners, who could improve chances of meeting, seeing or hearing (Gehl, 1996).

DISCUSSIONS

Although different academics concentrated on diverse aspects of the experience of UOS, it can be seen that potential benefits, boundaries and controls, use and outcome benefits are ever-repeating cycle. Therefore, theoretical framework was created to gain deep understanding of this cycle (see FIGURE 1). In the following section of the paper discussions will be concentrated on rationales of the cycle and relations between elements. In particular, the relationship between use and controls is important for evaluating children's experience of UOS. Landscape architects aim to create functional and beneficial spaces. However, any kind of disruption in the any stage of this relationship could result with non-completion of cycle which creates an angle between potential and outcome benefits.

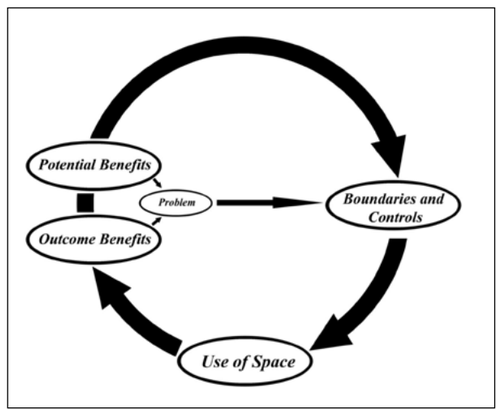

FIGURE 1. Cycle of Urban Open Spaces.

It can be seen from the framework that boundaries and controls limit or permit different uses in UOS, and indirectly outcome benefits. Boundaries are related with poor design and under management of space. Physical elements unmanaged underpasses, motor vehicles, graffiti, rubbish, and vandalism, and social elements such as drug users, beggars, homeless people, bullying and other parental worries, and crime falls into boundaries category. Gehl's (1996) understanding of poor quality space can be considered into physical and social boundaries category as they are related with design and management of spaces. However, to understand and evaluate children's use of UOS determining boundaries is not enough.

Therefore physical and social controls of spaces should be considered, observed and involved in evaluation process because controls are used to set boundaries for specific groups to exclude them from area as was explained by Woolley *et al.* (2011). However, it should be noted that exclusion of specific groups create opportunity for some other groups which could be distracted by excluded. For instance, it is assumed that exclusion of skateboarders creates less risky environment for young children due to prevention of possible collisions. Exclusion will result with those excluded children's use of specific space when it is only necessary such as walk through. However, benefits that are important aspects of children's healthy growth can be achieved when Gehl (1996)'s optional and social use of space achieved.

Therefore in the evaluation process controls and boundaries of the space, and users should be watched carefully to determine effects and relation between them. The boundaries related with poor design and management are much easier to determine; however, it is much harder to determine controls of spaces. For instance exclusion decisions might not be determined in the first look. More attention should be paid to specify intentionally created boundaries such as; obstacles, curved corner, planting pod in important places and social controls such as ambassadors, to exclude some group of children.

Boundaries and controls shape the use of UOS. Therefore, issues and use of space will be better understood when Gehl's (1996) use typology, boundaries (Elsley, 2004; Woolley *et al.*, 1999a; Woolley, 1997) and controls (Woolley *et al.*, 2011) are used together relation with potential and outcome benefits. Lack of careful design touches and good management strategies, or intentionally created boundaries are more likely to make UOS transit roads which may be used when it is necessary. In such spaces there might be little or no contact between stranger and it is only movement experience rather than movement and social experience (Amin, 2002; Carmona *et al.*, 2003). Hence in UOS that used when it is necessary, potential benefits and outcome benefits will not be same and potential benefits for children may not be achieved. The bottom line is children less likely to get full benefit out of those UOS, which is important for their physical and psychological healthy growth and improving their education and social skills. More benefits can be achieved in socially and optionally used UOS at least with minimum level of social contact, less physical and social boundaries and more inclusive controls rather than exclusion approach against children.

CONCLUSIONS

In the academic literature a range of discussions can be found about children's benefits, issues that constrain or allow children's experience of UOS and use. This paper firstly attempted to focus on literature on controls and boundaries, use and benefits. Secondly, it attempted to show clear theoretical relationship between potential benefits, controls, boundaries and current use.

Although in the academic literature boundaries that affect children's experience and controls that exclude children from UOS is found, they were never connected with use and benefits before. This paper attempted to show how boundaries and controls affect the use of space for children, how different uses of spaces restrict potential benefits to be achieved. This paper shows that controls, boundaries, use and benefits are ever-repeating cycle and closely related with each other. Therefore, they are important for understanding rationales of UOS. This theoretical framework will lead to the design of better research methodologies to effectively evaluate children's urban experiences. The findings from this research may have major implications for city council, planners, designers and managers of urban open spaces to improve recreational and social functions of urban landscapes for children.

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Cultural heritage value and open space heritage in Southeast Europe

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ABSTRACT

The paper presents first work results of the transnational and EU co-funded project "CultTour – Cultural (garden) heritage as focal points for sustainable tourism". Within the project garden and open space sites as well as themes with cultural significance for South East Europe are identified and will be used to implement several cultural garden routes. International conventional concepts for the assessment and statement of heritage value, as presented in charters, declarations and recommendations of UNESCO and ICOMOS, play a fundamental role in the projects process of identification of sites, as they lay the frame for the definition of selection and assessment criteria for the project work.

Context – The cultural diversity of South East Europe has generated cultural heritage with particular cultural imprint. The understanding of the special characteristic of these values is fundamental to understand the significance of the cultural heritage of this part of Europe as well as for the denotation of related themes. In the project work it is therefore seen as essential to work with those described tangible and intangible values, which are associated with a heritage good.

In the worldwide common praxis for the identification of the world cultural and natural heritage, a comprehensive value analysis praxis has evolved. It contains the concepts: cultural significance, spirit, authenticity, setting and integrity.

Some findings – The historical development of the heritage charters, declarations and recommendations of UNESCO and ICOMOS shows a steady development and differentiation of the value analysis concepts; in particular fostered by contributions of ICOMOS National Committees which also have advocated for smaller cultural communities. The analysis of several statements of world heritage sites showed, that a great interpretation space exists in the praxis. Denotations of the outstanding universal value therefore have to be elaborated individually, explaining the particular reference to history, site, and culture and to associated social groups. As this praxis is common for all heritage denotation processes, CultTour gets the possibility to evaluate and work with named values and thus assess heritage goods. The assessment will enable to categorize the detected sites in suitable/not suitable for further strategic work on garden routes.

Keywords: cultural significance, Southeast Europe, heritage concepts, assessment criteria.

INTRODUCTION

From the adoption of the Charter of Florence in 1982 historic gardens have been recognized as an independent heritage category. Since then numerous research has been undertaken in several parts of Europe in order to protect relevant historic gardens and gain knowledge on the importance and special nature of this special category of the cultural heritage. These efforts have been followed by an extension of the heritage category to include historic open space types of various size, purpose and style (i.e. parks, city squares, and green infrastructural places etc.). The project "CultTour" – Cultural (garden) heritage as a focal point for sustainable tourism, succeeds this cognitive interest for the South East Europe Programme area.

The paper presents first working results of the transnational working project CultTour (CultTour, 2012a). The project was accepted within the Interreg IV B – *South East Europe Transnational Cooperation Programme*, which is co-funded by the European Union (South East Europe Programme, 2007-2013). FIGURE 1 shows the countries (or parts of countries) that are part of the South East Europe (SEE) Programme area.

Being accepted in the SEE-Programme designates CultTour as a project that heads for the implementation of ways in sustainable development. According the work plan, the project intends to develop new strategies and concepts for fostering sustainable tourism in several countries of the SEE-Programme area with the focus on garden and open space heritage sites. For that aim diverse tasks are scheduled. Beneath the identification of relevant sites and themes of the garden and open space heritage in an overview survey on sites (to which the paper presents the proposed methodology), also a profiling of the European garden tourist and the analysis of four sites for the pilot implementation of working results are planned. The conduction of feasibility studies, the screening of financing options and the development of project chains as well as the development of re-utilization and management concepts for designated sites will be part of the project. Moreover, the project will elaborate guidelines for improvement of local development plans and will highlight gaps in heritage policy in relation to open space heritage in South East Europe. In the end, the development of tourism products inclusive garden festivals, a garden cultural route (or several routes), and several dissemination materials will be some of the outputs, aiming at the initiation of sustainable (garden) tourism in the SEE-Programme area. Additionally to the work on sites, the conceptualization of

training courses in professional education in garden and open space heritage management is part of CultTour as well as their first operation. Thus, all in all CultTour will contribute to a raised awareness against the value and importance of the (garden) cultural heritage of South East Europe. The resulting changed economic situation through tourism development will improve possibilities for heritage preservation.

This article provides information on the project internal development of a methodology for the survey on garden and open space heritage sites and their assessment with a transnational focus, which is one of the first working activities. The methodology is intended to guide the overview survey on heritage items but also, and that is the new approach of the CultTour methodology, will generate knowledge on the range of cultural heritage values connected to the heritages in the SEE-Programme area. Most interesting are the questions, if this special nature reflects the high cultural diversity in the programme area, and if the recent paradigm shift in political systems is traceable in the heritage perceptions.

FIGURE 1. South East Europe Transnational Cooperation Programme area.

Another project on cultural heritage in the South East Europe Programme area has been the *Integrated Rehabilitation Project Plan / Survey of the Architectural and Archaeological Heritage (IRPP/SAAH)* (Council of Europe 2009). It concentrates on the architectural and archaeological cultural heritage in the SEE-Programme area. Its methodology has been published in 2008 under the term *Ljubljana Process* (Council of Europe, 2012). The accessible documents fail to cite any assessment criteria that led to the selection of prioritized objects for the further work under the Ljubljana methodology. Other projects with the special focus on the garden cultural heritage in other parts of Europe also have not published their valuation or assessment criteria, as there are the European Garden Heritage Network (2011) and the European Institute of Cultural Routes (2012). Instead, they follow the approach to work with those relevant garden and open space heritage sites that were identified and selected by involved project partners. Thus, their site selection process is not traceable.

Grazuleviciute-Vileniske & Matijosaitiene (2010) published their observations on the development of a methodology for the work with another cultural heritage category. For roads and road landscapes their considerations provide a framework for the analysis of automobile roads and connected landscapes, consisting of a classification system and considerations concerning their possible valuation. Their system of identification of sites is based on a classification of the cultural heritage of roads and road landscapes under three main categories: road landscape as cultural heritage, road as cultural heritage in landscape, cultural heritage in road landscape (Grazuleviciute-Vileniske & Matijosaitiene, 2010). In addition Grazuleviciute-Vileniske & Matijosaitiene (2010) propose to determine the cultural heritage value, and the categories of the economic value this kind of heritage is able to provide, in order to entitle the actual and potential positive qualities and characteristics of the artefacts and phenomena. Furthermore, they discuss shortly possibilities of the assessment of these values.

MATERIALS AND METHODS

For the development of a methodology for heritage assessment, relevant international conventional papers on heritage preservation of UNESCO and ICOMOS (i.e. the Venice Charter (1964), the Florence Charter (1982), and the World Heritage Convention (1972)) were reviewed and evaluated (compare UNESCO and ICOMOS Charters, list of references). This and an analysis of the common praxis of the World Heritage Nomination process (UNESCO, 1972-2012; UNESCO, 1977-2011) should deliver insights on the use of criteria for the classification and assessment of (garden and open space) heritage items. In two workshops held in 2011

and 2012 three partner teams of the project CultTour from the BOKU Vienna (University of Natural Resources and Life Sciences, Vienna), the IMC Krems (University of Applied Sciences, Krems) and the TU Berlin (University of Technology, Berlin) discussed the results and took decisions for the development of the presented methodology.

RESULTS AND DISCUSSION

The review of international conventional papers of ICOMOS and UNESCO (as mentioned above) and the world heritage list statements on cultural heritage value and significance revealed that neither criteria are in common use for the classification of the diverse heritage categories, nor for the assessment of heritages. As Krippner *et al.* (2012) revealed, criteria are only in use to summarize the kind of significance in relation to determine the outstanding universal value in the World Heritage Nomination process (cf UNESCO, 2008). Instead, a comprehensive and individual assessment and description of the cultural heritage value is common praxis. In order to be able to elaborate any such statements, the conventional papers of ICOMOS and UNESCO present several concepts which all aim at the assessment of the value dimensions connected to heritages. These concepts are described under the terms cultural heritage value, cultural significance, spirit of place, authenticity, integrity and stetting.

Cultural Heritage Value – from 2010 the ICOMOS New Zealand Charter names possible cultural heritage values as aesthetic, archaeological, architectural, commemorative, functional, historical, landscape, monumental, scientific, social, spiritual, symbolic, technological, traditional, or other tangible or intangible values, associated with human activity (ICOMOS, New Zealand National Committee, 2010). The detected values shall be named and described and are thus documented.

Cultural Significance – from 1988 the denotation of a heritages cultural significance was accompanied through the *Guideline to the Burra Charter: Cultural Significance*. The aim was the capturing and description of several value categories connected to a place as the aesthetic, historic, social or spiritual value (ICOMOS, Australia National Committee, 1988). With the ICOMOS New Zealand Charter of 2010 the understanding and definition of cultural significance changed. Now heading for a description of a particular heritage´s meaning in relation to other comparable heritage items (ICOMOS, New Zealand National Committee, 2010).

Spirit of Place – from 2008 the Québec Declaration describes the spirit of place as a value category evolving from the interplay of tangible and intangible elements of a place. The spirit is unique for every heritage item and, once lost, cannot be restored (ICOMOS, General Assembly, 2008).

Authenticity – The proof of authenticity serves to test the truthfulness and credibility of the determined cultural significance. The physical state of the heritage good and evaluated information sources are critically authenticated (UNESCO, 1977-2011). From 1994 with the UNESCO Nara Document on Authenticity principles for the proof of authenticity were defined in an independent charter (UNESCO, General Assembly, 1994).

Integrity – The consistency of the spatiotemporal associations a heritage good is situated in is proofed. Proven integrity enhances the heritage value (UNESCO, 1977-2011).

Stetting – From 2005, with the adoption of the Xi´an Declaration, the setting is defined as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character. The concept comprises, additionally, the aspects through which the heritage object is in interaction with its environment, meaning its context (ICOMOS, General Assembly 2005).

These concepts all aim at the assessment of the values and meanings which are connected to heritage items of various classifications by one or several stakeholder groups. Central concepts are cultural heritage value and significance, which are surrounded by the other concepts that aim in one way or another to the qualification of the designation of cultural heritage value and significance. Within the designation process of the outstanding universal value of World Heritage Sites these concepts are in use, as the operational guidelines to the World Heritage Convention show (UNESCO, 1977-2011). A comparison of several statements on World Heritage Sites shows that a great interpretation space exists in the praxis, when using the concepts (UNESCO, 2012; e.g. UNESCO, 1996; UNESCO, 1997). This is reason to the demand to elaborate individual statements on the cultural heritage value and significance. Exactly this fact and praxis is seen as a chance for CultTour: As the tangible and intangible values should be described individually, the project gets the possibility to work with those descriptions, if accessible. These descriptions can be evaluated and used within the heritage assessment process. For the development of a transnational methodology an application of the presented heritage concepts to a set of assessment criteria will enable a standardized description of heritage values and significance of the particular examined heritage sites. In turn, the standardized description of values and significance will enable a comparable recording of garden and open space heritage sites of the South East Europe Programme area and will lead to a traceable and transparent preparation for a prioritization process. Important to mention, that this prioritization is only relevant for the further project work and does not intend to establish a ranking of heritage sites. The detection of relevant themes that form the context of the garden and open space cultural heritages will be possible.

Due to restrictions to time and budget the project will, for the overview survey on sites, be reliant on the expertise of the project partners in the partner countries, on publications (printed material as well as internet data) and on expert expertise. Thus, it is expected that statements on values will just be accessible to diverse extends. Nevertheless, it is estimated that the work with value descriptions will enable the answering of the criteria "Cultural Heritage Value", "Significance", "Spirit", "Setting" and "Integrity". These criteria have been developed out of the above presented heritage concepts and will comprise the following selection possibilities:

Cultural Heritage Value: aesthetic, archaeological, architectural, commemorative, functional, historical, landscape, monumental, scientific, social, spiritual, symbolic, technological, traditional, or other tangible or intangible values are proved;

Cultural Significance: international significance, national significance, SEE-wide significance, regional significance, local significance can be declared;

Spirit of Place: customs are connected to the site, site is or has been cause for artistic inspiration, unique combination of materials at the site, site is a place of the manifestation of religious beliefs;

Setting: site has unique connections to the surroundings through – views, customs, daily use, natural elements, historic events or other connections to its surrounding;

Integrity: site still in use as intended when evolved, site in new use, not in use any more, site use in transformation process.

For the actual conduction of the assessment within the overview survey on garden and open space heritage sites the above listed criteria form part of a database that serves as a tool in the process. This database provides a datasheet for every observed heritage item, comprising of general data on the object, its classification (i.e. determination of open space type), facts on its historic development, and used information sources. Thus, the overview survey will follow the international standards for the inventory of garden and open space heritage sites. Additionally, and this is the new approach of the methodology, the predefined assessment criteria provide for a standardized description of connected values and defined significance. Moreover, this standard will be enriched with several more assessment criteria, concerning an evaluation of touristic development potentials (i.e. reachability, location, accessibility, state of preservation, touristic development). They will round up the site assessment and will be important for the project internal prioritization of sites, finding themes and for the development of a garden cultural touristic route.

As an example the assessment for one of the four CultTour projects pilot sites is presented in a short description below. It is the historic garden at the summer residence of Baron Samuel von Brukenthal in Avrig/Freck, Romania.

The garden is of interest for the project, as it is situated in one of the SEE-Programme countries: Romania. The site belongs to the garden and open space heritage category, as it can be classified under the open space type "park" and the assessment of the historic development showed, that the park is an important evidence of the countries cultural heritage: The parks cultural heritage value was researched and proved in the elaboration of a diploma thesis (Richter, 2006) that was basis to the current park cultivation manual (Büro Logo Verde; Feyer, 2006) as well as a publication on the history of the entire park ensemble (Feyer, 2008). With this sources the cultural heritage value can be described as possessing of "Aesthetic value; Architectural value; Commemorative value; Functional value; Historical value; Scientific value". In terms of cultural significance the park is of "National Significance", as it is the only park dating back to the baroque period in Romania. Its state of preservation must be described with "Historic state changed, still reproducible". Moreover several general information on the site provide for a further assessment. The garden is open to public use. It can be visited at daytime and guided tours are available. A website exists that presents a short history of the garden and the summer palace. Touristic infrastructure is given (toilet, café, possible accommodation) as well as public transport from the nearest city is available.

Already this short example shows the richness of summarized information that the database will provide for every site. This will be the basis for the following project work. After the determination of surveys on sites a discussion on the prioritization and selection among all found sites can be hold among the project partners. That will finally lead to a list of prioritized sites that will be basis for elaboration of one or several "garden cultural routes".

CONCLUSIONS

In summary, the proposed methodology for heritage assessment to find sites suitable for inclusion in a route of historic gardens and open spaces for travelling South East Europe comprises the following steps:

Step 1: Detecting relevant sites in the conducted literature review, the involvement of the project partners with pilot sites, internet investigations and expert surveys through answering of the two questions:

- Does the site belong to the heritage category of gardens and open spaces? (helping device is a predefined "typology of garden and open space sites" for a classification of sites, elaborated at the first partner workshop)
- Does the site belong to the cultural heritage or should be acknowledged as part of the cultural heritage? (asking for the cultural heritage value and significance)

Step 2: Conduction of the site assessment in the process of database entry, aiming at a standardized evaluation and a comparable description of sites (asking for the predefined assessment criteria (i.e. Cultural Heritage Value, Cultural Significance, Setting, Integrity, and Spirit of Place), general information as well as facts on the historic development). In this step also relevant themes of the garden and open space heritage sites will be revealed.

Step 3: Discussion within a working group on the prioritization of sites that are seen as suitable for the further project work (i.e. plan one or several routes) on the basis of the assessment.

This proposed methodology will lead to a list of selected, and for the aim of the CultTour project prioritized sites, that will form basis to the conceptualization of garden routes. Moreover, relevant themes of the garden and open space heritage of the South East Europe Programme areas context are revealed.

From June 2012 the further project work for the research on garden and open space heritage sites will comprise the completion of the projects site database until December 2012 (step 2). When determined, step 3 will lead to the elaboration for a prioritized list of sites. Finally, on the basis of the prioritized list several garden cultural routes will be conceptualized and their dissemination prepared. Several distribution materials will result (e.g. publication and film).

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FIGURE 2. EU-Logo.

FIGURE 3. SEE-Logo.

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Urban Landscapes for Social Betterment – English and German influences on Hungarian Urban Space Design Theory

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ABSTRACT

At the turn of the 19th century, in response to the industrialisation and the accelerated growth of cities, green spaces in the built environment started to gain significance throughout the world. Public parks, for the first time in the history of garden art, expressed the needs of people from every layer of society, indicating new challenges for landscape gardeners. The profession, which had previously dealt mainly with private gardens, turned towards the "comfort, convenience, and health of urban populations" (Mawson, 1927). These open spaces from the very beginning of their history served the social benefits of society. By doing so, and by placing social thinking into the focus of the planning process, they advocated the basic concept of the modernist movement. Germany and England played equally significant roles in shaping the theory of public parks. Despite their crucially important role, very little academic attention has been given to the influence these countries exerted on Eastern European design theory, including Hungary. Bela Rerrich (1881-1932), a key figure of Hungarian landscape architecture of the 20th century, and the first teacher of garden design at the Royal Horticultural School (Budapest) went on a study tour to Western Europe between 1906 and 1908. During his trip, he developed knowledge in the latest landscape architecture theories, while working in the office of the English designer Thomas H. Mawson (1861-1933) and studying at the Royal Horticultural School in Berlin-Dahlem. Yet the theoretical influences of both countries play a significant role in understanding Hungarian landscape architecture between the two World Wars. Drawing closely on and analysing primary and archival material, this paper will argue that the principles of the two countries shaped the theoretical writings of Rerrich equally, and that his legacy laid out a new way of thinking about the role of public parks in Budapest. The period between the World Wars became the first in the history of urban green spaces in the Hungarian capital, when these were laid out not just for greening empty plots in the cities, but as part of comprehensive city plans, with the goal of social benefits of the inhabitants.

Keywords: public parks, social thinking, theory, international influences.

INTRODUCTION

The 19th and 20th centuries brought new concepts into landscape architectural theory. As a response to industrialisation and the philanthropist thinkers, the role of urban open spaces in social betterment gained even more importance throughout the 19th century. The results of this evolution were the Volksparks (people's parks) in Germany, at the beginning of the 20th century, which were crucial elements of the social movement in landscape architecture.

The precedents of public parks were the people's gardens (Volksgarten), at the beginning of the 19th century, which, for the first time in the history of garden art, turned towards people's needs from every layer of society. The idea originated in Germany, and soon spread across Europe, with all major cities contributing their own special interest, resulting in new layers of meaning. The most common purpose was to improve the general public's physical and psychological health.

Due to the changing historical and political circumstances in the first decades of the 20th century, the social role of public parks and gardens became more important. Instead of the refining effect of the embellished landscape, varied functions and usefulness were considered to be important. Parallel to the modernist 'housing-machine' theory in architecture, the 'recreational-machine' appeared as the main interpretation of public spaces (Pohl, 1995).

This immensely influential time was the period when the Hungarian architect Béla Rerrich (1881-1932) went on a study tour to Western Europe and, unusually for Hungarian architects at the time, worked in Thomas Mawson's (1861-1933) office, and studied at the Royal Horticultural School in Berlin-Dahlem. After returning to his home country, Rerrich had become the first teacher of Garden Design at the Royal Holticultural School in Budapest.

The aim of this research is to trace the impacts of the latest English and German theoretical principles on Rerrich's writings and designs. Furthermore, this paper will argue, that his publications were shaping the design thinking of his period, as well as exerting enormous impact on the following generations of landscape architects in Hungary.

MATERIALS AND METHODS

The aim of this research is to examine and identify various influences on Hungarian public park design theory, therefore the comparative analysis of English, German and Hungarian sources were crucial.

Apart from the synthesis of previously published literature, the contrastive analysis of primary written and pictorial sources served as the basis of the

research. Theoretical papers, articles that appeared in various journals and daily papers of the given period, archived designs, and contemporary photographs were crucial, as both the intention of the designers and the society's answers to these could be best investigated using these means.

RESULTS AND DISCUSSION

Designing public parks, as an independent theoretical problem first appeared in Christian Cay Lorenz Hirschfeld's (1742-1792) significant work, at the end of the 18th century (Hirschfeld, 1785). The first mention of public gardens in England came into view in publications by John Claudius Loudon (1783-1843) at the first half of the 19th century (Loudon, 1822).

Designers in different countries had various goals when designing their public parks and not just in their efforts to educate the users, but their concepts developed differently in a functional sense. While in the continental countries, due to the influence of Hirschfeld's writings, by re-creating idealised Nature, aesthetic education and the recalling of the national history was the main aim, in the English examples, based on the theory of Loudon, the intention to provide botanical education and sporting facilities prevailed. The public garden in Magdeburg designed by Peter Joseph Lenne, exemplifies the former approach, while the Chrystal Palace Park designed by Sir Joseph Paxton is a complex example for the latter, as well as the public parks in Manchester, by Joshua Major.

Furthermore, there was a collective understanding that public parks would encourage families to spend their leisure-time together, keeping adults out of the public houses by providing a place for more 'innocent pleasures'. Another goal, no less important philanthropically, was to create 'classless' places where different social groups could approach each other, prompting social cohesion. Accordingly, these open spaces soon meant to be places for moral betterment and social change.

Early English and Continental examples of public parks influenced the American designer, Frederic Law Olmsted (1822-1903). His main theoretical invention was the idea of the "democratized park" (Jones, 2001), which was to create facilities for all visitors simultaneously.

The three different approaches appeared together first in the theoretical writing of Gustav Meyer (1816-1877) and were realised in his public park designs is Berlin (Friedrichshain, Treptowerpark), at the last decades of the 19th century. His book (Meyer, 1873) and his layouts were exemplary in the German speaking area of Europe.

In the case of Hungary, Városliget is a very early example of public parks even by European standards, but it remained an isolated phenomenon for a long period of time. It was in the second half of 19th century that public parks began to spread in Hungary, after the Compromise of 1867, and the birth of Budapest, the new capital in 1872. Since at this time designers and head gardeners were mainly German professionals, Meyer's publication served as a theoretical basis for park designers and that is why in Budapest, right from the outset, the parks were laid out according to a very complex theoretical framework.

Although the English influence on Hungarian thinking is also traceable at this period, and both the English landscape style gardens and the idea of urban open spaces came from the experience of Hungarian travellers in the British Islands, it was not common, for a professional to study or work in the United Kingdom. The practical knowledge of the designers, their style and theoretical background came from Germany. Most of them were born there, and even the Hungarians went there to study horticulture. That is why Rerrich's study tours and work experience in England is particularly interesting. Through his involvement in the work of Mawson, and in the educational system in Germany, he could merge the newest theories together, creating a theoretical background for Hungary, which is also appropriate nowadays.

At the beginning of the 20th century the rejection of the 'Gardenesque' brought new doctrines into the aesthetics of landscape design, and formality came into question again. At the same time, the role public parks played in the city structure, also changed. As Steenbergen (1995:120) states, the role of park altered from being an "island of landscape in a sea of houses" to becoming an essential component of the urban structure. And last, the social role of public parks had intensified as well. As Conway (2000) asserts, their link to public health and recreation became one of the most significant drivers.

In England, the highly influential designer, Thomas Mawson, soon recognised the importance of open spaces in the city structure. In 1906 he decided to summarize his knowledge about urban spaces in his book, Civic Art (Mawson, 1911). He had been working on his publication for several years, and the book was finally published in 1911. During these years, according to the Hungarian primary sources, the Hungarian architect, Béla Rerrich worked for him. Rerrich had been working as a teaching assistant on the architectural course at the Technical University in Budapest, before going on a two year study tour in Europe, between 1906 and 1908, to be taught and work as a landscape architect in Paris and England. After several articles on garden design, his publications about urban design in Hungary appeared in 1919, with the title 'The social planning tasks of landscape architecture in contemporary town planning of the new society' (Rerrich, 1919). Although, as I will argue Mawson's theory was extremely influential the titles of his publication clearly shows the main difference between the two designers, and the German influence on Rerrich's principles.

The innovation of Mawson's writing, is that he dealt with questions of urban green spaces from the theoretical basics through to questions of construction. In his complex writings, he defined – first in England – the term 'park system', and created a coherent, hierarchical typology for the elements of urban green systems. According to Mawson's book urban green systems consist of five main elements. These are:

1. quadrangle and circus for magnificence and grandeur (town squares),
2. small recreation parks and playgrounds,
3. public parks,
4. reservations,
5. connecting parkways, drives and boulevards.

The first two categories are more important in the inner parts of the cities, while the public parks and reservations are usually situated on the outskirts of towns. To complement his typology, Mawson suggested different stylistic solutions for the four types. Whilst near densely built surroundings, a more geometrical layout is adequate, in the case of large green spaces, the imitation of natural landscapes is possible. For open spaces near town centres he proposed the use of a completely 'architectural' and 'formal' style, in the case of various parks, the use of 'English landscape' and 'Natural' style was suggested. The role of the formal elements in the designs decreases as one leaves the densely built areas of the city (Ponte 1981:96). In the case of the 'English landscape' style, a combination of formal and informal elements is required, e.g. formal recreation grounds need to be associated with the preservation of natural scenes. As good examples for the last two styles, he mentioned his own designs, public park in Hanley and Belle Vue Park in Newport. However, in cases of formal and architectural manner, Mawson used continental European examples. As he explained, "on the Continent, town gardens are laid out in a more orderly manner than in Great Britain. They have borrowed much from us in the matter of park design, and we, in turn, must borrow from them the art which, in their town gardens, has been carried to such high attainment." (Mawson, 1911).

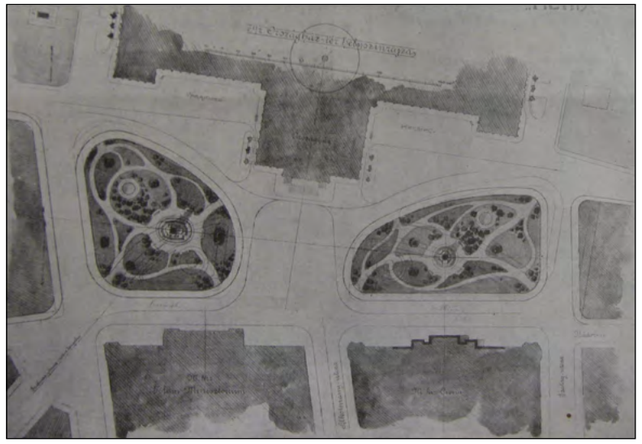

FIGURE 1. Kossuth ter, Budapest. Jeno Lechner (Építő Ipar. 29 (22)).

Only a decade after the publication of Mawson's book, in his essay, Rerrich (1919), for the first time

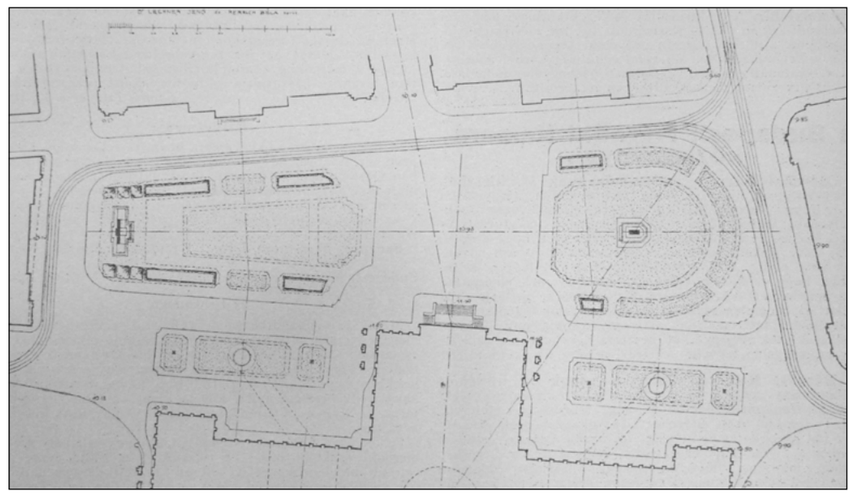

FIGURE 2. Kossuth ter, Budapest. Bela Rerrich and Jeno Lechner (A Magyar Mérnök- és Építész-Egylet Közlönye). The comparison of FIGURE 1 and 2, designs for the same open space in Budapest, clearly shows the different stylistic approach of Rerrich. While earlier informal style was common, his design uses the formal language, advocated my Mawson.

in Hungary, began to use a new, specialist nomenclature, and definitions. A decisive part of this came from the publications of Mawson, like the term open space, the typology of urban green spaces and the definition of park system.

In his career as a designer he was a keen advocate of the formal style. His plans echoed the principles of Mawson in terms of monumentality, and harmony between the built environment and the open spaces. When he began to use this stylistic solution in the case of urban spaces, it was completely new in his home country. A good example of this could be the design for Kossuth ter in Budapest. (FIGURE 1 and 2) When looking at public parks, designed by other landscape architects, after his publications, e.g. Szent István Park his influence can be clearly seen. (FIGURE 3)

int, where Rerrich developed Mawson's theory. To follow up these interpretative differences, we need to investigate the outcomes of the development of German language theory.

Publications by Camillo Sitte are crucial in town planning history, and determined the evolution of the German language literature. His book (Sitte, 1889), City Planning According to Artistic Principles, was one of the first publications, which emphasised the importance of aesthetics in town planning. However, from a landscape architectural point of view, another article, City Green (1900) has to be mentioned. In this writing Sitte divided two main types of urban green spaces. The separation of 'decorative' and 'hygienic green' became one of the most often referred to typologies in the following decades in German speaking countries.

FIGURE 3. Szent Istvan Park, Budapest. Karoly Rade. (Siklóssy, L (1931): Hogyan épült Budapest?) The design for Szent Istvan Park in Budapest shows Rerrich's stylistic influence on his contemporaries.

However, as I mentioned before, the title of his publication shows the main difference between his and the English master's principles. As he mentioned in the introduction of his book, he wanted to draw attention to the social role of public spaces, which is not unfamiliar from Mawson's aims either. However, their interpretations of the word 'social' were dissimilar. As Cherry (1993) states, "Mawson saw civic art as representing the aesthetics of town planning". According to this, he saw the role of landscape architecture "as a definite moral factor making for civic betterment" (Mawson, 1923). This approach links his principles to the main aims of the 19th century ideas, based on Hirschfeld's writings. The main criticism by the following generations on his work was that "he did not approach city planning through social reform" (Cherry, 1993) If Rerrich's writings are deeply analysed, it becomes obvious, that this was precisely the po-

In case of the 'decorative green' he argued for geometrical layouts instead of the informal 'landscape' style design, which explains, why Mawson referred to Continental (mainly Viennese) examples while writing about this style. The function of the latter became the starting point of the social planning movement during the modernist period.

In 1915, Martin Wagner (1885-1957) submitted his thesis 'Hygienic Green in Cities' (Wagner 1915). The term hygienic green refers clearly to Sitte's theory. He only dealt with this category, and refused to discuss the formal and aesthetic questions of designing urban green spaces. He defined the term "use value" (Nutzwert), which is the most important function of urban spaces, besides being reservoirs for oxygen. The use value of green spaces was the "physical appropriation of parklands" (Scarpa, 1981), and it should been realised in the forms of playgrounds and sport areas. Wagner's thesis is a

result, and an extreme version of the developing German theory. The forerunners were core theories by Joseph Stübben or Hugo Koch (Stübben, 1907; Koch, 1914). Both of them dealt with the social roles of public spaces in cities, however they also dealt with artistic questions and formal solutions. Wagner's approach, to esteem open spaces only by their function, foreshadowed the modernist "recreational machine" theory.

In Rerrich's publication, the social aim was crucial. Besides the aforementioned important results in terms of introducing a new nomenclature, that is still in use. His writings were particularly pivotal in terms of spreading the idea of public parks as instruments for social betterment. Parallel to Mawson, he highlighted the importance of cooperation between the professions, and the need for comprehensive plans for open and built spaces, and engineering structures. However, he not only saw the moral role of public parks in social betterment, but also in a broader social sense, aimed to create landscapes for everyday use.

CONCLUSIONS

As this research has pointed out, Mawson's theory and style highly affected the Hungarian architect, Bela Rerrich's career as a landscape designer and theorist. Nevertheless, he was also deeply influenced by the new understanding of public parks as drivers for social betterment, originally defined by German theorists. Through his experience in different countries he successfully combined the latest theoretical trends in public park design.

To judge the effect Rerrich's theory had on Hungarian landscape architecture, one more example needs to be mentioned, the already indicated Szent Istvan Park. It was the first public park in Budapest which was designed as part of a comprehensive development; the area was intended to be a park from the outset. The aim of the commissioners was to create it following a formal layout, to be in harmony with the surrounding buildings (Vavra, 1933; Kiraly, 1936). The park was envisioned as a place for all layers of society, with functions such as playgrounds, and large areas for flexible use (FIGURE 4). Although not designed by Rerrich, it echoed his principles, and at the same time echoed the aims of modernist public park theory, by merging together English and German theoretical principles.

FIGURE 4. Szent Istvan Park, Budapest, 1930s. (Magyar Építõmûvészet 42 (1)). The photo from an early 20th century journal clearly shows the social aim of the design: a place for everyday, flexible use, for everyone.

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Urban agriculture as a tool for change – a case study of early and contemporary projects in Malmö, Sweden

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ABSTRACT

The idea of urban agriculture as a tool for sustainable development in Sweden is rapidly becoming more and more integrated in the sustainability discourse. This is expressed as top down strategies for change as well as bottom up political actions. The situation has many similarities with the early 20th century. This paper is a comparative case study of the urban agriculture movement in Malmoe at the beginning of the 20th and 21st centuries. Malmoe was the first city to plan for allotment plots in the early 20th centuries. Today the Swedish urban agriculture movement has its base in Malmoe.

Similarities and differences are discussed as well as the different perspective of top down and bottom up. How are the connections between urban agriculture, quality of life, health and well-being understood in the two discourses? Are there differences between the top down and bottom up perspectives?

Keywords: urban agriculture, Malmoe.

INTRODUCTION

Urban agriculture (UA) is in Sweden (Delshammar, 2011) as well as internationally (RUAF, 2003; RUAF, 2012) discussed as a tool for sustainable urban development. Holland (2011) describes community gardens (a close related concept) as agents of change for sustainable urban development in several respects. At a neighbourhood level UA is said to contribute to strengthen social bonds (Kingsley & Townsend, 2007; Comstock *et al.*, 2010) and promoting self-organization. It can be a catalyst for renewal of deprived areas (Francis, 1984; Saldivar-Tanaka & Krasny, 2004; Levkoe, 2006) and the reason why property prices go up (Voicu & Been, 2008). Other benefits that has been attributed to UA is food security (Lindhagen, 1916; Dixon *et al.*, 2007; Corrigan, 2011; Carney *et al*, 2011; Green Guerrillas, 2012). This is could be getting enough food, but it could also be getting healthy food and knowledge of the importance of healthy food. Other health issues like physical exercise, being outdoors and connecting with nature are connected with UA. It can be a living cultural heritage (Bass Warner, 1987) as well as a source for urban biodiversity (Irvine *et al.*, 1999).

From a landscape architect's perspective, planning for UA can be understood as a pro-active planning strategy: facilitating change rather than adapting to changes. As a land use planning task, it's also about understanding and negotiating different values. The aim of this paper is to analyse the idea of planning for UA as a driving force for social and economic change on both neighbourhood and societal level from a Swedish perspective.

The questions for this paper are:

- Who were and are the main actors and how do they perceive UA?
- How did and do different types of actors take action and interact?
- Has there been a change over time?

DELIMITATIONS

UA is a concept that can include many different types of practices, including keeping of animals and growing ornamental plants (see i.e. RUAF, 2012). In this paper it means growing food outdoors (not in greenhouses) in urban areas. In Sweden the main source of land for UA is private gardens, but there are also examples of UA on public owned land, on public and semi public space. This paper does not consider UA in private gardens. Both UA as a collective activity and as a private activity are considered.

METHODS AND MATERIALS

The study of early UA is based on literature (i.e. Andersson, 1981), but also on studies of documents from the municipal archives. The study of contemporary UA is based on studies of documents like project applications (Malmö stad, 2010); and webpages (Mykorrhiza, 2012), but also on interviews with urban gardeners and municipal officials and participatory observations. The interviews have been semi-structured and have been transcribed in detail.

Malmö has been chosen as a case study because it was the first Swedish city to plan for UA at the end of the 19th century (Bergquist, 1996). Today Malmö

has one of the strongest UA movements in Sweden. The city promotes UA as a part of the efforts to promote sustainable urban development (Malmö stad, 2010). Malmö is one of Sweden's most internationally renowned examples of contemporary sustainable urban development. As a city in the forefront of the Swedish UA development, it can be regarded as a paradigmatic Swedish case.

RESULTS AND DISCUSSION

As Björklund (2010) has shown, UA is not only an old practice in Swedish towns and cities, in early settings UA was a precondition for the existence of cities. Better transports made the ties between cities and farming less important. At about the same time industrialism filled the cities with poor immigrants from rural areas. Without doubt many of those grew their own vegetables to improve living conditions.

Urban agriculture in the late 19th and early 20th century in Malmö

The idea of an official sanctioned mean to improve living conditions for the working class in Sweden seems to have originated from the German Schrebergärten (Andersson, 1981). The primary source of inspiration for Swedish conditions though, was the Danish allotment gardens in Copenhagen.

The idea to supply the working class with allotment plots was proposed by the garden society in Malmö, a philanthropic society with members from the upper bourgeoisie in the city. Several members of the society were industrialists or merchants. Some were members of the city board. Also the city gardener was a member of the society. He was sent to Copenhagen to study the Danish examples. Based on the Danish experiences, the society made a proposal to the city board to lease municipal land for allotment plots. They were allowed a piece of farm land, owned by the city. The allotment plots were laid out in early 1895 and let out to working class tenants. The tenants had to pay for their plots, but the financial contribution from the garden society was necessary to get the project started. The society later initiated a second allotment garden in another part of the city. In early 20th century both gardens were transferred to the city.

The main activity of the garden society in late 19th and early 20th centuries was to initiate and finance public parks, a practice similar to many other philanthropic garden societies at that time (Nolin, 1996). It was also proposed that the society should supply the hospital with flower for the patients. As urban greening later became an issue for the city, the garden society focused on financing public art and restoration of cultural heritage. In late society in late 19th and early 20th centuries the public sector had small means to spend on urban greening and many other aspects of what we today consider natural parts of the welfare state.

Not only had the importance of private founding become less important with a finically stronger public sector. Democracy weakened the personal ties between the upper bourgeoisie and the city. The city board got a broader representation from the public.

The idea of early urban agriculture in Sweden

The arguments for the first planned allotment plots in Malmö were put forward rather plainly: for those with little means who find satisfaction in gardening and planting. The garden society didn't have to argue a lot in written proposals since they could discuss it at their meetings. They were also close to the city board. Instead they had to find practical solutions for financing, for a place and for practical arrangement, which they also did. To find the arguments, we have to go to Stockholm where two women got inspired by the examples from Malmö and Copenhagen (Lindhagen, 1916). As they took action more than a decade later in a much bigger city, they faced a wealthier public sector at municipal level. So they argued in pamphlets for the importance of UA. Here the early 20th century arguments for UA in Sweden are elaborated. It is stated that UA gives the gardeners a better economy. It promotes a healthier life style. And, not least important, it strengthens the bonds within the family (Lindhagen, 1916). The migration to cities during early industrialism meant a transition of traditional values, which sometimes was considered a threat not only for individuals and families, but also for society. UA were in many ways a mean to mitigate the unwanted consequences of industrialism.

Urban agriculture in the late 20th and early 21st century in Malmö

The first planned allotment garden in Malmö had in mid-20th century to give way for a public hospital. Others have been removed for the need for land for housing or roads or other types of urban development. Still some remain. The oldest ones are more than a century old. UA has become an established of city planning since early 20th century. Urban allotment gardens are usually run by the municipal authorities. In many, but not all, there has been a shift in usage, from growing vegetables and flower, to having a spot for leisure time, for socializing, sun bathing or barbequing. In many cities the supply of plots has exceeded the demand. But still arguments for UA are put forward.

Forerunners came from national authorities, who suggested UA as a mean to strengthening social bonds in deprived suburban areas in the seventies and eighties (Statens planverk, 1977). This was also tried in residential areas with some success. A few notable examples of UA in central urban areas on public ground got national renown during the eighties and nineties (Rosendal garden, Stockholm respectively Slottsträdgården, Malmö).

During the last years the interest in UA has boomed in Sweden. The more and more frequent usage of the Swedish word for UA in newspapers is a clear sign of the growing interest. Propositions in the parliament and on municipal level are other signs. A considerable interest has been directed at UA on public or semi-public spaces. One reason for this is the need to arrange for UA close to residential areas where no farmland is available. Another reason is the perceived need to intensify the usage and benefits from public parks and open spaces in residential areas.

Looking at the actors in Malmö today, there are three types: First there are naturally the gardeners themselves. Secondly, there are the municipal officials. Obviously not all officials are pro UA. But the ones that are pro are important because they are the ones giving permission to get access to land or supply with financial means. Thirdly, there are the NGO:s working to promote UA: urban gardening facilitators. (Officials can be members of NGO:s and urban gardeners themselves.) There is a UA--network involving both officials from various municipal departments as well as representatives from NGO:s. This is an evidence of broad engagement for UA involving many officials.

One way of understanding how municipal officials understand UA is to look at how they describe it in application for national founding for sustainable urban development. Here the arguments for UA is that it contributes to ecological awareness; it contributes to bridging social and cultural gaps; it's supposed to be a catalyst for rethinking management of urban space and thus promoting a dynamic dialogue urban development, environment, food and culture.

The biggest NGO promoting UA on public spaces in Malmö is Mykorrhiza, which is a loosely knitted network. The most active members of the network describe themselves as Swedish middle class aged 20 to 30. This is also confirmed by observations. As there is no formal membership, it's hard to verify by checking a register of members. Many of the interviewed members describe an interest in UA connected to university studies. The interest is either a result of university studies or it is the reason for university studies. That they are a homogenous group is not desired. Instead many express in interviews that it is a goal to attract a broader audience. At their homepage UA is described as a concrete way of getting engaged in issues like environment, health and global solidarity. In their view UA is the antithesis of a large scale industrial food production that have a negative effect on people and environment in other parts of the world.

CONCLUSIONS

The case study of Malmö, Sweden, show many similarities between the contemporary UA movement and the situation a century ago. It was and is driven by cooperation between people well established in society, inside and outside the municipal administration. The interaction between NGO:s and municipal officials is important to facilitate innovative practises. The early NGO innovation of planning for allotment plots were later integrated into municipal planning practise. The contemporary introduction of UA on public spaces has already to some extent been integrated into the local municipal planning strategy. UA is in both cases a multipurpose action aiming for health and inclusion. It was and is an action to promote what we today would call social sustainability. What differentiate the early 20th century from the early 21st is that it in the first case mostly seem to have been an issue of mitigate to the living conditions, but in the latter case it has been more of changing the conditions. When contemporary municipal officials seem to focus on a change on a local level, the NGO have a global focus.

Early planning for UA could rely on left agricultural land already suited for farming. Contemporary planning for UA, especially in cities that gets more and more compact, has to face the difficulties of introducing UA in a context where it's new. This means that UA can come in conflict with other interests. Even if there are many evidence of benefits attached to UA, planning for UA without a participatory process is probably hazardous. But on the other hand, a successful cooperation between municipal planners and residents or other citizens concerned is likely to result in a very powerful landscape.

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The Share of People in Urban Landscape Design; Comparison of Berlin's plazas Through Reading Landscape

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ABSTRACT

Interpretations of civility in diverse societies are different. According to the type of interpretation, diverse structure of society is shaped. Asymmetrical presence of triple parts of societies (Governmental, Private and Middle Realm) in construction and management of the city makes different urban landscapes. Since presence and participation of these parts in public spaces are clearer than the other urban spaces, the landscapes of these spaces are the symbol of civil thoughts. Whereas the city is interpreted as a text, to read this text, the language of signs and patterns should be learned. Local and spatial patterns in public spaces such as plazas, streets and entrances, and also social patterns in social, economic and political places are sources of ideological, social and political thoughts. By reading these patterns as language, ideological and existential reasons of a period of the city will be announced. In other words, through reading a landscape a different structure of an urban text is distinguished which shows 'the reasons of human presence in the environment'. The output of reading landscape lies in these presence reasons.

In this paper, through reading landscapes of three squares in Berlin (Bebel Platz, Breitscheid Platz and Potsdamer Platz), interpretation and explanation of the concept of civility and also the share of people in urban landscape design of these plazas is expressed. By comparison of these three plazas in Berlin, which belonged to different urban periods and locations, this hypothesis is proved that the share of people in urban landscape design has a decreasing trend over time.

The methodology of this paper is based on reading landscape, which is the way to find the semantic relation among buildings, spaces and its urban life and thus its civility thought. There is a connection among the social and political meaning of public space and its landscape, which by reading landscape the share and role of people in its design could be recognized.

Keywords: people, share, reading landscape, public spaces.

INTRODUCTION

The primitive man, to form his imagination of environment, adapted it to his favorite landscape. Due to his little power, his impact was limited just to the all elements of urban landscape, such as houses and temples. The alteration of lifestyle and contemporary economic, political and cultural relations changed the landscape of cities. This issue has made a need to control the form of cities with legible reading their landscapes.

Pre-industrial cities had a cultural beginning that gave visualized collective memories during their historic continuity. Modern cities were built based on mathematical and scientific Logic, since they have got more similar features and less civic life. Finally after 1960s, the idea of urban space for human and the city for humane life, affected the urban systems.

The Physical structure of city is a direct output of the society who lives there. The city is a physical manifestation of the cultural, political and economic situations in a society. Asymmetrical presence of these political-economic parameters and also cultural-social goals between mangers are reasons of different urban landscapes. Thus, the urban spaces are suitable indicators to study the trend of development of civil society and understand their thoughts.

Since urban squares are narrating special form and presentation of public spaces, we expect to see the clear presence of private, public and governmental realms. Clearly that according to different structures and civil thoughts in communities, the share of these realms in creating and making public spaces will vary.

Through reading landscape, we are looking for the hidden layers and relations in urban background landscape which are creating urban lifestyle and public spaces. In this paper, through reading landscapes of three plazas in Berlin (Bebel Platz, Breitscheid Platz and Potsdamer Platz), the share of people in urban landscape design of these plazas as the hidden layers of landscape are expressed. By comparison of these three plazas in Berlin, which belonged to different urban periods and locations, this hypothesis proves the share of people in urban landscape design has a decreasing trend over time.

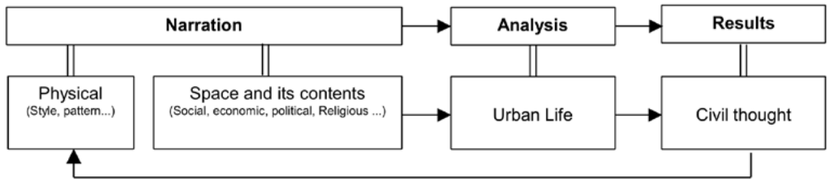
METHODOLOGY OF READING LANDSCAPE

Deep reading landscape requires knowledge of language and structure that is established among landscape elements. By dividing the elements of landscapes to three subjects (place, human and time evolution) the perception of landscape is considered in the same three components. Thus these principles in reading landscape are followed:

- Reading of aesthetic patterns
- Reading of social patterns
- Reading of temporal patterns

These principles are tools for understanding landscape indicators to establish the process of reading landscape. Finally what is expressed as pro-

TABLE 1. Method of Reading Landscape.



duct of reading landscape is our relationship with the environment from the smallest scale to perception of the whole city.

Eye defines the landscape and then mind interprets. This method of reading landscape consists of two steps:

- First step: reading landscape based on the principles and characteristics of landscape that the result is a landscape issue.
- Second step: historic interpretation of landscape and trying to understanding why it occurs.

Civil society structure and public space

Writing about the structure of civil society has its own literature in sociology. This structure in urban landscape has undeniable impact that can be realized through reading landscape. The society can be imagining as a pyramid with three parts:

- The top part is government.
- The middle part includes groups, institutions and circles which the social groups are playing the main role.
- The lowest part is every day's life. In this part, people are presenting their individual role.

By dividing the social life to three realms, the private realm belongs to individual and his family, the public realm includes the social groups (political, trade and cultural) and the governmental realm goes for government and its structure (Piran, 2000).

Interpretations of civility in diverse societies are different. According to the type of interpreting, diverse structure of society is shaped. Asymmetrical presence of triple parts of societies (Governmental, Private and Middle Realm) in construction and management of the city makes different urban landscapes. Since presence and participation of these parts in public spaces are clearer than the other urban spaces, the landscapes of these spaces are the symbol of civil thoughts.

Also, the comprehensive definition of public space is continual space-time for linked political discussion which is accessible for public. The role of government is decreased and barriers among government and subalterns are at minimum level, people have the first role of stage (Goodsell, 2007). Berlin's urban spaces through Reading Landscape and its sociological interpretation

After the Second World War, Berlin's society has been exposed to the growing economic, social and political modernization programs. Today, the Berlin's society is a modern society in both terms of the modernization processes and civility that its meaning should be sought in the last four decades of 20th century.

FIGURE 1. Berlin's Plaza location.

This analysis is based on this matter; which there is semantic relation among social and political implications of public space and its landscape. By reading landscape, the share of different parts of society can be recognized. The methodology is reading landscape, which is the way to find the semantic relation among buildings, spaces and its urban life and thus its civil thought (TABLE 1).

Urban samples were chosen based on their urban importance location and belonging to different period of Berlin's history. By dividing Berlin City into three historic influence areas, including East Berlin, West Berlin and unified Berlin, samples were selected from these areas. Bebel Platz in East Berlin, Breitscheid Platz as center of West Berlin and Potsdamer Platz as symbol of New Berlin was examined after collapse of the Wall.

BEBEL PLATZ

Bebel Platz was the main plaza in the East Berlin whiles in its today urban life the presence of Berlin's citizens is not so sensible. The most of presence goes to foreign tourists. Since the plaza is surrounded by several course elements with predetermined function, there is no variety in function and scales. Authority of government gives little chance to the different categories of people. In addition,

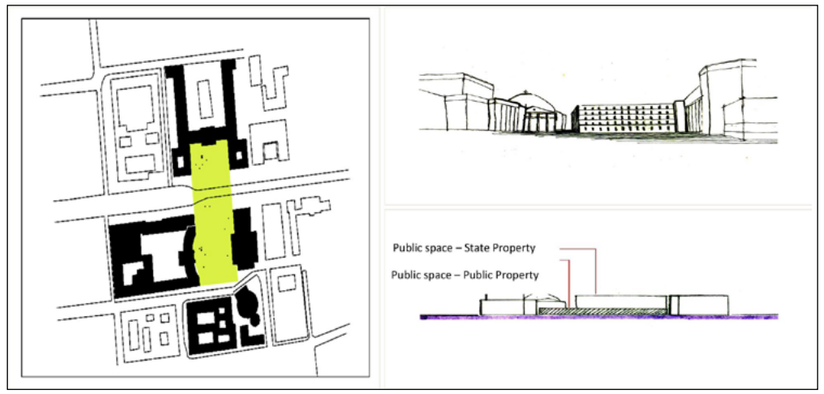


FIGURE 2.
Bebel Platz has a classic landscape and space dominated without urban life.
The church as a second element is driven into a corner of the plaza.

the aspect of the city for attracting residents to this urban point is not effective. This approaches even the middle realms have a little chance to voice their presence in this public space. When the opera house is constructed, only with government supervision, it can be formed. Here, government interferes with type and form of programs in public space. If the church is allowed to be here, it should be located on the corner of the plaza and never is allowed to be at the center of plaza.

An important issue in the landscape interpretation of this plaza is demonstration of central power which its meaning has such terror between populace. The impressive buildings, ornamental techniques and its centrality is manifestations of anti-democratic aspects in public spaces. Large and empty space without human is a realm for the central power of government which there is no place for social civility. Therefore, physical elements, space and its contents are narrating the arbitrary landscape, one way civility from the top to the bottom.

BREITSCHEID PLATZ

Today, the most crowded plaza in the city of Berlin is Breitscheid Platz. Formation of new buildings at the edge of the plaza, especially after the Second World War, altered this part of Berlin as the most crowded field. Like many other urban plazas, initial formation of this plaza is strongly based on the church location. After the war, it is rebuilt oriented to the new church, while Potsdamer Platz is organized oriented to the sexual cinema complex. This shows a social approach of urban management to this plaza. However, the areas around the plaza, surrounded by different economic groups, the presence of elements such as libraries and playgrounds that can raise people's morale is very weak. This part of the city is attacked by economic groups with high economic foresight. In comparison with Potsdamer Platz, this influx is sharply lower and the diversity of economic groups are much more. Combinations of large and small companies are quite evident for scale variation.

POTSDAMER PLATZ

Despite diversified urban structure of Potsdamer Platz, the urban landscape of this complex is narrating an authoritarian power. Several international companies select an important urban point and after planning and implementation of desired programs, take charge of this part of the city. By looking sharply, it can be realized in the background of this apparent diversity of companies and brands, there are several large companies which have dominated this area.

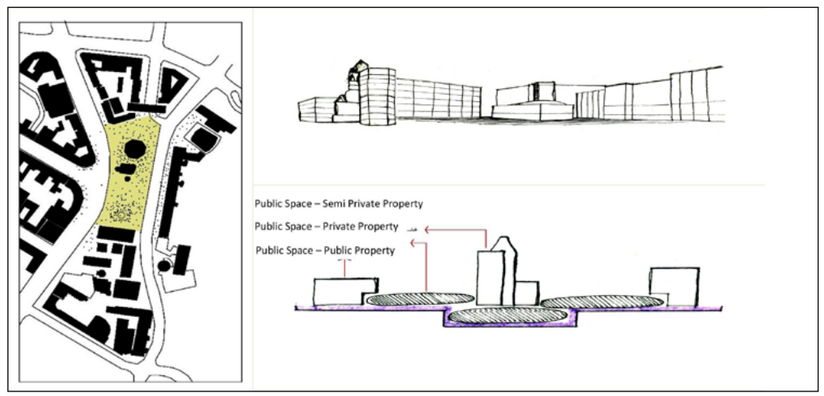


FIGURE 3.
Spatial-functional diversity with physical diversity has made this plaza dynamic, crowded and so friendly. Pluralities of economic groups in micro and macro scales are clear.

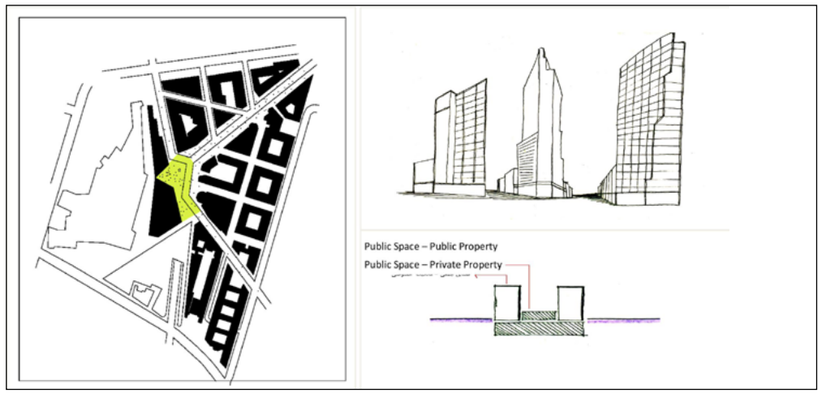


FIGURE 4.
Despite the apparent multiplicity of spaces and sectors, still authoritarian ideas in spatial and physical planning of the plaza to be read.

The orientation of new plaza is based on CINEMAXX and IMAX. There is no longer the church, royal palace or municipality building. The urban approach to the plaza and its surroundings are changed. Other manifestations of religion and social institutions are not the purpose. Technological performing, specific functions and even anti religion is at the center of attention. In this preplanning system, small scale shops and companies cannot be seen, due to inability of affording the costs of competition with major companies, so they were quickly removed. This issue is severely affected the presence of various social groups and common people.

The most sector of Potsdamer Platz goes to private property, but they have made some common spaces together, where no boundaries can be distinguished among public and private space. But this is not the reason for being a democratic space. This space is a protected center for economic activities by government which there is no place for performing the individuals. On the other hand, to meet public needs and spatial qualities, architects but not the democratic majority, have made some decisions about public spaces. Political or economic power or even citizen-oriented performances with architectural tricks have been done by government or middle institutions.

RESULTS AND DISCUSSION; PLAZAS COMPARISON

The share of people in Bebel Platz is almost zero, it looks people have no place in urban thoughts. Everything is being shaped to strengthen the authority of government. Form and type of urban landscape is solely determined by the government. Any individualism or diversity of the form and content is avoided. In this top-bottom approach, people and even middle institutions are ignored. This kind of approach is result of time and spatial requirements from the dominance of communist ideas in this part of East Berlin.

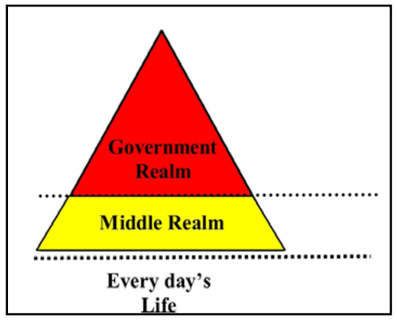


FIGURE 5. Civil structure in Bebel Platz.

TABLE 2. Plazas comparison.

Reading indicationPlazas	First level: Physical	Second Level: Space and its contents	Every day's Life	Meaning of civility
Bebel Platz	Roman buildings with classical facades	Large open space for more performing buildings; Limited function	Static, Empty	Political
Potsdamer Platz	Plural, Modern	Borderless spaces and buildings, diversity of spaces and functions	Dynamic, Crowded, Deluxe	Economic
Breitscheid Platz	Plural, Modern besides Traditional	Specific boundaries of spaces, diversity of spaces and functions	Dynamic, Crowded, Friendly	Social

The share of people in Bebel Platz is almost zero, it looks people have no place in urban thoughts. Everything is being shaped to strengthen the authority of government. Form and type of urban landscape is solely determined by the government. Any individualism or diversity of the form and content is avoided. In this top-bottom approach, people and even middle institutions are ignored. This kind of approach is result of time and spatial requirements from the dominance of communist ideas in this part of East Berlin.

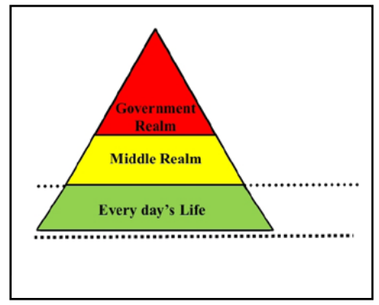


FIGURE 6. Civil structure in Potsdamer Platz.

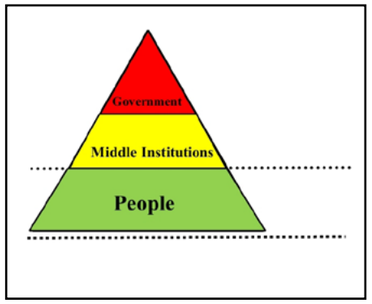


FIGURE 7. Civil structure in Breitscheild Platz.

What occurs in Potsdamer Platz is similar to Beble Platz. The approach is top-bottom. The only difference is that the share of government has declined and the role of middle institutions has increased. Thus presences of people in urban spaces are further. Still several economic powers are deciding for lower groups. In fact, the government has given place to the economic powers and these powers based on their economic interests are planning and controlling urban spaces.

The Breitscheild Platz has the highest rate of presence, which has made this place as the most crowded plaza in today's Berlin. Centrality of the church, with variation in functions, combination of small business with large scales, the spatial variation of plaza, maximum allowance of spatial intervention are significant factors in this urban complex, which can show people's desire for their role and share to organize urban spaces from past to today.

CONCLUSION

From Breitscheild Platz to Potsdamer Platz and finally Bebel Platz, the share of people in urban spaces design is decreased. By changing in social relations, economic, political Berlin's that day, the share of residents has been reduced and it has been given to other civil society structures.

The alteration of urban landscape design process has reduced the share of people in the urban spaces design. Historic survey of Berlin is narrating effective factors in the field of urban landscape alterations; including the diverse social, economic, religious desires of Berlin's citizens. Initially, due to limitation of urban life to work, residence and religion, people had active participation in construction of urban spaces and also their maximum dependence to religion defined and established this role. By complicating relations of the urban life – Potsdamer Platz – this role through technology, specific functions, and anti-religion is defined. Therefore, people have got the passive and consumer role, even though the most of the people are present in urban spaces. In fact, while the share of people in urban spaces is being reduced, the variable item such as religion is being faded and other variable items like technology, specific functions, and anti-religion are being highlighted.

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Bless'd Isle Admired: The English Countryside as a Reflection of Economic Power in the First Half of the 19th Century

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ABSTRACT

A well known and analysed aspect of the English landscape gardening movement is the claim of moral supremacy over the rivalling French style. English considered formal gardening with its clipped hedges and trained trees as a manifestation of French absolutism, whereas English gardens with their freely growing plants had ambition to reveal the true nature of liberal society that England was blessed with. However, it must be pointed out that those French gardens reflecting political power and their opponent English designed landscapes demanding moral power are all individual responses to the landscape. They indeed expose the wealth of their owners but say little about the economic power of the entire society.

British Agricultural Revolution gradually but dramatically changed the face of the English countryside by the turn of the 18th and 19th centuries through a series of Enclosure Acts. New methods of farming backed by achievements of the Industrial Revolution were also responsible for the transformation of the landscape. These advancements were well known in the Continent and attracted many professionals and reform-minded individuals to Britain.

Among them were many Hungarian intellectuals whose struggles to change the feudal society of their homeland more similar to that of Britain is clearly expressed in their writings. For them, everything was connected: While English landscape gardens referred to the freedom and equality of all citizens, the overall cultivated English countryside expressed 'good society' where those free citizens were able to experiment and develop various farming methods and implement them to improve productivity. And finally, good society can lead to the common wealth of the nation.

The state of a society and its economic power is therefore well expressed in the landscape. This research explores Hungarian public thinking on designed and evolved landscapes of Britain in the first half of the 19th century through the eyes of Hungarian travellers. Diaries, journals and travelogues were used, with numerous previously unknown manuscripts among them. The research has revealed that the perception of the English countryside had serious impact on Hungarian agricultural development and landscape evolution.

Keywords: Hungarian travellers, England, agricultural revolution, English landscape garden.

INTRODUCTION

From the late 18th to early 19th century Britain had a key role in agricultural improvement that dramatically changed the face of the English countryside as well (Harman, 2009). Enclosure Acts helped large agricultural estates to come into existence and landowners also emphasised their wealth and the extent of their estates through plantations of trees in the form of avenues, belts, clumps and screens (Daniels, 1988). The landscape expressed the economic power of the individual landowners, and the embellishment of the private properties culminated in an appealing face of large sections of the English countryside. Other parts of England experienced very different changes in the landscape: advancements of the Industrial Revolution heavily and unfavourably intruded on the countryside. Nevertheless, these landscape changes also represented the wealth of the British nation (Trinder, 1982).

Achievements of the British Agricultural Revolution attracted nobility and professionals from all over the Continent as well as from Hungary to study farming theory and practice (Barta, 2004-2005; Brigovátz, 2007). Agricultural improvement went hand in hand with the development of the English landscape garden, which attracted similar interest from foreign visitors. Travellers were just as much interested in landscape gardens as in industrial machinery. They intended to import new ideas back to their homeland to improve their estates and the nation alike (Gerics, 1820-1825; Sisa, 1992; Sisa, 1994; Sisa, 1999; Szakály, 2003).

The first Hungarian gardens influenced by the English landscape gardening movement appeared in the 1770s. English gardening constituted a noteworthy element of the liberation movement of Hungary from the Habsburg monarchs as well (Galavics, 2003). Just as much as the idea of freeing trees and shrubs from scissors was so appealing both morally and aesthetically in the beginning of the 18th century in Britain, the English landscape garden was considered a handsome representation of prolific agriculture, common good, social equality in Hungary by the 1820s.

Despite the geographical and political distance between Britain and Hungary, during the end of the 18th and in the first half of the 19th centuries Britain had a continuous influence on Hungary that became more prominent over time. The initial influence was with respect to landscape gardening and although Britain was then considered too far to visit for most Hungarian travellers, there was an increasing

desire to obtain experiences at first hand. Journeys to Britain gradually increased, and reached their peak in the 1830s. By that time a new interest drove Hungarian visitors to Britain: British political and social institutions overwhelmingly attracted Hungarian politicians of the so-called 'Reform Age' (Popova-Nowak, 2006). Bertalan Szemere (1812-1869), Prime Minister of Hungary in 1849, had a significant impact on public thinking with descriptions of Britain's public institutions through his travelogue, published in 1840 (Szemere, 1840), that included praises of landscape gardening, public parks and the English countryside. Count István Széchenyi (1791-1860), minister of the first Hungarian government in 1848, hailed by his contemporaries as the 'Greatest Hungarian', visited Britain four times in the first half of the 19th century and was the foremost promoter of urban parks, avenues and other plantations as tools for urban development (Sisa, 1992).

Narratives of Hungarian travellers to Britain have already been the subject of scholarly investigation. The first published personal accounts on English landscape gardens appear in the published letters of István Sándor (1750-1815) to his fictitious friend (Sándor, 1793; Papp, 1992). Still at the end of the 18th century some of the Hungarian landed nobility travelled to experience landscape gardens as well as agricultural and industrial developments (Sisa, 1994; Szakály, 2003). Travel increased after the Napoleonic wars and, as was mentioned earlier, intellectual circles travelled extensively to import ideas of political behaviour, but more importantly, of industrial developments, social responsibility and lifestyle (Sisa, 1999). Hungarian travellers of the late 1830's published a series of travelogues that were already studied by garden historians for their descriptions and analyses of landscape gardens (Sisa, 1999; Galavics, 2003).

MATERIALS AND METHODS

A number of travellers wrote about their experiences or at least they recorded the itinerary of their journeys. My research aimed to identify more Hungarian travellers to Britain than previously known, and to locate their places of visits in order to answer questions like what the most popular destinations were, how visits made impact on the creation of gardens in Hungary, or how technical innovations reached Hungary and from where they were imported. These and some other research questions targeted a better knowledge of Hungarian garden history, but turned out to be inseparable from more general landscape issues.

Impressions on the English landscape were recorded mainly by those travellers who intended to publish their travelogues. From the early period the previously mentioned István Sándor can be noted, although his narratives on the topic are quite limited. Later travellers were much more wordy, and almost all those who published their accounts wrote on the English countryside as well. Interestingly, an influential member of the 'Reform Age', Baron Miklós Wesselényi (1796-1850), who accompanied Count István Széchenyi on his 1822 tour to Britain, kept a journal that remained unpublished hiding his deep admiration towards English country houses and gardens for more than a century (Wesselényi 1925). Pál Gerics (1792-1868) met Wesselényi and Széchenyi while they were in London. He was an agricultural professional, being sent to Western Europe by his master, Count László Festetics. He has spent almost three years in England, but prepared his travelogue for publication much later, around 1840, probably inspired by the success of the works by later travellers. However, his memoirs remained in manuscripts (Gerics 1820-1825), probably because of their great extent, agricultural nature and the presence of other successful books on the market. Upon his return home, Gerics continued to teach at the Agricultural College in Keszthely, of which he later became the rector. He taught generations of estate stewards and managers and no doubt referred on his Wester European experiences.

The most informative sources are those written in the 1830's and 1840's. The first of them is by Ferenc Pulszky (1814-1897), later Director of the Hungarian National Museum, who visited both Great Britain and Ireland, and published his impressions a year later anonymously in German (Pulszky, 1837). The most influential reference was published by the already applauded Bertalan Szemere who travelled in 1837 and later published his journal in an exceptionally fine wording (Szemere, 1840). István Gorove (1819-1881) and Lőrinc Tóth (1814-1903) are from another generation of politicians who reached the peak of their career after the Compromise with the Habsburgs in 1867. They travelled together to Britain in 1842 and both published their travelogues two years later (Gorove, 1844; Tóth, 1844) that very much show the influence of Szemere's work.

RESULTS AND DISCUSSION

The garden-like appearance of the English countryside was a well known topic across the entire Continent. It naturally referred to the landscape around London, particularly along the river Thames, being the best known part of the country. Again, István Sándor was the first one to refer to this phenomenon in Hungarian: "The whole island is one beautiful garden". (Sándor, 1793). Other visitors elaborated this notion: "the English landscape, with the exception of the industrial areas, is characterised by peaceful calmness… the whole country is a well maintained park, and the parks, along which one can drive so often, are only enhanced pictures of the landscape around them" (Pulszky, 1837). While

Pulszky referred to the garden-like character of the landscape along the road from London to Windsor, Szemere made this impression while arriving to London on the Thames: "The rolling landscape of the left bank with its scattered cottages, clumps and vivid green hedges suggests a garden-country to me, …" (1840). Gorove already felt embarrassed to repeat this concept: "I will be the hundredth to tell: England is a large garden; ..." (1844).

The English countryside was therefore identified with the English landscape garden in a larger scale. The landscape gardens of Britain were the subject of envy by Continental visitors. They represented the ultimate estate residences even for rather wealthy Hungarian landlords like Wesselényi, who believed that "it is not possible to imagine anything more tasteful than an English country house in the middle of the flourishing green velvet lawn of a park" (1925).

The pleasant country lifestyle of the landed gentry was in an even more striking contrast with the dwellers' of Hungarian cities and towns where green open spaces were totally absent in that period. Therefore, British urban landscapes did not escape the attention of Hungarian travellers. Public parks were the utmost expressions of Britain's good society. Green areas of the cities "amend and cure the air, burdened with the expiration of two million people and the reek of so many factories, caldron, coal and locomotive, with fresh country breeze; they sweetly relax the eyes tired of seeing the brown uniform row of houses, and call humans suffocating in the dust and steam of offices, cathedrae, banks and bars to a pleasant walk, offering the world's most beautiful green lawn divan, and lead them to the company of roe, deer, swans and Arcadian flocks" (Tóth, 1844).

The Arcadian scene of the English countryside "opens up like a large landscape garden; towns and farms, meadows and fields, estates and their neighbours, roads and tillages are separated by hedges or avenues, and every piece of land forms a slice of the great garden of the country" (Szemere 1840: 38). Adoration of the countryside of England led Szemere to think that English refer to their parks and gardens when they sing: „Blest Isle! With matchless beauty crown'd" (1840)

Nevertheless, authors also noted the difference between the various parts of England in a very neutral, dispassionate way: "... all kinds of livestock graze on the pastures, there is very few ploughed land, no industry at all, the soil is of good quality, the typical English vividly green hedgerows surround here [around York] larger fields than around London or in the industrial areas" (Gorove 1844). Often they also took notice of unpleasant landscapes. The best descriptions are given by the agricultural expert, Pál Gerics, who never failed to judge the appearance and productivity of the region he visited: "I have been heading to Norfolk, the most famous county of England concerning agriculture. I hardly crossed the border of the county when I had to take note of an entirely different kind of land cultivation. When I was still in the bare and treeless Cambridgeshire, I assumed only woodland on the flat stretching in front of me, but as I entered the county, my mistake soon became obvious. ... I saw living and well maintained hedgerows with big trees here and there. The land is very well cultivated everywhere, ... But this picture is valid only for the Southern part of county, after a couple of hours the handsomely cultivated land disappears, the rich soil ends. Advancing further to North East one can see sand only, without one tree on the right side of the road as far as the eye can see" (Gerics, 1820-1825). Gerics was exceptionally educated in Britain's agriculture. He was keen to establish relationships with leading agriculturalists and was well aware of the benefits of scientific husbandry. He was not in the position of political influence, but he unquestionably discussed his ideas on Hungarian agriculture with his compatriots whom he met in London, Count Széchenyi and Baron Wesselényi.

The most important impression what English landscapes made on Hungarian travellers was not simply the natural beauty of the countryside but the recognition that those beautiful English landscapes are reflections of an industrious society. In 1822, Wesselényi so has acclaimed the beauty of the British landscape what he already identified with the hard working hands of the citizens: "What a majestic country is this! Nature gave her a lot, but much more has been done by the ingenious and diligent human mind and strength" (Gál, 2005).

This topic became widespread in Hungary and later travel writers drew their readers' attention to this fact. Szemere' influential work noted that the "country is beautiful, not by nature but by diligence" (1840). It was important for these patriotic authors to express that the fertile and beautiful countryside is the result of a wealthy and hard-working society. As a follower of Szemere, Tóth used very similar phrasing: "all people whom we saw were well dressed; even domestic animals seem happy in their pretty stables and on the abundant pastures. – England is so beautiful, not by nature but by the work of human hands!" (1842).

They also offered a way to reach the quality of the British countryside in Hungary. Szemere particularly appreciated the riverside landscape of Richmond upon Thames, just outside London, therefore he referred to that when he advertised a national programme of planting and general landscape improvement: "If you plant trees, create a park or cultivate the land, if you find or convey water, if you build ornate homes, if you join industry and reason: you can create a Richmond out of every plain" (1840).

Conclusions

Hungarian public figures were keen to transport Western ideas back to their homeland. As Gorove (1844) has declared it, "We are closer to the East, but if we wander to East ... we find a rickety country, a new homeland rising from old ruins; our country's concern sends us to the West ...; who wants to create a garden, doesn't go to the plain, who wants to build a hall, doesn't go to a hut, who wants to convey rivers, doesn't go to the swamps, who wants to enhance public institutions shall go to England and France, goes to Germany and while moving on, every step opens up a new topic [to learn]". Gorove named England as the first country fo follow, and it must also be noted that he mentions garden design, architecture, landscape enhancement and public institutions respectively although this order does not necessarily reflects his preferences but can also be regarded as an attempt to mislead rigid censors of the Habsburg administration.

England's society was nevertheless the ideal one for Hungarians involved in the political changes of their country: "My principal pursuit shall be to transplant the experience I have gained at you [England] to the sacred ground of my Homeland" (Tóth, 1842). Not only public and social institutions were to be imported but it was hoped that political changes would give a chance for agriculture improvements and consequently for the embellishment of the landscape: "I showed [to them] on the map the remote homeland … the curvy course of the Danube and the richly fertile Great Plain to where we would like to transport the abundant beauty of the English island" (Tóth, 1842).

Indeed, the first half of the 19th century saw river regulations, canalisations, sand binding projects, forestations, avenue plantings to make the Hungarian countryside more fruitful and also more beautiful. Changes of the Hungarian agricultural landscape were very much influenced by English examples as prominent leaders and landowners of the country were well aware of the improvements made in Britain.

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Accessibility of the city centre of Novi Sad, Serbia

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ABSTRACT
This paper examines public opinion on issues of accessibility and free movement of people, without obstacles and barriers. Conducted survey referred questions about the arrangement of the city center of Novi Sad, Serbia. Respondents evaluated accessibility of pedestrian communications, public buildings, public transport stations, urban furniture and information in the central city area. The obtained results showed that space is not fully adapted to all users, especially for people with disabilities. As the most common barriers for movement that were emphasized were a poor maintenance of the paving and high curbs on the lines of pedestrian movement. It could be concluded that awareness of Serbians about importance of planning accessible open space is in increasing, but unfortunately, despite the reconstruction, the spaces are not fully adapted by the standards of accessibility and universal design.

Keywords: barrier, people with disabilities, survey, mobility, universal design.

INTRODUCTION
There are numerous barriers in environment that influence on reduced mobility, which disable performances of basic needs. The quality and the types of surfacing, pedestrian paths, the size and the shape of the pavements, inappropriately parked cars, inadequate ramps and many other impediments make the life more difficult for the disabled and other physically challenged people (Počuč, 2006). It is necessary to point out that adaptable environment is not a necessity only for disabled people but also for others. Every person in some point of life has reduced ability to move – parents with children, injured people, people with luggage, obese people, pregnant women and older people. Accessible environment is not something that is exclusively applied on minority, it is necessary for everyone (Gačić, 2011).

The complexity and multiplicity of problems faced by people with mobility limitations and/or communication, are especially pronounced in areas of housing and intensive pedestrian and motor traffic (public transport). Approaches to public facilities, included in collective residential buildings, inaccessible housing, underground and overhead stairs and walkways/corridors, inadequate street furniture set, the inaccessibility of various attractions in the city, the quality and type of surfacing and pedestrian flow profiles, the shape and size of pedestrian curb, improperly parked vehicles, difficult street crossing because of the large number of vehicles and/or inadequate signaled intersections, and many other obstacles that can be found in the public exterior, daily make life difficult for a large number of citizens. When people live in such a mismatched environment additional efforts are required to ensure the minimum functioning. Therefore, the society is required to provide adequate living conditions in the environment and provide necessary conditions for equal participation of all potential users of public space, according to the right to free movement. In the last few years in our larger cities, mostly in their centers, began taking care to some extent, about the needs of these users, particularly people with disabilities. In most cases, the intervention was reduced only to improve access to pedestrian crossings and the introduction of sound signals for visually impaired at signalized intersections. It is certain that the causes of this situation lie in the largely unregulated regulations, inadequate and unsystematic planning and design of objects in general, as well as elements of the street network, in accordance with the needs of all citizens.

This paper aims to determine the extent to which central urban area of Novi Sad is accessible to users from the angle of the citizens of Novi Sad. The study was aimed at investigating the level of awareness and attitudes of citizens regarding the free movement of people, without barriers. The survey was conducted in the city of Novi Sad, Serbia.

Novi Sad, the biggest city of the Autonomous Province of Vojvodina, the northern province of Serbia, lies on the border of Backa and Srem, on the banks of the Danube and the Little Backa canal, in the Pannonian plains and on the northern slopes of Fruska gora (http://sh.wikipedia.org/wiki/Novi_Sad). Novi Sad is, after Belgrade, the second city in Serbia by population (on the last official census in 2011, according to preliminary results, the population including the suburbs, is 335 701 (http://media.popis2011.stat.rs/2011/prvi_rezultati.pdf). Novi Sad is a university and educational center, cultural, scientific, medical, political and administrative center of Vojvodina, host city of many international and domestic economic, cultural, scientific and sporting events, as well as museums, galleries, libraries and theaters. In terms of accessibility of public spaces in Novi Sad, in the last ten years were launched various initiatives to increase accessibility. One of the recent is formation of the Team for accessibility appointed by the Committee for the care of persons with disabilities, working as a professional body of the Mayor of Novi Sad, in 2010. The main objective of the Team is to point out the necessity of a systematic approach in creating accessible environment, so as to create conditions for active participation of all citizens in the public life of the community. Team work is focused on long-term (planning) activity for addressing accessibility issues in the City, through the development of accessibility strategies of Novi Sad for the period of 2012 – 2018. Team activities are divided into three groups: public space and public transport, facilities for public use, and information, communication and services (http://www.novisad.rs/node/177804).

FIGURE 1. City centre of Novi Sad (http://maps.google.com).

MATERIALS AND METHODS
In this work, several methods have been applied depending of the task and stage of research[1]. In first phase, a survey was used as an instrument of research . We examined public opinion about the accessibility of the city center of Novi Sad. The central city area of Novi Sad, which is the subject of this research, includes: Theatre Square, Miletic Square, King Alexander Street, Zmaj Jovina Street, Danube Street, Laze Telečkog Street, Njegoševa Street, Miletićeva Street, Modena Street and the Catholic port (FIGURE 1). Major public buildings are the Town Hall, Cathedral – Name of Mary, Tourist Information Center, Cultural Center of the city.

The research problem is defined in the form of the following questions:

1) The which extent is the public of Novi Sad aware of the theme of creating an accessible environment?

2) The which extent is the public of Novi Sad aware of the presence of obstacles in a space that hinder or prevent the movement?

3) How the public in Novi Sad assess the accessibility of the city center? (Respondents evaluated accessibility of pedestrian communications, public buildings, public transport stations, urban furniture and information.)

For the assessment of accessibility, five grades were allocated: grade 1 – inaccessible to all users, grade 2 – partially accessible (accessible only to users who have no difficulty in moving), grade 3 – partially accessible (accessible to users who have no difficulty in moving and small group of users who have difficulty in moving), grade 4 – partially accessible (accessible to users who have no difficulty with movement and for most users who have difficulty in moving), grade 5 – accessible to all users.

The survey was conducted in November 2011. in Novi Sad.

The sample
The survey involved 100 people, of which 65% were female and 35% were male. The largest number of respondents is from Novi Sad, while others are from various places in Serbia, but most of them now reside in Novi Sad and are familiar with the city's central zone. 74% of respondents were students, while others have different profiles (traders, drivers, doctors, hairdressers, vets, retirees, etc.). The data were analyzed in relation to the group of respondents as a whole and the groups separately.

In the last phase, by synthesis of collected data the conclusions were drawn and systematized.

RESULTS AND DISCUSSION
The analysis of answers to the first question (Are you familiar with the concept of accessibility?) revealed the following: 83% of respondents said yes (of which 52% were female and 31% were male). Most respondents, when asked what they think accessibility is, responded that it is the availability of easy access to all areas and facilities, as desired, available to all customers equally. 57% of respondents believe that the central urban area of Novi Sad is not accessible to all users (people with disabilities, seniors, pregnant women...). Of those who think that is accessible, most are women (26%). In terms of barriers, as much as 90% think that there are obstacles that hinder or prevent the movement and user mobility. As most common barriers respondents singled out the following (FIGURE 2) poor maintenance of the pavement (96% responded that holes,

1 Researchers in the field, who conducted the survey, were the third-year students of Faculty of Agriculture, University of Novi Sad, Department of Landscape Architecture.

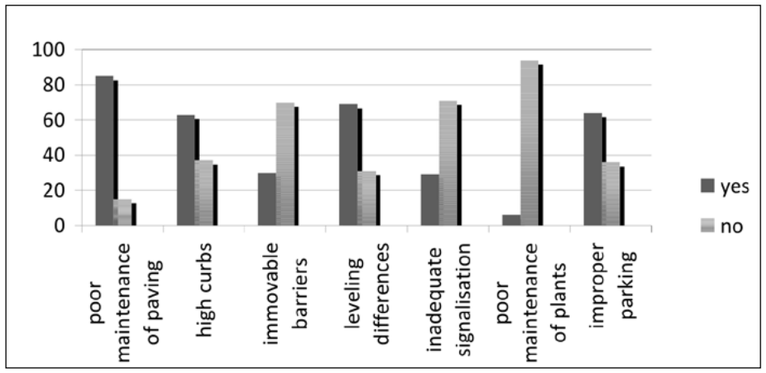

FIGURE 2. The barriers that hinder mobility.

dents, cracked and slippery boards are obstacles), 2) immovable obstructions (flower boxes, billboards, protective pillars ...) were singled out only by 30% of respondents as barriers, 3) 63% of respondents recognized unbeaten sidewalks as barriers, 4) 69% of respondents believe that the differences in the leveling are barriers that interfere with the movement, 5) only one third of respondents believe that poor signals interfere with the movement and orientation in space, 6) as much as 94% of respondents believe that plants by pedestrian communication does not constitute barriers for movement, 7) improperly parked cars in the area reserved for pedestrian movement, 64% of respondents singled out as a problem.

FIGURE 3. Theatre Square.

Of these barriers, it was found that the biggest obstacles are poorly maintained pavement, particularly at the Theatre Square (FIGURE 3). The next most common problem is the poor resolution of the difference in leveling on the path of pedestrian movement, and in access to facilities. Most common are ramps that people with disabilities cannot use independently, and which do not facilitate the movement, but make additional problems in terms of safe use. Similar problems face the citizens of Belgrade (capital of Serbia). One of such examples is recorded in the city centre, in front of Faculty of Philosophy. It has been determined that the existing ramp is not width enough, with high slope, made of poor material, without handrails. Therefore it represents danger for users. The stairs do not have tactile warning tapes on top and bottom and on walking area as well (Gačić, 2011).

In FIGURE 4 marks of accessibility of the city center can be seen. For the accessibility of pedestrian communications and public buildings, females gave an average rating of 3, while males gave an average rating of 4. For the accessibility of public transport stops and accessibility of information, both sexes gave an average rating of 4, while the availability of street furniture rated average grade 3, by both sexes. Older people gave lower accessibility scores than younger.

Similar results were obtained in research conducted within the "Recognition of the concept of universal design and design for all in the planning and construction of the environment"2 , where the level of information and views of experts in Novi Sad was examined (members of the professions which are directly related to the creation of (accessible) environment: journalists and journalism professors, engineers, architects, lawyers and policy makers – the representatives of provincial and municipal local government). On the whole the results of the survey

2 Implemented by the Center Upright, with the support of the OSCE Mission in Serbia, the Democracy Commission of the U.S. Embassy, the Ministry of Labour and Social Affairs, the Provincial Secretariat for Architecture, Urbanism and Construction, Provincial Department of Labor, Employment and Gender Equality, the Secretariat economy and open Society Fund (http://www.czuns.org/index.php/rs/program-za-pristupacnost-p-rs/dokumenti-p-rs).

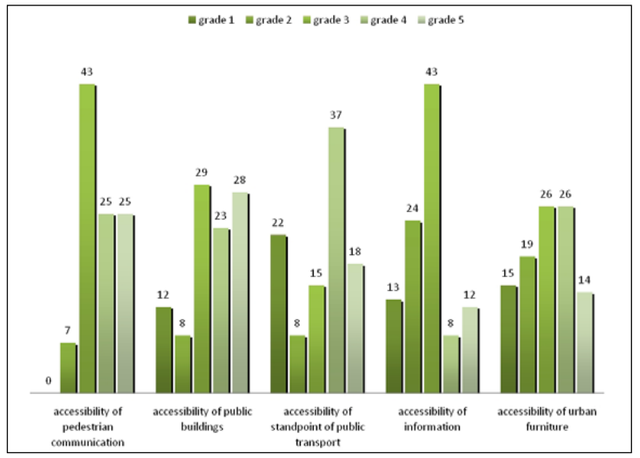

FIGURE 4. Rating of accessibility of the city centre of Novi Sad.

reflect a positive attitude of respondents towards the concepts of accessibility (84% think that the topic of accessibility should be paid more attention), but also indicate their lack of knowledge of this and related topics (76% stated that the public is not sufficiently familiar with the subjects, almost 50% do not know what is the legislation in the field of accessibility, respondents under-recognized (in) accessibility of public facilities in Novi Sad). Experts pay attention on the accessibility when a certain situation, a job or a particular case requires that, and accessibility is not a segment that is integrated into their thinking and action. Given that the professional community that is "responsible" for solving the problems of accessibility is insufficiently (even poorly) informed about all aspects of the issue (http://www.czuns.org/index.php/rs/program-za-pristupacnost-p-rs/dokumenti-p-rs), we can explained and justified to some extent the attitudes of the citizens of Novi Sad, which according to our research, also do not have a comprehensive look at the problem of accessibility, but also recognize the obstacles and problems which concern only themselves, not the entire population.

CONCLUSIONS

Based on these results, it can be concluded that space is not fully adapted to all users, especially for people with disabilities. As the most common barriers for movement there were emphasized a poor maintenance of the paving, big slope ramps and high curbs on the lines of pedestrian movement.

The consciousness of the citizens of Novi Sad on the importance of planning accessible open space, is also increasing, but people still are not aware of the weight of the problem. Most people present problems seen from their point of view, not realizing at the same time that certain elements which do not present obstacles to them, represent an insurmountable barrier for movement to many other people, especially to people with disabilities. Urban areas, including all their elements and components, should be designed in the way that they provide access to everyone and to everything these buildings and areas offer. As it is necessary for all spaces to be accessible, that gives a big task for the authorities to make efforts to complete the process of inclusion. The arrangement and the design of the spaces should be done in accordance with the principles of universal design, and it is also necessary to adapt and reconstruct the existing facilities and their surroundings to make them accessible for everyone (Gačić, 2010). It could be concluded that awareness of citizens of Novi Sad about importance of planning accessible open space is in increasing, but unfortunately, despite the reconstruction, the spaces are not fully adapted by the standards of accessibility and universal design.

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Explanation of the Factors Affecting the Growth of Place Attachment. A Case Study on the Pedestrian of Arg of Karim Khan in Shiraz, Iran

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ABSTRACT

Walking is the most natural, old and vital form of the human mobility in the environment. Pedestrian areas provide the possibility to view places and the sense of life. It also provides a chance to discover environment values. Freedom of movement may offer an appropriate basis to achieve to the desired urban environments. Pedestrian areas give a sense of relaxation and safetiness to citizens and strengthen the place attachment.

Place attachment has sociological, psychological and phenomenological aspects. So the study of these aspects can lead to identification of effective components to promote the sense of belonging and originality to the place. In this paper, the main assumption is promotion of the place attachment cannot exist regardless of the subjective aspects of the environment. In the analytical literature with deliberation of the scholar theories such as Low (1992), Steele (1981), Canter (1977) in the field of environmental psychology, Rapaport (1990), Jackson (1980) in the field of sociology-culture, Relph (1976) and Schulz (1997) in the field of phenomenology , the principal components will be extracted.

In conclusion, authors will evaluate each of the components and their role in developing the place attachment and will study the pedestrian of Arg of Karim Khan. The perception of the fields of sociology-culture, phenomenology and psychology are based on the subjective aspects of environment; The perception which is unified with the place will be formed in the audience's mind and will promote place attachment.

Keywords: place attachment, psychology factors, sociology factors, phenomenology factors, Pedestrian of Arg of Karim Khan.

BACKGROUND

In this paper, after analyzing subjective factors based on three paradigms such as psychology, Sociology and Phenomenology, we will evaluate their effects to the growth of place attachment in Pedestrian of Arg of Karim Khan in Shiraz-Iran to become clear the importance of these factors and their roles in originality of place in compare to the objective factors.

The assumption in this paper is this: sense of place has psychological, Sociological and Phenomenological aspects. The perception of these aspects is based on subjective factors; the perception which forms the being with in place in audience's mind and promotes place attachment.

METHODOLOGY

The method of study in this paper is logical reasoning by using of library studies and case studies and based on them, the qualitative factors will be identified and classified in three groups such as psychology, phenomenology and sociology. The case study which is studied in this paper is Pedestrian of Arg of Karim Khan in Shiraz-Iran. So extracted factors will be analyzed in this pedestrian by using of survey and the related graphs will be shown.

LITERATURE REVIEW

Sense of Place

There are three basic approaches in defining the place, sense of place and place attachment such as: 1. Phenomenology 2. Psychology 3. Sociology.

Sense of Place from the phenomenological perspective

- **Christian Norberg-Schulz's Point of View**

Schulz believes that sense of place is a general phenomenon with structural values which is possible in the context of perception and orientation in the space (Pourmand, 2010). By derived from Martin Heidegger, he believes that the aim of architecture is habitation. So habitation is something more than shelter and it refers to the spaces in which life occurs as a place literally (Hale, 2000).

- **Edward Relph's Point of View**

Relph expresses three aspects of the place such as physical features, activities and meanings (Relph,1976). Relph reports that there are 3 attitudes in original sense of place such as direct, conscious and unconscious experience.

TABLE 1. Factors contributing to the growth of place Attachment from phenomenological perspective.

Paradigm	Scholar	Factors
Phenomenology	Christian Norberg-Schulz	Character of place, material, shape, texture, color, environmental character, nature of place, space communications, the live truth, sense of belonging, sense of continuity, cultural identity, human conditions, interaction between space and person, place, structure of place, habitation, image, orientation, visual discipline, memorable, community accountability, activity … Compliance Activity, meaning, perception (recognition), object, order, light, time, geometry, appetite, border, center, spirit of place, dialectic inside and outside.
Phenomenology	Edward Relph	oneness ,identity, differentiation, I-I relation, I-You relation, place attachment, home, nature of place, mass culture, nostalgic, repeated exposure, evoking memory, place experiences, presence and participation, understanding symbols, daily activities, life place, meaning of place, functions, experiences, natural and man-made objects, physical features, familiarity, rootness, insideness and outsidenes; existential outsideness, Objective outsideness, Incidental outsideness, Behavioural insideness, empathetic insideness, Vicarious insideness, Existential insideness; tradition, customs, myths, ecology, values, judgment, deep knowing, common knowing, little knowing, orientation, perception, health, security.

TABLE 2. Factors contributing to the growth of place Attachment from psychological perspective.

Paradigm	Scholar	Factors
Psychology	Fritz Steele	Sense of place, experience of place, physical characteristics, perception of place, identity, history and fantasy, mystery, pleasure, surprise, security, vitality and passion, memory, spirit of place, behavior setting, emotion, pleasance, character of space, place-behavior, activity, environmental perceptions, place imaginary, spirit of place, personality and past experiences, subjective imagination
Psychology	D. Canter	Sense of place, place, behavior, human, interaction, behavioral factors, perceivable meanings, physical features of environment, adaptation, nature of place, experience, social activities, individual and plural values, area, environmental quality, sensational, emotional and spiritual experience to the life environment, intimate interaction, habitation, oneness
Psychology/ sociology-culture	Setha Low	Cognitive relation between person and environment, place attachment, cultural environment, symbols, activities, people, identity, social environment, symbolic relationship between person and society and place, concepts, emotional and sensational and cultural meanings in common, perception of environment, cultural believes, experience, emotional and cognitive experience, social & political & historical & cultural resources

Sense of Place from the psychological perspective

- **Fritz Steele's Point of View**

Steele believes that places cause different senses in various people. Character and past experiences affect in perception of sense of place for people (Steele, 1981).
He expresses that sense of place is an experience like excitement and pleasance in a specific behavior setting and believes that the spirit of place or character of space are the one that motivates these feelings (Falahat, 2006).

- **D. Canter's Point of View**

Based on the model presented by canter, place is a part of natural or man-made space which has a specified zone in terms of conceptualization and it is the result of interaction of the behavioral factors, concepts perceived by humans and physical characteristics of the environment. In Canter's opinion, the place cannot be considered independently and separately from human (Cassidy, 1987).

- **Setha Low's Point of View**

Setha Low states that the place attachment can be interpreted through psychological and identical aspects. The most important meaning of the place attachment lies in the experience of the symbolic relationship between individuals, group and place. In addition to be cultural it can take the meanings from other resources such as social, political, historical and cultural resources and it can be promoted (Altman & Low, 1992).

Sense of Place from the sociological-cultural perspective

- **Amos Rapoport's Point of View**

Rapoport states that there is a practical environment in the physical or geographical environment in which people work and are affected by the space. Within this place, there is a perceptual environment in which people act consciously and give it symbolic meanings. At last, there is a behavioral environment in it, in which not only people are aware but also they deduce behavioral responds and reactions from it. Behavioral and psychological spaces are related to the cultural spaces and usually have different classifications, territories and categorizations (Partoi, 2008; 86).

- **J. B. Jackson's Point of View**

Jackson states the importance of place attachment to home and domestic buildings' studies which are in-

TABLE 3. Factors contributing to the growth of place attachment from sociological-cultural perspective.

Paradigm	Scholar	Factors
Sociology-Culture	Amos Rapoport	Perceptual environment, mysteries, meanings, physical environment, behavioral environment, territory, structure of place, behavior setting, social and personal aspects, physical and spatial characteristics, activities, experiences, cognitive and evaluative meanings, physical elements, roles, expectations, motives, decoding, judgment, subjective imagination, fixed elements, semi-fixed elements, non-fixed elements, cultural elements, human, non-verbal behavior, presence of people, vernacular culture, activities, social activities, behavior, orientation
Sociology-Culture	J.B. Jackson	Sense of place, spirit of place, tradition, events, symbols, work and live, local sense, reflecting the past, place attachment, vernacular culture, home, spirituality, knowing, readout

fluenced by psychological thoughts and traditional and mythical and man-made spaces (Jackson,1984). He believes that the nature of culture is an important point in vernacular landscape for architects, landscape architects and geographers. He talks about increasing public awareness of importance of indigenous heritage (Jackson, 1984). A place (an area or structure) owes its uniqueness to spiritual aspects of space and vernacular environment (Jackson, 1994) which is obtained from sociology-culture paradigm.

PEDESTRIAN OF ARG OF KARIM KHAN

Arg of Karim Khan is located in Shiraz, Iran. This ancient monument is related to the period of reign of the King Karim Khan, Zand dynasty. In the reign of the King Karim Khan, the most beautiful and best part of Shiraz was the area that Vakil Edifice was built in. This area is located in the north of the old city of Shiraz. So that people receive to Vakil Bazaar after entering to Shiraz through Isfahan Gateway, there was a wide square in the west of Bazaar and Arg of Karim Khan was seen in the west of the square like today (Nasr, 2008).

Today, Arg of Karim Khan is located in Karim Khan Zand Street, near Shahrdari Sguare. In 1180 AH, Karim Khan Zand ordered to build a deep moat about 4 meters around Arg Karim Khan (Nasr, 2008).

FIGURE 1. Shiraz, the Location of Urban Elements, Zand Dynasty (by Tavassoli&Bonyadi,1992;72).

FIGURE 2. Pedestrian of Arg of Karim Khan, South East View, the Entrance (by authors).

FIGURE 3. Pedestrian of Arg of Karim Khan, South View (by authors)..

During Pahlavi Dynasty, building streets caused a wide range of affections on backbone of the city. These actions disrupted Karim Khan Complex which lost its open spaces and pedestrians and it replaced with urban and residential buildings with new functions (Hamidi, 1997). So Arg and its surrounding area remained in the corner as a strong monument but without any correlations with other physical elements. In the other side of the Zand Street, Nazar Garden and its palace has been a lot of manipulations and changes, but it is still recoverable. The restoration project of Shiraz historic zone was prepared during 1989-1992. So narrow Zand Street turned into a wide pedestrian passage almost like its past. With converting the Zand to pedestrian around the Arg, it became possible to reconnect to the Bazaar. Also the roadway between Roghani Karvansaray until Shahrdari Square turned into an underpass that led the Zand Complex to recover its cohesion and integrity.

TABLE 4. Analysis of the factors.

Phenomenological Factors		
Physical Factors	Color	Low
	Texture	Low
	Material	Medium
	Form / Shape	Medium
Historical Factors	Traditions	High
	Customs	High
	Habits	Medium
	Myths	High
Symbols & Signs		Very High
Home		High
Memory		High
Activities	Daily	Very High
	Nightly	Low
Functions		High
Meanings & Concepts		High
Knowing	Deep	Low
	Common	Very High
	Low	Low
Security		High
Values / Judgments		High
Time		Very High
Insideness – Outsideness	(Floor, wall, nature, roof, etc.)	High
	Rating	High
Territory (wall, railing, color/texture changes, etc.)		Very High
Restriction (span, shape, height, flooring, body, continuity, etc.)		Medium
Experience of Place		High
Visual Order		High
Health		High
Light		Medium
Psychological Fact		
Physical Factors	Place Span	Medium
	Restriction Rate	High
	Contrast	Medium
	Scale	High
	Proportion	High
	Distance	High
	Texture	High
	Color	Medium
	Sound/Smell	Medium
	Visual diversity	High
Identity		Very High
Illusion		Low
History		Very High
Mysteries		Very High
Surprise & Pleasure		Very High
Security		High
Vitality and Passion		High
Memory		High
Experience of Place		High
Behavior		High
Activities	Daily	High
	Nightly	Low
Meanings & Concepts		Very High
Identification		Very High

Sociological-Cultural Factors		
Physical Elements	Fixed Elements	Very High
	Semi-Fixed Elements	Low
	Non-Fixed Elements	Low
Behavior		High
Activities	Daily	High
	Nightly	Medium
Experiences		High
Orientation		Very High
Meanings		Very High
Mysteries		Very High
Messages		Very High
Cultural Symbols		Very High
Cultural Concepts		Very High
Knowing		High
Home		High
Social Interactions		High
Satisfaction		High
Vernacular Culture	Material	High
	Form	High
	Color	High
	Texture	High
Vernacular Sense		Very High
History	Events	Very High
	Traditions	Very High
	Customs	Very High
	Habits	Very High
	Plural Memories	Very High

In the next part, we assess this pedestrian by use of extracted factors to evaluate the quality of pedestrian and identify project's success to develop the sense of the place.

ANALYSIS AND CONCLUSION

In this paper, extracted factors in this pedestrian have been analyzed in a comparative study based on the quality factors which are stated by scholars in 3 fields such as psychology, phenomenology and sociology-culture and also the observation and survey. This comparative study provides a model to identify the effectiveness of quality factors in contributing to the growth of sense of the place.

TABLE 4 presents a special model which is included 51 main factors to evaluate effective factors with their criterions in growth of the sense of the place in pedestrian of Arg of Karim Khan. Based on this model, evaluation of these factors and criterions has been performed into 2 ways. Some components

FIGURE 4. Pedestrian of Arg of Karim Khan, in front of Nazar Garde (by authors).

have been evaluated by observation and check list and other components have been analyzed by survey and deep interviews with space users (shoppers, pedestrians, tourists, sellers, tradespeople, etc). Important criterions for deep interviews were variety of age groups and genders, the peak hours of activities and the use of space. Results of surveys have been analyzed in Excel Software and percentages of users have been presented in 5 categories from very low to very high.

The results based on users of the space show the effectiveness of the quality components in promoting sense of the place. Results which are obtained from analysis of phenomenological factors state that historical factors, memories, symbols and signs, time and values are prominent criterions with an important role in promoting sense of place in the pedestrian of Arg of Karim Khan.

By analyzing the results of psychological factors, we can find out that history, memories, experience of place, concepts, meanings of symbols and signs were very prominent and effective.

As seen on TABLE 4, cultural symbols, messages, mysteries, meanings and vernacular sense and history were prominent factors with a lot of effects in promoting sense of the place in the pedestrian of Arg of Karim Khan.

So through the above analysis and studying the TABLE 4, we conclude that the roles of the phenomenological, psychological and sociological-cultural factors are very high in growth of the sense of place in this pedestrian and also these three paradigms have some factors in common which make a bridge to communicate mentally and meaningfully with environment. However, climate issues have not been considered, but subjective factors listed in 3 paradigms have a prominent and effective role in promoting the sense of place.

So it should be paid attention to the factors which are obtained in this paper to develop the sense of place in the pedestrian of Arg of Karim Khan and it is important to note that you cannot promote sense of place and mental sustainability in audience's mind only by solving climate issues.

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The potential of multiple methods in strengthening the landscape aspects of urban climate research

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ABSTRACT

Against the background of current climatic and societal changes urban landscapes in general and their specific microclimate in particular will play an ever more essential role for a sustainable urban development. Microclimatic aspects interact with design, usability and quality of urban open spaces and will become especially relevant since (thermal) well-being and the quality of life are one of the most important criteria within living areas. The paper presents research that is looking for effective strategies in urban landscape architecture in order to enhance adaptation to changing climatic conditions and at the same time to cope with the mounting pressure exerted on public open space to guarantee the well-being of populations in flux. The aim was to increase the use of natural 'materials' like vegetation, water surfaces and air (ventilation) – a strategy that has been proven to have the most positive effect on the microclimate – while not reducing the required 'free' urban surfaces for flexible needs and uses at the same time. This could for instance be accomplished by moving vegetation and water areas into a vertical plane. A specific focus was directed on the investigation of various research methods in order to better understand their applicability for urban planning processes and the way they interact. The initial approach consisted in a historical analysis – a research method that seems to have been neglected in this context so far. The Moorish gardens of al-Andalus in Southern Spain represent an outstanding example with regard for their pursuit of thermal and sensual well-being as well as with regard to their design concept of enclosing open spaces by integrating vertical vegetation and water elements. The findings of this historical research have been transferred to an urban Central European context while beeing investigated by means of the simulation method – offering empirical data of microclimatic effects of specific design principles on typical urban layouts. Furthermore a datasheet categorizing contemporary examples of European urban landscape design under microclimatic aspects has been developped based on the previous findings. Visualization and understanding of microclimatic aspects could be achieved by using multiple methods thus offering a coherent basis for discussions within urban planning processes.

Keywords: urban landscape, microclimate, simulation, historic analysis, contemporary design.

INTRODUCTION

The research presented in this paper is looking for effective strategies in urban design to enhance adaptation to the changing climatic conditions of Central European cities. The aim of the study was on the one hand to offer concrete and applicable design approaches to such an adaptation and on the other hand to raise the awareness for climatic issues for urban planning processes in general. The focus has been explicitly on the potential of landscape design in this regard (Hagen, 2011).

Cities become ever more important in global as well as in regional terms. With the objective of a future 'sustainable' urban development, urban open space will play an essential role with respect to all – the ecological, the social and the economic – aspects (Feindt, 1997; Siebel, 2004). Against the background of the societal changes, the pressure on non-commercial open spaces for flexible use will increase – especially within the dense inner urban structure (Selle, 2004). In addition, the same areas are the first to be threatened by urban climate impacts such as overheating during summers (Stewart, Oke, 1998; Wilby, 2007). Local climate conditions strongly influence design, usability and amenity values of urban open spaces and hence the quality of life and the (thermal) wellbeing of the citizens (Keul, 1995). In return, the design of urban open space excerts a great influence on local and hence urban climate conditions. Therefore urban open space and its specific microclimate are of increasing importance. Landscape design can take a direct positive influence on microclimate e.g. by integrating vegetation and water elements and consciously selecting surface materials (Geiger, 1961; Brown, Gillespie, 1995; Kuttler, 2009). Vertical elements consisting of microclimatic effective materials (such as vegetation) have the potential to restructure open space without further increasing the density of the urban fabric. At the same time they do not take up urban surface reserved for a variety of social needs (like communicating, playing, resting, etc). Recent approaches to urban planning with respect to urban climate may be roughly categorized in three main approaches: increasing of urban green areas (e.g. Ong, 2003, Roehr, Laurenz 2008), climate-sensitive city design (e.g. Ali-Toudert, Mayer, 2006; Jacobs, 2007) and awareness raising (e.g. Eliasson, 2000; ASSCUE, 2006). Taking into closer consideration the diverse studies which have been dedicated to the subject the necessity of interdisciplinary approaches becomes evident not only in regard to various scientific disciplines to be used but also in regard to the methods of investigation. The majority of urban climate research focuses on measurable data and on data that derive from simulation. Sensual aspects, that play an essential role for thermal wellbeing, are

being integrated by using social empiric methods (such as direct observations and interviews) mainly focusing on the negative impacts of e.g. noise and bad odeurs (e.g. RUROS, 2004).

The research on hand aims for a holistic approach by also taking into account the positive effects of sensual aspects. It investigates the potential of multiple methods in emphasizing the landscape aspects of urban climate by highlighting the historical analysis that seems to be neglected so far in this context. Research questions have been: a) Which approaches in handling difficult climatic conditions can be observed in other climate regions and cultures existing previous to industrialization and further technological development?; b) How are historical findings to be translated into a current urban Central European context and to which degree can the microclimatic effects be tested?; c) How are the findings to be transferred to contemporary urban design and to which extent can they serve as a basis for discussions on urban development?; and to conclude d) In how far do the applied methods complement one another and to which degree can multiple methods contribute to the awareness raising for climatic aspects within concrete urban planning processes?

MATERIALS AND METHODS

Generation of microclimatic design principles

Using the Moorish palace gardens in al-Andalus (Arab ruled area of the Iberian Peninsula 800-1500) as a case-study, open space design has been investigated by means of a historic analysis with respect to microclimatic aspects thus searching for corresponding design principles. The Moorish culture was known for its elaborate skills in adaptation, acclimatization and pursuit of (thermal) wellbeing. The research was based on an extensive literature review and personal observations. Due to a satisfying documentation status and multiple efforts in conservation and reconstruction the focus of the study was directed at the Palace gardens of Granada (Alhambra and Generalife) and Seville (Real Alcázar). Personal observations of the localities took place throughout the seasons. After finding out about basic design principles of Moorish gardens, a detailed study of microclimatic aspects and their perception followed. The versatile enclosing of open space turned out to be an outstanding design principle. The emphasis of further investigations was therefore directed at this aspect.

Verification of microclimatic effects in an urban context

The design principles of the enclosed open spaces were translated into a simplified model and applied to an actual urban context (an enclosed and an open square within the dense inner city structure of Vienna). Simulations of the microclimatic effects pertaining to the different design variants were undertaken using the Envi-met programme in it's preliminary version 4.0 (Bruse, 1998). The analysis was focussed on the central microclimatic criteria affecting the value for thermal comfort PET (physiological equivalent temperature): windspeed, surface temperature (Tsur), mean radiant temperature (Tmrt), air temperature (Tpot) and relative humidity (relHum). The simulations focussed on summer heat and were guided by the objective to decrease the PET to reach comfortable values. The design variants included the vertical enclosing of open space by means of hedges and the additional horizontal closing by means of trees or a vegetation layer. The effects of these design variants were investigated in comparison to an empty open space (neither vertical nor horizontal enclosure), to the above design variants using walls instead of hedges for the vertical enclosure and finally to an assumed setting of horizontal closure by means of tree cover only. All variants have been simulated for the two urban layouts and for four different wind conditions (64 simulations). The results have been visualized in form of maps (generated with the programme Leonardo) and in using mean value data. The analysis was focussed on comparing the effects on the microclimatic factors – that is to say they were more focussed on relative than on absolute data.

Survey of design transferability

Taking the previous findings as a basis, a data sheet has been developed to serve for the examination of contemporary (urban) landscape design under microclimatic aspects. The aim was to offer a simple and 'intuitive' survey tool for professionals with previous knowledge about the urban climate serving for the categorization as well as the visualization of concrete urban design examples. In the scope of the research two examples of contemporary landscape design in Central Europe have been analyzed using the data sheet: the MFO Park in Zurich (Burckhardt + Partner and Raderschall Architekten) and the 'sunken garden' of the Fondation Louis Jeantet in Geneva (Agence Ter), both highly commended among experts. The examples deal with different forms of enclosure of open space. Sources of study have been on-site observations, literature review and plans and informations provided by the respective design offices.

RESULTS AND DISCUSSION

Design principles of Moorish gardens

The study highlighted the sophisticated implementation of horizontal as well as vertical vegetation and water elements, the design method of enclosing open space, the consideration of sensual ('microclimatic-associative') aspects and above all a holistic approach to design and function – meaning the coexistence all of these aspects – as the most important design principles of Moorish gardens. The strategy of enclosure was taken as the guiding principle for further research.

Concerning the different methods of enclosure, the following techniques have to be mentioned: the enclosure by means of surrounding architecture (patio), by surrounding vegetation and by lowering the garden area itself. The effect of such enclosing strategies can be described by the concept of 'patio-pórtico-torre' (courtyard-arcades-tower): the walled up and thus isolated and partially shaded courtyard with it's abundant vegetation and water elements was effective in developing and maintaining a specific cool and humid microclimate; the adjacent buildings were constructed in such a way, that ventilation was guided from the courtyard through the most important rooms up to the openings in the tower like ceiling; in front of the buildings cantilevered arcades facilitated the shading of the facades to prevent its warming (Jiménez Alcalá 1999, FIGURE 1). Hence the essential criteria to improve the microclimate are cooling and providing humidity – by the integrated use of vegetation and water surfaces, shading and ventilation. In addition attention was paid to the use of building and surface materials with a low heat capacity.

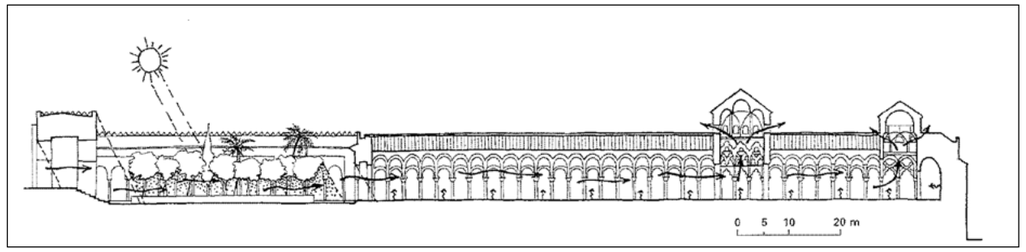


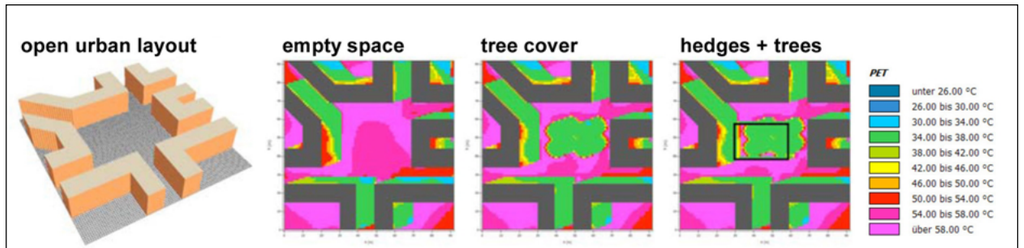
FIGURE 1. Concept of patio-pórtico-torre as seen in the Great Mosque of Córdoba (Jiménez Alcalá 1999).

The same criteria can be found in the application of non-architectural strategies of enclosure. Depending on specific local climate conditions distinct means of enclosure were developed. In Granada the so called bailarina can be found, an airy pavilion solely constructed by using cypresses and provided with a central water fountain (Tito Rojo 1999, FIGURE 4, left). Granada is notorious for very long hot and dry summers and very cold but short winters. The gardens were used primarily in summer demanding for shade, humidity and ventilation, locally provided by the year-round breeze from the nearby Sierra Nevada. The climate of Seville, on the other hand, is characterised by an extremely hot and humid summer and a long and very humid winter with almost no wind factor. Here a specific form of so called 'sunken gardens' arised offering a cool lower garden level shaded by trees during the summer and a sunny upper level noticeable warmer and less humid during winter time (Fernández-Trujillo 2007). As a conclusion it can be argued that local climate conditions as well as seasonal aspects had a considerable influence on open space design.

Microclimatic simulations in an urban context

The most noticeable differences considering the design variants can be observed on the maps for surface temperature (Tsur) and mean radiant temperatures (Tmrt) – both features being closely linked – and for the factor wind speed. The maps for air temperature (Tpot) and humidity (relHum) only show low variance but still highlight the decreasing respectavely increasing effect of vegetation especially within the isolated area of enclosure. Shading by trees respectively vegetation layer has the strongest influence on Tsur and Tmrt. The maps for the vertical enclosure by means of walls show a warming up effect on the temperature values of the adjacent areas. In addition walls show an extreme reduction of wind speed within the enclosure while risking to cause wind channelling effects on the outside especially for the open urban layout. Hedges, on the contrary, admit some degree of ventilation within the enclosure while preventing channelling effects. The variation of tree cover only also shows a slight wind channelling effect especially for the closed urban layout that is reduced if combined with hedges.

FIGURE 2 shows selected results in form of maps and a table of mean values for different design variants within the open urban layout under north-westerly wind conditions (21.06., 3 p. m., windspeed 1,5 m/s). Vertical enclosure by means of hedges in combination with the cover of trees or vegetation layer turned out to be most effective in terms of thermal comfort. The analysis of the simulation results clearly points at the following criteria pertaining to an aspired reduction of PET values during the summer: a) the reduction of surface temperature and thus the reduction of mean radiant temperature by shading and by implementing materials



Ko_NW15	windspeed	T_{mrt}	T_{pot}	relHum	PET
empty space	0,54 m/s	71,18 °C	30,96 °C	81,02 %	56,31 °C
walls	- 0,31	- 4,94	- 0,18	+ 0,28	+ 3,17
hedges	- 0,02	- 3,84	+ 0,03	+ 0,59	- 0,71
tree cover	0,05	- 26,21	+ 0,13	+ 2,39	- 16,07
hedges + trees	- 0,04	- 29,12	+ 0,16	+ 2,77	- 17,37

FIGURE 2. Maps and mean values of different design variants for the open urban layout and north-westerly wind conditions illustrating the correlation of the respective microclimatic factors and the PET values.

with low heat capacity; b) provision of sufficient ventilation and at the same time avoidance of turbulence and gust. It is to be underlined that both requirements are being fulfilled by vegetation. The simulation results confirm the previous findings to a large extent.

EXAMINATION OF MICROCLIMATIC ASPECTS OF CONTEMPORARY URBAN LANDSCAPE DESIGN

The data sheet is built up in five sections including: general information; explanation of the approach to (or aspects of) an enclosure of open space; a description of the implemented materials; analysis of microclimatic effects; and further comments

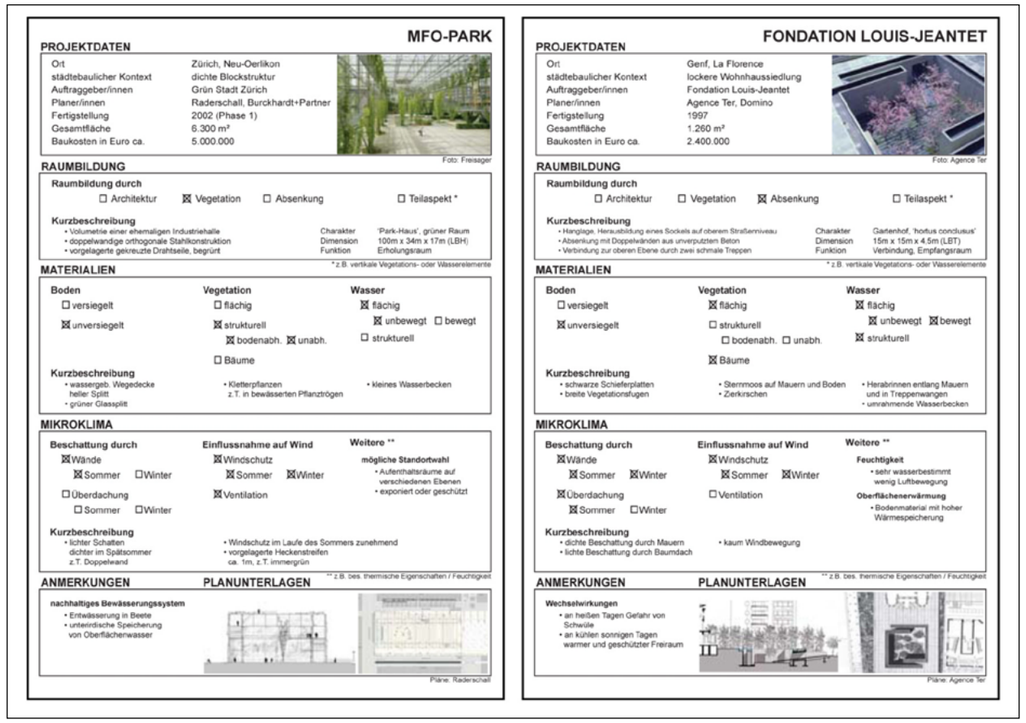


FIGURE 3. Datasheets for the MFO Park and for the Fondation Louis-Jeantet.

and documentation. The analysis of microclimatic aspects is taking into account the implementation of microclimatic effective materials e.g. vegetation and water, the degree of isolation by enclosure, the reduction of surface temperature by shading and choice of material, the extent of windbreak and ventilation, the infiltration of water into ground material, general aspects of sustainability and supplemental features.

The analysis of the two design examples offered an insight in the potential of the data sheet. Although both examples deal with an enclosure of open space in general, the results of the data-sheets differ considerably (FIGURE3). A short summary of the MFO-Park will demonstrate certain parallels to the Moorish bailarinas as well as analogies to the simulated design variants, allowing to deduce some microclimatic effects. The enclosure of the MFO--Park was accomplished by means of implementing vegetation overgrowing a light steel structure. The vegetation acts as a structural element offering a cooling and humidifying effect. The surface of the open space itself is unsealed thus avoiding heating up and enhancing the water balance. The incorporated water basin though is hardly big enough to influence the microclimate. The deciduous vegetation 'walls' provide shade during the summer while facilitating radiation – thus warming up – during the leafless winter time. Vegetation covering the light structure reduces windspeed while admitting ventilation within the enclosure. Unpleasant gusts near ground level get reduced throughout the year by supplemental rows of evergreen hedges. A special feature of the MFO Park is the construction of different user levels, offering a choice of sites more sheltered from or more exposed to radiation and wind. Microclimatic aspects have not played an explicit role in the design of the park (information by the design office) while sensual and thermal aspects are being strongly highlighted by architecture critics. The same can be stated for the second design example: the 'sunken garden' of the Fondation Louis-Jeantet shows some stunning parallels to those of the Moorish gardens in Seville.

The study demonstrates a close link between sensual and microclimatic aspects of wellbeing and between design quality and (thermal) wellbeing. Conscious integration of microclimatic aspects within the planning process carries great potentials in altering the amenity values of urban open spaces. Historic design examples can provide interesting inspirations while nowadays design and technical solutions allow an implementation of effective design principles in a contemporary urban context. That is to say that the study does not argue to implement specific design elements but to use historic competence from other cultures to enhance urban development focussing on microclimatic aspects.

CONCLUSIONS

Urban open space and its specific microclimate will play an essential role for the sustainable urban development. Landscape design offers an extensive potential, not only for mitigating urban climate impacts in the future but also in terms of adapting to the changing climate conditions by enhancing the (thermal) wellbeing and thus enhancing the quality of life.

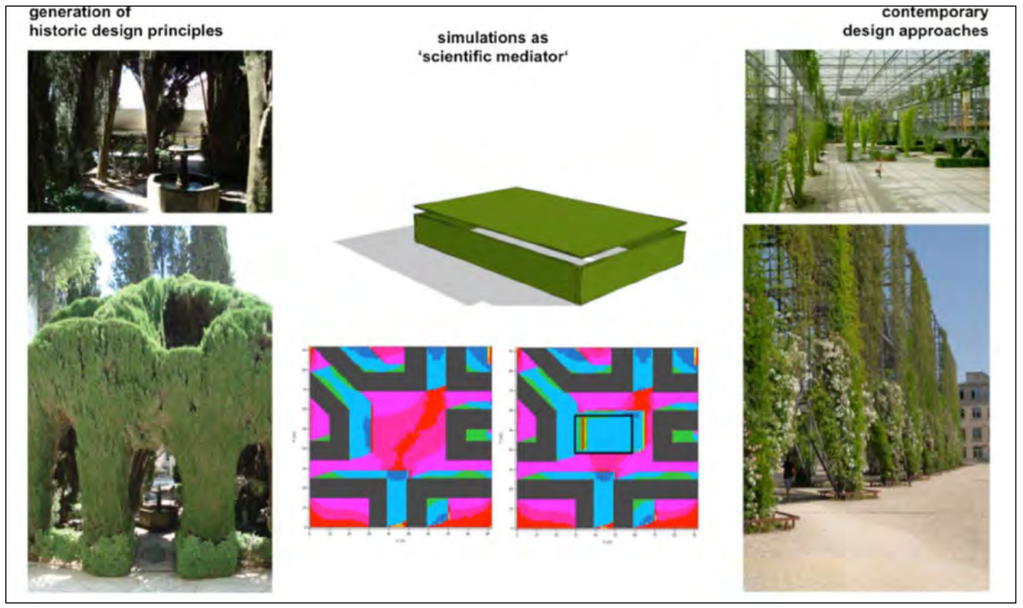


FIGURE 4. Interaction and complement of the multiple methods.

The various results of the presented research data agree upon the strong microclimatic effect of vegetation and water, the potential of vertical enclosure of open space especially by means of vegetation, the importance of shading and ventilation, the integration of sensual aspects, and the consideration of local and seasonal requirements. Strategies for urban design were investigated focussing on the potential of implementing vegetation as a structural element thus allowing the combination of climate-sensitive urban design with the increase of the inner city vegetation. Each method applied has its strong and weak points. The historical analysis offers sustainable design principles and a holistic approach. The simulations, on the other hand, provide quantitative data on microclimatic effects. Due to the necessarily simplified models only some selected aspects could be addressed anticipating the possibility of a closer assessment e. g. of qualitative and sensual aspects. The data sheet, in turn, does not reveal specific (measured) values but integrates – due to its more intuitive approach – qualitative aspects into a base of quantitative knowledge achieved by the previous findings. The methods support and complement one another. The use of multiple methods made a much needed integrated view possible, offering a high visualisation of microclimatic aspects in urban design contributing to a better understanding of and raised awareness for microclimatic aspects in urban planning processes. The simulations serve as 'scientific mediators' between commendable historic design principles and potential contemporary design approaches (FIGURE 4).

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Abyek Andisheh educational area

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ABSTRACT

This paper reports on a project proposing a landscape for an educational complex in Abyek, located roughly on the west of Tehran, Iran's Capital. The campus is located at the center of a set of industrial and manufacturing units. It comprises 23 academic institutes in a land of 116 hectares. This project is expected to be one of the most influential and prestigious complexes designed for education and training of scientists and technicians in the west of Tehran.

Two cultural elements, Iranian traditional design and nature are considered in the plan of project to make the educational environment of the complex more favorable for students. Furthermore the design has an appropriate view from the nearby highway and the local roads from the outside. Our long term goal is to arrange accessible roads from the surrounding highways into the complex.

Keywords: Abyek, landscape, educational complex, Persian garden, Iranian design.

INTRODUCTION

Andishe academic town is a complex composed of 23 training units, a library, a restaurant, a mosque, a amphitheatre and an extensive garden located across Tehran's main highway to the west of country (FIGURE 1).

FIGURE1. Site.

In this project, the limitations due to the location of the plan, geographical and environmental features and also the nearby buildings are taken into consideration by the employer. This paper investigates the specifications architecture and the urban design suggested by the architect to meet the client's needs based on site analysis and environmental context. The campus is located on the north of Tehran-Qazvin main highway and southern side of Alborz mountain ranges; at one end of this highway Tehran is located with its specific socio-cultural, political and educational status. It is placed in the vicinity of Abyek county, which is one of the environs of Qazvin province in 50 km west of Tehran. This county is related to Taleghan from the north, Savojbolagh from the west, Buin Zahra and Nazar Abad from the south and Qazvin city from the east. Its average annual temperature is 13 degrees Celsius and its average annual rainfall is 302 millimeters. Having suitable climatic conditions, fertile arable lands and also water resources, this region is considered as one of the agricultural majors of the province. The area has got high potentials for industrial and mineral activities. It has three access points: one from Qazvin-Karaj highway, one from the Qazvin-Karaj old road and the other one from the railway station that connect this county to Tehran. It has a Metro line under construction which was earlier predicted for welfare and easier access to industrial towns and training complexes most of the commuters and workers to such industrial units, factories and mines, come from surrounding major cities or nearby small towns. They keep the economy of the region impressively dynamic. The other regional strengths are Shahid Rajayi thermal power plant in the west and cement factory in the east.

There are a set of institutes which are working separately around this area. The employers of these institutes as well as lots of students travel daily from Tehran, Qazvin, Karaj and Zanjan to these educational units, it was decided to provide an educational site in a suitable location and gather all the faculties

from the sides of the city to that region. This idea was not only for the sake of safety of the students and professors' and their comfort but also for managing heavy loads of daily traffic caused by transportation of such people. The aggregation of these units next to each other as an educational complex contribute to the importance and scientific value of the campus significantly. The town is located in a land of approximately 1,164,517 square meters with dimensions of 750 meters in 1500 meters. The campus is placed on hillside and is easily viewable from surrounding valley and the lowland main route of Tehran-Qazvin highway. It has created spectacular natural scenery as well as an urban and architectural visual effect.

Balance difference in the highest and lowest points in a land of 1500 meters is estimated to be 150 meters. This slope which is very steep in upland and is about 20 %, is reduced dramatically in the middle of the land and is adjusted to 5-7 % in downstream. The major goal which was considered initially in concept design of the campus was to make the least amount of transformation in the primary environmental structure of the site. There have been several reasons behind this goal such as "having the optimum view of surrounding environment in the current context of the complex being located on hillside with its specific topography. Although the plan is formed in an environment with particular potentials which inevitably imposed some restrictions on it, it creates a mountainside town with a favorable view. Furthermore, by avoiding the maximum interference in and degradation of the environment that may look to provide us an optimal and flat context to construct the town but actually endangers its security and stability due to the loss of environmental modulators standards over the time, effort is made to consider all the Traffic routes, watercourses, the thalweg lines in the site and in designing educational zones, green spaces, traffic routes and etc" (FIGURE 3).

METHODS AND MATERIALS

One the most important inspirations in the design pathways of the town is the Iranian gardens. The art of garden construction is an Iranian ancient art that is best fitted in the north-south direction. In Persian gardens an axis, considered as the spinal column of the garden, is mainly extended in its length than height. The other feature of such gardens is horizontal streets the sides of which are filled with trees that extend the depth of vision by their well managed perspective. In Iranian art and culture the concepts of human and nature are integrated and human shows strong tendency towards nature. "Geometry is the most distinctive feature of Persian gardens. In the present project, although the main objective is not garden designation, some features of Persian gardens such as visual expansion, water sources and green spaces, rectangular geometry, symmetry and centralization are applied in pathway designation of the town" (FIGURE 2).

The construction of ancient Persian gardens on hills or steep hillsides used to be managed in a way that maximum utilization of high lands and steep surfaces would be considered. Typically the indoor spaces and mansions were constructed in smooth surfaces while the green spaces were designed in slopes of such stepped gardens the most noticeable and successful examples of which is located in Mahan, Kerman.

In a much larger scale, such an attitude is reflected in the rich architecture of Iranian metropolises. Besides, the primitive idea in designing the pass ways and the main square of this town is briefly summed up in ancient urbanization.

With the rise of Safaviye dynasty in 17th century, architecture and urbanization in Isfahan (the capital of the time) flourished and therefore this city is replete with immortal works of such delicate art." Isfahan is regarded as a typical utopia of the time having a new and wide pivot in urban scale which was something quite modern in Iranian urbanization of that time. Creating a large square (Chahar-Bagh) with obvious and clear description of spatial disciplines states the concept of urban zoning for the first time. This square

FIGURE 2. Baghe Shazde Mahan-Kerman.

is not only the central part of the construction, but also the intersection of main pass ways".

As a result, 'being under the influence of the above mentioned factors' is the most significant element in designing the main concept.

Therefore the first step in designing the primary concept of the campus has been considering the restrictions of the land and preserving its environment ecology to the extent that no serious damage will cause to its overall performance. Effort is made to consider the whole features of the land as available potentialities and apply them constructively in designing the campus.

The initial layouts of the plan use the minimum amount of leveling and excavation in making the context and layouts of the faculties and other educational or service spaces. The overall plan will be formed based on the admitted available topography as far as no risk is posted such as flood, falling and sink to the stability of the complex and during its performance.

RESULTS AND DISCUSSION

Based on the environmental slope of spaces, the passages and the communication networks of the whole town we plan the layout in 5 elevation levels. The highest level which is located on an steep slope practically has no leveling and excavation and the site will cover the green space of the complex with minimum amount of manipulation in its initial and natural context. In the next levels of layout, according to the slope of the domain in lower levels, there will be a set of academic spaces in the lands with balance level. The connection of these levels with the surrounding passages based on their different elevation codes is possible through the walls of green spaces which are placed steeply on the sideline of the passages and around each faculty. The other noteworthy is the east-west connection routes which will be designed with suitable slope in the intervals of these stepped surfaces in different elevation levels. Through a bypass network around the town, these passages have connection with 3 north-south passages which extend from near the mountain to the downstream suit to the domain's slope. These east-west passages according to significant balance difference in elevation with their surrounding north and south lands have no access of the cavalry to separated educational spaces. They are accessible just by the body of green spaces located on the sideline of passages or by stairs of campus for the pedestrians. The central main square around which the main library of the town, the amphitheatre, Auditorium and restaurant are located the direct access of the cavalry from the square is not possible and all the cavalry access routes through all the spaces is predicted by north-south connection routes and it is possible to access the campus by car.

In the general landscape the view that can be seen by the passing pedestrians from the highway who travel in this direction is a homogeneous combination of several perspectives according to sky line and the composition of sizes in different levels.

In designing the external body of these units a dignified and coherent body is predicated which is both architecturally homogenous and have beautiful and appropriate landscape in terms of urban development. It will invite and lead the visitors to the town and passing pedestrians well on the arrival to this campus.

There are predetermined regulations considered from the beginning of the architectural design of this town, such as the performance and duties of each of these faculties these duties are categorized in technical, sciences and literatureal units and since each of these faculties requires specific form and concept according to their performance, number of students, the dimensions of the classes, libraries and training units. Effort is made that apart from different forms found in general in the combination of these 23 faculties, common grounds would be also planned in its architecture so this educational campus of 23 buildings has certain regulation and coordination in its style and method of architectural construction.

We designed the general concept of the faculties and the used materials in their facades follow a uniform and homogenous pattern to coordinate and equalize the general context of the town. Using native materials and colors in the facades which coordinate with the regional climate was the most important factor in choosing material for the project.

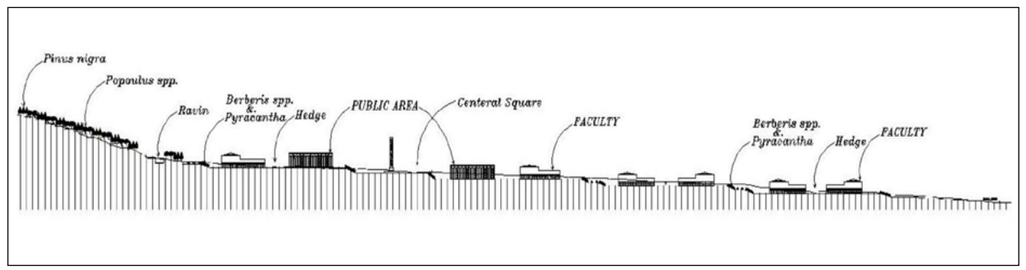

FIGURE 3. Section from site.

Also in the general concept of the town's buildings we use the elements which as indicators are symbol of Iranian architecture and native to the site.

The maximum height of all the faculties was predicted to be 3 floors. Expansion of spaces will be possible at ground level according to the desired infrastructure of each unit. This idea provides possibility of viewing all buildings from downstream side.

The most important point that must be considered in architectural and urban developmental designing of this campus is that the designing team should consider 23 training units, green spaces and all the available passages as a coherent and unit category in the hillside and design it.

FIGURE 4. Masule – Gilian.

This kind of nature friendly designing and accepting the natural context of the plan by the designer is common in many countries. In Iran because of the mountainous nature of the north and west region, very stylish and successful samples with strong architecture and structure are formed, stabled and used in the hillsides.

The most significant of this area which remained stable for many years in the heart of a mountain are Masule and Uraman villages with several hundred years old.

Uraman village is located in the hillsides of Zagros Mountains in west of Iran, in Kurdistan. The houses respect retrofitting principles and have native materials suitable to cold mountainous weather situations. They are built from rock and wood and are very beautifully placed near each other suitable to the slope of the mountain.

Masule village in Gilan is located in northern margin of the Alborz Mountains. The houses are designed according to the weather conditions temperate and humid. They are mainly build from brick and oak suitable to the slope of the mountain are placed near each other in such away that upper yards become the roof of the lower houses and its passages are in fact a set of from the roofsof the down stream houses and these pathways are connected to each other through rock stairs.

It should be noted that the balance difference of the highest and lowest houses in these 2 villages in a land with lower than 500 meters more than 100 meters which causes a slope with more than 20% steep in some parts.

CONCLUSION

The main purpose behind designing Andishe town has been reaching a homogeneous aggregation of several dispersed academic complexes of the region. This idea offers both a functionally successful phenomenon and visually effective scene. This hillside construction can be among successful constructions of the kind that takes advantage of environmental features and applies them for its own good though the land slope of its plan.

ACKNOWLEDGMENTS

Banafsheh Shafie & Hossein Hojjat.

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The Influencing Factors Of Ecological Aesthetics In Urban and Peri-Urban Areas. Assessing Differences and Similarities

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ABSTRACT

The specificity of human visual perception determines aesthetic quality as one of the most important landscape characteristics, especially for urban landscape where human needs dominate and everyday life takes place. Landscape ecology becomes more important in terms of healthy environment, nature protection and climate change. This study focuses on comparison of ecological aesthetics of urban and peri-urban areas. The aim of the study was to detect the influencing factors and to compare main characteristic features of ecological aesthetics of urban and peri-urban areas. The Latvian town Jelgava and villages of the periphery of it were chosen as study objects. Main tasks were established to detect the influencing factors. Those were: to describe the landscape structure and characteristics which are specific for urban and peri-urban areas of Jelgava; to determine qualities of ecological aesthetics and to compare ecological and aesthetical values in these areas. Territories were analyzed in different landscape perception levels: regional, local and site scales. At the research, the influencing factors of landscape ecological aesthetics of urban and peri-urban areas of Jelgava were identified. Those are building structure and density, amount of green territories, connectivity of green spaces, biotope structure and landscape scenery. In conclusion, landscape ecological aesthetics in analyzed territories were characterized.

Keywords: urban planning, landscape structure, planning levels, landscape perception.

INTRODUCTION

The planning with accordance of landscape ecology and aesthetics becomes topical especially in areas with high level of urbanisation and anthropogenic load. These territories have disharmony between processes of nature and human desire to influence them. Relationship between ecology and aesthetics affects landscape planning, design and management (Andersson, 2006; Lovell, Johnston, 2009).

Sustainable landscape planning appeared in 21st century where new social values increased (Leitaõ, Ahren, 2002). Conventional approach of landscape ecology accents the poor ecological quality in human-dominated matrix, it has to be improved by increase of spatial heterogeneity adding semi-natural elements (Lovell, Johnston, 2009). Enhancement of role of landscape ecology inquires a strong use of landscape aesthetical principles in conformity with nature. This established a need for idea of landscape 'ecological aesthetics' which integrates both disciplines in one design. An ecological aesthetics presents that it is desirable for humans to take aesthetic pleasure from landscapes that include beneficial ecological functions (Gobster *et al.*, 2007). Naturalness of landscape can be created through visible human intention and care (Nassaurer, 1993). The links between ecology, aesthetics and human perceptions are not well researched yet. Research of perception of interaction between ecology and aesthetics was actuated in studies of protected woodland landscape (Sheppard 2001: 159).

Landscape is influenced by natural factors (nature elements and processes), and anthropogenic factors (man-made elements and human activity). Geographical condition affects character of the landscape and pattern structure. Ecological processes influence the diversity of green areas in the landscape. Natural factors determine the visual character of landscape and ecological processes. Anthropogenic factors are dependent from natural factors and express oneself in landscape transformation. Urban landscapes are ecosystems, which are shaped by both – natural and social processes (Andersson, 2006). These landscapes are dynamic and affected by interaction of nature and culture (Musacchio, 2009).

Main purpose of the study was to detect the influencing factors and compare main characteristic features of ecological aesthetics of urban and peri-urban areas.

In order to achieve it, following objectives were defined:

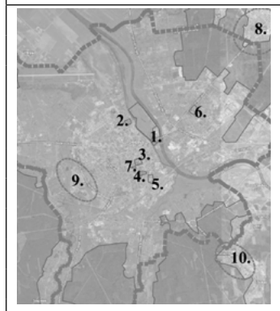
- to describe the structure of the landscape of urban and peri-urban areas in Jelgava;
- to determine qualities of ecological aesthetics in these areas;
- to compare landscape ecological and aesthetical values of urban and peri-urban areas of Jelgava.

Landscape field surveys were managed in autumn 2011 and early spring 2012.

MATERIALS AND METHODS

Selected area for case study was Jelgava and it's surrounding. Jelgava is located in the centre of Latvia, it is the fourth largest city by population in Latvia. Total area of Jelgava occupies 60 km^2, area of

TABLE 1. Analyzed territories of Jelgava area.

Map	Name of territory	Area, ha	Characteristics
	1. Pils Park	3,5	Historical park, Jelgava palace
	2. Uzvaras Park	3,0	Historical park, Villa Medem
	3. Raina Park	3,2	Historical park, bust of Latvian poet Rainis
	4. A.Alunana Park	2,2	Built on cemetery, monument of Latvian playwright Adolf Alunans
	5. Stacijas Park	4,8	Built on cemetery, location of "Europe garden"
	6. Valdeka Park	3,0	Historical park, Valdeka palace
	7. Square of Valnu Street	0,6	Renovated square for children, sculptures of animals
	8. Ozolnieki	12863	Located next to forest
	9. Gintermuiza	18,6	New housing areas next to old ones
	10. Mezciems	12340	Located next to forest

parks and squares are 35 ha. Central part of the city with dense building, and Gintermuiza, which is located in the periphery, are selected as study objects to describe urban areas. Examples of peri-urban areas were elected as nearby located villages – Ozolnieki and Mezciems (TABLE 1).

The case study was conducted at three landscape perception levels – regional, local and site scales by using evaluation criteria characterized landscape aesthetic and ecological qualities at each level. Overall structure of urban and suburban areas of Jelgava was analyzed at the regional scale. Local scale characterises inner structure and processes of the landscape. Sceneries and qualities of the landscape elements were analysed at site scale.

There was landscape structure of study areas analyzed at the regional scale using cartographic material (aerial photography and territorial plans from Baltic Maps) and evaluation criteria: landscape pattern (proportions of greenery, buildings, water, roads) (Zigmunde, 2010) existence of green network, connectivity and green buffer.

Landscape pattern was detected by different landscape structure (Gobster *et al.*, 2007; Zigmunde, 2010). Greenspaces – parks (green cover 70-90%) and gardens (green cover 50-100 %) characterize green structure of landscape (Jim, Chen, 2003). Green network (Forman, 1995; Lovell, Johnston, 2009; Zigmunde, 2010) was determined by spatial structure of landscape among the meadows, woodlands and parks. Green belts serve as a buffer between urban and peri-urban areas, limiting urban extension (Jim, Chen, 2003).

Local scale analysis examined inner structure of study areas and processes in it. There were main landscape elements – terrain, waterways, woodlands, built structures, roads – and ecological niches determined by using field research and method of photography. Determination of mutual interaction of elements (composition, proportion, harmony of elements) evaluated landscape aesthetics. Field research was managed by evaluation map.

There were biocorridors, biological diversity, natural forms and vegetation division analyzed in landscape ecology (Forman, 1995; Jim, Chen, 2003). Biocorridors were evaluated according to their existence, condition and fragmentation. There were vegetation and animal presence determined as biodiversity – variation of life forms, species diversity and species richness (Opdam *et al.*, 2006).

Separate elements and sceneries were analyzed at the site scale using field survey, method of photography and assessment matrix. Photo fixation was made in areas with significant viewpoints. Landscape ecological aesthetics assessment matrix was used to compare different values (order, visible human intention, particularity, native vegetation, wildlife) (Jankevica, 2012). Landscape elements were grouped according to their visual and ecological quality.

RESULTS AND DISCUSSION

At the research main characteristic features of ecological aesthetics of urban and peri-urban areas were determined (TABLE 2).

At the region scale, structure of Jelgava is relatively green with wide range of green areas in centre of the city. 21% of Jelgava area forms forests and woodparks. There are natural territories – floodplains meadows on the Pils Island between two rivers. Jelgava is located in the plain wherewith the character of Jelgava city also is flat in accordance with the region.

Parks and squares are concentrated in the central area of Jelgava. Green wedges locate between multi-storey building blocks and sections of public buildings. Most of the green areas are man-made parks. Green network connects parks and natural territories with street greenery. Jelgava has very wide streets compared with other Latvian cities and it is possible to shape broad lanes of different types of plantings.

TABLE 2. Characteristic features of ecological aesthetics of urban and peri-urban areas. Detected differences and similarities.

Perception levels	Characteristic features of ecological aesthetics	
	Urban areas	Peri-urban area
Regional scale	Differences	
	• regular and organized structure of blocks in landscape pattern;- • urban development from centre to periphery;- • greenery network integrated into regular structure of the city.	• mixed partly regular, partly accorded to regional character;- • urban continuity with natural linkages;- • housing integrated into natural pattern of landscape.
	Similarities	
	• regular structure of street network;- • accordance with functional zones and history of the city;- • greenery network connected to the greenbelt of the city.	
Local scale	Differences	
	• regular composition of elements;- • buildings as basic elements, greenery as complementary, except Pils island;- • diversity of architectural features;- • land use under the city development plan;- • built up areas up to 70%, greenery – 30%;- • compact biocorridors along streets and water.	• irregular composition of elements;- • natural landscape patches integrated into housing areas;- • homogenous architectural features;- • development of new housing areas on degraded areas;- • built up to 50%, greenery – 50%;- • housing integrated into green belt.
	Similarities	
	• biodiversity in natural territories;- • limited and partly opened views;- • biodiversity of greenery, small biotopes;- • variety of open natural spaces.	
Site scale	Differences	
	• multi-storey houses;- • small biotopes in parks and small residential areas;	• 1-2 storey houses;- • biotopes in forests and meadows;
	Similarities	
	• man-made greenery with patches of natural forests and meadows;- • intensive colours, coarse texture;- • lack of natural building materials, green roofs and walls;- • small patches of greenery in living spaces;- • old trees and tree stumps in parks;- • birds, insects, wild horses as wildlife.	

After analysis of important characteristic features, there can divide main influencing factors of ecological aesthetics of urban and peri-urban areas:

- built structure and density of the area;
- amount of green territories;
- connectivity of green spaces;
- biotope structure;
- landscape scenery.

Zone between urban and rural areas has gradual transition from central to peri-urban areas. Peri-urban areas are almost used for private housing territories and industrial objects. Land use in the central areas is multiform for green spaces, different living areas, public areas and manufacturing territories. Urban areas have regular ordered structure while peri-urban areas have mixed built structure. It is influenced by the history of the city when the old buildings were destroyed at the war and most of new buildings appeared in Soviet period. There are many integrated nature territories in the city centre. On the contrary, residential areas are integrated into the green belt of Jelgava in the peri-urban areas. There are many small biotopes in the urban areas and large patches of vegetation in peri-urban areas. There is a lack of natural materials, colours and texture of the architecture in the Jelgava.

There was no overall difference between urban and peri-urban areas in terms of landscape structure organisation and location of biocorridors. However, peri-urban areas have more fragmental structure and homogenous vegetation than greenspaces of urban areas.

The similarity in uniform structure of peri-urban areas in the present research agrees with the findings of ecology and aesthetics interaction zones in suburban areas (Zigmunde, 2010). The difference between evaluated areas is the unconsidered changes in landscape made by fast and spontaneous development of suburbs (Zigmunde, 2010). Old public parks in the centre of the city have strong historical background and there was no need for unharmonised landscape transformation.

There are former research that human transformed landscapes are closer to the nature in suburbs and other peri-urban areas (Musschino, 2009). People are moving outside from centre to improve their connection with nature. This is not the case of Latvia, because of the last premature and incomplete building process of suburban villages. These areas are homogenous with low ecological quality of vegetation.

It is conventional that different green areas have different ecological functions (Andersson, 2006). Greenspaces of Jelgava peri-urban areas have only recreational use, though areas in city centre have many facilities including pleasure, representation and education. There will be further research for the other areas in Jelgava city and connection between ecological aesthetics of place and its distance from the city centre.

CONCLUSIONS

Main influencing factors of ecological aesthetics in urban and peri-urban areas were built structure and density of the area, amount of green territories, connectivity of green spaces, biotope structure and landscape scenery.

The main purpose of the research is achieved within the obtained results of analysis of landscape ecological aesthetics in different areas of selected city. Study for a greenspace planning should involve use of principles of landscape ecological aesthetics. The proposed framework aims planning in three different scales. Regional planning has to turn to sustainable city, local planning has to start development of new building zones and in site level there should be use of natural elements and diverse forms.

There should be a common strategy for the development of urban and suburban areas in further territorial planning.

ACKNOWLEDGMENTS

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The impact of post-industrial areas transformation on people's activity on the example of Emscher Landscape Parkk in Germany.

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ABSTRACT

The Emscher Landscape Park situated in the Emscher River's surrounding in the State of North Rhine Westphalia's Ruhr coal-basin in Germany has been created on destroyed post-industrial terrains. Since 90's of 20th century the region has been transformed in revitalization processes. One of the priorities were social needs. Main repair works on that field concerned three equivalent aspects: the assurance of contact with the nature for citizens, creation of public spaces with free and easy access, maintenance and promotion of historical and cultural values of the site connected with existing post-industrial infrastructure. Positive changes created many kinds of public spaces – open landscapes, forests, urban parks and gardens. The region with its diversity activated citizens and tourists for individual and mass recreation. The complexity of works made possible rest on many ways with relation to historical and cultural values of the site. As the result of that Emscher Landscape Park became recognizable around the world and the model for other initiatives of revitalization.

Keywords: post-industrial landscape, Emscher Landscape Park, social aspect, public space, recreational activity.

INTRODUCTION

Many European regions have problems with extensive post-industrial terrains left useless after broken up the industrial activity. Wide west-lands need to be restored. The most effective way to reach that aim is to practice the balance between natural processes' restoration and compliance with social requirements.

Reflective paper based on literature's information review concerned revitalization's processes continued on the demoted postindustrial terrains of Emscher Landscape Park complex in Germany. The main aim was to recognize and characterize complexity and variety of repair works in the social sphere. The reason of the review was that Emscher Landscape Park is admitted as the leading and unique examples of positive changes on the field of post-industrial objects' revitalization in Europe at present. Creation of recreational areas for citizens became one of the priorities of the Emscher Landscape Park complex' revitalization.

CHARACTERISTIC OF THE SITE

The Emscher River's surrounding in the State of North Rhine Westphalia's Ruhr coal-basin in Germany has been created since the beginning of the 19th century. The region became the leading European centers of industry covered by many factories, warehouses and expanded system of technical infrastructure. It has had negative influence on the nature and citizens' health for decades. Economic changes of 90's of 20th Century forced the improvement of that strongly demoted terrains. Since the IBA (International Building Exhibition Emscher Park) which initiated changes in 1989 the Emscher Landscape Park complex came into being. On the 800 000 km^2 area of the Emscher River's valley the park cover 450 000 km^2. The repair works had associated 20 cities (Duisburg, Mülheim, Oberhausen, Bottrop, Gladbeck, Essen, Gelsenkirchen, Bochum, Herne, Castrop-Rauxel, Herten, Recklinghausen, Waltrop, Dortmund, Lünen, Bergkamen, Kamen, Herne, Bönen, Unna district) and over 30 different size gardens, parks and open spaces of unique landscape (FIGURE 1) as suggested by Auer (2010c: 19).

SOCIAL PRIORITIES

Repair-works and development of Emscher Landscape Park realized in revitalization's processes improving the inhabitants' quality of life. They concerned different levels and complements one another. Key projects focused on social values related three main and equivalent aspects:

1. The assurance of contact with the nature for citizens as suggested by Bava (2010: 41), Kimic (2011b: 50). That task is realized in connection with renaturation of waste lands as the way of neutralization of industrialization's ravages. The transformation of surroundings concerned afforestation and initiation of natural processes including plants communities' development and biodiversity's restoration. One of the main decisions on the master plan' s formation was to accept that the whole region become a kind of park of the Ruhr area and recover the lost natural landscape as suggested by Graublaugrün (2004), Siemer, Stottrop (2010: 59). Natural components are not only 'islands' but create green structure penetrated along the length and breadth of post-industrial region. That continuous belt of forests and open spaces is emerging as green

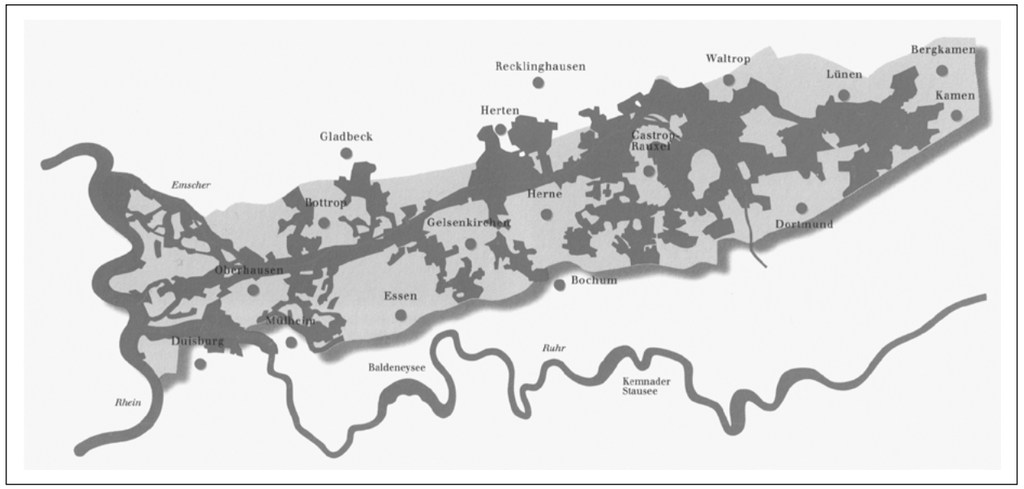

FIGURE 1. Area of the International Building Exhibition Emscher Park (IBA) 1989-1999 with green corridors penetrated the region of Emscher River Valley (picture: Ruhr Museum/IBA Archives, in Unter freiem Himmel. Emscher Landschaftspark. Under the Open Sky. Emscher Landscape Park. Basel: Birkhäuser, 2010: 10).

east-to-west system of different size corridors of the Emscher Landscape Park. It connects local parks and gardens and reaches deep into urban areas as suggested by Auer (2010b: 193). Nature has traditionally been synonymous with the quest for a yearning place far away for cities. It comes into cities today as suggested by Bava (2010: 43).

2. Creation of different size public spaces with free and easy access to them for all citizens as suggested by Bava (2010: 41), Kimic (2011a: 82). New green public spaces compensates the deficiency in that range what was characteristic for industrial cities and villages for almost last two centuries. Adding new functions make possible to realize different forms of rest in post-industrial landscape.

Large-scale open spaces and landscape parks situated on west lands become attractive for tourists. The program is focused on many activities. The region became popular for family excursions. Very popular became pedestrian and cycle routs. Many of them were connected with existing routs in surroundings of the Ruhr region. There were created 14 scenic routs guided around waste-heaps. There are organized trips on existing water systems using post-industrial canals (e.g. Rhein-Herne-Canal). Wide areas are open for mass recreation – meadows are used for open-air events and concerts, there were created meeting and rest places, playing and sport fields.

Urban district parks and gardens are attractive for local citizens as suggested by Auer (2010a:60). They are places for people in all age used for walking, jogging and playing. Landscape Duisburg Park North is famous of its public places for artistic events and climbing walls, thematic gardens. Nordstern Park

FIGURE 2. Recreational areas of Lünen Lakeside Park (picture: Unter freiem Himmel. Emscher Landschaftspark. Under the Open Sky. Emscher Landscape Park. Basel: Birkhäuser, 2010:121).

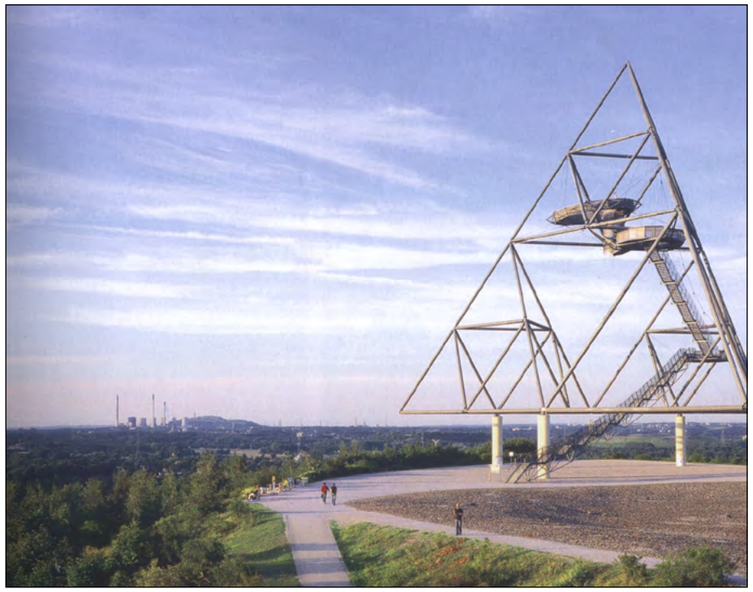

FIGURE 3. Beckstraβe Tip with Tetrahedron in Bottrop – one of the most popular landmarks in Emscher Landscape Park (picture: Unter freiem Himmel. Emscher Landschaftspark. Under the Open Sky. Emscher Landscape Park. Basel: Birkhäuser, 2010:137).

in Gelsenkirchen laid out on the area of National Garden Show of 1997 became recreational area with high-grade infrastructure of walkable sculptures and playgrounds and water zones. Complex of sport fields and system of paths situated on three different levels invites to play, walk and observe the local landscape. Lünen Lakeside Park (FIGURE 2) transformed into recreational landscape with the mosaic of rest places focused on active rest close to the water as suggested by Graublaugrün (2004), Auer (2010a: 69, 95, 103, 121), Kimic (2011b: 50).

Emscher Landscape Park adapts the idea of public park as the space for all. Common spaces assumes new significance which is regional identity of the site as suggested by Bava (2010: 41). The allocation of recreational functions brings new life into demoted and deserted terrains.

3. Maintenance and promotion of historical and cultural values of the site connected with post-industrial infrastructure (landscape with its ground forms, architecture and constructions, transport elements) as suggested by Bava (2010: 41-43).

The development of Emscher Landscape Park is a kind of redefinition and new interpretation of existing different post-industrial elements, transformation of old into new. The site destroyed by industry became an archive of memories nowadays as suggested by Godau, Heinrich (2010: 128). Urban landscape with its characteristic structures is used as the base of the planning process. West-heaps re-interpreted as huge landmarks became view points and walkable spatial sculptures (e.g. Schurenbach Tip in Essen, Beckstraβe Tip with Tetrahedron in Bottrop (FIGURE 3), Rheinelbe Tip and Rungenberg Tip in Gelsenkirchen, Hoheward Tip in Recklinghausen-Hochlarmark, Brockenscheidt Tip in Waltrop, etc.). Excavations are used for playgrounds and recreational meadows. People started to explore and experience the landscape.

New public spaces exploit the industrial network bringing new opportunities for using the site as suggested by Bava (2010: 43). Many of existing spatial elements recognized as industrial relicts were left in their original places to preserve their individuality and remained their primary functions. The post-industrial landscape is the element of 'genius loci' of the site as suggested by Graublaugrün (2004), Kimic (2008: 28). Foot and cycle paths follow former transport network (e.g. routs of the railways on the railway embankment, steel ramps and stairs, ironwork bridges, etc.). Chimneys and elevated pipelines, cooling towers are adapted into climbing walls. The architecture (old buildings and magazines) are still significances of the industrial age. They are turned into museums and art centers – the places for cultural events, performances and exhibitions. Selected buildings are also used as research laboratories and scientific institutions (e.g. Bever Lake Nature Reserve in Bergkamen, Schulze-Heil Ecological Centre, Emscher Landscape Park Information Center at Haus Ripshorst).

Old infrastructure develops an aesthetical presence of the site. It became the symbol of the industrial culture of the Ruhr area. Post-industrial landscape became arenas for the garden art. Open spaces, forests and buildings' surroundings are the places of open-air galleries for famous sculptors' works (e.g. Garden of Memories in Duisburg, Zollverein Park in Essen, Sculpture Forest Rheinelbe, selected west-heaps). Many of post-industrial buildings and constructions lighted up at nights became sculptures themselves.

The relation of the site and its history concerned the development of thematic routs (e.g. Industrial Nature Trail, Industrial Heritage Trail, Nature and Technology Adventure Trail, etc.). That idea forms the unique connection between past, present and future as suggested by Lavier, Godau (2010: 183-185).

CONCLUSIONS

Social values are perceived as the basis of Emscher Landscape Park post-industrial destroyed areas' activation equally with the necessity of natural processes' restoration. Repair works of revitalization concerned many levels – they are basis for studied planning process of the region and local planning of selected areas and cities' districts. The attention focused on social needs initiated the multidirectional development of the site. Positive changes are observed on that field. As the result of them were created many kinds of public spaces – open landscapes, forests, urban parks and gardens accessible and attractive for all. The region with its diversity activated citizens and tourists for individual and mass recreation. The complexity of works made possible rest on many ways. The relation to historical and cultural values of the site is connected with its' educational potential. The region's terrains, buildings and communication structure were used for introduction of new functions. Many areas with their unique post-industrial elements were officially declared a UNESCO World Heritage Sites. It resulted that Emscher Landscape Park is recognizable around the world and become the model for other similar initiatives of revitalization.

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The Power of Landscape: The Power of the Landscape Architect

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ABSTRACT

This paper discusses three aspects of power. Firstly the power of landscape architects to influence projects. LA's are often seen to be 'at the bottom of the food chain' when it comes to large scale development and design matters. However, my experience working with Arup International on some of the largest development projects in Europe such as Stratford City illustrates that landscape architects can have enormous power in the decision making process and the impact of development regarding location, look, scale and content. Stratford City is a mixed-use development project in Stratford, London. The site includes new parks, pedestrianised and ecological areas. The talk will illustrate how the author (the Landscape and Visual Impact Assessment [LVIA] project landscape architect) had to convince the developers that the imposed scale of the Stratford City project was misguided. Additionally the proposed expansion of the proposals immediately adjacent to railway lines was thwarted through a study of precedents.

The above discussion is based on the fact that the landscape profession has grasped the field of LVIA and is also intimately involved amongst other things in the aspects of ecological, acoustic, civil engineering and hydrological design. Thus the 2nd part of this paper discusses how the landscape architect is a necessary force for good and how the fields of opportunity are expanding. These fields will provide additional power to the landscape profession particularly with green roofs and urban agriculture and particularly aquaponics. I argue that landscape architects must get involved in 'urban ag' as this is a key part of the Green Cities' agenda.

The third aspect of power is due to LAs having a holistic and broad view of the world, bringing other disciplines together. This will be discussed in the light of the speaker as Chair of the newly established EU funded COST project on the creation of the 'Arid Lands Restoration and Combat of Desertification: Setting Up a Drylands and Desert Restoration Hub' commencing in June 2012.

Keywords: power of the landscape architect, Stratford City, LVIA, urban agriculture, aquaponics, green cities, green roofs, desert restoration.

INTRODUCTION

The position of landscape architects within the hierarchy of the design professions, varies considerably from country to country. In many countries Landscape Architects (LAs) have very little impact on the status of the environment and social conditions and the quality of life enjoyed or potentially not enjoyed by local people. We understand that the best LAs and companies have had enormous positive impacts over the years with regard to certain projects and have improved the lives, whether partially or permanently for tens of thousands of people. Adriaan Geuze of West 8 for example, showed in his lecture at the University of Greenwich in February this year that the impacts of his and West 8's involvement in the Madrid Rio project, the Miami Soundscape project and the Toronto Waterfront, to name a few projects, has altered the cityscape considerably for the benefit of the environment and local people. We also understand the benefits that have been brought about by other practitioners such as Jan Gehl with his improvements in the use of urban spaces, through projects and published works and by other 'powerful' landscape architects who have left their mark more or less indelibly on our landscapes and townscapes. John Hopkins for example was the Project Director for the Olympic Parklands and Public Realm at the Olympic Delivery Authority, London, UK from 2007 – 2011 and has greatly influenced the 'character' and content of the Parks and public space areas in and around the Olympics site. Thus there are those LAs who are at the peak and cutting edge of landscape design and influence on the nature and culture of our urban as well as rural and fringe environments. There are also those LAs whose presence may be less dramatic and apparent, but who also have influence and power within the landscape realm, even though this may be less recognisable and evident. Here we are talking about those LAs delivering Environmental Impact Assessments and more specifically Landscape and Visual Impact Assessments (LVIAs) as well as being involved in the delivery of other types of projects, some of which are perhaps not the usual remit of the landscape architect, but could readily do so.

This is where the paper becomes more personal and where I want to demonstrate, using three separate projects and scenarios that LAs can have considerable influence on the shape and form of our environment for the better and indeed to do good, both for people and the environment. The next section thus discusses a number of projects that the writer has been involved with which illustrate the influence that the LA can have.

MATERIALS AND METHODS

This section discusses the personal experience of the writer regarding power and influence over projects. The first aspect looks at the writer's role as LVIA expert and the influence on scale, massing of

elements within the Stratford City project. The 2nd aspect to be discussed is the key role that LAs need to take charge of in the green city agenda and the 3rd aspect will be the LA's role as leader due to the LA's broad education, knowledge of numerous fields and holistic approaches.

In the past, many of us had experiences where LAs were brought in, nearly as an afterthought in the design and planning processes – almost as fashion designers to 'tart up the place' following the design of buildings or infrastructure. Happily in most cases this does not happen any more and LAs have a great role in many design and planning teams. As far as planning is concerned, and particularly with LVIAs, LAs have considerable power to influence the shape and design of projects. Unlike most of the team members producing parts and chapters for the Environmental Statement, where the assessment procedures and methods are largely and wholly scientific, the LA's assessment is based partially on judgement and experience. In my opinion this is not difficult if one follows recognised procedures and then one also applies the logic of 1) 'how upset are local people likely to be' and 2) 'how many people will be permanently upset'. In the 3rd instance one needs consider the scale of change and the significance of change on the existing condition. The acoustic engineer, the air quality specialist or the ecologist has little power. They analyse data regarding the changes in traffic and the quantifiable air and sound pollution, and for ecologist the loss of habitat and effects on species. They then transmit this analysis and its significance according to rules. They have little or no power as they cannot change the guidelines and rules. By contrast, using well-balanced and rational judgement, the LA has considerable power.

1) The Case of Stratford City

This can be exemplified when the writer was working on the Stratford City project, some of it is now part of the London Olympics development. Key details of the project are:

- Clients: Chelsfield, Stanhope, LCR (London and Continental Railways)
- Consultants: Arup Associates, Fletcher Priest architects, West 8, Arup Environmental, RPS, Space Syntax, Davis Langdon Eversest, BDP, Icube, Gordon Ingram associates, CB Hillier Parker, FPD, Savills, Jones Lang Lasalle,
- £3 billion of prospective capital investment on top of £3.3 billion invested in CTRL (Channel Tunnel Rail Link)
- Offering lasting change to the economic, social and spatial lifeblood of East London on 82 ha site
- 5 million square ft (0.46 million m^2) of commercial development
- 1.5 million square ft (140,000 m^2) of new shopping, leisure and social facilities. The retail element will comprise 100+ retail units with 3 anchor department stores
- 4,500 new homes and 1, 000 new residents: 30% of homes will be affordable (shared ownership, key worker and social rented) – now part of the Olympic Village
- 2,000 new hotel rooms
- A new 900 pupil secondary school, and a primary school for up to four forms of entry
- A primary health care centre and an NHS walk-in centre
- 15,000 jobs in the construction phases
- A further 29,000-34,000 new, permanent jobs (up to 25,000 in financial and business services, 6,000 in retail and 3,000 in leisure, entertainment and hospitality).

On one notable occasion, well into finalising the parameters of the project, the author (a then senior landscape consultant with Arup Associates) was handed a series of drawings which showed a considerable increase in the scale of the massing and scale of the development proposals in comparison to what had been previously considered and agreed to be appropriate. This great increase in scale and massing was a result of the client's aim to increase profits through the increase in footprint and floor space. The writer informed the client that in his opinion this change was visually and physically unacceptable. The client's response to this was that they would proceed with this new, much larger arrangement, unless it could be proven that the change in scale would not be acceptable to local people and thus to the local authority. The author was given one week to prove the case (FIGURE 1).

The developers in such a large project are intelligent men, but their main aim in life is to make profit, whilst sometimes conflicts with environmental issues. It was obvious that they thought that landscape and visual impact were 'minor' issues compared to the scientifically based issues of air quality, water quality, ecology, social and economic impacts etc. But they did not understand the power of landscape and the power of the before and after view. Taking a number of the most prominent photomontage views, illustrating before and after massing of elements within the views, the writer prepared an additional view which could be overlayed on top of the original proposed view which illustrated the previous massing of built elements. The sequence of views clearly demonstrated the extreme visual character that would be imposed with the new massing and it became quite clear to the developers that this would not be acceptable to local people and thus unacceptable to the local authority and thus trying to push something this big through would not achieve planning permission. This would result in preparing for a new planning application and the

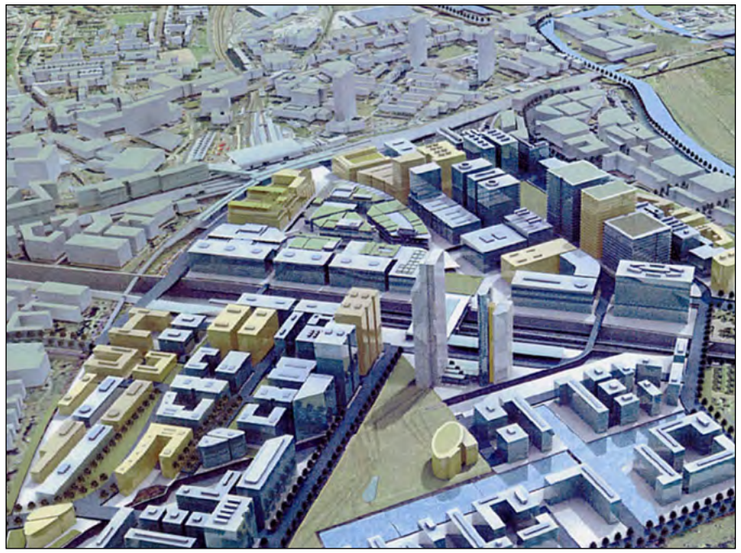

FIGURE 1. Stratford City Masterplan Axonometric, looking south before the design of the London Olympics 2012 Masterplan.

bottom line was that it would cost a great deal of money especially in terms of loss of time in getting the project delivered and shops and other tenants into the buildings. This is one of the powers we have as landscape architects, to bring balance and a holistic view in planning and design. One nil to the landscape architects! (FIGURE 2)

In addition, in order to increase floor space and thus profits, the client and the engineers altered the relationship of buildings relative to the numerous rail corridors fringing the site, by locating buildings immediately adjacent to railway lines. The original and sensible proposals defined space between the buildings and the railways, allowing for tree shrub and hedgerow planting and screening and creating a satisfactory 'breathing space' and spatial relationship between built form and transport corridor. The author similarly considered that this alteration in townscape character was unacceptable. Again the client asked the author to prove the point (FIGURE 3). Simply drawn sketches and photographic evidence was used to illustrate that the loss of landscape quality and the created landscape character was not acceptable. Two nil to the landscape architects!

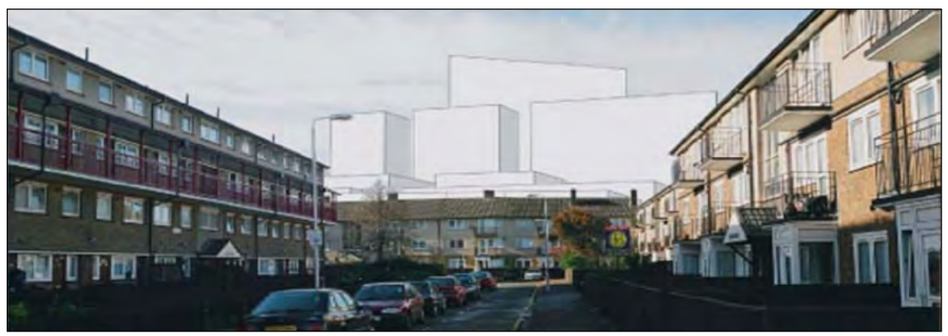

FIGURE 2. Assessment of Impact on Townscape Character after the introduction of increases in Massing for View 2.

2) The Case for Green: Green Roofs, Green Walls and Urban Agriculture

Landscape Architects are in the fortunate position of being on the right side of the sustainability and green agenda. We are in the right position to take the giant leap into the adventure of greening cities with green roofs, green walls and urban agriculture. Our input ties in very nicely with the landscape urbanism movement and the position that landscape comes first as well as the agendas for reducing inputs and negative outputs from our cities. Green roofs, green walls and urban agriculture for example help to assist to mitigate many aspects of city living including:

- Reducing the heat island effect;
- Reducing energy demands through insulation;
- Facilitating SUDS (Sustainable Urban Drainage Systems) and flooding, reducing water wastage and use;
- Increasing biodiversity;
- Reducing noise pollution;
- Creating social space;
- Providing food and reducing carbon footprints and/ or food miles.

How much power is that! If we as landscape architects don't grasp these opportunities then we are failing the profession in the future. This green agenda is stronger than it has ever been and the onus is

on us to see that every new building has a green roof and where possible green walls and where feasible, suitable land in urban areas is used to grow local food. In this respect it is worthwhile drawing attention to the proposed new 'all singing and dancing' green roof for the School of Architecture, Design and Construction, the University of Greenwich, which is presently being built. This multi-level and multi-functional green roof is truly a MOER, ironically sounding like 'mower' but an acronym for (multi objective environmental roof), a term I think coined by my colleague Tom Turner. Being a university roof each, of the 14 roofs has priority research and educational functions but also SUDS, biodiversity, food, social, insulation functions. Extensive and intensive roofs are proposed in for urban agriculture this will include fruit trees, soft fruits, vines and of course vegetables (FIGURE 4).

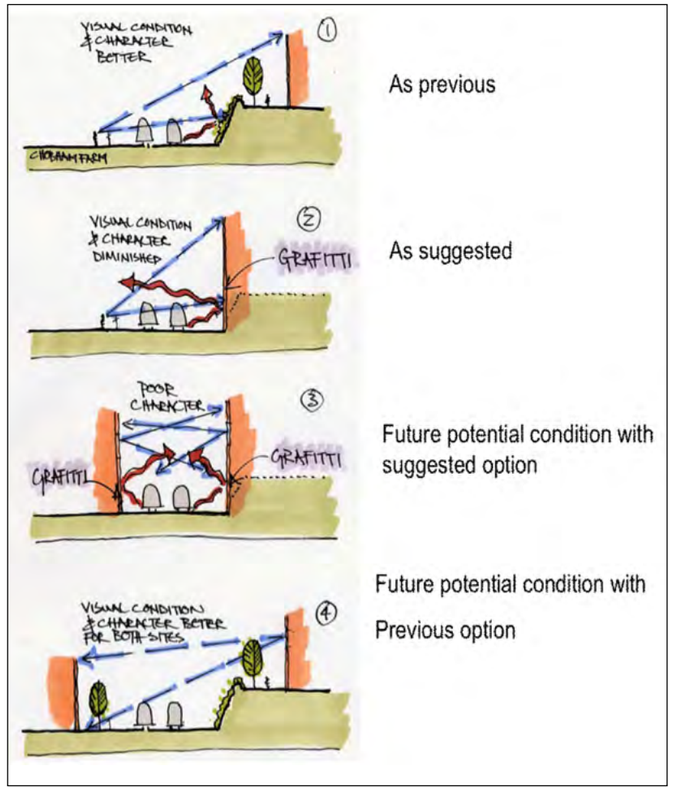

FIGURE 3. Assessment of Impact on Townscape Character and other effects after locating buildings immediately adjacent to railway lines.

FIGURE 4. Oblique view of roofs from north, no detail design.

A distinctive remit of urban agriculture on the roof will be 'aquaponics', which is the production of fish and plants together using the same water in a more or less closed system. Aquaponics is perfect for urban situations, where fish for eating and/or for the hobby market can be produced with vegetables, herbs and cut flowers for the local market. Aquaponics, because it is soilless can be designed into our urban fabric, on roof tops, un contaminated lands, on unused hard standings. It can be utilised on a number of different levels from the small communities to larger scale business enterprise. Aquaponics has huge advantages in minimising water use, fertilizers, space and because growing food close to the consumer reduces food mils and carbon use. The author has undertaken 4 sets of aquaponic experiments in Israel using saline geothermal water and it is intended that the partially saline waters of the River Thames will similarly be investigated for its potential for growing fish and plants together on the roof of the new building. In terms of keeping score, I consider that the power that will be afforded to LA's with green roofs, living walls and urban agriculture is worth at least 5 goals. 7 – nil to the LA's!

3) LAP: Landscape Architecture Power – Power due to the investment in a broad spectrum of knowledge

Having extensive knowledge within a small scope of study is usually a way to success. Thus being an expert in something usually brings power and achievement. However, it is the case that having broad knowledge and skills is beneficial. We all understand that LA work with many different aspects of landscape architecture and in the author's case this involves sustainable landscape design in arid areas. One issue that arises in arid and dryland areas is the issue of desert restoration and especially the establishment and management of vegetation in dry areas. The author's experience in undertaking projects involving vegetation establishment in arid areas was that information was very difficult to come by and techniques of restoration extremely difficult to verify and replicate. It became apparent that although many organisations were involved in the political and social aspects of desertification and arid land issues, no one was dealing with the practical issues of collecting, storing and providing information of desert restoration and arid lands' planting and management. The idea of creating a 'desert restoration hub' was established and an EU funded COST 'Action' was brought to fruition in April 2012. This project will continue under European funding (approximately €0.5 million) for the next 4 years and hopefully well into the future under separate funding. It came about because LAs have the ability to look at issues in a holistic manner. We most always work with teams of other experts and in this particular case soils scientists, geologists, ecologist, hydrologists, agronomists, climatologists, social scientists and one landscape architect have been brought together to accumulate knowledge, to make this available to others and to facilitate new research. LA's have the power to bring people together, including consultants as well as academics. Another goal for the landscape architect!

RESULTS AND DISCUSSION

The three highlighted projects noted in this paper are but the 'tip of the iceberg' when it comes to the influence of LAs on the environment in urban as well as more rural situations and the 'green agenda' is making LAs more powerful in the design hierarchy. In one sense a march was stolen over the landscape industry whereby planners muscled in on the realm of Environmental Impact Assessment. In the beginning of EIA's it was often LAs that took the lead role in overseeing the assessments and this position was well justified. However, the LA still has a powerful part to play in this area with the production of LVIA's and contributions to the assessment of effects of proposed developments as well as to providing the appropriate designs to ensure that these developments are as beneficial as possible.

There is a good lesson to be learnt here and we need to ensure that LAs play the key role in 'landscape urbanism' however it is defined and particularly in the green city movement and it is essential that LAs are central to the design and research of green roofs (MOERs) green walls and urban agriculture. We don't want this power to be taken away from us and thus we need to ensure that we are strong and knowledgeable and strong advocates of these areas. Thirdly, we have the skills and ability to be catalysts for endeavours that we perhaps would leave to others as we believe we are not experts. Our art, science and technology backgrounds allows us to have a unique view on the environment which can help us to lead on certain projects.

CONCLUSIONS

Many LAs have power. Power to change the world we live in, how we view it, how we move through it, creating experiences and delight through good design. There are other ways LAs have power, the power to do good through the balancing of development through LVIA with high quality environments for people as well as biodiversity. As the green agenda grows so our power as individual LAs and as a profession should grow. As individuals and collectively we need to grasp the opportunities within the mainstream of landscape architecture as well as those arising on the fringes including urban agriculture and other food growing opportunities. We also need to claim those areas that we are involved with for example desert restoration. We cannot of course do this without the help and expertise of others but we can put ourselves forward and be powerful in the best sense of the world.

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Round balls in square holes – urban planning from a child's perspective

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ABSTRACT

This paper argues for the importance for adult planners and designers to acknowledge and develop a sense for children's everyday experiences in the urban environment. It is suggested that studying children's own places (Olwig, ed. 2003) is one way of approaching a greater understanding of children's own perspectives (Kylin, 2004). As a point of departure it is recognized that the planning and organization of neighborhoods/cities, and the design of places, can support or overturn children's everyday experience as expressed in, for example, everyday mobility (Johansson *et al.,* 2011, Fotel, 2006), and in the inclination and facility for free play (Mårtensson, 2004), attitudes, and the possibility for social meetings. As a growing number of children are raised in an urban environment, the question of how urban areas are planned/organized and designed from a child's perspective is of great importance for issues concerning future sustainability- and health issues.

This article centers on an analysis of children's own choices of places to play, and the situated politics of planning and designing for changing land use in a small Swedish urban setting. These two themes provide examples of the dimensions of how adults and children experience, describe and conceive the physical environment from different starting points and different perspectives. Arguments are put forward that adults (especially designers and planners) primarily focus on visual and esthetic environmental values whilst children experience their everyday environment through multisensory, bodily contact, and in a social context. The discussion should not be understood as yet another set of dichotomies associated with concepts such as "space/place", "objectivity/subjectivity" or "quality/quantity". Instead these reflections strives for nuances that highlights different ways of experiencing the physical environment with the purpose of pointing to different concepts for use in planning and design that can promote everyday experiences for children that are sustainable. Without the understanding of children's own experience of environment, urban planning and design can never be undertaken from a child's perspective, but only be executed by trying to fit "round balls into square holes".

Keywords: urban planning, children's perspectives, children's own places, sustainability, health.

INTRODUCTION

It is widely recognized that children's physical movement and health factors correlate (Jansen *et al.* 2005; Biddle, Gorely, Stensel, 2005; Wang, Lobstein 2006). The way children carry out their daily needs of transport and how they choose to spend their leisure time are in many way's influenced by the setting of the physical environment, their neighborhood design and city structures.

In some studies children's physical activity and play are studied in correlation to the access to their neighborhood and/or structures and/or design on different neighborhood levels (Krizek *et al*., 2004; Karsten, Van Vilet, 2006; Skar, Krogh, 2009; Nordström, 2009). Other studies indicate that children own attitude towards physically active play and travel are stronger predictors than adults and parents' attitudes when it comes to amount of physical activity (Johansson *et al.,* 2011).

It is recognized that planning and the designing of space often conflicts with the needs, desires, attitudes, and engagements of children with the space of their community (Fotel, 2009; Fotel, 2006; Holt, 2008). Fotel's (2009) study of Danish children's street reclaiming strategies of their neighborhood shows that a greater focus on car mobility have decreased children's opportunities for access to neighborhood space while adding to the obstacles that children must negotiate in their everyday lives.

Several researchers have advanced our knowledge concerning the contrasts between children and adults regarding their perception of their surroundings, their particular way of using the physical environment and their need of an outdoor environment. In spite of this knowledge existing, several researchers point to shortcomings in various planning contexts when it comes to making allowance for children. The deficiencies concern both participation in planning processes and the provision of space and design of environments for good health, safety and social development. One question underlying the present article is why it is so hard to plan in a child perspective, despite several social documents pointing to the importance of providing for children in the planning process. Reflections on this subject take as their starting point the research addressing, one way or another, differences between the planning profession/the planning discourse and other groups in society.

Wilhjelm (2002) raises the question of similarities and dissimilarities between the way in which planners (architects, landscape architects, physical planners) and children view their surroundings. She is above all interested in searching for the encounter between children's everyday lives, viewed through their own narratives, and the architect's reflections on a planning project for children. Wilhjelm expounds theories concerning the architect's professional context and finds that the structuring frames of the planning profession do not allow room for empathising with children's reality. The planners are bogged down in a tradition whereby their understanding of children's contexts is influenced by hierarchically and functionally structured norms. Wilhjelm finds this to be partly due to architects having a profession with relatively little footing in scientifically based knowledge. Instead the architect's practice is based on a growth of knowledge which is experience-related and tied to precedent.

MATERIAL AND METHODS

Children on foot

The article is written by a way of processing the empirical material of an interdisciplinary research project. The main question of the project is how children's attentiveness to outdoor environmental characteristics can be used to promote sustainable everyday mobility in the development of housing districts. The main objective of the project has been to investigate physical activity in children's mobility and play in relation to physical characteristics of their everyday outdoor environment, while comparing districts developed according to different planning principles.

Setting and sample

In the project all children in grade four 9-10 years old in the public schools and their parents, in a small municipality, south of Sweden was approached. A large amount of data was collected in different ways: Parental and child questionnaires, daily step counts measured with the cable tie sealed pedometers, diaries with moodikons and maps over the city where the children drew their daily movement as lines and places they visited during a day.

217 maps were returned with data of daily movement and places visited. For each day of the week a different colour was used, and a diary was attached with information of moods and activities of every day. All information from the map was transcribed in GIS and in this way patterns in the information can easily be extracted. 2733 place markings where transcribed into the GIS and 1460 daily movements indicated as lines.

The starting point for this article were the combined the data from extracted and examined place polygons marked by all the children, and some of the diary indication of activity. A higher overlay of place polygons indicates a higher use of the place, and activities that indicate that the place has a value for the child that want to play without rules or areas designed for special games such as football or tennis.

Data for reflection

We analysed where the higher overlay of place polygons where located. The higher overlay indicates a more frequent use of the place. We combined this with notes from the diary and looked for places that the children chose more often for free activities, or play without rules such as football or tennis.

Eight places where found where the place polygons highly overlaid. Four of these place polygons indicates the schools and schoolyards, one polygon a popular sports field, and three place polygon overlays where indicated on places interesting for free play. Two of these places had markings in the diary that indicated some kind of free play.

Both of these places are under change. Near one of the places an adventure playground is built and near the other one there are plans for housing development. To compare and have material to reflect upon we visited these two places and tried to analyse them from a child's point of view. We also made a short interview with one of the municipal planners and studied some of the documents produced during the planning process of these places.

The empirical material does not give a statistical or technical data result, but is the base for well-founded reflections that can help shed light over the questions raised in the article: What are the challenges when it comes to planning and designing urban areas from a child's point of view?

REFLECTION AND DISCUSSION

The material from the project indicate that children's activities do not occur in just any old place. Children do not play everywhere as the saying sometimes go. Instead there are special characteristics and environments in certain places which are associated with the activities the children describe. In other words, it is not just any old bush that has edible leaves or just any old spot that will do for a hiding place. Certain characteristics and environmen-

tal qualities are also required. It is in the description of these environments and characteristic qualities that the aspects which are serviceable in different planning contexts can be brought to life.

The material from the project also indicate that planners and architects aspiring to plan a good environment for children often begin by trying to found out as much as possible about what children "need". They ask: "What is good for children?" and investigate, for example, the amounts of space needed for different kinds of activity, how to make routes to and from school safer, or the best way of designing play areas. In other planning discourses, attention is made to focus on children's participation and their ability to influence the physical environment. Knowledge is sought on the matter of how we can get children on board in the planning process, for example, concerning ways in which children are to enter into the planning process.

We maintain that this intrinsically vital knowledge cannot be automatically transposed into the design of a physical or urban environment which takes account of children's own perspective on the outdoor environment. This is partly because the questions are asked in a planning discourse where the physical environment is viewed in spatial terms and where it is assumed that children's reality can be more or less formulated so as to fit in with this discourse. In other words, the questions presuppose that the child's perspective on the outdoor environment is somehow compatible with, or transmissible to, planning contexts. As an additional consequence, the knowledge to be found in research not treating the physical outdoor environment as something spatial becomes hard to manage in the planning discourse.

We want to elaborate on that children's main starting point for exploring and experiencing a physical outdoor environment is bodily and sensory. The movement of the body and activity becomes the foremost instrument for changing and interacting with the physical environment. The focus of attention is on the body's perception of places and how they "get under your skin". In other words, it is the detailed objects and elements close at hand which first attract attention and are important.

Putting it another way, the child's starting point for perception of the physical environment is the body, and this results in verbal descriptions and expressions focusing on activity, details and body. The incentive for activity and play is what feels unusual, exciting and challenging, worth talking about.

Getting to know the world, understanding through experience and activity what it looks like and how it works, could be termed the child's development task or the mission of outdoor education. But, in highlighting here the unconscious and sensory, we would venture to say that this curiosity is not just a matter of assuming tasks or understanding how the world works and what it looks like (a conscious relation to the physical world) but also a matter of developing a sense of place, the sense which gives us a platform, later on, in adult life, for interpreting, understanding, relating to and developing an understanding of places and environments.

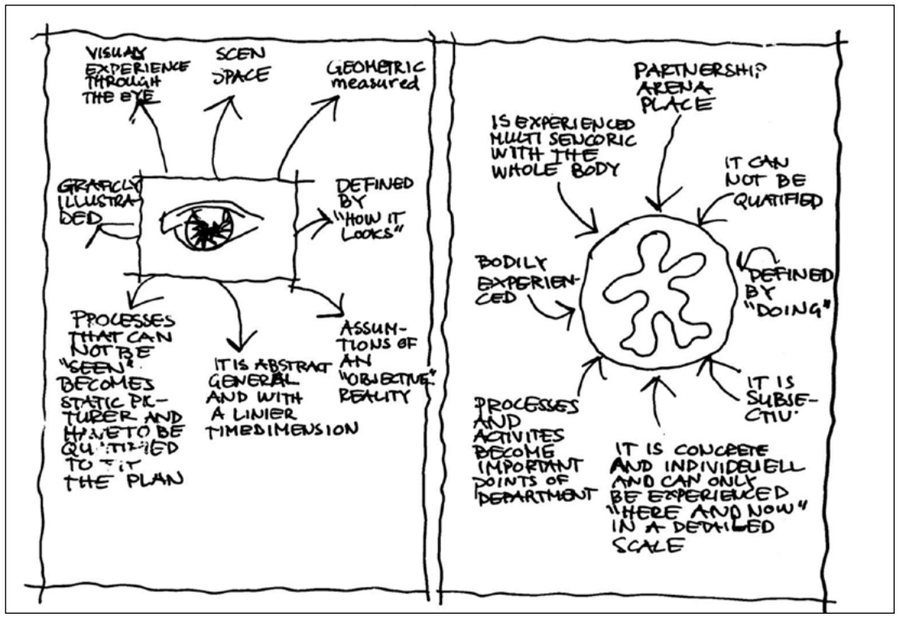

FIGURE 1.

This holds implications for the terms in which and the expressions with which the physical environment is described. Whereas the planner employs abstract, general quantitative terms on an overarching scale, children employ concrete, specific, qualitative expressions on a detailed scale. In the rational features of the planning discourse, the planner's terms are seen as being more "objective" than the child's "subjective" experience, with the result that planning for children comes to address the way in which the child's qualitative expressions can be translated into planning terms of a more quantitative kind.

The difficulty of this process can in part be attributed to children and planners differing approach to visualizing and understanding the world. Children's perspective on outdoor environment is hard to transpose into planner's drawings. Children experience, value and communicate places differently than adults and children's marginalized political position often leads their interests to be overlooked in the design and planning of those places. Planners approach places through a visual and aesthetic perspective with their own structured and quantified process and language. Children on the other hand experience places affectually through their bodies and their potential for activity (Matthews, Limb, 1999). The microscale in which children experience makes them particularly sensitive to the dynamics of place shaping their everyday spatial lives in ways that are often unseen and poorly understood. The perceived purpose of a space may be very different for adults and planners than for children. Places that are flexible and provide for a variety of activities are best. Access to space plays an important role in the development of health, confidence, and identity. Researchers have shown the importance of various places that provide children with a degree of anonymity and manipulation is vital to learning, and the development of confidence, creativity and health.

How, then, are we planners to gain understanding and insight concerning children's own relation to the outdoor environment when it is not included in the development of our knowledge? One way, we would suggest, is starting with the experience we have in common, namely that of childhood. Planners too were once children, and there is cause to believe that the recollection of places in our own childhood can make it easier for us to understand the child's perspective on the outdoor environment.

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The influence of ecological issues on the profession of landscape architecture: observation of the public tendering process in France

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ABSTRACT

This paper examines the impact that new ecological issues in urban design have on the designation of landscape architects' skills in the French public procurement process. To study this impact, an analysis of 196 public calls for tender and their results is undertaken. Depending on the consideration of ecological concerns, two types of project can be identified: traditional projects, and green projects. This paper identifies the impact that ecology asserts on the professional skills that are required of a landscape architect and the impact that ecological considerations have on the position that the landscape architect occupies in the winning design team. The results show that in green public procurement, landscape architects are well positioned quantitatively amongst other skills requested and within the required pluridisciplinary skills combinations. However, the emergence of new professional skills in the environmental field challenges the expertise of landscape architects and constitutes a competitive field. In opposition to the call for tender requirements, the selection process favours monodisciplinary team and most often the architect alone. The paper reasserts the relationship between landscape architecture and other urban planning professions in the context of the contemporary ecological shift occurring in urban design projects.

Keywords: urbanism, ecology, landscape architecture, professional skills, green public procurements.

INTRODUCTION

As stressed by Steiner, we are entering what has been called the "first urban century" with a majority of people living in city-regions (Steiner, 2011). About 65% of the world's population is expected to live in urban areas by the year 2025 (Schell, Ulijaszek, 1999). Both public and private actors are forced to consider the relationship between urbanization and environmental problems. No one can ignore the fact that city's shapes and land use policies are unavoidable factors controlling environmental impacts. The emergence of an ecological shift in the strategic thinking of the urban spaces (Reimer, 2010) has greatly impacted the professional practices in the field of urban planning. The purpose of this paper is to analyse the impact of these ecological concerns on the designation of landscape architects' skills and on the designation of lead consultant in public procurement in France.

The ecological shift in urban design and planning has brought landscape matters to the forefront of the planning and design professions. In the literature, new models of urban development are being defined, such as Landscape Urbanism (Corner, 2006; Waldheim, 2006b). Inspired by Ian McHarg's *Ecological Method* (McHarg, 1969), Landscape Urbanism states that "landscape architects are integrating ecological sciences at the very centre of the urban design" (Waldheim, 2006a). The professional practises of the landscape architects are evolving to address these new challenges (Masboungi, 2002). When trying to implement an ecological design strategy, landscape architects mention with high-frequency the use of native plants, local materials, and site protection strategies (Calkins, 2005). Ecological based planning methodologies propose tools to implement ecological approaches (Leitao, Ahern, 2002) yet ecological design in landscape architecture lags behind discourse (France, 2003). This can be explained by challenges such as issues of cost, lack of information for teaching, training, testing and lack of data on performance of strategies, resistance by project stakeholders and lack of market acceptance (Cassidy, 2003; Chick & Micklethwaite, 2004; Coleman, 2001; Szenasy, 2002). Overall, few research works exist on issues of practice and challenges to ecological design in landscape architecture. More specifically, research papers don't analyse the commissioning process of the projects, neither the professional skills requirement to address the program.

According to a recent study undertaken by the French Federation for Landscape Architecture, public calls for tender represent approximately 90% of the activity of the landscape architects (Seguin, 2009). The French Code of Public Procurement contracts (Article 1) defines publics markets as "contracts agreed between a public contracting authority and a public or private person who responds to the need of the public authority in terms of furniture, services or works". The contract owner or client, often a local authority, formulates the public call for tender in agreement with public planning strategies and policies. The client then defines the tender information such as site specificities, project requirements, program and organizes the tender procedure between the different bidding teams to choose the winning team and successful consultants (Garmory, Tennant, Winsch, 2007; Guide to Procedure for *Competitive Tendering*, 2003). As a result, the landscape architect can become the lead consultant, a sub consultant or an associated consultant (FIGURE 1).

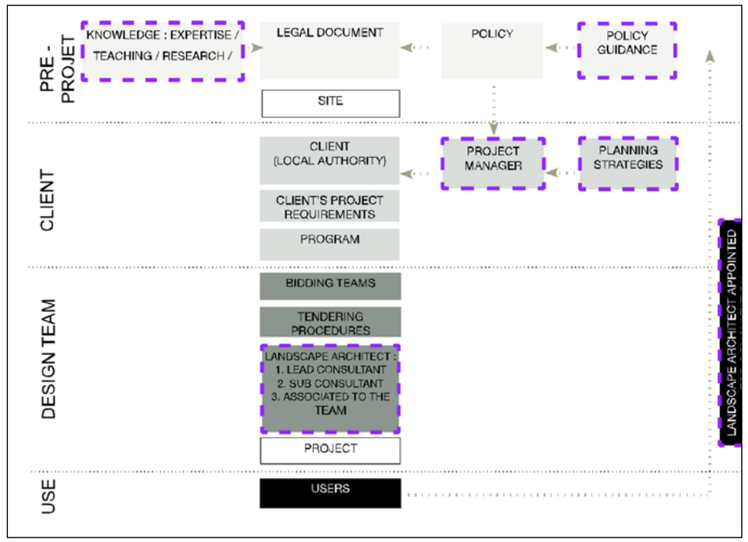

FIGURE 1: Public procurements and tender procedures in landscape architecture in France.

According to a recent report of the European Commission, "there is an increasing awareness of the fact that sustainability goals can be promoted by including environmental considerations in the daily activities of government as a purchaser of products and services. Since public procurement accounted for approximately 19.9% of the EU Gross Domestic Product (GDP), encouraging the use of "green" criteria in public procurement is a very important way to stimulate markets to produce and sell greener products". The European Commission has developed common GPP criteria for a number of product and service groups, inviting authorities to include these criteria into their tendering procedures and thus to purchase greener products, works and services, amongst them, construction and gardening services and products (Renda *et al.*, 2012).

These public procurements are not well documented in France. However, the field of landscape architecture is largely influenced by political choices, planning documents and public procurements (Oueslati, Salanié, Garnier, 2011). This paper aims at addressing these gaps though an analysis of the designation of landscape architecture skills in green public procurement.

In order to understand how ecological issues influence the designation of the landscape architect's skills in the tendering procedure, this paper presents an analysis of 196 public calls for tender (PCFTs) and their results over a one year period, between May 2012 and May 2011.

We formulate two assumptions:
A1: Landscape architecture skills are favoured amongst required skills and amongst selected skills in the winning team in case of GPPs.
A2: Landscape architects become lead consultant more often in case of GPPs.

The remainder of the paper is organised as follows. The first section of the paper presents the data in support of our empirical study. The second section exposes the results and main tendencies. Finally, the last section develops a discussion and proposes perspectives on the influence of green public procurement on landscape architecture professions.

MATERIALS AND METHODS: ANALYSIS OF PCFTS

Data base, data description

The introduction of the notion of landscape in the urban arena places planning issues in a pluri-professional context (Boutinet, 2001; Jannière, Pousin, 2007). Traditional boundaries between landscape architecture, architecture and urbanism could blur for a new understanding of the urban (Corner, 2006; Mostafavi, 2003). In this context, interdisciplinary collaborations are necessary. The scale of the neighbourhood appear to be the most pertinent to study the evolution of the relationships between urban design professions and the landscape architect. This scale constitutes a challenge for the landscape architects where they confront many other professions. They are therefore more able to demonstrate comparatively their expertise. Eco-neighbourhoods implement new ecological preconisation consequently to the ecological shift in urban planning. Thus they are more and more studied and can be considered as a model in term of ecological urbanism. They are experimental spaces where practises can be renewed. They also correspond to a

political demand[1]. For all these reasons, the statistical analysis proposes to study neighbourhoods. The study of emergent ecological neighbourhoods will allow a comparison between green projects, such as eco-neighbourhoods, and traditional projects, such as neighbourhoods.

The database is build based on the *Bulletin Officiel des Annonces des Marchés Publics, (BOAMP)*. The BOAMP publishes the entirety of PCFTs and their results for the French state, local authorities and other public bodies. Information contained in each PCFT is collected including the description of the project, the public contract owner, the nature of the market, the attribution criteria, the requested skills and professions, the ecological and environmental criteria. We have decided to use this source particularly for its quasi-comprehensive nature and its credibility. The dataset concerns the PCFTs and their corresponding results over the period going from May 2010 to May 2011. These PCFTs cover expertise relating to the preparation of planning documents as well as site and building design and construction. The online BOAMP database was searched for keywords[2] describing a large range of potential projects. We identified 196 public calls for tender corresponding to neighbourhood schemes over one year period. For each PCFT, we searched for the winning team final selection. Depending on the consideration of environmental and ecological concerns, two groups of project can be identified: traditional projects, and green projects or Green Public Procurements (GPP). The traditional projects don't mention any environmental or ecological references and correspond to classic neighbourhood. The green projects or GPPs can be described as following. There are grouped into 3 overlapping types:

- ***Environmental projects***: These projects mention "environmental" or "sustainable" characteristics.
- ***Ecological projects***: they correspond to the introduction of new eco-technologies, such as water management, waste management, biodiversity, renewable energies, heating systems, pollution, acoustic, materials, etc
- ***Eco labelled projects***: they correspond to the political project of the French Ministry of Ecology to create an eco-label such as eco-neighbourhood.

By comparing GPPs and traditional projects, the analysis shows how GPPs have an impact on the development of landscape architecture professions. Diverse parameters were gathered for each of the identified neighbourhood projects. A first category identifies which combinations of skills and professions are required in the public call for tender and attributed in the result. The objective is to analyse how the landscape architect's skills are placed amongst other professions in the requests and attributions. A second category of parameters studies what the skill required is for the lead consultant and to which skill is finally attributed the post of lead consultant. The objective is to observe whether the landscape architect gets selected as lead consultant or not.

In order to identify specifically the position of landscape architect's skills within skills' combinations, the analysis identifies skills under an initial: L for Landscape architecture, A for Architecture, U for Urbanism, I for Engineering, E for Environmental skills and Ec for skills in Ecology. Five groups of requested combinations types are identified as described in order to simplify the analysis (TABLE 2). First of all, traditional skills, such as L, A and U, compose the traditional demand (Trad). They represent the traditional skills required in urban design projects. The environmental skills E are not present in these combinations. In a second group, pluridisciplinary combinations (Pluri) associate traditional skills to E and L: AUIEL, AUEL, AIEL. Architecture and environmental skills are present in almost all these favoured combinations. New combinations (New) are composed by the skill architecture associated with environmental skills and engineering, or urbanism: AEI, AE, AI, AUE, Ec. In this case, landscape architecture is excluded. They constitute emergent combinations. Monodisciplinary combinations (Mono), such as A, I and E constitutes one category. Finally, the last group identifies when the PCFT does not stipulate any requirement or any other combination (NS + other). The table below presents a brief of these combinations' types.

TABLE 1. Categories of skills' combinations.

Combinations type	Skills' combinations	Characteristics
Tradi.	AUL, AU, AL, LU	Combinations of A/U/L (without E)
Pluri.	AUIEL, AUEL, AIEL	Combinations of A/U/L/I/E
New.	AEI, AE, AI, AUE, Ec	Combinations of A/E/I/U/Ec (without L)
Mono.	A or E or I	Monodisciplinarity: one skill required.
NS + other		NS: Not Stipulated Other: any other requested skills (economy, social etc…)

1 In France, two eco-neighbourhoods competitions organised by the French Minister of Ecology in 2009 and in 2011 have awarded best examples of eco neighbourhoods based on a series of criteria. Concours écoquartier 2009, 2011, Ministère de l'Ecologie, France; www.developpement-durable.gouv.fr/Palmares-national-EcoQuartier-2011.html

2 The list of keywords use dis available upon request from the authors.

Descriptive statistics of the database

On a total of 196 PCFTs, there are 48% of environmental projects, 18% of ecological projects and 11% of eco labelled projects. The three groups are overlapping. One project can belong to 2 or 3 categories in the same time. The following table presents the repartition of the projects within diverse independent categories.

TABLE 2. PCFTs' repartition by type.

Type of project	Environmental projects	Ecological projects	Eco labelled projects
Environmental projects	61		
Ecological projects	21	3	
Eco labelled projects	5	4	4
Projects belonging to the three categories in the same time: 8			
Projects belonging to none of the three categories: 90			
Total: 196 PCFTs			

The skills' combination types proposed in the precedent paragraph are divived as following:

TABLE 3.
Number of project in each category of skills' combinations.

Combinations type	Request	Attribution
Tradi.	34	32
Pluri.	24	10
New.	25	19
Mono.	20	79
NS + other	93	56

RESULTS

To analyse the 196 PCFTs we tested systematically for the independence of skills and lead consultant' requests and attributions for each of the three type of project. We searched for differences in the distribution of those elements among types of projects using χ^2 tests of independence. The summary of our testing strategy is presented in Appendix B. We used Pearson's χ^2 and G-test (likelihood-ratio) χ^2 to test the independence between skills and types of projects and lead consultant's type and types of projects. Both tests give consistent results in every case. At the same level of confidence, we have no case of rejection of the null under Pearson's χ^2 but not the G-test and vice-versa. The tests were applied to (r×c) contingency tables with r rows and c = 2 columns. Therefore, all calculated tests follow a χ^2 with (r-1)×(c-1) = r-1 degrees of freedom (noted df. and reported in Appendix B). Because we have only 196 PCFTs and that some types are scarce[3] , several contingency tables lead to very little expected frequencies. It is widely recognized that $\chi 2$ tests with small theoretical frequencies (<5) are not always reliable. In those cases, Fisher's exact tests were computed. They always confirm Pearson's χ^2. That is why, in the following, we will report only the p-value of Pearson's χ^2 statistics[4] . In some PCFTs, the reference to a skill or a lead consultant is not always made. Those cases are labelled "NS" (Non stipulated) in the following. We also find it interesting to test whether PCFTs were different by type regarding the stipulation of the skills. This leads to (2×2) contingency tables with 1 df. We applied Yates' continuity correction for Pearson's χ^2 in these cases. All corrected Pearson's χ^2 were found consistent with the uncorrected. The results of our testing strategy are reported in the following sections.

Assumption 1: Landscape architecture skills are favoured amongst required skills and amongst selected skills in the winning team in case of GPPs

To validate this assumption, we realized four analyses. First of all, we observed the quantitative request of each skill and the quantitative attribution of each skill. In a second analysis, we observed the distribution of skill combinations in the request and attribution. In a third analysis, we observed the request in pluridisciplinarity and the attributed pluridisciplinarity. Finally, we observed the terms that are used to describe the landscape architect's skills.

We first observed the percentage[5] of request for each skill in the PCFTs (FIGURE 2).

The quantitative request of each skills shows that A is the skill the most requested, followed by L, U, E, I and Ec (FIGURE 2). L is quantitatively well placed in the public procurements.

The markets' attributions show that A is in majority present in the winning team, for green and traditional procurements. For example, in the case of ecological projects, 70% of the projects have got A in their final skills, whereas only 20% have got L in their final skills. The second skill is I with around 45% of the green or traditional projects containing engineering in their final winning team. U and L are positioned after, E are positioned last (FIGURE 3).

We then observed the distribution of skill combinations in the request and attribution.

Pluridisciplinary skills combinations, both group type New and Pluri, are favoured by the request in case of GPP. Tradi is disfavoured by the request in case of GPP except in the case of eco-labelled projects. Mono is disfavoured by the request in case

3 We have 95 environmental projects, 36 ecological projects and only 21 eco-labelled projects

4 All the performed tests are available from the authors.

5 Sums to over 100% because skills combinations are generally requested.

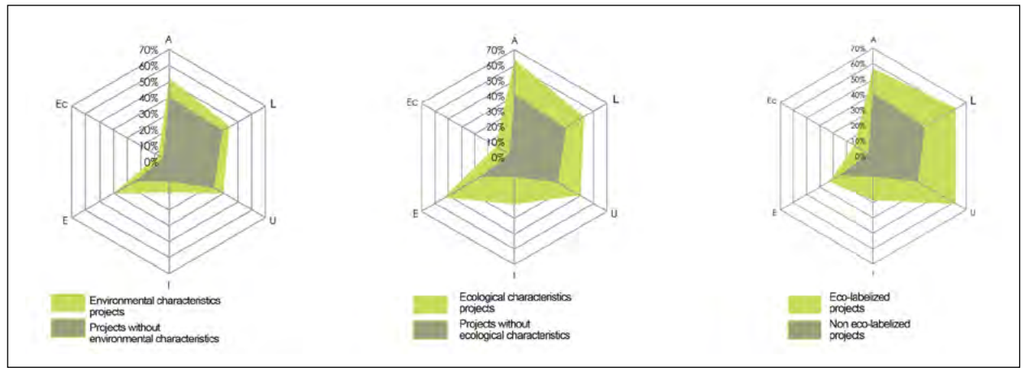

FIGURE 2. Quantitative request of each skill.

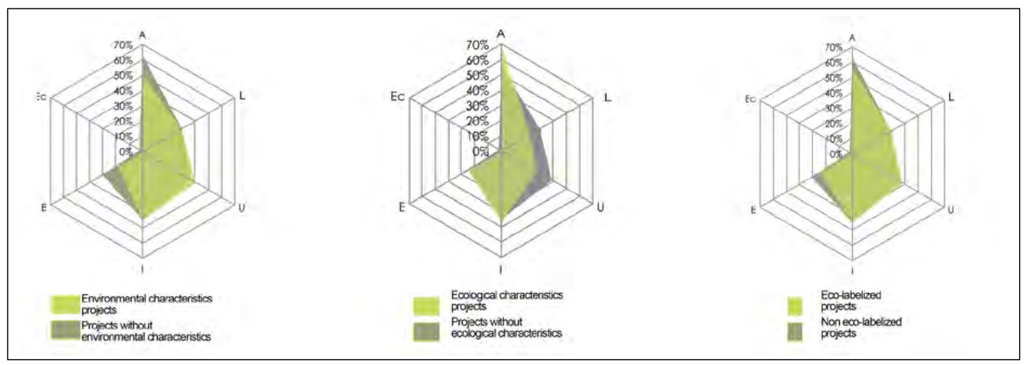

FIGURE 3. Quantitative attribution for each skill.

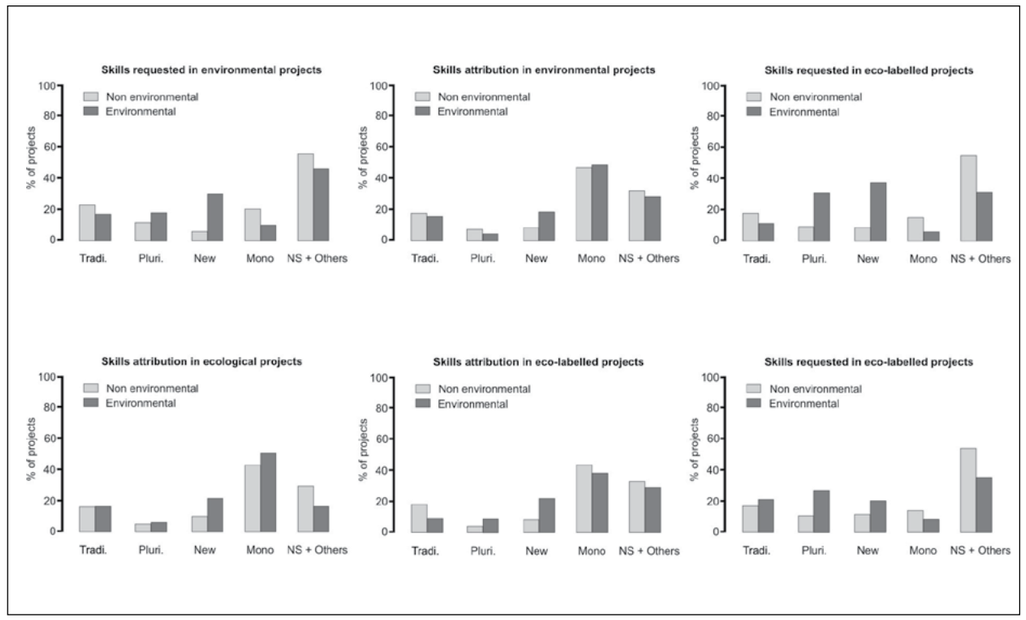

FIGURE 4. Distribution of skills requests and attribution in the 3 types of projects.

of GPP. The combination type Mono is quantitatively the most selected. This tendency favours the selection of architects, engineers or environment specialist as monodisciplinary winning team, with a large majority or architect, as shown previously. This tendency is generally enhanced by the GPP.

TABLE 4: Request in pluridisciplinarity.

Pluridisciplinarity	Environmental		Ecological		Eco-labelled		Total
	Without	With	Without	With	Without	With	
Requested	53%	71%	58%	81%	59%	86%	62%
Non requested	2%	0%	1%	0%	1%	0%	1%
Not Stipulated	45%	29%	41%	19%	40%	14%	37%
Total	100%	100%	100%	100%	100%	100%	100%

TABLE 5. Internal pluridisciplinary amongst pluridisciplinary winning teams.

Internal pluridisciplinarity	Environmental		Ecological		Eco-labelled		Tota
	Without	With	Without	With	Without	With	
Yes	18%	23%	20%	22%	21%	14%	20%
No	82%	77%	80%	78%	79%	86%	80%
Total	100%	100%	100%	100%	100%	100%	100%

The selection of the combination New and Pluri is quantitatively small but enhanced for the green projects. Finally, Tradi is clearly disfavoured in the attribution in case of GPPs.

In third analysis, we observe the request in pluridisciplinarity and the attributed pluridisciplinarity.

As shown in the TABLE 4, the majority of the PCFTs favour a demand in pluridisciplinarity. Around 20% of the total pluridisciplinary winning teams are in fact one single company that gathers all these skills internally (TABLE 5). It is an "internal pluridisciplinarity". These types of structures tend to develop and acquire more and more markets. The tendency is enhanced in the case of environmental and ecological projects. Around 80% of pluridisciplinary winning teams are a team composed by an association of skills.

Finally, the analysis examines the formulation and terms used for the commissioning of landscape architecture. The majority of the public procurement designates their requirement under the term paysage (landscape). The GPP increases this tendency, and 25% of the ecological projects use the term landscape. The designation paysagiste (the title "landscape-architect" doesn't exist in France) comes in second position with 20% of the ecological projects using this term. Some infrequently mentioned designations are interesting, such as landscape--ecologist (5%), which could express the need for a new type of landscape architect profile, with more ecological specificity. The results confirm the small influence of the title "landscape-architect" which doesn't exist in France.

In conclusion for this first assumption, the analysis brings tendencies to light. The emergence of green public procurements has an impact on the formulation of the request for landscape architect's skills and their selection through the tendering process. Three tendencies are clear.

The first one is that landscape architects are quantitatively well placed within requested skills. In PCFTs, landscape architects are always requested within pluridisciplinary teams. When landscape architecture is selected, it is also always as part of pluridisciplinary winning teams. In the GPP requirements, there is an emergence favouring combinations that contains environmental skills (New) to the detriment of combinations containing landscape architecture (Tradi and Pluri). This result questions the competition between landscape architects and environmental experts regarding new types of GPPs on the market. They compete in order to address environmental and ecological characteristics of green projects. This tendency interrogates the credibility of the landscape architecture professions to address a public procurement that is more and more green.

The second tendency is that there is a strong contradiction between the pluridisciplinary demand and the monodisciplinary selection. Amongst a majority of monodisciplinary winning teams, architecture is more frequently selected than any other skills. In second position, the selection process favours engineers. The sovereignty of the architects and the engineers in neighbourhood projects is a reality.

Finally, when pluridisciplinarity is selected in the winning team, the same tendency observed in the PCFTs occurs. The selection process favours combinations that contain environmental skills (New) to the detriment of combinations containing landscape architecture (Tradi and Pluri). That confirms that the tendency follows the PCFT and emerges in the attribution. Amongst pluridisciplinarity winning team, there is around 20% of "internal pluridisciplinarity", meaning one single company that gathers all these skills internally. Clients tend to trust more an internal pluridisciplinary rather than a team composed of diverse consultants.

Assumption 2: Landscape architects become lead consultant more often in case of GPPs.

The analysis examines the request and attribution for the lead consultant. New types of skills are noticed in the PCFTs and their attributions. Plu E designates pluridisciplinary structures advertising

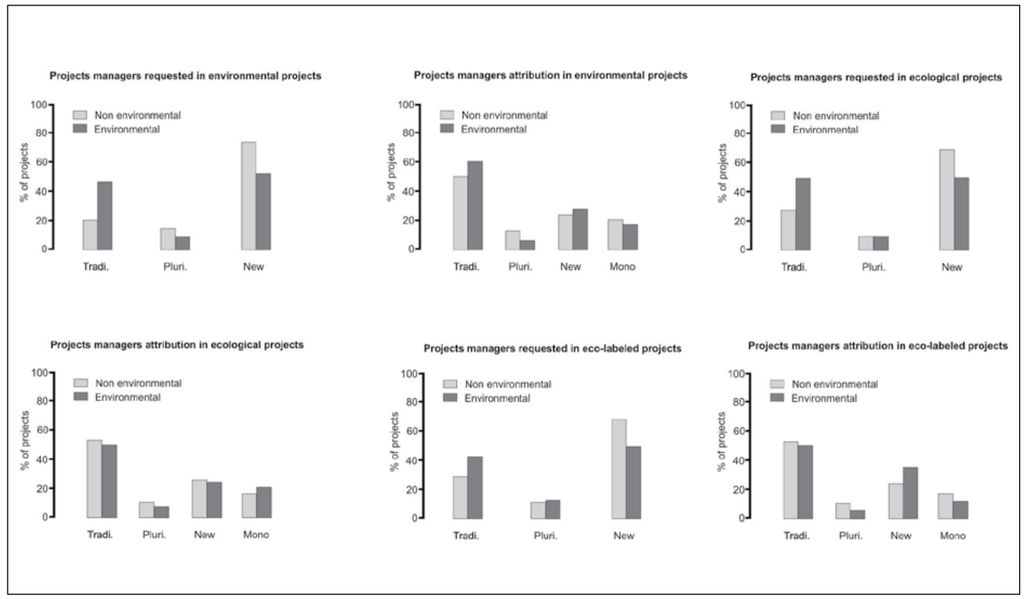

FIGURE 5: Distribution of lead consultant skills requests and attribution in the 3 types of projects.

TABLE 6. Lead consultant's skills request and attribution by project type.

	Type of lead consultant	Environmental				Ecological				Eco-labelled			
		Without		With		Without		With		Without		With	
		%	n	%	n	%	n	%	n	%	n	%	n
request	A, A or U, U	19	19	44	42	28	44	47	17	30	52	43	9
	Plu E or Plu	0	0	2	2	1	1	3	1	1	1	5	1
	P, A or U or P	11	11	4	4	8	13	6	2	8	14	5	1
	NP	70	71	49	47	64	102	44	16	62	108	48	10
	Total	100	101	100	95	100	160	100	36	100	175	100	21
attribution	A, A and U, U	50	51	59	56	55	88	53	19	55	96	52	11
	P, P and U	12	12	5	5	9	15	6	2	9	16	5	1
	Plu E or Plu I or Plu	22	22	24	23	23	37	22	8	22	38	33	7
	I	5	5	3	3	3	5	8	3	5	8	0	0
	Others	11	11	8	8	9	15	11	4	10	17	10	2
	Total	100	101	100	95	100	160	100	36	100	175	100	21

% : Percentage of projects. n : number of projects

a strong environmental expertise. Plu I designates pluridisciplinary structures advertising a strong engineering expertise. Plu is a structure with an internal pluridisciplinarity.

The request for the lead consultant favours architecture. This tendency is enhanced in case of GPPs. On the overall, the request in L as lead-consulting skill is small and decreases in case of GPPs. The attribution of the PCFTs is analysed. A is designated in majority of cases as the lead consultant, more than 50% of each type of project. This tendency is enhanced with GPPs. A tendency is occurring in favour of the selection of the Plu E or Plu I or Plu as lead consultant: 22% of the ecological projects and 33% of the eco labelled projects have one of these as lead consultant. As a conclusion for this assumption, the lead consultant selection process in case of green projects does not favour landscape architecture. This is in majority the architect who becomes the lead consultant.

CONCLUSIONS AND PERSPECTIVES

We can summarize what we have learned about the influence of GPPs on landscape architect's professions and give some perspectives for future research.

Pluridisciplinary requested, monodisciplinary attributed

Public procurements favour in the majority pluridisciplinary structures. But architects or engineers are favoured as monodisciplinary winning team or lead consultants, where one could expect a pluridisciplinary office or a strong ecological component. Architects are present in majority in the PCFTs and in the results. They constitute the large majority of the lead consultants (40% of the projects). This tendency can be explained by the fact that eco-labelled projects are relatively new projects on the market and that clients trust in the majority the oldest and most traditional skill for urban design and building work. Traditionally in France, the sector of construction and building works favours architecture.

The attributions indicate that the landscape architect, when he is present in the selected winning team, is always associated with other skills. This confirms the capacity of the landscape architect to address the demand in pluridisciplinarity and to work in collaboration with other disciplines. Around 20% of the winning pluridisciplinary team are pluridisciplinary offices: they concentrate the different requested skills in one pluridisciplinary structure. These structures constitute a strong competition for consultant team because they present the advantage of an internal pluridisciplinary that reinsure the client.

Finally, the analysis does not take into account the origins of the applicants. If no landscape architect applies for this type of PCFTs, there is no chance to find them in the winning teams. Moreover, the publication of the attribution tends sometimes to prioritise the architect, hiding the presence of the other skills in the team. These remarks confirm the hegemony of the architects in the French neighbourhoods' projects culture.

Landscape architects challenged by environmental experts to address ecological issues

The evolution of public procurement towards green public procurement questions not only the professional practises but also the competition between professions for new markets. Landscape architects have a traditional environmental credibility, but up to what point? The GPPs introduce green criteria. We observed a competitive relationship between landscape architecture skills and environmental skills to provide a green expertise. The analysis doesn't conclude with the fact that landscape architects provide practically a new green expertise consequently to the GPPs, because the professionals practises themselves are not investigated.

Public procurements do not always shape professional practises

In this analysis, the results don't follow public procurement. These results challenge the question of the influence of public procurement on the dynamics of the urban design and planning skills and professions. There is an ambivalent relationship between the strong French planning system on one hand and urban design team's professional practises on the other hand. The analysis is based on a selection of terms found in the PCFTs. Landscape architects and urban designers use these terms to search for competitions. Once selected, landscape architect's assess PCFTs and tend to reformulate them. It is difficult to affirm that the way PCFTs are formulated influences the professional practises in reality. Professionals renew their practise by reformulating the PCFTs, against the planning system and through professional emancipation and research.

So, are landscape architects in trouble?

There is no such designated title as landscape architect in France. So, what is the scope of the French landscape architecture professions and their area of expertise compared to other urban design professions? In France, the Grand Prix de l'Urbanisme, a prestigious French urban design award, discerned the 2011 first prize to Michel Desvigne, a French landscape architect. According to Desvigne, this is the sign of a positive evolution for the profession of landscape architecture (Desvigne, 2011). He adds that landscape architecture skills used to be a "vegetal caution", but became recently recognized by urban design professions as "specific". According to him, the proof of this recognition is that French landscape architects are more often appointed by PCFTs and become lead consultant on some operations. However, he explains that landscape architecture skills are complementary to the architect-urbanism skills and don't replace them. In this context, the results of the analysis question the credibility of the landscape architect facing the new environmental skills. Are these new environmental skills the next expertise to be created? Are they going to become complementary or do they constitute a competition to the landscape architects for new GPPs? Despite the recurring questions about the position of Landscape Architects, the development of their skills gives them a major role in the patterns of the city's future.

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Pedestrian street and walkability: Studying the effect of type and quality of adjacent usage in walkability of pedestrian street

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ABSTRACT

Quality of life is considered as a determinant in health of community; so there are many factors that are important in upgrading of it. Many of these factors can be traced in the design of urban spaces. Pedestrian streets aren't exception as one of the most important parts of urban spaces. Adjacent usages in pedestrian street are determinant in quality of path for pedestrians.

Today Iran and many countries try to change their viewpoint from mechanical life to pedestrian life in order to upgrade the quality of pedestrian life and hiking in cities. In order to approach this aim, they change some special streets (like the old ones or ones that have special commercial usage) to pedestrian street, so it can't be used by vehicles. The adjacent usage are very important in transforming of streets to sidewalks and it's plasticity and the rate of pedestrians welcome and also upgrading quality of hiking.

This paper has examined how adjacent usages and their quality affect on walk ability, relation between pedestrian and the space, and attractiveness of urban spaces. The way of approaching data is observation and library. Also in order to clarify the issue and approaching real results, a successful example in Iran has been examined.

Keywords: quality of life, pedestrian street, usage, walk ability.

INTRODUCTION

Walking is the most common form of physical activity, and individuals often, regardless of age and physical ability, perform this activity. In most town and city centers the presence of man and automobile together has caused accidents and physical injuries to humans. Regardless of the risk of accidents, noise and smoke are negative factors that can cause long term health problems.

Over the past decade the quality of the walking environment has become a significant factor in transportation planning and design for urban planners and local authorities (Wigan, 1994). Previously, movement by foot and bicycle was viewed as recreational, rather than legitimate transport to be seriously considered (Wigan, 1994). The case for better design and planning of the pedestrian environment is strong. Walkability is the foundation for the sustainable city. In recent years, urban designers and public health authorities try to promote walking and pedestrian spaces with similar approaches. Designers and health professionals on the one hand, try to create places for walking and meeting, and on the other hand, try to reduce impact of vehicles in the cities and particularly urban centers. To achieve this purpose physical properties of the environment and current activities are important. In walkable areas more consideration to these features leads to more popularity of the space. These spaces can provide context for culture, entertainment, leisure, recreation, civic life, and exchange views and ideas.

METHODOLOGY

This is a descriptive-analytic research in which field and theoretical studies are used.

1. Theoretical studies through referring libraries, research-scientific centers and internet.
2. Field studies through survey of physical situation of "Tarbiat" pedestrian.

Research question

The following questions are put forward based on the definitions:

1. Do the quality and type of usages in the walkways affects on urban space walkability?
2. What types of usages and qualities are recommended to be in walkways?

Hypothesis

Walking is one of the most influencing ways to being fit and healthy. Therefore, nowadays walkways are recommended to be design in urban areas. Type and quality of Surrounded land uses in walkways are considered as defining factor for walking quality and impressing factor for quality of life in urban areas. Usages attract people to the region and determine the rate of people attendance in the space.

Quality of life and walkability

The concept of quality of life is strongly rooted in the thinking about health (Kamp Leidelmeijer, Marsman, Hollander, 2003).

Walkability has been linked to quality of life in many ways. Health related benefits of physical exercise, the accessibility and access benefits of being able to walk to obtain some of your daily needs, or the mental health and social benefits of reduced isolation are a few of the many positive impacts on quality of life that can result from a walkable neighborhood. In the age of increasing energy costs and climate considerations, the ability to walk to important locations is a key component of sustainable communities (Rogers *et al*., 2011).

Walkability and importance of the third space (spaces of informal gathering except home and work) are components of social capital and quality of life. Walking area can bring vitality to the downtown areas and encourages people to participate voluntarily in the city (Pakzad, 2005).

Walkability construct

The three constructs that are accepted to describe the walkability in urban spaces are physical environment, social environment, and economic environment. It is axiomatic that in order to obtain a proper understanding of walkability it is necessary to employ both objective and subjective evaluations. Urban physical environment, as the most important construct, includes the total objective areas which are perceived by pedestrians. The most significant subsets in this hierarchy are building arrangement, usage type, green areas, recreation areas, infrastructure and municipal services. The next phase, social environment is the objective-subjective part of the hierarchy construct. At the first level, pedestrians perceive and then evaluate conditions around them, and at last it results in subjective affections. In this phase, the most significant subsets are extent of educational services, extents of health services, cultural activities & entertainment and safety. Willingness of citizens to activities which are appropriate to their economic situation results in third construct named economic environment. This phase includes cost of facilities usage, opportunity of finding a satisfactory stuff, and cost of transportation.

TABLE 1. Quality of walkability in urban spaces.

Quality of walkability in urban spaces		
Physical environment	Social environment	Economic environment
• Building arrangement·	• Extents of educational services·	• Cost of facilities usage·
• Usage type·	• Extents of health services·	• Opportunity of finding a satisfactory stuff·
• Green areas·	• Cultural activities & entertainment·	• Cost of transportation
• Recreation areas·	• Safety	
• Infrastructure and municipal services		

Adjacent Usage and walkability

Land use of surrounding areas is considered as one of the most significant factor of urban spaces, changing the quality of walkability by effect on three dimensions of physical environment, social environment, and economic environment. People attendance in urban spaces depends on the quality of space, changing by type and quality of usages. As a result usages can effect on social environments by extending cultural activities and making safety. For instant hospital and hotel as two types of land use make different traits for social environments thereby attracts people with two types of necessity.

In addition, type of usages effect on economic environments by defining cost of land and people satisfactory for finding an especial kind of stuff. In fact type of usage and its services determine the rate of people attraction to the space. For example retailers attract a large number of people with low financial abilities while brands attract someone who is rich.

All in all, type and quality of land use effects on environment quality, people attraction and walkability.

Type of Usage

Pedestrian streets as highly walkable environments include spaces which are attractive and engaging to be in, coherent but varied building forms and adjacent usages that give life to the place.

Table 2.

	First level	Second level	Not recommended
Commercial	Retailer, shops , book stores	Shopping center, Mall	
Educational	-----	Small scale usages like private schools, institutes	Large scale land use like Colleges, Universities and ….
Religious	Church, Mosque and so on	----	
Remedial	Drugstore, Pharmacy	Private clinics, Dentistry	Large scales like Hospital, Medical center, hospice
Recreation and sport center	Club, disco		stadiums
Administrative	Banks	Private office, branches of large organization	Organization, ministry, military services , legation
Residential	------	House and hotel, inn, suite, motel	
Cultural	Cinema, Theater.	Library	
Restaurant	Restaurant, café, diner, deli, snack bar, bistro, bar, fast food	------	Cafeteria, drive-in

Adjacent usages and spaces are classified in overall collections: Commercial, educational, religious, remedial, recreation and sport center, administrative, residential, cultural and restaurant.

Every usage have some specified subsets, for example as it is mentioned in TABLE 2, recreation and sport center includes small scales such as club, disco and medium or large scales such as stadiums.

Walkability rate depends on which building level each usage should be in. in some cases a specified usage results in inactivity, depression, anxiety, tedious and etc. for example most of the large scale buildings which do not have variety such as hospitals are not recommended for pedestrian streets.

The usage design qualities effects on quality of walkability

Operational definitions of the usage design qualities in the context of pedestrian streets are listed below which are suggested to be used by designer and planner.

Adaptability, distinctiveness, intricacy, richness, ambiguity, diversity, legibility, sensuousness, centrality, dominance, linkage, singularity, Clarity, enclosure, meaning, spaciousness, coherence, expectancy, mystery, territoriality, compatibility, focality, naturalness, texture, comfort, formality, novelty, transparency, complementarity, human scale, openness, unity, complexity, identifiability, ornateness, upkeep, continuity, imageability, prospect, variety, contrast, intelligibility, refuge, visibility, deflection, interest, regularity, vividness, Depth, intimacy, rhythm

Here we select 5 important one for explain which are the most impressive ones. Imageability, Human scale, enclosure, transparency, complexity.

Imageability

Imageability is the quality of a place that makes it distinct, recognizable, and memorable.

A place has high imageability when specific physical elements and their arrangement capture attention, evoke feelings, and create a lasting impression. (Ewing, 2006)

Kevin Lynch defines imageability as a quality of a physical environment that evokes a strong image in an observer: “It is that shape, color, or arrangement which facilitates the making of vividly identified, powerfully structured, highly useful mental images of the environment” (Lynch, 1960).

Landmarks are a principle of urban design because they act as visual termination points, orientation points and points of contrast in the urban setting (Tunnard, Pushkarev, 1963). Distinctive buildings are the most common type of landmarks. Memorable buildings are characterized by complex shapes, large sizes, and high use. Additional elements that may enhance building recall are natural features around them, ease of pedestrian access, and uniqueness of architectural style.

Enclosure

Enclosure refers to the degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other elements. Spaces where the height of vertical elements is proportionally related to the width of the space between them have a room-like quality.

Jacobs says that people react favourably to fixed boundaries as something safe, defined and even memorable – and invitation to enter a place special enough to warrant boundaries (Jacobs, 1993).

In an urban setting, enclosure is formed by lining the street or plaza with unbroken building fronts of roughly equal height. The buildings become the ‘walls’ of the outdoor room, the street and sidewalks become the ‘floor’, and if the buildings are roughly equal height, the sky projects as an invisible ceiling. Buildings lined up that way are often referred to as ‘street walls’.

Enclosure is eroded by breaks in the continuity of the street wall, that is, breaks in the vertical elements such as buildings or tree rows that line the street.

Breaks in continuity that are occupied by inactive uses create dead spaces that further erode enclosure; vacant lots, parking lots, driveways and other uses that do not generate human presence are all considered dead spaces. Large building setbacks are another source of dead space.

Human Scale

Human scale refers to a size, texture, and articulation of physical elements that match the size and proportions of humans and, equally important, correspond to the speed at which humans walk.

Human scale can also be defined by human speed. For example, large signs with large lettering are designed to be read by high-speed motorists. For pedestrians, small signs with small lettering are much more comfortable.

Alexander (1977) state that any buildings over four storey’s tall are out of human scale.

Richard Hedman (1984) emphasizes the importance of articulated architecture and belt courses and cornices on large buildings to help moderate scale.

Human scale can also be defined by human speed. Therefore we should attention to human speed in usage selection. For reaching to this aim selection of small scale usages like retailers are suitable. Also restaurant by penetrating in walkways can reduce walk speed and increase quality of walkability.

Hedman (1984) recommends the use of other small-scale elements such as clock towers to moderate the scale of buildings and streets.

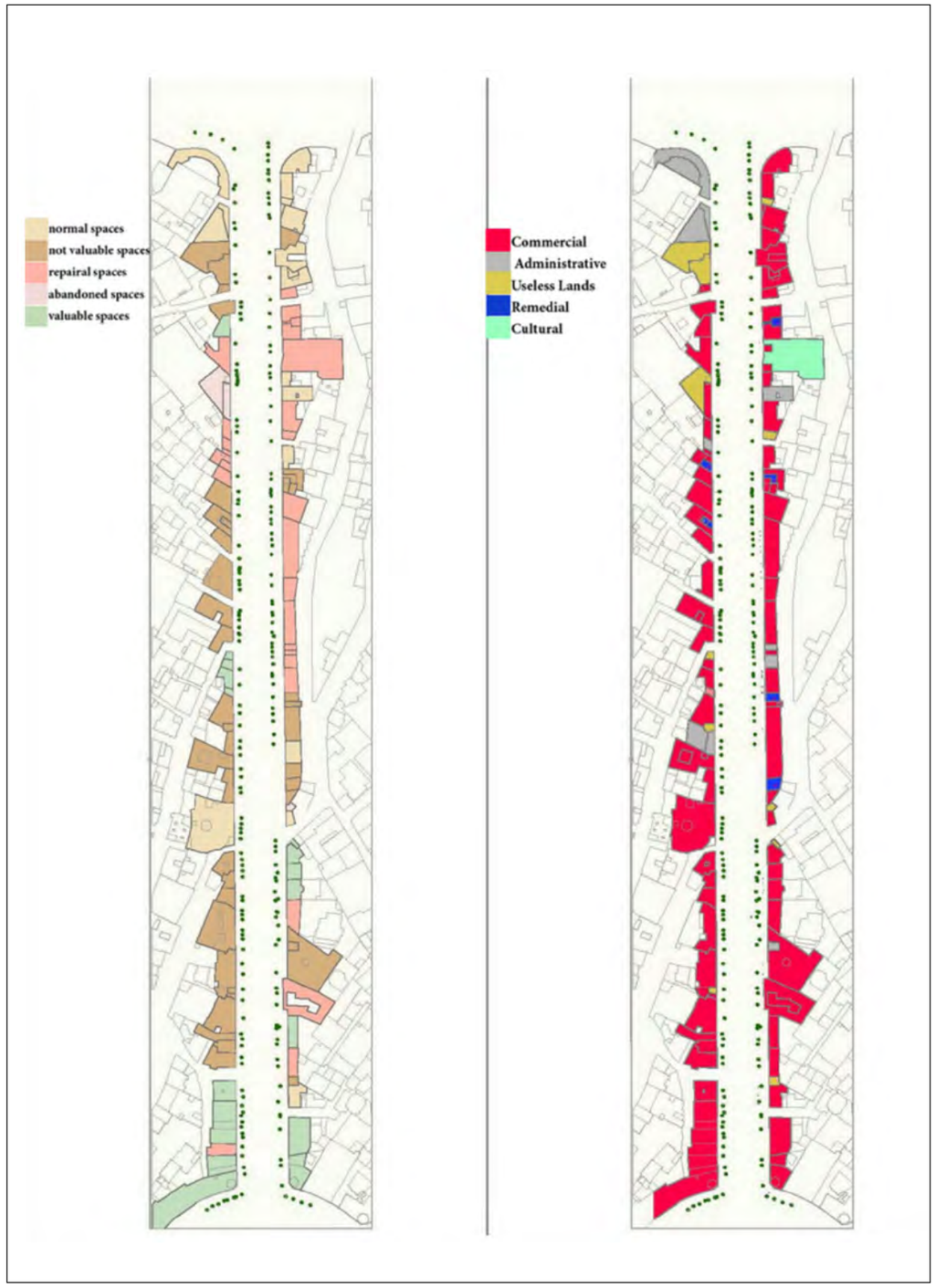

FIGURE 1. Bu-Ali Street of Hamedan graphical plan.

Transparency

Transparency is a material condition that is pervious to light and/or air, an inherent quality of substance as in a glass wall. A classic example of transparency is a shopping street with display windows that invite passers-by to look in and then come in to shop. Blank walls and reflective glass buildings are classic examples of design elements that reduce transparency (Ewing, 2009).

Transparency is most critical at the street level, because this is where the greatest interaction occurs between indoors and outdoors. The ultimate in transparency is when internal activities are 'externalized' or brought out to the sidewalk (Llewelyn-Davies, 2000). Outdoor dining and outdoor merchandising are examples.

Complexity

Complexity is related to the number noticeable differences to which a viewer is exposed per unit time.

Rapoport, Hawkes (1970) contrast the complexity requirements of pedestrians and motorists.

The commercial strip is too complex and chaotic at driving speeds, yet due to scale, yields few noticeable differences at pedestrian speeds.

Complexity results from varying building shapes, sizes, materials, colours, architecture and ornamentation. Numerous doors and windows produce complexity as well as transparency. Street furniture also contributes to the complexity of street scenes. Therefore restaurants, retailers, book stores and cultural centers can increase the complexity.

CASE STUDY: BU-ALI STREET OF HAMEDAN

In Iran, Bu-Ali Street of Hamedan is the most important street of Hamedan which is located in central part of this city. Local authorities decided to changes its function from street to walkway recently. Therefore authors decided to study land use and its effects on walkability. Here you can see our field study results briefly (TABLE 3).

This combination of land use attracts large number of people to this area. It seems that high percentage of commercial usages makes crowd space which causes quality of walkability to be decreased. In addition, because of previous adjacent usages qualities with low level of Imageability, exposure and transparency, people mostly feeling giddy and hazy.

TABLE 3. Field study results.

Function	First level	number	percentage
Commercial	Retailer, shops , book , stores	185	60.01
	brands	6	2
	Shopping centers	8	2.6
Educational	private schools, institutes	24	7.8
Religious	---------	0	0
Remedial	Drugstore, Pharmacy	8	2.6
	Private clinics, Dentistry	24	7.8
Recreation and sport center	Club	1	0.3
Administrative	Banks	8	2.6
	Travel agency	4	1.3
Residential	------	6	2
Cultural	Cinema, Theater, Cultural centers	4	1.3
Restaurant	Restaurant, café, fast food	16	5.2
Useless Lands	Desolate, obsolete	14	4.49

CONCLUSIONS

The research on which this paper is based helps to gain a fuller understanding of how walkability of pedestrian streets is affected by type and quality of adjacent usage. The result has shown that:

1. Quality of walkability is one of the quality of life factors in urban spaces;
2. Quality of walkability is evaluated in three dimension of physical environment, social environment, and economic environment;
3. Type and quality of adjacent usages in pedestrian streets affect on walkability qualities;
4. Quality of design in adjacent usages makes beneficial guideline for land use selection for example factor of complexity suggest small scale usages which are penetrating in the walkways by their furniture like retailers;
5. Usages should be suitable for pedestrian speed; therefore they should be in human scale for example large scale type of land use like hospital and military services not recommended in this kind of spaces;
6. Type of usages is impressive in space attraction; their locations encourage people to walk and their qualities affects on quality of walking;
7. Planners have to select combination of land use in Pedestrian Street for attracted people with various attitudes. Therefore space will be live and enjoyable.

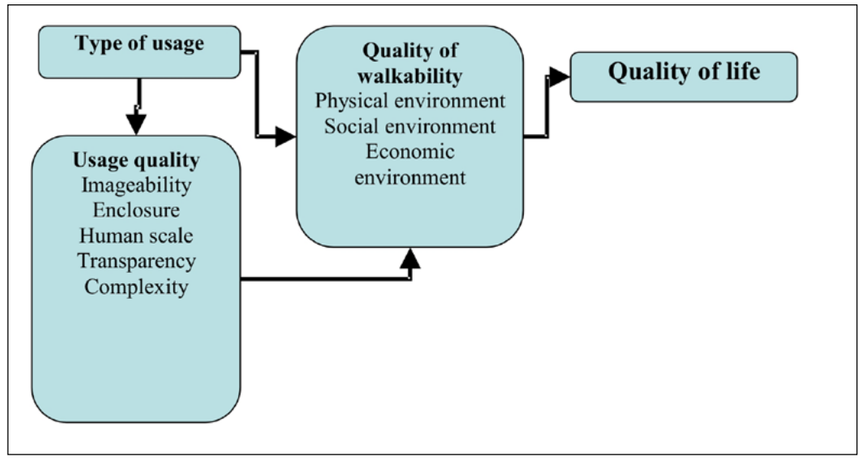

FIGURE 2.

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Hillside Urbanism: an integrated model for slope stabilization, water collection, agricultural self-reliance, and housing in the informal settlements of Port-au-Prince, Haiti.

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ABSTRACT

The earthquake that struck Haiti in 2010 was the most recent catastrophe among a series of environmentally devastating events that have categorically destroyed the Haitian landscape and the communities it once sustained. Haiti is the poorest nation in the western hemisphere, consistently ranking at the bottom of the Human Development Index. Natural disasters occur regularly and have decimated the agricultural sector. Massive slope erosion results from ongoing deforestation, which compensates for the lack of energy utilities. Haitian caloric intake is among the lowest in the western hemisphere; potable water access and sanitation levels remain extremely low. Widespread governmental corruption precludes the creation of adequate infrastructure and programs that could alleviate these problems. The paper discusses a proposal for a feasible, low-budget, low technology solution that structurally equips small housing clusters with water management, erosion control and tree-based perennial agriculture. Specifically, the paper argues for the role of landscape architecture in the efforts to alleviate environmental degradation in informal settlements in two ways: 1) the combination of slope stabilization techniques with hillside urban development, 2) the redefinition of communal open space as a social-economic development model.

Keywords: informal settlement, deforestation, erosion, flooding, slope stabilization, erosion control, reforestation, stormwater catchment, hillside urbanism, agricultural urbanism, Haiti, Lakou.

INTRODUCTION

The subject of the informal settlement in Latin America has been taken up within architectural discourse for several years, as evidenced in the theoretical and practical work of Jorge Mario Jáuregui Architects (Machado, 2003; Werthmann, 2008a), Urban-Think Tank (Brillembourg, 2005; Beardsley, 2008; Navarro-Sertich, 2011), Mello Moreita Braga Bucci (Werthmann, 2008), Mark Gilbert (Rosenfield, 2012) and Kounkuey Design Initiative (Curran, Schneider, 2006; Gendall, 2008). However, only a few publications and projects to date have addressed the issue of the informal city from the perspective of landscape architecture (Curran, Schneider, 2006; Werthmann, 2008b, 2009). Given that most informal settlements in Latin America expand along sloped terrains, which results in deforestation, slope erosion and flooding, this paper argues for the potential and necessity of integrating landscape architectural practices, i.e. topographic earthworks, slope stabilization, planting strategies and stormwater management along with urban development in order to mitigate environmental risk and also provide a source of nutrition and income.

The link between informal settlement, environmental degradation and human risk has been made evident; the dire need for housing, water, sewerage, waste disposal, energy utilities, as well as food regularly coincides with persistent deforestation, slope erosion, flooding, as well as pollution and disease (Aguilar, Santos, 2010; DeClerck, 2006; Nchito, 2007; Parkinson, 2007). In Haiti, persistent deforestation is attributed to the predominant (66%) use of firewood and charcoal for cooking fuel, which is a response to a lack in the provision of federal energy supply (Smucker, 2007). Consequently, upland soil erosion causes massive deposit of solids in lowland floodplains, overwhelming the capacity of both natural and manmade drainage systems. Since the densely populated slum districts of Haiti's coastal cities are located to a large extent in floodplains, these populations are highly vulnerable to disease and natural disaster, as downstream flooding mobilizes pathogens and creates breeding grounds for insect vectors. Moreover, "loss of human life from tropical storms in Haiti is due primarily to severe flash floods in eroded watersheds that wash down on poor riverine and coastal floodplain communities" (Smucker, 2007).

This project proposal discussed in this paper focuses on the Port-au-Prince metropolitan area of Haiti and outlines the following assumptions and design principles: 1) given the sheer scale of settlement in coastal floodplains and countless casualties of catastrophic flooding (which is predicted to far surpass all other disasters in Haiti's meteorological record) and given high population growth rates (Smucker, 2007) urban development in the flood-

plain should be discouraged and instead, a new model for hillside urbanism should be developed; 2) the provision of hillside slope stabilization and fruit-tree reforestation in combination with improved systems for stormwater runoff drainage are fundamental components of hillside urbanism; 3) not unlike other Caribbean and Latin American countries, Haiti's acute environmental damage is derived from the inability of local governments to provide and manage the technical services to sustain the rate of urban growth (Aguilar, Santos, 2010) and thus, short-term strategies for post-earthquake rehabilitation as well as for new urban expansion should focus on feasible, low cost, low technology methods of hillside reconstruction that could be implemented incrementally by the local population and with the assistance of NGOs; 4) finally, the traditional communal Lakou courtyard space could potentially serve as a framework to engage and sustain communal stewardship of the infrastructural and productive landscape.

MATERIALS AND METHODS

In order to develop a manageable design solution at the scale of a housing cluster or a neighbourhood, it was necessary to first understand the links between land use and the environment. For the analysis, geospatial mapping (using GIS software) was used to correlate human settlement patterns to environmental vulnerability at the national and watershed scales. These mappings were based on reports and geospatial data, generated by the United States Agency for International Development (USAID), University of Florida, United States Department of Agriculture (USDA), and the Wilson Center (Smucker, 2007; Smith, Hersey, 2008; Quiñones, 2007; The Woodrow Wilson International Center, 2006).

The regional scale analysis includes the following mapping:

1. **Settlement Patterns and Flooding.** As much as 25% of the population lives in the floodplain due to a reliance on subsistence agricultural production and the challenges of occupying steep terrains (FIGURE 1).
2. **Subsistence Agriculture, Productive Soils, Peak Charcoal and Deforestation.** Approximately 2.3 million people (66%) depend on agriculture for their subsistence, while only 28% of land is arable and 63% is too steep for agricultural production. With nearly 70% of energy consumption fuelled by biomass, only 3% of Haiti's forest-cover remains, in contrast to 60% cover in 1923 (FIGURE 2).
3. **Soil Erosion Risk Index and Watershed Vulnerability.** This classification combines four factors: slope, soil erodibility, climate erosivity, and vegetative cover and ranks the risk from low to extreme. Soil erosion is exacerbated by ongoing deforestation and is intricately linked to watershed vulnerability, i.e. runoff contaminates surface water systems and potable water reserves (FIGURE 2).
4. Potable Water and Sanitation. Only 54% of the population has access to an improved water source, while 30% have access to toilets. Public systems for the handling and disposal of human waste are virtually non-existent.

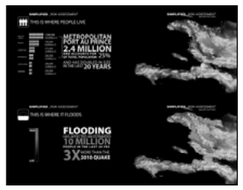

FIGURE 1. Settlement pattern and flooding.

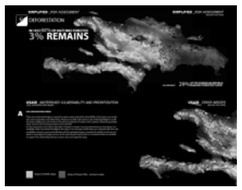

FIGURE 2. Deforestation and soil erosion risk.

Two primary conclusions arose from the mappings. As stated in the USAID report: "urban planning is a high priority for watershed management and for addressing the heightened vulnerability of urban populations and productive infrastructure. Flood maps should be used as a tool for organizing around drainage, water supply, waste management, building codes, and zoning" (Smucker, 2007). In response, the project proposal presented in this paper concludes firstly that urban development in the floodplain should be discouraged. Instead, a new model for hillside urbanism should be developed – a model, which integrates "hydrologically functional landscapes" as an organizing framework within both existing and new urban developments. Secondly, from ridge to reef, slope stabilization and watershed management are essential in mitigating the environmental risk of hillside and floodplain. Following the USAID objectives for soil conservation and reforestation, this proposal recommends converting hillsides from crop agriculture, which is erosive, to tree-based perennial agriculture (Smucker, 2007). Furthermore, it is imperative to consider the interdependence between water, soil and vegetation to reduce runoff and soil erosion, and capture water runoff in order to optimize soil productivity (i.e. vegetal growth).

The same regional principles work at the scale of the housing cluster and neighbourhood; the construction techniques and design solutions address slope stabilization (Schor, Gray, 2007; Smucker, 2007), water catchment and reuse (UNEP; WaterAid), agricultural cultivation (Greenfield, 1990; Bannister, 2003; Reubens, 2011) and community stewardship (Machado, 2003; Forsman, 2009; Rivera, 2009; Salingaros, 2006; Edmond, 2007). The techniques include four categories: 1) Erosion Control (Vetiver grass, rip rap, French drain, terracing, living fences, gully plugs), 2) Agroforestry/Agriculture (mango trees, coffee, cassava, beans, sweet potatoes, avocados), 3) Water filtration (bio-sand, chemical purification, UV filtration, industrial filtration, boiling purification), and 4) Architectural Techniques (Lakou organization, confined masonry, gabion wall, timber frame, woven Vetiver grass screens, potential for expansion). These techniques were evaluated comparatively according to the following criteria: economic viability, social enhancement, erosion control, water management, productivity, nutrition, and energy consumption (FIGURE 3).

	Econmic Viablility	Social Enhancement	Water Attenuation	Water Collection	Productivity	Nutrition	Engergy Consumption	Erosion Control
Erosion Control								
Vetiver Grass	5	0	3	na	5	0	5	5
Rip Rap	2	0	0	0	0	0	1	5
French Drain	3	0	3	3	5 (with use of urbble	0	3	2
Terracing	2	0	3 depends on vegetation	4	4	0	4 (plant based)	2
Living Fences	4	5	4	3	5	5	4	4
Gully Plugs	4	0	3	4	2	0	3	3
Agroforestry/Agriculture								
Mango	4	4	5	4	5	4	4	4
Coffee	3	3	4	0	3	2	1	1
Cassava	5	3	2	2	5	4	3	0
Beans	5	3	2	2	5	4	4	2
Sweet Potatoes	5	3	2	2	5	4	4	0
Avocados	4	4	3	3	4	4	4	3
Water Filtration								
Bio-Sand Filtration	5	5	na	na	5	4	5	na
Chemical Purification	3	na	na	na	2	4	4	na
UV Purification	1	na	na	na	2	4	1	na
Industrial Filtration	1	5	na	na	5	5	0	na
Boiling Purification	3	2	na	na	1	3	0	na
Architectural Techniques								
Lakou Organization	5	5	na	na	5	na	5	na
Confined Masonry	3	4	na	na	4	na	2	na
Gabion Walls	4	1	4	4	5	na	5	5
Timber Frame	2	3	na	na	5	na	3	na
Vetiver Screen	5	4	na	na	5	na	5	5
Potential for Expansion	5	5	na	na	5	na	5	na

FIGURE 3. Evaluation Matrix.

The lack of governance and jurisdiction presents a challenge when considering the integration of an infrastructural and productive landscape. The critical question for the implementation of this proposal concerns what could guarantee the preservation and maintenance of the proposed infrastructural and productive landscape. An important principal of the design was to embed a social structure and communal stewardship as part of the scheme. Here, the actual physical space of the hydrologically functional landscape is associated with an indigenous and meaningful social structure, known as the Lakou. Translated "group living" from Creole, the Lakou was a common rural clustering method that arose from the time of the Haitian War of Independence. Traditionally, the Lakou is comprised of 5-7 households of both biological and non-biological kinships that surround a communal courtyard and are encircled by a garden. These spaces were set up as primarily as a method of agricultural self-reliance. Based on the African system of multiple mothering, the Lakou system allows for parental support among families, while maintaining economic independence, such that each household is accountable for their own landholdings outside the Lakou proper (Edmond, 2007). The courtyard of the Lakou is considered a space of worship for all Haitian religions, a gathering place for socializing, and a political arena. Within this project proposal, the courtyard structure, which carries a deep cultural meaning and shared understanding of the role of community, serves as a mechanism to uphold and upkeep the proposed "hydrologically functional landscape" intervention.

The nutritional and economic productivity and self-reliance of the hydrologically functional landscape further incentivizes the protection and maintenance of the landscape. While Vetiver grass and fruits-trees provide for slope stabilization and water management, they also provide economic profitability. For instance, vetiver oil is harvested for use in cosmetics and the grass can be woven into textiles, while mangos and Jatropha trees can be sold for their produce and biofuel, respectively. Finally, the catchment and retention of water for reuse in irrigation and for other household functions (provided that the water is properly filtered) compensates for the lack in the centralized provision of potable water.

RESULTS AND DISCUSSION

The design strategies were tested on two distinct and prototypical site conditions in the metropolitan area of Port-au-Prince: 1) an existing hillside development that was destroyed by the 2010 earthquake, and 2) an undeveloped area, which is located on steeper terrain, upslope from the existing developments. In both cases, the schematic design consists of topographic grading employed to form terraces, whose edges are reinforced with Vetiver grass. Each terrace is planted with a vegetable garden and

shaded by fruit trees (a common agroforestry technique). The overall dimensions of the courtyard are large enough to supply 10% of each family's nutritional intake, yet small enough as to discourage the invasion of a housing structure. The terraces and planting are designed to attenuate the flow of water and promote infiltration and evapotranspiration. A series of gabion structure (rock filled wire cages) are embedded below grade and at various points along the slope to capture large volumes of water and further reduce the volume and velocity of the erosive water flow. Since the gabion is also load bearing, it could serve as the foundations of new housing structures, or any platform, communal gathering, cooking areas, etc. The water collected in these reservoirs can be filtered via sand filters and reused for irrigation during drought (FIGURE 4).

ral will" (Machado, 2003: 14). The design strategy explicitly addresses the Haitian settings, where agriculture is critical to the economy and sustenance of its population, and where centralized efforts and mechanisms, which have proven to be effective in the rehabilitation of public space and infrastructure in cities such as Rio de Janeiro and Bogotá are absent or ineffective.

The design strategy aspires to the Favela-Barrio's "kindness and respect for the inhabitants; …a warmth that comes from a genuine understanding of the real condition in the favelas…" (Machado, 2003). As Machado describes: "(Jáuregui Architects) realize that their architecture serves a social purpose, that it cannot afford to be disliked by the community, and that it must be understood to be accepted, maintained, and kept functioning by the

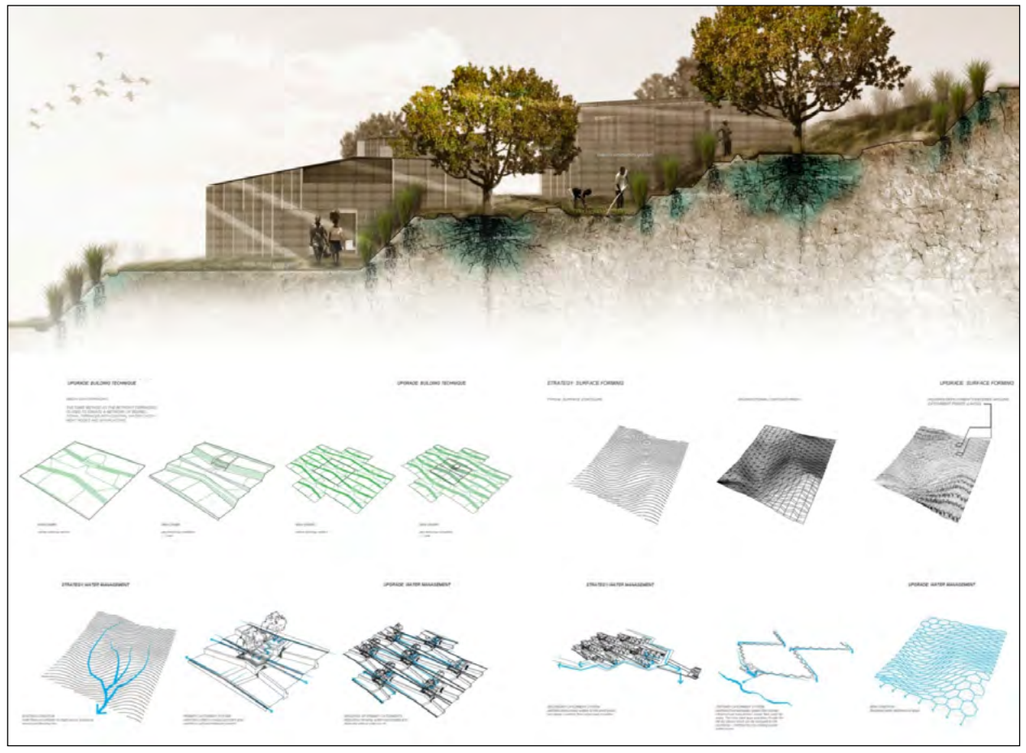

FIGURE 4. Proposed Ecological and Social Scheme.

The integrated design strategy uniquely assembles a series of simple and local practices with locally harvested materials, whereby its implementation is not dependent on a centralized authority. Its autonomous structure is replicable and adjustable to various slope conditions and site dimensions. Not unlike the Favela-Barrio project, this project is site-specific and "does not claim universal value for its actions…"(Its) "architectural image results from local circumstances, not from formal architectupopulation" (15). This notion is seconded by architect Mark Gilbert in reference to his project proposal in Jacmel, Haiti, who states that community engagement fosters a sense of ownership and hence, the realization of the project (Rosenfield, 2012). Along the same lines, Elizabeth Mossop writes in reference to the Favela-Bairro that "..social and economic change are integral to the projects' development, and social costs are as important as more traditional economic measurements. To the projects' developers, dwelling is about more than simply

having a house; it is about a whole urban setting of infrastructure, goods, and services that allow development for individuals and communities" (Mossop, 2003). Embedded social and economic mechanisms eventually give rise to a formal structure of community engagement such as training programs and the formation of management organizations (Mossop, 2003).

CONCLUSIONS

In conclusion, given the environmental, economic and political constraints in Haiti, the medium of landscape architecture offers an integrated "double duty" design model, which challenges the conventional definition of "infrastructure" or "housing development" in a practical and feasible manner (Stigge, 2009). As Elizabeth Mossop remarks: "By placing greater emphasis on the implementation of these ecological interventions, an even higher level of infrastructure and amenity could be provided for a modest cost. The relatively low cost of planting and soft works and the simplicity of their application make them often preferable to traditional constructed engineered solutions in these settings" (2003). For new developments, these double-duty landscape techniques and their respective open space configurations should be considered pre-emptively as an organizational framework for urban morphology. The same principles can be adapted, re-scaled and incrementally deployed to fit existing communities. It is landscape architecture's qualities of adaptability, scalability and independence from centralized infrastructure and authority that empowers the affected community to self-organize and take action.

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Sustainable water use in Mediterranean landscapes

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ABSTRACT

Green spaces play essential roles in urban areas from the environmental, social and aesthetic point of view. However they need water in order to stay healthy and their maintenance is especially difficult in Mediterranean climates due to the seasonality of rain – hot and dry summers. Nowadays, the drought intensification is increasing water scarcity. Consequently there is a strong need for sustainable water management in order to avoid competition for water resources. Urban green spaces are typically conditioned by stereotypes that often lead to high water requirements in order to perform the recreational needs. There are several ways to adjust green spaces to water availability, such as the selection of species.

In this study we intend to attest that plants native of regions with Mediterranean climate under conditions of deficit irrigation are able to achieve ornamental value and at the same time keep identity and sense of place. Meanwhile, we are also studying if the use of reclaimed water for irrigation may contribute to minimize potable water consumption, without harming public health. Under this framework experimental tests are being carried out, in which plants are irrigated with different amounts of water according to the local evapotranspiration, as well as different types of water: (1) groundwater (2) disinfected reclaimed water from the Beirolas WWTP in Lisbon (PT). Three groups of native woody plants with contrasting characteristics are being investigated such as plant growth, aesthetical value, environmental, health safety and water stress. Group 1 is composed by Labiataea family shrub species, evergreen, with narrow and elongated leaves, small pink/purple flowers during the entire year, used as ornamental and aromatic. Group 2 is formed by shrubs from Mediterranean forests, medium-tall sized, evergreen, elliptical dark green leaves, glossy leaves on top, used as hedges in protection or framing areas. Group 3 is formed by shrubs from temperate forests, deciduous, medium sized, thorny, with numerous and ornamental small white flowers, used as framing areas or as a physical barrier due to the thorns.

Our hypothesis is that planting native species under deficit irrigation conditions and/or irrigating them with disinfected reclaimed water, can create gardens full of identity and sense of place, and at the same time close the urban water cycle through water reuse.

Keywords: mediterranean climate, native species, plant water requirement, recycled water, xeriscape.

INTRODUCTION

Water is an indispensable resource for life on Earth, valued from ancient civilizations, which soon recognized water importance.

Despite not having the technology that we now have access, ancient civilizations have developed effective techniques for (1) capture, (2) storage and (3) conveyance of water, which allowed them to survive and develop their economic activities, such as agricultural production, as they were able to ensure water availability during almost the entire year.

Those techniques were applied in Portuguese green spaces along the centuries, and they were of major importance as mainland Portugal faces a Mediterranean climate, with rain seasonality, and water scarcity in summer.

In fact, water was always present in Portuguese gardens: supplied through water subterranean channels or water holes, stored in tanks and lakes, and conducted by gravity in channels and gutters, bringing together the function and the aesthetic components (Castel-Branco *et al.*, 2008).

However, water was perceived as a non-limited natural resource, as it was renewed every year, in the course of the seasons. Consequently, man used water with few restrictions, for several functions, without taking in account the resource conservation, or avoiding water losses and misuses. The knowledge from ancient civilizations was forgotten, although we believe that it should be imbibed again in contemporary gardens, adapted to our current needs.

Nowadays we are facing water scarcity, but we keep using potable water for less noble uses, such as irrigation or pavement washing. For example, and according to the Lisbon Water Matrix (2004), Lisbon Municipality is responsible for consuming 55% of potable water for public green areas irrigation versus 8% water consumption for direct human use (Fountains and Administrative Services) (FIGURE 1).

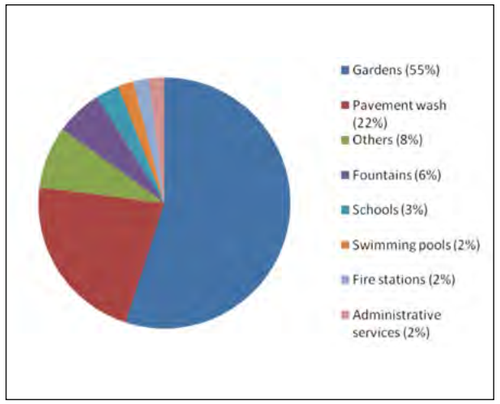

FIGURE 1 – Potable water consumption by Lisbon City Council, 2004 (Lisboa e-Nova, 2006).

Also, methods developed for agriculture are being used to evaluate plant water needs in green spaces, although we do not aim maximal production in our gardens. On the opposite, the main aims are to keep plant healthy, with ornamental quality. At the same time, less irrigation may be an advantage as it reduces biomass production and plant growth, leading to decrease maintenance costs.

Costello (2000) developed a guide to estimating irrigation water needs of landscape planting in California, and defined a "landscape coefficient"(kl), which adapts the cultural coefficient to gardens and landscapes heterogeneity. Kl is achieved by multiplication of species coefficient, micro-clime coefficient and density coefficient.

These species coefficient was calculated empirically for 1800 species existing in California, grouping them according to four categories: "very low" (under 10% evapotranspiration needed), "low" (10% – 30%), "moderate" (40% – 60%) and "high" (70% – 90%).

However, there are few research about species coefficients, which allow us to determine it accurately, or to measure plants response when subjected to deficit irrigation.

Costello (2000) also empirically defines variation intervals for density and microclimate coefficients. McCabe (2005a) defines an exact value for each of the coefficients, assuming equal values in each type of vegetation.

For irrigation systems there are several ways to determine its efficiency, taking into account the system losses (McCabe, 2005b).

Another tool available is Gardenisa (Ferreira, Pereira, 2007), a computer model support for the management of irrigation of green spaces. This model, developed in the High Institute of Agronomy (Lisbon, Portugal), is a software which defines the water requirements and the irrigation scheduling for a specific landscape and location, through the insertion of the data previous described, such as the coefficient landscape. This model is very useful for the management of green spaces. However, it considers the characteristics of the vegetation based only on empirical water needs assessments.

We consider that the water management in green spaces may be improved, not only by means of the appropriate selection of plants, but also for its grouping according to their water requirements. However, there is little information available for landscape architects. Araújo-Alves conducted a PhD thesis for two species water requirements: Santolina chamaecyparissus L. and Arbutus unedo L. (Araújo-Alves, 2000).

Xerogardening is a concept which started in the United States of America induced by saving water concerns. Still, those kinds of gardens can be easily barren, aesthetically uninteresting and may not meet the desired social and recreational functions.

With our research, we intend to pinpoint strategies that promote water management in green areas, without harming their functions.

Our hypothesis is that planting native species under deficit irrigation conditions and/or irrigating them with disinfected reclaimed water will contribute to minimize potable water consumption, contributing to preserve this paramount natural resource.

MATERIALS AND METHODS

The right selection of the species is one of the challengers in order to reduce water consumption in green spaces. We may assume that native species are adapted to drought and are able to play an aesthetic role even under low irrigation practices. Although there are little information concerning native plants water requirements, as well as their response to irrigation with disinfected reclaimed wastewater, we believe that they may create landscapes with ornamental value, generating gardens full of identity and sense of place, while saving water.

We defined three groups of woody plants, with contrasting characteristics:

– Group 1: composed by *Labiataea* family shrub species, evergreen, with narrow and elongated leaves, small pink/purple flowers during the entire year, used as ornamental and aromatic. In this group we find: *Lavandula spp. L., Rosmarinus officinalis L., Melissa officinalis L.,Origanum vulgare L., Salvia officinalis L., Teucrium fruticans L. and Thymus spp. L.*;

– Group 2: formed by shrubs from Mediterranean forests, medium-tall sized, evergreen, elliptical dark green leaves, glossy leaves on top, used as hedges in protection or framing areas. Belonging to this group are: *Arbutus unedo L., Bupleurum fruticosum L., Coronilla valentina ssp. glauca L., Laurus nobilis L., Lonicera spp., Myrtus communis L., Phillyrea spp., Pistacia spp., Quercus coccifera L., Rhamnus alaternus L. and Viburnum tinus L.;*

– Group 3: formed by shrubs from temperate forests, deciduous, medium sized, thorny, with numerous and ornamental small white flowers, used as framing areas or as a physical barrier due to the thorns. In this group we find: *Crataegus monogyna Jacq., Cotoneaster spp., Prunus spinosa L., Pyracantha spp.* and *Spiraea cantoniensis Lour.*

In the beginning of April 2011 was installed the first phase (FIGURE 2), with the following species: Lavandula stoechas (group 1), Laurus nobilis (group 2) and Prunus spinosa (group 3).

In early November 2011 the second phase was installed (figure 2), with the following species: *Rosmarinus officinalis* (group 1), *Arbutus unedo* (group 2) and *Crataegus monogyna* (group 3).

- Group 1 – *Lavandula stoechas* (phase 1) and *Rosmarinus officinalis* (phase 2)
- Group 2 – *Laurus nobilis* (phase 1) and *Arbutus unedo* (phase 2)
- Group 3 – *Prunus spinosa* (phase 1) and *Crataegus monogyna* (phase 2)

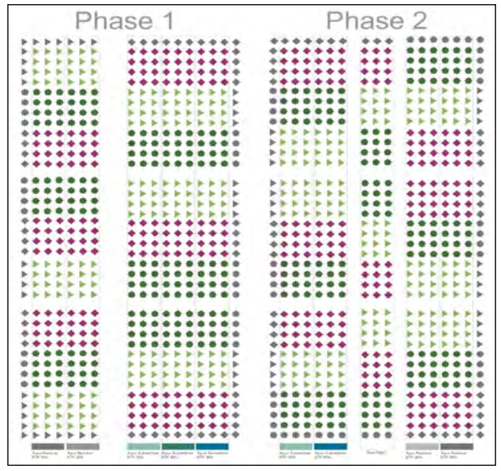

FIGURE 2. Plantation scheme, including the first phase installed in the beginning of April 2011, and the second phase installed in early November 2011.

We presume that plants from the same group have similar water requirements, and should be placed together in a garden, forming a "hidrozone", in order to improve water management techniques.

The three groups of native plants are being studying such as plant growth, aesthetical value, environmental, health safety and water stress.

All the plants were supplied by a Portuguese nursery specialized in the production of Portuguese native plants, named Sigmetum.

The plants are being submitted to different irrigation rates, according to the daily evapotranspiration values delivered by the Instituto de Meteorologia, IP Portugal, in order to find out how far we can go with lower irrigation without harming the landscape value (ecological, social and aesthetic).The chosen percentages of reference evapotranspiration (ET0) are the middle value from each category of water needs defined by Costello (Costello, 2000): 20% for "low"; 50% for "moderate"; and 80% for "high". One group of plants from phase 2 is being conducted with no irrigation, only the available rain.

At the same time, we are testing two different types of water: groundwater (H_2O –1, corresponding to the blue colour in FIGURE 4) and disinfected reclaimed wastewater (H_2O – 2, corresponding to the gray colour in FIGURE 4).

We assume that these techniques may contribute to minimize potable water consumption, without harming public health.

The irrigation system is very important and allows accurate determination of the amount of water applied on irrigation. It was installed a drip irrigation system, with an automatic controller (FIGURE 3).

H_2O 1 – Groundwater
H_2O 2 – disinfected reclaimed wastewater
ETP 1 – 80% of the percentages of reference evapotranspiration (ET0)
ETP 2 – 50% of the percentages of reference evapotranspiration (ET0)
ETP 3 – 20% of the percentages of reference evapotranspiration (ET0)

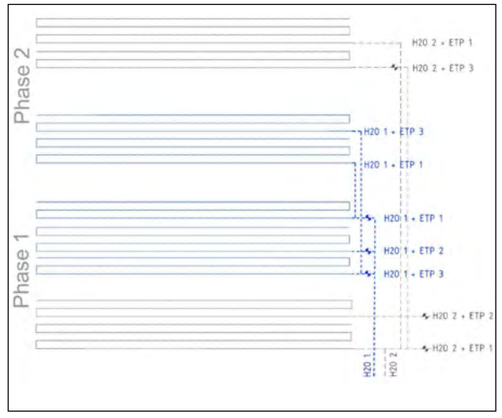

FIGURE 3. Irrigation scheme, including the different water qualities, as well as the diverse water ammount.

Periodical comparative observations are being performed in the following dates:

– for phase 1, plants were monitored between beginning of July 2011 and end of October 2011, corresponding to the first summer growth;
– for phase 1, plants will also be analysed between beginning of Spring and end of the summer 2012, corresponding to the second growth period;
– for phase 1, plants will also be analysed between beginning of Spring and end of the summer 2012, corresponding to the first growth period.

Water and soil are being analysed during the field

FIGURE 4. Experimental field on March 2012.

experiment. Resin capsules were also used for absorbing chemical elements (as ions) from the soil solution, simulating the plant root absorption and giving information about root uptake, but the results are still under analysis (FIGURE 4).

RESULTS AND DISCUSSION

As mentioned before, monitoring of the field experiment is still going on.For the plants installed in phase 1, it is notorious that the ones irrigated with disinfected reclaimed water are in an advanced stage when compared to the ones irrigated with ground water, but statistical analysis are being conducted through an analysis of variance (ANOVA).

Until now, all plants are healthy, even the ones irrigated with reduced water amount. We expect to have the full results by the end of the summer, comparing the development of the three different groups.

CONCLUSIONS

Native species are well adapted to the low irrigation practices, as well as to irrigation with disinfected reclaimed wastewater, which allows us to minimize potable water consumption.

We are testing six different species, each two of them representing one group of native woody plants with contrasting characteristics. Therefore, three groups of native woody plants are being analysed and it may be possible to extend the obtained results to other plants from the same group, in order to improve water consumption in green areas.

This methodology may be applied in further research studies, in order to achieve results and define water irrigation needs for other groups of plants.

Adopting the kinds of procedures developed in this framework, together with the correct choice of species, their correct location in green spaces, and the adequate irrigation system, we are able to significantly reduce water consumption. The use of native species under these circumstances may create landscapes with ornamental value, generating gardens full of identity and sense of place, and also contribute to save water.

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Understanding users' needs and public spaces: Review and recommendations for a Lisbon's case study – Avenida da Liberdade

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ABSTRACT

Public spaces are the harbour of cities' life, where people meet and engage in different offered by the surrounding physical environment The human dimension in city planning and the need for quality in the public realm of our cities, has been a focus of research in various fields of research.

For landscape architects it is crucial to understand how people relate to public spaces and whether these spaces can meet users' needs and expectations. Therefore, this study draws on the need to understand Lisbon's public life. To do so Avenida da Liberdade, one of the most emblematic avenues of the city which was the first public promenade in Lisbon (1764), was chosen as a case study. Through the use of a mixed methods methodology, behavior mapping and participant observations, and finally questionnaires, these methods aimed to answer questions such as "How the space is designed and structured?", "How is Avenida da Liberdade used?"; "What do users do? Where and when?" "What do they like and dislike?", "Does the environment meet peoples' expectations?", "What are the conflicts between the pedestrian and automobile traffic?"

The results revealed an avenue that faces vast problems such as pollution, noise, car traffic priority, and lack of spaces to rest. However the avenue also showed its potential for social interaction, and characteristics such as the green structure, the majestically trees, the open space and the outdoor cafes were valued by the users.

A set of recommendations based on the results was proposed in order to improve the quality of this emblematic public urban green space, regarding user's needs and suggestions, most of them related to social benefits, urban equipments and activities. These recommendations were also developed regarding ecological and aesthetic concerns and intended to contribute for design this avenue as a truly peoples' place.

Keywords: mixed methods; green spaces; activities; users' needs; social benefits.

INTRODUCTION

Public spaces are the harbour of cities' life, where people meet and engage in different activities offered by the surrounding physical environment. Cities all over the world are rediscovering their public spaces and a general awareness has been awakened regarding the need for dignified, high-quality city environments for people (Gehl, 2004). Public space is made up not only of physical space, but also of a more complex interrelationship of variables such as: users, design, accessibility, location, activities, materials, time of day, culture and policies. These variables allow different important benefits and values to emerge, including: economic and social values; benefits for all age groups, health and wellbeing benefits, safety and reduction of crime as well as biodiversity issues (CABE, 2004). It is possible to find different examples of these values and benefits in the relevant literature. The social dimension of each public space, foster: social networks, the manner in which users interact in a particular space, a diversity of users, and the exchange of friendship, ideas and skills (Francis, 2003; Worpole & Knox, 2007), Authors, including William White (1980) and Jan Gehl (1987), have mapped comprehensively the use of public spaces and types of outdoor activities (e.g. walking, standing, sitting, eating and reading). The human dimension in city planning and the need for quality in the public realm of our cities has been a focus of research in various fields. Research conducted by Moore and Cosco (2010) in behaviour mapping[1] and Preiser *et al.* (1988) with the development of Post-occupancy evaluation[2] enhanced the benefit of understanding the relationship between a place and its users, since it may offer useful information to design and plan urban spaces that respect user's needs.

1 Behaviour mapping is an observation method that allows to observe and map space's uses. The data revels behaviour patterns and visualise physical activities and special behaviors.

2 Post occupancy-evaluation is a process to evaluate an environment in a systematic and accuracy way after being built. It focus on the users and their needs and relate past designs with today uses.

For landscape architects it is crucial to understand how people relate to public spaces and whether these spaces can meet users' needs and expectations. Therefore, it draws on the need of understanding the relationship between a place and its user´s, how this relationship works and how can we understand public life, as much as possible, and how can we use and interpret those measures in drawing, building or enhance our public places.

This study calls for the need to understand Lisbon's public life and its role in the requalification and redesign of Lisbon's public places. It is a first approach on how this public life can be accounted and how landscape architects can use it to improved quality in public places.

As a case study, this paper, will explore the public life of Avenida da Liberdade, one of the most emblematic avenues of the city which was the first public promenade in Lisbon (1764), located in the city centre. Throughout the time, the Portuguese public life changed, and so it changed the uses of the public spaces such as the Avenida da Liberdade. After the dictatorship ended in 1974 and public space started to achieve its true meaning (Fortuna, 2005). The social panorama changed also and Portugal's predominantly rural society became more urban. The 1980s were marked by the consolidation of the democratic state, economic development and the creation of infrastructures (Fortuna, 2005). During these years, Lisbon continue to expand "without a sustainable planning logic", leading to "the desertification of the city's centre" (Serdoura, 2006).

The study aimed to answer questions such as "How is the space designed and structured?", "Who does what, where and when?", "What conditions are offered to walk, seat and stay?", "How the pedestrian and automobile traffic are and what are the conflicts between the two?".

MATERIALS AND METHODS

The methodology applied in the study of Avenida da Liberdade included the use of various methods: mixed method research. It was adapted and developed based on Post occupancy-evaluation, behaviour mapping and Jan Gehl's studies in cities such as London [3]. It was specially developed and adapted for Lisbon's central public spaces as a potential tool to evaluate the pedestrian environment, users' needs and perspectives. It considered 4 main steps: historical and social context, analysis of the physical components, observations and behaviour mapping, and its validation through surveys.

Understanding the place's history (designs, redesigns, projects and historical and social context of the place), the objectives and aims of its origins and the different design projects/requalification it was subject to, gave an understanding of the Avenida's role in city's culture, history and social aspects.

Comprehending the environment through an evaluation of its physical conditions, from the pedestrians' point of view, allowed us to grasp what equipments and functions the space offers to its users; if there are conflicts present in the pedestrians' environment.

Observations and behavioural mapping gathered data in order to understand who uses the space, what are the activities and, when and where these activities take place. In order to gather real and accountable data, a protocol for recording the observations was established, which aimed to answer "Who does what, where and when?" research question.

In first place, the behaviour setting boundaries were defined through different typologies present on the study site; secondly strategic observations points were determinate, followed by setting observation schedules' (10 min sessions, eight times a day, representing four distinct day stages). Different types of activities such as walking, seating and staying activities (based on preliminary observations) were define to record and mapping. This protocol also registered users' gender and age group during the observations.

The behaviour mapping took place in May, June and July of 2011.

Finally, in order to triangulate previous findings, in loco and online self-administrated questionnaires were designed. The questionnaires were both structure around four main themes: who and what, how is this avenue classify by its users, what the user´s would change or add, and how they feel and think of this avenue has a public place. A total of 393 (226 online and 167 in loco) valid questionnaires were collected in July 2011.

To analyze and interpreted the data collected, a simple statistics methods (descriptive analysis of the data: frequency, mean, total number of users) were used through Microsoft Excel Office 2007.

RESULTS AND DISCUSSION

The results revealed the importance of this public place for Lisbon's population.

The methodology developed and applied in this avenue, allowed us to find out which activities occur in its day to day life and at the same time realize that, as a physical space, it offers conditions or potential conditions to such activities be performed. This indicates one of its quality as a public space in Lisbon.

The main results reveal an open green space, mainly used by adults (90% of activities recorded were performed by adult men and women), suggesting the lack of equipment or activities for children or elderly people.

3 See Jan Gehl, Towards a fine city for people: public spaces and public life: Report to transport for London and Central London Partnership (London: Gehl Architects, 2004).

Through the behaviour maps it was possible to distinguish for each time period users' distribution. It is clear that in the morning users' seem to prefer paths along the buildings as in contrast during lunch hour and afternoon the pedestrian distribution is uniform in space. Evening indicates a clear preference for the outdoor cafés areas. (FIGURE 1)

FIGURE 1. Behaviour map (lunch time).

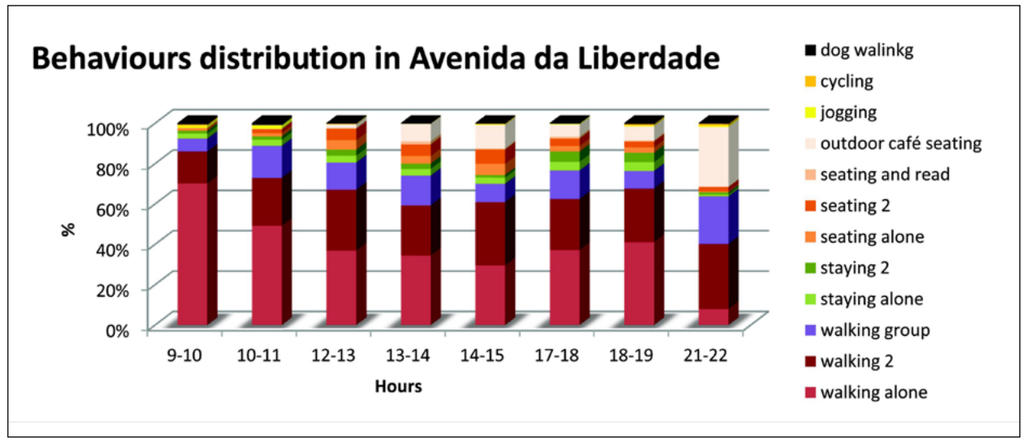

FIGURE 2. Behaviour distribution in Avenida da Liberdade (%activities/ time of day).

Activities results can be seen by three main categories: walking, seating and staying in Avenida da Liberdade[4].

For the vitality and functionality of a public space the comfort of pedestrians must be taken into account. One of the key elements for comfort, implies that the pedestrians are able to cross the roads, without major complications or obstacles. This came out as one of the most problematic conditions of Avenida da Liberdade. Those pedestrians who walk/move from beginning to end of this avenue (1 km long) or along it, find at least 6 interruptions.

Walking in this avenue, is mainly done alone regardless area or time of day, except by night, when this activity is practically nil. During the night, the few users tend to walk together or in groups, possibly for safety reasons.

Traditional wooden benches, disposed in quantity along the avenue are normally facing the roads and often in poor condition. The seating equipment offered by the outdoor cafés, although requiring a mandatory expense, emerged as favourite characteristic. This finding is in line with the importance of seating, mentioned in the important work of White (1980).

Activities such as jogging, cycling or walking the dog mean imply staying in the Avenue for longer periods of time.

The presence of these activities, even without the ideal physical structure to support them (cycling paths or staying areas do not exist in this avenue), is further more representative of this avenue poten-

4 Walking (78% of all performed activities register are related to walking); Seating (14% of all performed activities register are related to seating); Staying (7% of all performed activities register are related to staying).

tial as a people's place. These kinds of activities are proof that with favourable conditions, more "pedestrian" activities would occur. These activities have also been mentioned by other studies such as Gehl (2004) (FIGURE 2).

Evening activities and its location are very important factors for the perception of security, being one of the most important factors the number of people in it at night. If there are few activities, or if they are focus on specific areas users have the impression of being in an unsafe area and avoid it.

This avenue is a typical example of a desert area during the night, so the levels of perceived safety are very low. The difference between numbers of users during evening to the number recorded during day is enormous. This is mainly due to the lack of night activities that attract people.

These results clearly show that Avenida da Liberdade is used by people, despite the conflicts between activities and physical characteristics detected.

Looking at the historical evolution of Avenida da Liberdade, its origins and its significance as a cultural and social place, shows that this avenue is referred to as a people place, despite of their physical characteristics contradicted or complicate it, both records and observations, as the perception of its users, obtained via questionnaires, confirmed it

The results also revealed an Avenue that faces vast problems such as pollution, noise, car traffic priority, and lack of spaces to rest. However the avenue also showed its potential for social interaction, and characteristics such as the green structure, the majestically trees, the open space and the outdoor cafés were valued by the users (FIGURE 3).

Based on the results it was possible to develop a set of recommendations intended to be a general suggestions group for future requalification to exploit and develop its potential as a high quality public space.
Its main points are:

FIGURE 3. Wordcloud ("what people want in Avenida da Liberdade").

- Develop a coherent pedestrian policy;
- Establishing a balance relationship between pedestrian and car space;
- Implement cycling proper conditions;
- Invite people to stay, seat and enjoy the place;
- Improve streetscape;
- Maintain and preserve the green structure;

These recommendations should be taken as a set of measures to develop the area and not as a random set of rules to solve a current problem when it should be projected for the future.

These recommendations relate, not only to an improvement in the pedestrian area, where some activities occur but also to what it users would like it to offer.

And as this study, the recommendations presented here will always consider the inside perspective of pedestrians and given current priorities and strategies applied cannot be interpreted as quick solutions but understood as something to be develop and improved over time. It offers a chance to change attitudes and policies that will create a space in which the needs of its users must be considered (FIGURE 4).

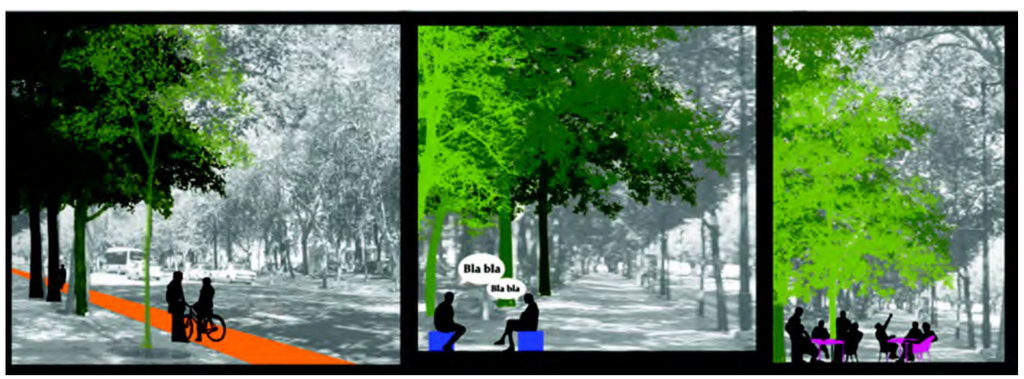

FIGURE 4. Recommendations designs.

CONCLUSIONS

The results revealed useful data regarding user's activities and needs, and a set of recommendations, which proposed is to improve the quality of this emblematic public urban green space, regarding user's needs and suggestions, so Avenida da Liberdade may became a truly public place.

This methodology proved to be a successful tool to understand users' needs in the space, and has potential to be applied in other public open spaces when the aim is to plan and revitalise the use of existing public open spaces, always bearing in mind the dynamic relationship between people and the environment. Understanding peoples' activities, attitudes and preferences is essential to meet users' expectations and therefore the methodology developed and applied in this research as the potential to be a tool in urban planning.

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The power of shade – the green infrastructure in African slums (Maputo's case study)

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ABSTRACTS

The Maputo city is often described as a dual city, the "formal city" with infrastructures, services and public space and the "informal city" with a spontaneous occupation with few elementary infrastructures (water supply, sanitation, electricity ...) or basic services.

The paper focuses the green areas in the "informal city" and briefly describes its development. The green areas are analysed according to their categories, first different types of urban fabric are identified, and after green areas are analyzed and evaluated on their services to the community, based on available images and fieldwork.

The green infrastructure is continuous between the "two cities", although with differences in green space categories. The lack of public space in the "informal city" is compensated with the private gardens, which play an important role contributing with several benefits. The most important functions from the social point of view are food production, shadow provider for open air "house activities" and recreation.

Keywords: urban africa, mozambique, rapidly urbanising world, "informal city" history, public space.

INTRODUCTION

The United Nations projections for 2050 indicate that around 70% of the world's population will be residing in urban areas (United Nations, 2009). The analysis of the UN data to Sub-Sahara African city shows that in the last decades the growth of urban population as been rapidly growing, which's corroborated by Jenkins *et al.* (2007). In most of the cities this growth is done in the peri-urban areas with precarious housing conditions.

As Rosário (1999) questions "rapidly urbanizing, especially in less developed countries, requires a careful analysis, bearing in mind that the definitions of 'urban' and 'urbanization' are often inadequate to describe the generally spontaneous expansions of human settlements". Although the author agrees with this statement, the growth of Maputo's periphery is considered urban since they are treated as being so in Mozambique.

The aim of this paper is to describe the importance of the green spaces in the slums and their contribution to the green infrastructure in Maputo. This is part of a wider research for a PhD in Landscape Architecture and Urban Ecology of Maputo's green infrastructure.

Several recent investigations have been done on architecture and urbanism in the city (Viana, Brandão Alves, 2006; Henriques, 2008; Jenkins, 2009; Viana, Rivas Sanz, 2011), but none of them focus the green spaces or green infrastructure.

There are some former studies about green spaces (Gomes e Sousa, 1946; AAVV, 1995) or street trees (Faria, 1971) but they lay emphasis on the "formal city" and the description of the object.

STUDY AREA AND METHODS

Maputo is located in Sub-Saharan Africa, on the Indian Ocean coast. It's the capital city of Mozambique, placed in the southeast of the country. The city stands on west side of Maputo Bay, and north of the Espírito Santo Estuary where the rivers Tembe, Umbeluzi, Matola and Infulene drain.

The city developed mainly in the inland plateau, between Matola city and the Infulene River on its west side and the cliff, beach system and mangrove with Incomati River on the east side (FIGURE 1). Both Infulene and Incomati valleys are important agricultural areas.

Maputo started out as Lourenço Marques, a Portuguese colonial city, obtaining the independence in 1975. Now as then, the city is composed by two different cities, a central area, "Formal city" or "Concrete city" and the periphery, "Informal city" or "Caniço city".

The first one is a planned, organized city, with infrastructures, services and rational public space, while the second is mostly a spontaneous and anarchic occupation with few elementary infrastructures (water supply, sanitation, electricity, ...) or basic services (Viana, Brandão Alves, 2006). These two cities reflect social-economic poverty and inequality.

According to Jenkins (2009) until the mid of 1940's there was a lack of state approach to land or housing provision for indigenous population which led to the development of an informal dormitory suburb for low-income population.

Despite no official separation of races, it was possible to spatially identify areas where it happened, as happened with underprivileged social classes and Africans – the informal areas. The limited recognition of "assimilated" African population led to a special housing area between the airport and the "Formal city". In the other areas the situation continued, although there was some control over the material used, it had to be temporary and easily removable. These areas had few services and due to their physiographic position, were seasonally flooded.

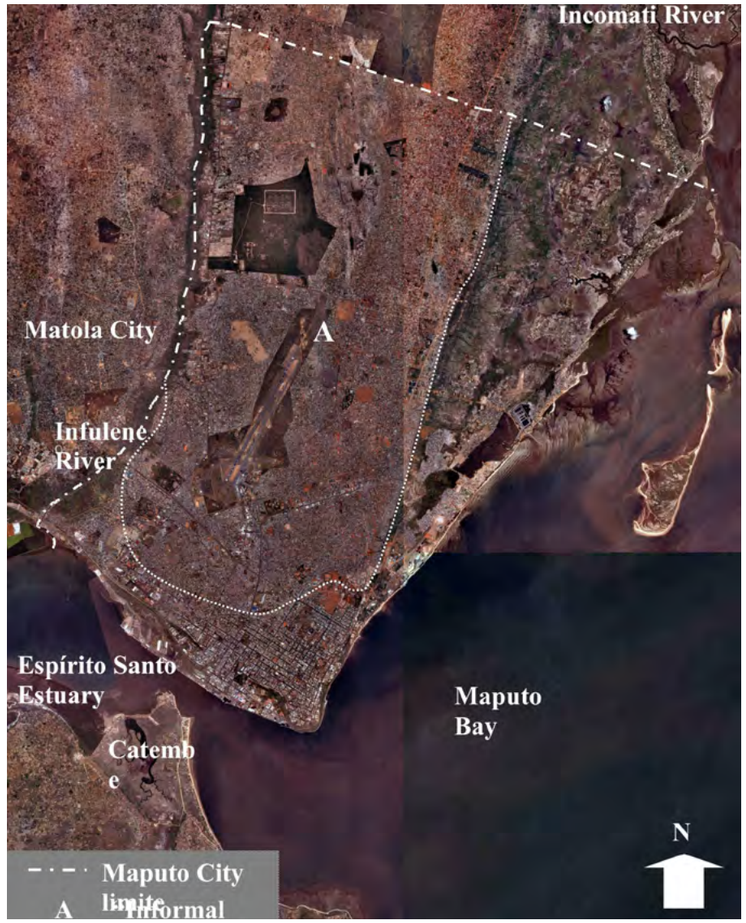

FIGURE 1. Maputo's location and the "Informal city". Source: Aerial photograph provided by FAPF–UEM.

In 1952, re-development of the "Informal city" was envisioned in the master plan in a ring around the "Formal city". It was never developed due to the costs involved and partly to the existence of a lobby that depended on the exploitation of this land for low-income population (Jenkins, 2009:11). Besides the economy was growing fast and attracted many people to the city and by the mid 1960's was accepted that the master plan had failed.

A new development in Matola, Maputo's neighbour town, predicted low income areas, which was never equated in Lourenço Marques, served as an example to the new master plan (Plano Director de Urbanização de Lourenço Marques, 1969). This plan gathered a multidisciplinary team and several studies were carried on, including a survey about the "Informal city" and a proposal to "upgrade" it closer to the "Formal city" (Azevedo, 1969).

In 1975, Portugal gives the independence to Mozambique and the decolonization and its consequences were not predicted. At this time occurred the "ruralisation" of the city. With the independence, most of the settlers abandoned the city and the population from the periphery and rural areas occupied the city (Rosário, 1999; Viana, Brandão Alves, 2006).

After the independence, the afflux of people to the city increased due to insecurity in the rural areas caused by civil war (1976/1992), natural population growth and lack of opportunities in the rural areas (Rosário, 1999).

With the continuous growth of the population, in 1980 the new planning unit from the municipality demarcated over 10.000 plots in the informal area, with some basic infrastructure and provided guidance to self-house construction (Jenkins, 2009).

Since the civil war finished, several efforts have been done by the government, ONG's and World Bank to improve the conditions but the lack of resources among other reasons makes this situation subsist, around 75% of the population of Maputo lives in this area (Gabinete Técnico do Plano de Estrutura Urbana, 2008).

To understand the importance of the green spaces in the slums and their contribution to the green infrastructure first it was made a brief analysis to the urban green areas in the city, identifying categories of green spaces. The green infrastructure definition used was adopted from Madureira *et al.* (2011) "an integrated and coherent system of multifunctional green areas that links the city with the countryside through biophysical and social infrastructure".

At this stage it was identified different urban fabric and housing condition in the "Formal city" and "Informal city" according to Viana and Rivas Sanz (2011). Next it was set the categories of green spaces adopted from Landscape Institute (2009) and adapted to Maputo: Allotment, Semi-natural habitats (includes different vegetated areas like cliff, dune system, mangrove woodland, ancient or more recent semi-natural woodlands, rivers and floodplains), Public gardens and parks, Urban plazas, Institutional ground (green spaces integrated in cemeteries, schools, universities, hospitals or associated with cultural or commercial spaces), Private gardens and Street trees.

After the green spaces were analyzed and evaluated on their services to the community, based on aerial photograph coverage, visualizations on Google Earth and some fieldwork.

Although green infrastructure implies green spaces with all vegetation strata, in this case it was stressed out spaces with trees, due to the quality and reliability of the information that can be deducted from the image material used.

RESULTS AND DISCUSSION

At a first look what gathers the "Formal city" with the "Informal city" is the vegetation. A visit to Maputo shows a strong presence of the vegetation in both "cities". The "green" spatial continuity between the "two cities", a principle of green infrastructure, is achieved with relevant differences on green space categories composition and functions.

The distribution of the green spaces in the city isn't homogenous, while in the "Formal city" it's identifiable several green area categories, in the "Informal city" these categories are reduced to the most two categories, if we exclude the allotments in Infulene and Incomati valleys and the semi-natural habitats (cliffs, mangrove woodland, dune system).

This fact is clear if we compare two images of the NDVI obtained by automatic calculation (FIGURE 2) present in the work of Henriques about five decades of land use in Maputo.

In the "Formal city" it's identifiable a linear green structure in an orthogonal grid, tree streets, other linear but organic and thick green areas, vegetated cliffs, and some patches configuring public gardens and parks, plazas, institutional grounds and private gardens. The global image is heterogeneous but it's possible to "read" a structure.

FIGURE 2. NDVI over the "Informal city" and over the "Formal city". Adapted: Henriques (2008).

FIGURE 3. Organic and orthogonal urban fabric in Maputo's "informal city". Source: Google Earth visualization [4 September 2011].

The green infrastructure in the "Formal city" provide benefits and services like: habitats for species, connecting habitats, mitigating urban heat island effect, reducing energy use for cooling buildings, carbon sequestration, attenuating surface water run-off, fostering groundwater infiltration, preventing soil erosion, space for open air recreation, sense of space and nature, cleaner air, positive impact on land and property, local distinctiveness, opportunities for education, training and social interactions.

On the other hand, the "Informal city" has two different urban fabrics with distinct origins (FIGURE 3).

The organic fabric had a spontaneous growth, started out before 1940 closer to the "Formal city" and to the Incomati River and mangrove. Here there's basically a type of green area, the "private garden", where the vegetation is randomly distributed, giving an idea of a homogenous image.

Lourenço Marques Master Plan survey to the "Informal city" studied an area between the "Formal city" and the airport (1969:4) showed that vegetation as several functions like plot compartmentation, shadow provider, food supplying, climatic regularization and biological catalyst to the excretions.

The study indicated that the majority of trees were fruit trees like *Persea americana* (avocado), *Carica papaya* (papaya), *Citrus x limon* (lemon) but also some native trees like *Trichilia emetica* (natal mahogany) and *Sclerocarya birrea (marula)*. Nowadays, in addition to the trees identified, it's possible to find some other tree fruits like *Cocos nucifera* (coconut), *Mangifera indica* (mango), *Artocarpus heterophyllus* (jackfruit) and *Anacardium occidentale* (cashew), keeping the same randomly distribution.

The orthogonal urban fabric started out in the 1980's and has been extending since then. In this "planned" areas, it's possible to find another category of green space besides the private garden, the institutional ground. The general image is homogenous, with vegetation randomly distributed but where the orthogonal grid of roads keeps the trees away. The trees found in these private gardens are the same as the one's found in the organic urban fabric.

In the "Informal city", whether it's organic or orthogonal urban fabric, the functions in the private gardens are the same: food production, climatic regulation, space for open air recreation and "house activities" (cooking, washing dishes, …), sense of space and nature, mitigating urban heat island effect, carbon sequestration, attenuating surface water run-off, fostering groundwater infiltration, preventing soil erosion, cleaner air, habitats for species and connecting habitats.

The TABLE 1 below synthesizes the characteristics of the three main situations found in the city.

TABLE 1. Maputo's description of the "Formal city" and "Informal city".

	Formal city	Informal city	
		Spontaneous	**"Planned"**
Urban fabric	Big orthogonal fabric	Organic fabric	Small orthogonal fabric
Housing condition	Medium/good	Precarious	
Planning	Yes	No	Yes
Green spaces/ structure layout	Heterogeneous image; vegetation distributed on orthogonal grids, organic lines and patches	Homogenous image; vegetation randomly distributed	
Green space categories	Semi-natu al habitats, urban plazas, public gardens and parks, institutional ground, private gardens, street trees	Private garden	Private garden, institutional ground
Green space function	Recreation, sense of space and nature, climatic regulation, mitigating urban heat island effect, cleaner air, carbon sequestration, preventing soil erosion, attenuating surface water run-off, fostering groundwater infiltration, habitats for species and connecting habitats	Food production, climatic regulation, space for open air recreation and "house activities", biological catalyst to the excretions, plot compartmentation, sense of space and nature, mitigating urban heat island effect, carbon sequestration, preventing soil erosion, attenuating surface water run-off, ostering groundwater infiltration, cleaner air, habitats for species and connecting habitats	

The "Formal city" is rich in green space categories, some of them belonging to public space but in the "Informal city" the main urban green category found is private gardens.

CONCLUSIONS

The green infrastructure is continuous between the "Formal city" and the "Informal city" with a considerable difference in the number of green space categories that can be found and some differences in their main functions.

The private garden is the main category in the slums, allows the green connectivity between the "Formal and Informal city" and performs different functions. Although the quality of life in the "Informal city" is far from good, the green infrastructure in the slums plays a major role, contributing with a wide range of benefits. Due to their condition, the main social benefits of these green spaces in the slums are food supplier and shadow provider for open air "house activities" and recreation.

With this "urbanization in poverty" a new model of city is needed, but it's important to get to know the informal green areas in Maputo's slums, their importance and social role, to help to create spaces of identity for already uprooted people.

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Recreational Planning and Landscape Design of Riverside outdoor recreation
A Case study of Gyan in Nahavand (Iran)

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ABSTRACT

The formation of permanent rivers by springs on the morphologic valley-river bed in suburban areas is one of the water resources seen throughout Iran and the special ecological characteristics of this settlement have caused riverside outdoor recreation by which plenty of visitors could be attracted. However due to lack of facilities, these sites cannot meet the visitors' demands. On the other hand, the rapid development of cities is largely affecting the surrounding nature and thus challenging the presence of such outdoor recreations.

In this research, one of the natural outdoor recreations of Hamedan Province called 'Gyan' has been studied. It belongs to Zagros Surviving Vegetation that is a green heritage with the ancient civilization of Gyan which had been formed beside Gyan Spring and River, in the vicinity of Nahavand City, now being a natural – historical – recreational attraction. This suburban area is now acting as a green infrastructure playing a significant role in absorbing visitors and local communities.

The main objective of this research is providing a methodology for planning and designing this type of outdoor recreation and providing a functional and physical development plan. In the recreational planning process of the outdoor recreation beside Gyan River Banks, firstly the recreational resources were investigated by collecting relevant documents and analyzing the information and also carrying out field survey. Subsequently, an assessment of recreational capability with overlaying natural setting layers was conducted (McHarg Method); the landscape visual evaluation was done using the GIS (Geographic Information Systems); visual and landscape baseline analysis and visitor trends and preferences were estimated using questionnaires which were specially designed for this research. Eventually, the needs and recreational demands were recognized and recreational land use locations as well as the relationship between them were determined.

The final stage in the adaption of research findings, was to design Gyan Riverside Outdoor Recreation with consideration of recreation planning and sustainable design principles with a purpose of providing a development plan, so that it truly stands as a representative of their native identity and enhancing the quality of the environment.

Keywords: riverside outdoor recreation; recreational planning; landscape.

INTRODUCTION

Nowadays, outdoor recreations are emphasized as multi-purpose spots. Most of the people prefer natural areas with access roads which have no sign of urban civilization. Besides, in most natural areas, users affect the nature and destroy the natural elements; for instance they make noise of that such as make noise and disturbance or chaos in the wildlife.Owing to their attraction some areas face overheading visitors which may be more than their capacity and due to lack of recreational planning for such areas various damages are caused. Thus, having a suitable management over the visitors in order to preserve these natural areas in addition to meeting the visitors' goals and giving them pleasure is essential.

Most of the outdoor recreations require planning and recreational designs in order to decrease the pressure caused by visitors and to reduce the visitors' negative effects. To meet this goal, leisure facilities should be placed in such areas creating positive effects which give the visitor a pleasant feeling and experience which could act as a motive for returning to the place in the visitor's mind and it may also make the visitor recommend the outdoor recreation to others. Hence, design of outdoor recreations must be in accordance with natural and wildlife features and it is important that no human and manmade aspects are present as one of the main attractions for these kind of areas as a key of attraction of these areas which however should not decrease the spiritual values and characteristics of these areas. A challenge for designers is to provide the visitors with facilities and the necessary needs without destroying or spoiling the aesthetic qualities. In fact, design of outdoor recreations should accomplished so that the sustainability of these areas is preserved and it should provide the future generation with the opportunity to enjoy the natural values of the outdoor recreation at an even higher level (Bell,1997).

Due to the above-mentioned reasons, creating certain style and characteristics for the site as well as an aesthetic design on a large scale may be accom-

plished using local material and also by maintaining the rural appearance of the area.

On the other hand, with the increasing rate of urban development, natural outdoor recreations located in the vicinity of urban areas –which have unique ecologic features face serious threats such as investors who tend to build temporary accommodations like hotels, villas and etc. In such cases the local people would have little participation and they would not profit from the tourism occurring in the area. Taking into account the ecotourism principles can lead to an increase of the locals taking part in the economic benefits of the outdoor recreation; moreover, the locals can add to the natural aspects of the recreation center.

RECREATIONAL PLANNING

Recreational planning is a process which relates the leisure time to location ad area. The essential solution in recreational planning is to create a suitable and sustainable equilibrium in long-term between limited recreational resources and the human trends and demands. In order to do this, existing and potential resources (supply) and the users' needs (demands) must be precisely determined to provide the possibility of implementing physical planning. In recreational planning and design, a combination of environmental and sociological data in order to extend the alternatives with a goal of making an optimum use from of leisure, space, energy and finance, in a way to adjust with human needs, has been utilized (Mikaeili, 2004).

In recreational planning considerable emphasis is put on the protection and maintenance of open spaces and development of such spaces in order to meet the recreational activities (Mikaeili, 2007).

In a systematic approach toward the recreational planning process, this process consists of five main stages that complement each other (Mikaeili, 2004):

1. Surveying the recreational resources (supply);
2. Accurate determination of users' recreational needs (demand);
3. Accurate determination of recreational supply and demands on a long-term basis;
4. Providing alternatives in recreational planning;
5. Providing recreational plans and designs;

Most recreational plans must be based on the participation of local communities and planners, so a suitable combination of the local culture, employment aspects and the economical capacity must be foreseen, otherwise the users' needs will not be met (Mikaeili, 1996).

Some important principles, which have to be considered in recreational planning include:

1. Orienting the natural structure and facilities based on users' demands;
2. Making an optimum use of the landscape and environment (visual) from a functional and aesthetics point of view;
3. Creating a relationship between ecological characteristics of the natural environment and the planning;
4. Using simplification principles in the planning of recreational spaces;
5. Economical and low cost recreational plans for users;
6. Creating a harmony between the dimensions and scale of recreational plans with a recreational function and making collaboration between the design and the surrounding environment;
7. Providing the needs and demands of different age group;
8. Making use of visual effects;
9. Use of natural vegetation and adapting with natural the setting (Mikaeili,1996).

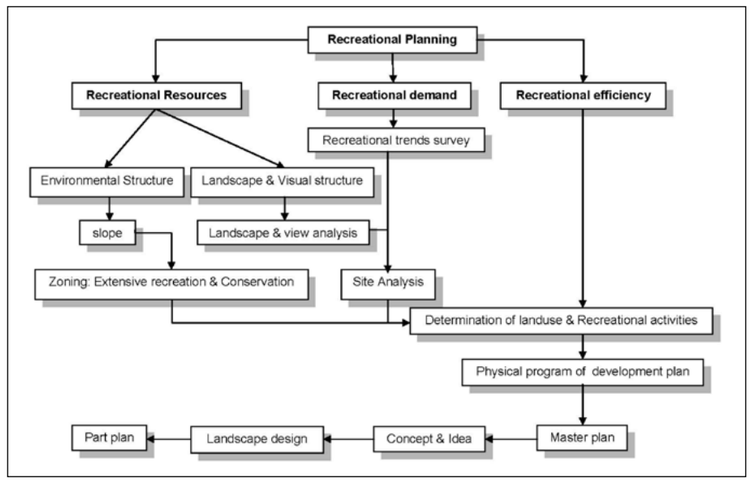

FIGURE1. Process of recreational planning and landscape design.

The International Ecotourism society (TIES) defines Ecotourism as a responsible travel to natural areas that conserves the environment and improves the well-being of local people. Ecotourism is a supervisor on environmental considerations and sustainable development and traveling is in the second priority of importance (Rezvani, 2008). Natural attractions are one of recreational resources in ecotourism and this attractions are located in most of rural areas, as a result of this ecotourism has intense relation with rural tourism. Main challenge of tourism is its performance in a manner of sustainability that can be used as a opportunity.

Ecotourism in natural wild areas and sensitive ecosystems that are related to them, can help to these areas in its suitable performance.in fact, besides of an important source of income for local economics, ecotourism has high potential to conserve biodiversity and sustainable use of biodiversity elements.

Ecotourism principles:

In studies related to ecotourism, infrastructure development (new methods of environment conservation)monitoring proceedings(impressions of tourism on environment)and ecotourism regional planning(local societies cooperation)studies are related to energy and deduction of waste production and ecotourism education and development of small commercial sectors and marketing have an important roles (Rezvani, 2008).

Case studuy Sarab-e-Gyan

Sarab-e-Gyan is located in southern of Hamadan province in 15 km distance southern west of Nahavand city and has 1300 meters distance to Gyan village, which has a global history. Sarab-e-Gyan is named because of its spring that originates from calcified soil. Sarab-e-Gyan is located on hillside of Gochal mountain and Bazbi in a northern hillside of 'Garin' mountain sequences that created valley, which is named Sarab Darband. Springs waters in a name of Gyan river flows and spreads on Nahavand plain, besides, Gyan forest with 80.341 hectare formed in bed of valley (Nejat, Torkaman, 2000). Dominant plant species in that forests are: such Amygdalus lycioides, Pistacia atlantica, Quersus brantii, Crataegus monogyna, Salix alba and Platanus orientalis that survive from western oak forests and Zagros mountain vegetation. This area is a combination of several ecosystems and biotops such as natural spring, forest reservoir – survivor of western oak forest--and implanted forest, pasture, mountainous areas (Shirkiani, 2000).

MATERIALS AND METHODS

Recreational Resource Survey

In recreational resources survey stage, natural structure and natural environments elements such as slope is identified on the basis of topography by GIS (Geographic Information Systems). Slope in Sarab-e--Gyan site ranged from 2 percent in eastern north to more than 65% in southern side of Gochal mountain.

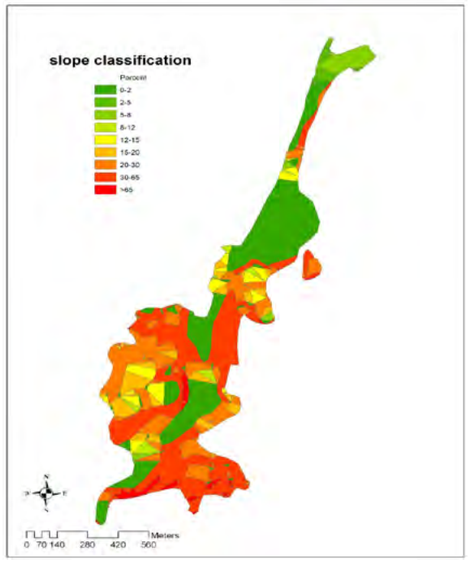

FIGURE 3. Slope Classification of Sarab-e-Gyan.

Zoning on the basis of recreational capacity

Sarab-e-Gyan site zoning is on the basis of both classification of environment conservation ecological model and tourism ecological model (Extensive

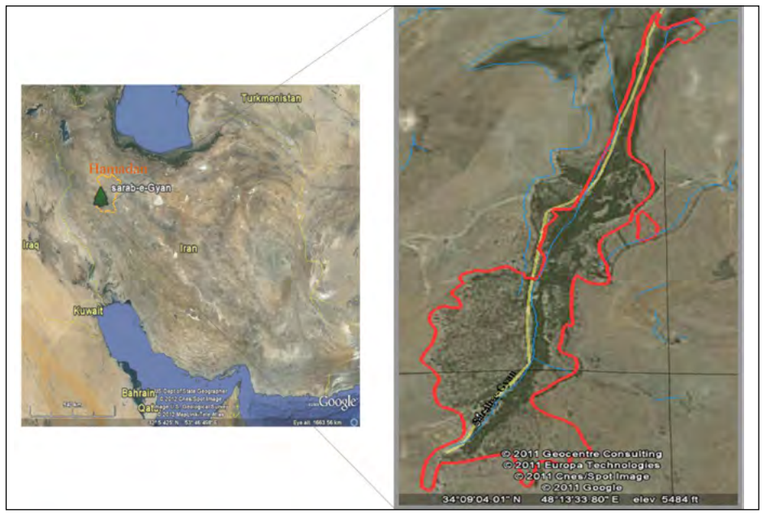

FIGURE 2. Location of case study Sarab-e-Gyan in Iran, Hamadan Province and Nahavand city.

& Intensive recreation). In conservation ecological model, conservation is done with aim of establishing sustainable development and genetic and ecologic variety and environment culture values preservation (Makhdom, 2001). An important point is that conservation and development are necessary for each other and are complementary components. On the basis of natural areas selective qualification for conservation, Sarab-e-Gyan both has habitats with slope of more than 70% and is one of biosphere reservoir and has unique plant and animal species variety with wild natural aesthetics. In tourism ecological model (Extensive & Intensive recreation) extensive recreation doesn't need to facility and any development such as climbing, horse riding, hunting etc. Facilities and infrastructure development are necessary in intensive recreation, and tourism centers need to outfit such as picnic, riding bicycle etc. (Majnonian, 1987). On the basis of slope parameter models concerning priority in tourism and conservation were elaborated (Makhdom, 2001).

TABLE 1. Slope classifications in ecological conservation & tourism models (in percents).

Slope more than 70%	Conservation ecological model		
0-25	Class1	Extensive recreation	Tourism ecological model
25-50	Class2		
Slope more than 50%	unsuitable		
0-5	Class1	Intensive recreation	
5-15	Class2		
>15%	unsuitable		

Slope classification of site is posed on the basis of slope classification in conservation and tourism models and then zoning the site of Sarab-e-Gyan is done.

TABLE 2. Slope classification of site on the basis of slope classification in conservation & tourism models.

Zoning	Slope classification (percent)	Zone number
Intensive & Extensive Recreation Class1	0-22-5	Zone1
Intensive Recreation Class 2, Extensive Recreation Class1	5-88-1212-15	Zone2
Extensive Recreation Class 1, Unsuitable for Intensive Recreation	15-20	Zone3
Extensive Recreation Class 1&2, Unsuitable for Intensive Recreation	20-30	Zone4
Extensive Recreation Class 2, Unsuitable for Intensive & Extensive Recreation	30-65	Zone5
Conservation, Unsuitable for Intensive & Extensive Recreation	>65	Zone6

Visual and landscape baseline analysis

Visual and landscape baseline analysis includes visual criteria such as unity, variety, enclosure, balance, visual attraction and scale. Form and density of plants and repeated forms of valleys in different scales (fractal geometry) cause visual unity. Existence of power lines and scattered buildings and outspread spatial layout creates opposition points and visual disturbance in contrast of nature background, movement and organic rhythm of Gyan river and vegetation, which grows in parallel of river to protect visual unity. The Gochal mountain is a dominant key element that causes visual relation with surrounding landscape and legibility. Vegetation changes with variation of elevation in environment. Most variety of topography and geomorphology causes most variety. Vicinity of trees bulks and canopies causes in compact pattern and enclosure spaces. River and road are in the same direction causes balance in nature landscape, dark and vertical form of Gochal mountain in compare of horizontal forms creates visual strength. Placing trees on the top of hills in contrast of valleys visual forces causes visual attraction. Scale with variety of the topography differs and huge scale Gochal mountain minimizes natural elements in surroundings. In addition, views analysis including of suitable and unsuitable views, strength and weak visual tension, extensive and intensive views and filtration of view with the purpose of studies completion have done in visual and landscape baseline analysis part of this research.

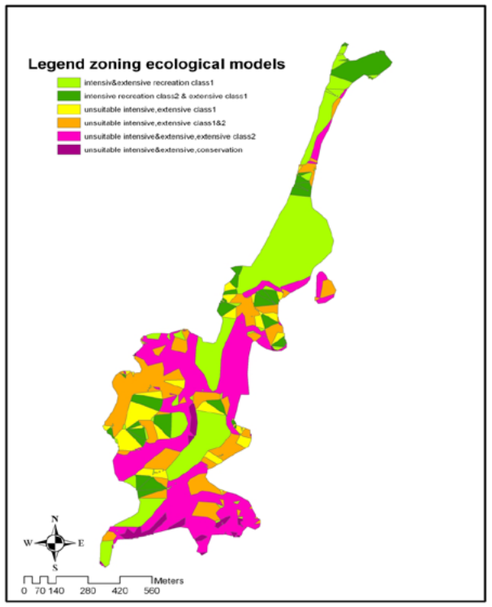

FIGURE 4. Zoning of Tourism and Conservation ecological models.

RESULTS AND DISCUSSION

Recreational demands (Visitors recreational trends survey)

Most visitors visit the site and use outdoor recreation in hot summer and spring season and in weekend ,holiday days because of having cold and placing in mountainous weather. So some questionnaires distribute among visitors in peak time of using outdoor recreation and estimated visitors preferences and recreational trends. For example, 40% of users poses outdoor recreation doesn't have entry access, settlement and play ground also 46% of users poses other facilities of outdoor recreation is unsuitable and inadequate such as seats, dustbin, drinking water fountain, W.C., parking and lighting.

Some activities that users want to do which estimated are 26% to relax, 24% to walk, 22% to enjoy landscape, 17% to ride bicycle,16% to go picnic and other activities are bird-watching, swimming, fishing, sport playing etc,.

Determination of recreational zones suitability

The zones which have majored suitability are placed in vicinity of Gyan river and access roads and in low sloped terrain which visitors trends to use them mostly as activity such picnic, camping etc., and have most suitability for physical development program.

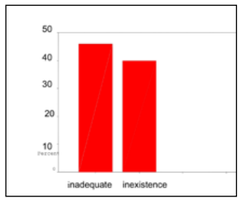

FIGURE 5. Estimation of Sarab-e-Gyan outdoor recreations facilities.

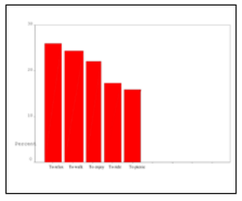

FIGURE 6. Estimation of Sarab-e-Gyan outdoor recreations users demand.

Activities zoning

Activities zoning is done with the aim of deduction struggles between different users each other and between users and landscape and providing visitors expectancies and aesthetics considerations and replacing activity in place and suitable areas.

Tourism goals and subjective goals in Sarab-e--Gyan outdoor recreation which physical program of recreational plan is prepared on the basis are:

1. Preservation of environment and natural landscape Sarab-e-Gyan outdoor recreation;
2. Providing access roads;
3. Gyan local societies participation in tourism plans economic;
4. Design and develop recreational facility;
5. Harmonize between plan and site natural setting;
6. Paying attention to landscape aesthetics and spatial qualities of Sarab-e-Gyan outdoor recreation;
7. Providing safety of outdoor recreation;
8. Preservation of Gyan historical identity and introduce it to visitors;
9. Preservation of outdoor recreations healthy environment;
10. Providing qualifications for investors in order to invest in framework of tourism plans with consideration to environment recreational carrying capacity.

Physical program of recreational plan

Physical program of recreational plan in Sarab-e--Gyan is prepared as a Masterplan that recreational activities replace on zoning map.

Recreational zone is centered and focused around the spring because of that visitors are gathered in its location so designer in this project has tried to design this part plan with the concept of civilization that have formed and arised in adjacency of water features like river. Water attracts visitors and play a role as a role in the past history. Spring center appears in several kinds of waters flow that moves in setting such as fountain, spring, waterfall, river. Visitors can contact with water edge and movement of water causes people relaxation and calmness. Proposed spaces in this part are restaurant with circular roof that defines as cultural plaza and profits with green roof with fountain as a form of jacinth crockery with symbolic motifs can illustrate Gyan native civilization identity to visitors and center and gather them in this focal point and reinforces genius loci and collectives memory in visitors. This multiple use space can comprise local food restaurant, handcraft and herbal products fair, store. Also, a café has designed near waterfall to sit in open spaces.

TABLE 3.
Spaces area & activities types in the physical program of plan.

Proposed spaces	Physical program
Eco-camp with 25-30person	Residence spaces
Picnic	Recreational spaces
Family paradise(alcove lot)	
Play and Sport ground	
Café(150chairs)	Cultural spaces
Open amphitheater	Cultural spaces
Information budget &ticket selling	Servicing spaces
Emergency &rescue station	
Fire station	
W.C Toilets,	
Parking with560capacity	
Restaurant(110 chairs)	
Outdoor recreation management	

CONCLUSIONS

In conclusion, recreational planning and landscape design of Sarab-e-Gyan in the form of master and part plan accomplishment with consideration of recreational planning and sustainable design principles on the basis of natural elements available on site has been carried out. In the development plan stage of the site, the visual views have been considered in order to meet the users' needs.

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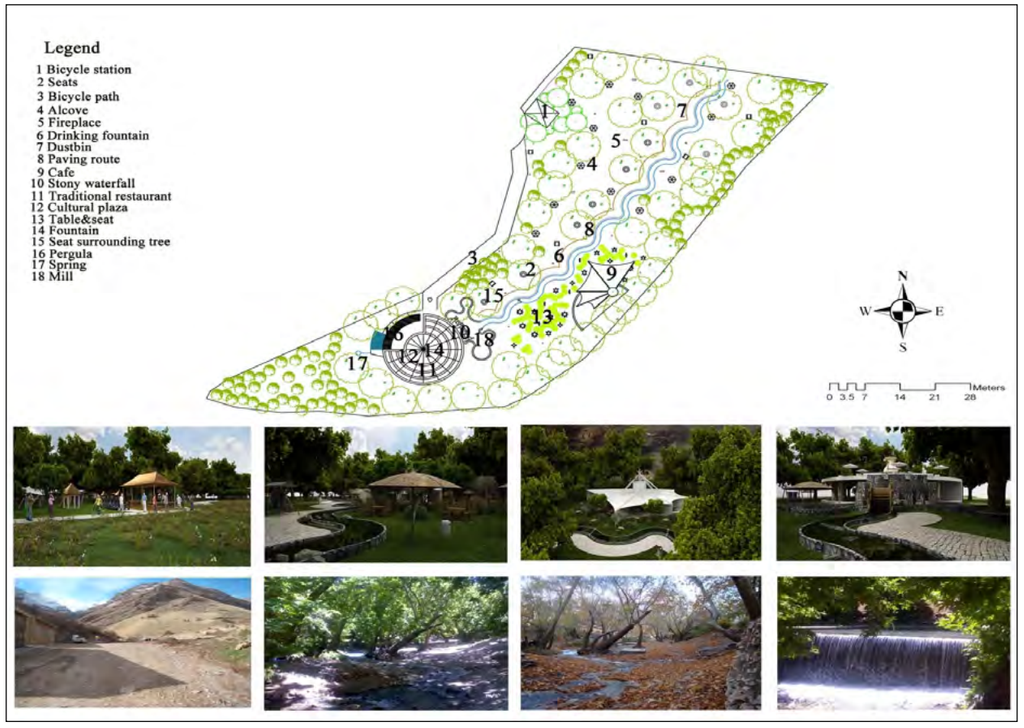

FIGURE 7. Perceptual Analysis according to Gestalt and Gibson theory.

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The Power of Landscape in the Integration of Electrical Infrastructures

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ABSTRACT

This paper presents some reflections and principles obtained in a research study that was developed from 2009 to 2011 in a partnership between Electricity of Portugal (EDP Distribuição, SA) and the University of Porto (CIBIO-UP). The study was financially supported by the Promotion of Environmental Performance Plan approved by the Energy Services Regulatory Authority with the objective of producing a set of guidelines, i.e., a Manual for Good Integration Landscape Practices of Electrical Infrastructures. The departing point of the study was the assumption that electrical infrastructures produce visual impacts in the landscape which rarely are neutral or positive. It was also assumed that guidelines for landscape integration should be based on the character of the landscape and on the type of electrical infrastructure. It was accepted that landscapes should be preserved, as far as possible, from external elements in order to keep their character and, as such, visual issues deserved a major consideration.

Along with literature review, the analysis of related studies and the auscultation of professionals and stakeholders, a set of case studies were conducted in Portuguese landscapes of diverse typologies, in order to refine concepts and test the proposed methodology for setting infrastructures in the landscape. This paper looks at one of these case studies and sees how it can contribute as guidance to the definition and testing of the methodology. Since the purpose of this manual is to be used by non-specialists in landscape, there was a significant effort in developing simple and clear concepts.

Keywords: landscape character, visual quality and integrity, visual absorption and sensibility, landscape integration, electrical infrastructures.

INTRODUCTION

The landscape integration of power infrastructures is an issue which has raised a significant interest in recent decades. Indeed, both the development of procedures on the part of the landscape specialists, as a matter of scientific interest, and the increased concern of the companies responsible for the establishment of infrastructure in the landscape, are witness to this. EDP Distribuição, the company that provides the transmission of electricity across Portugal, has showed awareness for landscape integration issues, namely in the construction of major infrastructures such as dams. Presently, the concern also focuses on smaller infrastructures – transmission lines, substations, transformer stations and cabinets. The consolidation of these concerns led EDP to resort to partnerships with the academy, in this particular case with the research team of Landscape Architecture at the University of Porto, for the preparation of a Manual of Good Practice of Landscape Integration of Electrical Infrastructures. The production of this manual has used several research strategies, namely studies of landscape integration for real situations, in particular transmission lines, substations and transformer stations. This paper presents the fundamentals and the methodology used in this research for the layout of a distribution line and the conclusions found for inclusion in the Manual, namely how the principles and the methods can be understood and practiced by non-specialist technicians in landscape, and this was one of the major challenges encountered in this process.

MATERIALS AND METHODS

Portuguese landscape is very diverse, with significant variations in orography, land cover and ecological factors. This reality makes advisable to attempt to identify homogeneous areas from the point of view of landscape character. The method developed for the identification of the types of landscapes, within this Manual, refers to a process of sequential selection of the main variables of the landscape, which ought to be considered as more relevant to landscape integration of electrical infrastructures: degree of urbanization, orography, and vegetation cover. In fact, and at first, two situations were distinguished which, by their nature, bring very different conditions: 'urban areas' and 'non-urban areas', i.e. landscapes dominated or not dominated, respectively, by edification and infrastructure. Highly infra-structured landscapes (namely due to urbanization or industry) have more capacity of integrating power infrastructures than rural landscapes, particularly if these have a high degree of integrity and a considerable visual quality and sensibility. In what concerns 'non-urban areas', the first variable taking into account was orography and the second variable was vegetation, considering its capacity of visual absorption. The area of the case study under discussion here – the design of a transmission line nearby

Leiria city – falls within both the 'urban area' and the 'non-urban area' categories and, as such, it was necessary to look at different sorts of variables according to the type of landscape.

The methodology applied to the design of overhead power lines (FIGURE 1) aiming its landscape integration starts with the survey and assessment of the landscape characteristics.

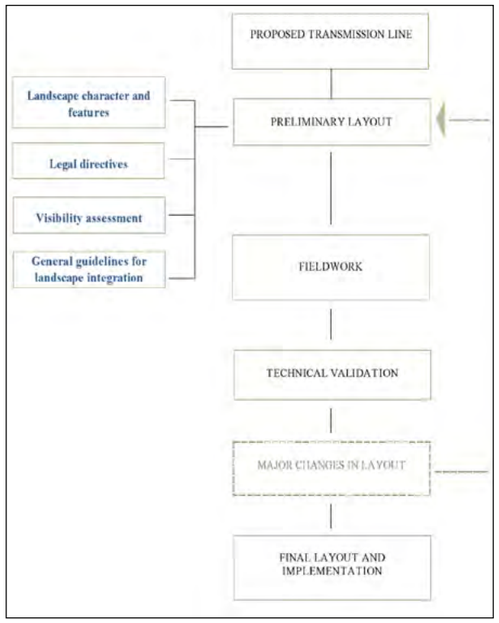

FIGURE 1. Methodology applied to the layout of overhead power lines.

The first step is to obtain and analyse databases (mapping and aerial photography) that allow knowing the physiographic characteristics, the type of human occupation, sensitive areas from a territorial and ecological point of view (FIGURE 2). The production of thematic cartography – maps of ridge lines and water natural drainage lines, hypsometry, slope gradient and aspect – facilitates understanding the territory under review, including its capability to integrate new infrastructures. The production of a map of visibility allows the identification of areas of very high to low visibility, obtained from fixed points and moving points (roads and paths, urban and rural settlements, built and natural notable sights) located in the viewshed area likely for the deployment of the infrastructure. This is an analysis tool, developed from fundamentally overlapping physiographic data and vegetation, which allows identifying the visual absorption capacity of the landscape – the more visible is the landscape the larger is its visual sensitivity, and consequently, the lower is its ability to absorb the visual impact caused by the infrastructure.

The existing power lines in the area where it is feasible to deploy a new line are also analysed. EDP Distribuição has a very comprehensive database which provides the information needed to assess the landscape and to produce new data, as described above. Simultaneously, legal directives should be analysed since they inform on any constrains or opportunities to the layout of lines. Actually, by analysing that information it is possible to anticipate proposed changes in the landscape and to integrate these data into the design of new lines (for example, a planned road infrastructure, namely a viaduct or bridge may support and accommodate a new distribution line; on the other side, foreseen changes in land use may alter drastically the capacity of the landscape to disguise infrastructures).

Data gathering and analysis facilitates the development of alternative routings of new electrical infrastructures and the identification of constraints and opportunities that need to be confirmed in fieldwork. In every case study addressed within this research, it was proved to be necessary to analyse an area sufficiently large to ensure the selection of the best transmission lines routings and, whenever necessary, split the routing in different segments or sections according to the homogeneous characteristics of the intersected landscape. It was acknowledged that for the same segment, alternative solutions may be found which advantages and disadvantages should be evaluated and measured both in a technical and an economical point of view and also in the point of view of the landscape. The production and analysis of these landscape data and the development of a preliminary layout prior to the completion of fieldwork, reveals being an essential aid to the success of the field survey in which factors, not measurable or cartographic, such as the scale of the landscape, its visual quality/ scenic value and its degree of integrity, must also be evaluated. The validation on the field, according to landscape features, and the technical validation (including an economic evaluation) of the preliminary layout will advance to a final design and subsequent implementation. If this validation does not occur, there should be new studies to obtain the final solution which, while respecting the technical and financial constraints, constitutes the best option for landscape integration.

This methodology was applied to several case studies in this research. In the case of the Azóia – Leiria Oeste distribution line, the landscape where the line should be deployed corresponds to a section of the Lena River valley, a river of small expression (FIGURE 3). In this area, the valley, with significant visual quality is predominantly open and of agricultural character, of a high visual sensitivity, and consequently of very limited visual absorption capacity.

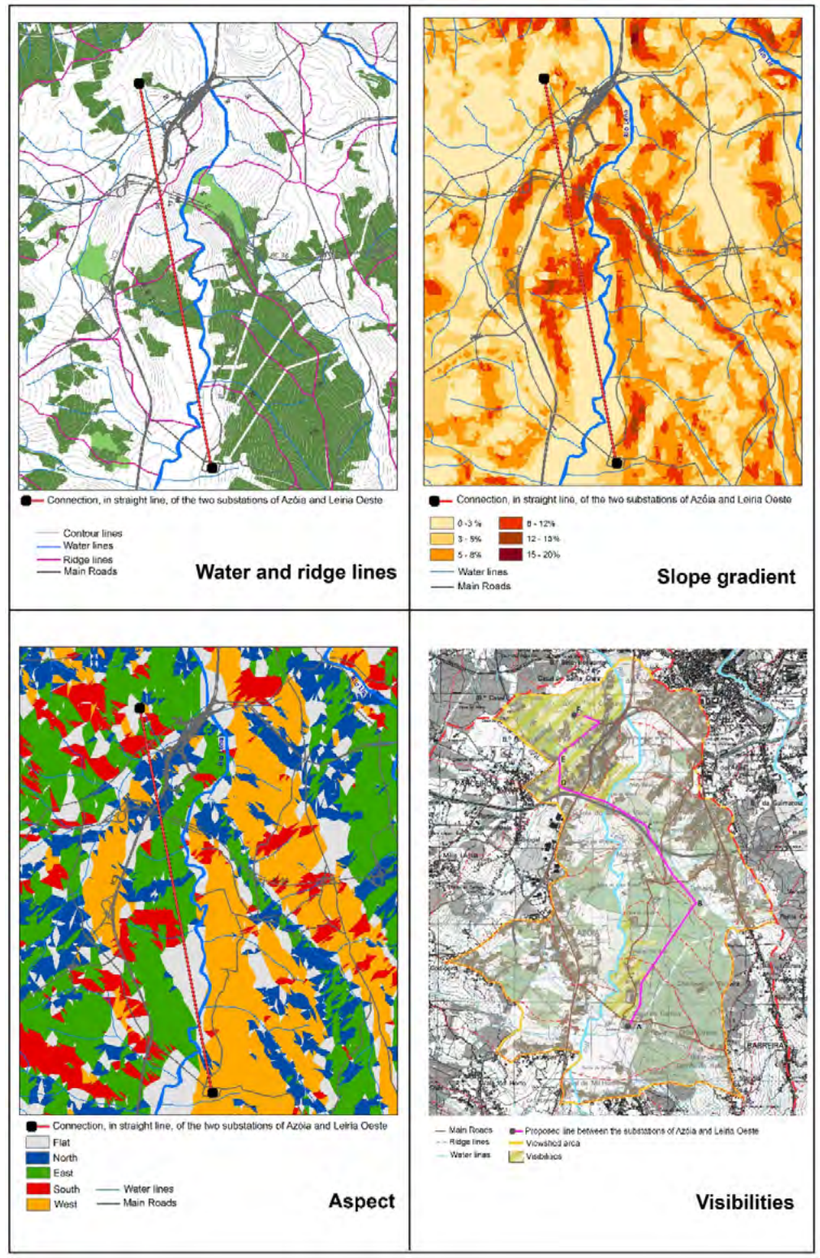

FIGURE 2. Examples of thematic cartography developed for the case study of the proposed line between the substations of Azoia and Leiria-Oeste.

It was considered that the line should not be developed within and along the valley and its crossing, while necessary, should take place on a section of reduced visibility. Consequently, the most decisive issue was the choice of the slope for the deployment of the line from the substation of Azóia.

The slope west of the Lena River had, from the outset, several advantages – the proximity of a road of significant size and of intense traffic (allowing the new line to follow a road infrastructure), other existing distribution lines and the possibility of integrating itself into an industrial occupation, i.e., in

FIGURE 3. View of the Lena watershed (on the left the east slope and on the right the west slope).

a landscape of low visual quality, avoiding simultaneously the spread of new infrastructures in the landscape. The majority of the slope is east facing, so not too bright, which should help to reduce the distribution line visual impact. However, this location had several drawbacks – the crossing of the valley in a very open, flat area and, therefore, of great visual sensitivity; the impossibility of concealing the infrastructure due to low height and steepness of the slope where it would be developed; the proximity of housing; the fact that the quality of vistas obtained from the road (with a very large number of moving observers) to the Lena River valley, with significant landscape interest, would be diminished by the presence of new structures located in the foreground in relation to those observers (FIGURE 4-left image). Instead, the slope east of the river would prevent the crossing of the valley in a very open area; it had opportunities to camouflage the line due to the presence of stands of large plant species (*Eucalyptus sp.*, *Pinus pinaster*); it allowed the use of an existing corridor of a medium voltage line that is oblique to the line of maximum gradient of the hillside and, as such, not visible from points with the largest number of observers. It also allowed crossing the valley in an area of reduced visibility, preferably using a road infrastructure – the viaduct of a highway under construction (FIGURE 4 – right image).

RESULTS AND DISCUSSION

The methodology developed for the integration of electrical infrastructure in the landscape was based both on the physical characteristics of the infrastructure and on the landscape features, particularly in the analysis of its character, its visual quality and its capacity of absorbing visual impacts. Visual issues took a leading role in that the visual impacts caused by electrical infrastructures are generally very significant, introducing a new character in the landscape. The nature of this change is often associated with a decrease in visual quality of the landscape, particularly the non-urban landscapes with a low level of infrastructure and therefore in which the electrical infrastructures constitute a strange element to its essential character. Highly infra-structured landscapes (namely due to urbanization or industry) have a higher capacity of assimilating infrastructures than rural landscapes, particularly if they have a high degree of integrity and a considerable visual quality and sensibility.

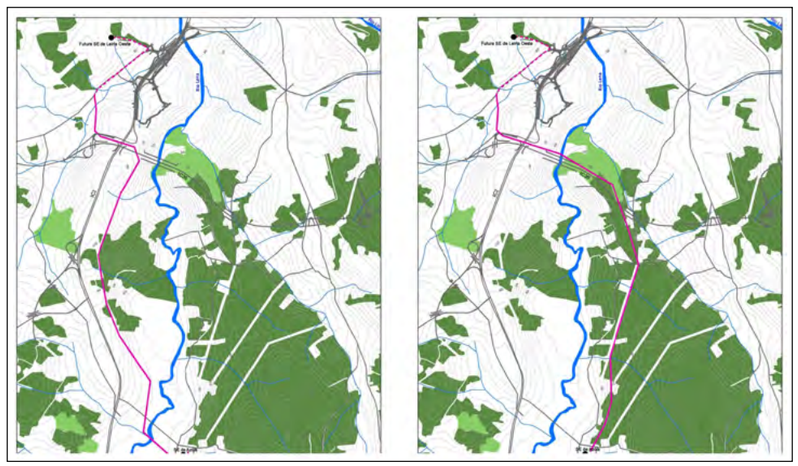

FIGURE 4. The two preliminary layouts (pink lines) for the proposed line between the substations of Azoia and Leiria-Oeste – on the left image, the transmission line is set on the west slope of the Lena watershed, mainly along an existing road; on the right image, the line is set on the east slope, taking the advantage of the forested landscape and of existing infrastructures. The later layout was chosen because it offered better conditions for landscape integration.

Having the guiding principle setting on the basic idea that the visual impact of electrical infrastructures should be minimal, it was confirmed that this is obtained by looking, at the stage of planning and design, for areas of lower visibility, i.e., of lower visual sensitivity, while preserving the stretches of high visual quality, of highest level of integrity and of lower infrastructure. In general, priority should be given to areas of higher visual absorption capacity or, if that is not possible, to more infra-structured areas to avoid the spread of new structures in the landscape. Landscapes or stretches of landscape, of high visual quality and of significant integrity and cultural value (even if not protected by any legal directive) must be preserved from the introduction of electrical infrastructures that break with its essential character. On the other hand, this study confirmed the great importance of joint planning of infrastructures of various kinds (overhead power lines, roads, bridges, viaducts, etc.) saving resources and, particularly, avoiding the spread of structures in the landscape. The laying out of a linear infrastructure in segments or sections, according to the characteristics of the landscape, and the acknowledgment of possible alternatives within the same section, is a useful strategy to identify with greater specificity, constraints or opportunities for landscape integration.

CONCLUSIONS

Applying this methodology to several case studies with databases and accessible technologies and involving the participation of technicians from EDP Distribuição, was found to be effective and understandable. It is believed that the adhesion of the technicians was significant because it is a methodology that combines the issues of landscape with the technical concerns.

The increase in project costs, when verified, was relativized in relation to capital landscape gains. However, the actual success of the methodology can only be assessed several years after the continued use of the manual and the application of its measures, the monitoring of its effective use and the results obtained in the landscape integration of electrical infrastructures.

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Effects of Landscape Design Tools on Unwanted Pedestrian Crowd Social Behaviors through Al Ain Central Area Improvement.

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ABSTRACT

In Al Ain central area landscape and planning design tools has been used to improve pedestrian crowd circulation and to prevent undesirable pedestrian behaviors through a municipality owned project called Al Ain central area improvement. We observed and analyzed pedestrian crowd behavior and attitude before and after design and execution of Al Ain improvement project and results showed significant change in pedestrian behavior.

Keywords: landscape design tool effect, unwanted social behavior, pedestrian behavior.

INTRODUCTION

For more than four decades, pedestrian models and pedestrian crowd algorithms has been studied and developed and have found significant interest because of different social, psychological and managerial reasons. Designing and planning tools has been used to improve pedestrian circulation. "Within current pedestrian models, path evaluation is based on calibration from observed data or on sophisticated but deterministic route-choice mechanisms; there is little open-ended behavioral modeling of human-movement patterns"(Turner, Penn, 2002). We usually consider pedestrian behavior chaotic but it is affected by social forces (Helbing, Molnar, 1995). "Neighborhood transportation, land use, and design characteristics influence walk distance, duration, purpose, and number of secondary activities. The importance of walking in general and for specific purposes also varies with the relative levels of environmental variables" (Shriver, 2007). In this research we study and analyze pedestrian behavior before and after implying some landscape design tools through Al Ain Central area improvement project to find if these design approaches has caused any significant improvement in pedestrian behavior.

Al Ain is a historical city in United Arab Emirates. Desert arid climate discourage travelling on foot during long summer season. According to Abu Dhabi National Statics center (April 2011), City Population consists of 11% Emirati and 89% foreigners and rate of women-men consisting population is 1:3 respectively. Majority of immigrant workers usually cannot afford to live with their families in United Arab Emirates and cannot afford to use personal vehicles or taxis for travel inside city, which makes them travel on foot in city center. According to their motherland values and their life style, they usually gather in groups and walk in groups and rest or sleep on sits in sitting areas for hours and cross the street on their free will instead of using pedestrian crosses. Pedestrian crowd modeling has not been done yet, but these kinds of behavior discourage travelling on foot for the rest of the population, especially local families and women and cause problems for vehicles traffic circulation. As we know" The motion of a pedestrian α is influenced by other pedestrians. In particular, he/she keeps a certain distance from other pedestrians that depend on the pedestrian density and the desired speed"(Helbing, Molnar, 1995). Studies show that pedestrian behavior is not chaotic and is affected by social force and other parameters."Here the private sphere of each pedestrian, which can be interpreted as territorial effect plays an essential role. A pedestrian normally feels increasingly uncomfortable the closer he/she gets to a strange person, who may react in an aggressive way. This results in repulsive effects of other pedestrians" (Helbing, Molnar, 1995). Clearly these social factors and forces are effected by cultural and religious values and in this case we can expect Muslim women and families to need more private sphere.

As local policies published by Urban Planning Council and followed by municipalities in Abu Dhabi state, strongly encourage travels on foot and support safe pedestrian circulation improvement, mentioned behaviors are considered as "Unwanted Behaviors" and need to be discouraged. For example Muslim native women will not use a sitting place if it is partially occupied by bachelor men, based on their religious beliefs and they do not feel comfort to share a narrow walker with bachelor men, which causes little person to person physical space.

Improvement of Al Ain town center as a municipality owned project, targeted improvement of pedestrian areas, parking areas and driveways in three main streets consisting Al Ain downtown. As a part of project preliminary study approaches, consultant company in charge for the project has studied pedestrian crowd to model and report behavior and attitudes of people travelling on foot and suggested design narratives to improve pedestrian circulation and to reduce socially undesirable pedestrian behaviors using urban and landscape design approaches.

Some of these approaches were and not limited to verify connectivity and continuity of walkways with width suitable for flow capacity in pick crowd time, shading strategy to increase thermal comfort, removing high shrubs to reduce privacy in sitting areas to discourage long-time sitting and to prevent unwanted usage of sits by increasing visual expose, developing pedestrian crosses and traffic signs, signals, controllers, etc.

As a controversial approach, it was suggested to remove handrail fences, which had been installed in street median all over the city to prevent free-will street crosses and to make pedestrian crowd to use allocated pedestrian crosses equipped with traffic signals. The only municipality concern was that removing the fences from median will encourage illegal unwanted crosses which will cause safety issues for pedestrian and vehicle circulation in streets, but it was agreed to use design tools to discourage unwanted crosses. As a design approach, we removed the fences from half of one street and removed shrubs and other high plantations to increase the feeling of being visually exposed and judged by other people to discourage unwanted behavior.

All above mentioned design approaches have been implied in design and planning of Al Ain Central Area Improvement project and supervised during the construction stage by consulting firm and Al Ain municipality to ensure complete execution as designed and specified.

Target of this research was to determine if mentioned design approaches could affect wretched pedestrian crowd behavior significantly or not.

MATERIAL AND METHOD

The information about crowd behavior was gathered by counts based on direct observation of people travelling on foot on 4 sitting areas and 4 pedestrian crosses and 200 meter long of median and walkways on both sides of one street. Two sitting areas located in half of the street, which has been developed using design approaches and two sitting areas located on other untouched half of the street and all four sitting areas have the same design. Two of the pedestrian crosses are located in half of the street which has been developed using design approaches and two sitting areas located on other untouched half of the street, and all four pedestrian crosses have the same design. Two hundred meters of each half of street (developed half and untouched half) were observed to count people who cross the street no through allocated pedestrian crosses.

Observation has been done every day 7-8 pm 10th till 24th February 2009 (before development) and 2012 (after development). In this research, we will call people who are male and not companied with women or children "bachelors" and will call women, children or men companied with women and/or children "families" based on a general understanding of local culture. We will call people who cross the street, not through the allocated traffic light equipped pedestrian crosses, illegal street crossers and call people who use traffic light equipped pedestrian crosses as legal street crossers. All counts were done by two counter persons in each area to ensure accuracy of results. For people crossing the street the unit was "person" and for people using sitting areas we counted people who wait more than 30 minutes or lay or sleep on benches and/or sits and call them "unwanted users".

For each location, we have two sets of data for years 2009 and 2012, and as all observations from both groups, are independent of each other, we decided to use non-parametric test like Mann-Whiteny method to determine if differences are statistically significant or not. The same procedure was used to compare results of similar locations in two developed and untouched halves of street in the same year. TABLE 1 shows the results of observations.

TABLE 1. Average number of people using walkways, sitting areas and/or cross the street in observed areas. Part A is the part of the street which has not been developed in scope of project; Part B is developed part of the street.

	2009		2012	
	Part A	Part B	Part A	Part B
Bachelors Travelling on foot	690	802	755	912
Families travelling on foot	111	132	126	156
legal street crossers	192	216	211	244
Illegal Street crossers	54	24	32	18
Unwanted sitting area users	18	21	19	6

RESULT AND DISCUSSION

In 2009, 16% of people are classified as families, and this amount in 2012 is 17.1 and using Mann-Whiteny method does not show any significant change in the rate, which can mean that using design approaches has not encouraged families to use walkways significantly.

Comparison of unwanted sitting area users shows a significant reduction which can be interpreted as success of design tools in improving social behavior. It seems that increasing visual expose factor can prevent users of laying or sleeping on urban furniture and extended stays in sitting areas.

Overall number of people travelling on foot shows a significant increase of about 16% which based on information gathered in this research we cannot determine if it is an effect of design development or population growth. To determine strict interpretation complimentary researches and modeling of different categories of users is recommended. Number of illegal street crossers shows a significant reduction

which shoes another success of landscape design tools to improve social behavior of pedestrian crowd. Surprisingly, the number of illegal crosses decreased in untouched part of street too which could be interpreted as induction effect or training effect of landscape design on social behavior patterns.

CONCLUSION

We could not find any literature or previous research done in Al Ain area on pedestrian modeling or behavior study. It seems that based on results rather than the fact that majority of pedestrian crowd is a combination of different nationalities immigrant labors, landscape design tools had a significant effect on their social behavior. It probably suggests removal of high plantation around sitting areas and inside street median induces being visually exposed to people view and being afraid of other's judgment which discourages unwanted behaviors like sleeping on urban furniture and crossing the street on free-will based on cultural values. It is possible that in different environments with different cultural values this effect not be as it is here. We suggest complimentary researches to be done to find out possible correlation of these design approaches with different social behavior for different streets, nationalities, neighborhoods, etc.

Results suggest that these improvements in walkways and shading strategy did not significantly encourage families to travel on foot. It can be because of local strong religious or cultural values which make women uneasy to walk between bachelors crowd. Another possible factor could be desert dry and hot climate which discourage travel on foot and on long term induced some social behaviors and attitudes like depending on cars which is hard to be changed in short time period. We suggest that similar researches should be repeated in next years to analyze the result possible change in long term. As our research was conducted only based on observation on one hour a day for the same 14 days two years, also similar researches should be conducted to study social behavior of pedestrian crowd in other times of the day and other days of the year to eliminate possible effects of timing and temperature parameters on result.

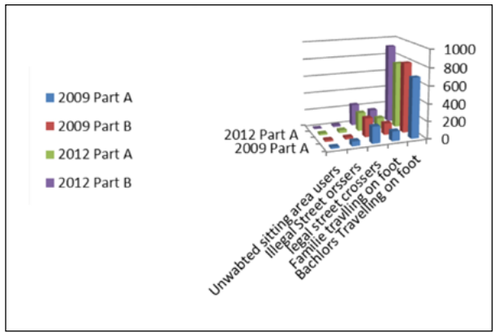

FIGURE 1. Average of persons counts. Part A is the part of the street which has not been developed in scope of project; Part B is developed part of the street.

FIGURE 2. A typical sitting area in one of improved streets.

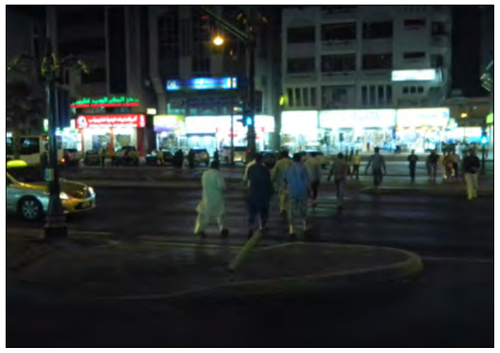

FIGURE 3. A signal equipped pedestrian cross and majority of immigrant labors crossing street.

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Redesigning a built landscape in compliance with the psychological process of formal features perception Case study: Iran, Mashhad, historic bazaar "Noghan"

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ABSTRACT

This study tries to set a framework for landscape design that is to comply with human perceptive processes. The subject is focused on formal landscape features and it studies the criteria relevant to their evaluation. It sets a framework in redesigning environment according to the perception process and upon the criteria of formal evaluation.

The approach of this article presents a methodology to assess the perceptual environment. It uses substantial analysis which presents a framework to evaluate subjective qualities related to perception in urban design. By taking the renowned Gestalt theory and Gibson's findings into account, this study intends to describe the influence of perspective on observers' spatial perception. Based on further examinations of such diversified aspects as motion or vision angles, the authors attempt the proposition of a comprehensive method for future formal aesthetic landscape analyses.

By additionally scrutinising the historic Noghan Bazaar in Mashhad, readers shall be given an example as to how people's perception and conduct can be directly influenced by the organized layout of formal landscape features. The outcomes of this article, would be some strategies for organizing perceptual-formal features of environment. This research on the following topics has reviewed readings on: (a) Theoretical approach to perception (b) definitions of different parts in this procedure (c) important factors in perception.

This overall strategic approach is supposed to assist researchers and professionals in their design work by equipping them with a psychologically approved tool applicable to future landscape assessment procedures.

Keywords: perceptual procedure in environment, formal (objective) qualities in perception, evaluation criteria, historical bazaar 'Noghan'.

INTRODUCTION

From the early 1960s, Environmental perception is regarded as interdisciplinary discussion. To date, numerous researches point to human perception of environment. The relationship between humans and their environment – how they perceive space and how they react to it is very complex. It is the process of receiving information and making sense of the world around. It involves deciding which information to notice, how to categorize this information and how to interpret sensory impressions in order to give meaning to the environment within the framework of existing knowledge. Furthermore, as responses and reactions to the environmental information acquired, human's spatial behavior in environment is supported by their motivation to fulfill their life needs (Nuffida).

Perception of one's environment is affected by sociological needs, psychological state, and individual differences. People selectively interpret what they see on the basis of their **interests, background, experience and attitudes**. The environment itself also influences human behavior.

One of the major challenges in analysing landscape is the lack of considering perceptual aspects in environment which lead to undesirable comprehension and behavior. Identifying and defining qualities and features affected on perception in landscape help individuals collecting, selecting and organizing perceptual stimuli and support certain behavior that is needed by humans as users. The focus

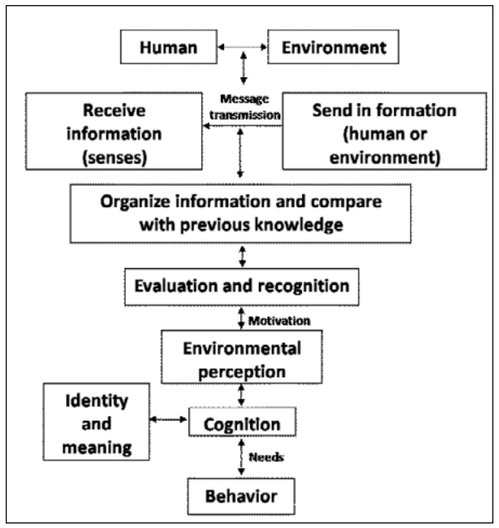


FIGURE 1. Perceptual process.

of this paper is on measuring perceptual qualities for a sample of landscape and identifying detailed physical features associated with them.

METHOD

The conceptual model underlying this study considers the role of perception as it intervenes (or mediates) between the physical features and subjective qualities of the environment.

The paper first discusses theoretical approaches of processing perception, definitions and factors affected on this process to develop operational definitions and measurement protocols for key design qualities of landscapes. We hypothesize that the perceptions lie on the causal path between objective measurements and subjective reactions. Finally, landscape formal assessment has been done on the linkage between physical features and subjective qualities for a sample of historical bazaar and a set of guidelines and perspectives are proposed for redesigning.

THEORETICAL APPROACHES TO PERCEPTION

Perception is interrelated to a mental concept and its impact on human's life. Transactional theory is Ittelson's theory (1996) that examines explanation about perception determined by a process of experience and dynamic relationship between human and his environment.

Another perceptional theory proposed by Nieser (1970) is that perception constitutes a process based on experience, learning and memory that involve a cognitive process. Perception consists of information processed inference and construction of meaning from the present and the past stimuli. It is very important to understand it because environment provides information and messages that must be perceived actively by humans and they need to have experience to understand and recognize their environment (Ittelson, 1974).

Gestalt is a psychology term which means "unified whole". It refers to theories of visual perception developed by German psychologists in the 1920s. These theories attempt to describe how people tend to organize visual elements into groups or unified wholes when certain principles are applied. The objective of studying gestalt is having the designer be in control of what the viewers see when they look at a composition according to the current time and place without any regards to the past.

The array of information in our sensory receptors, including sensory context based on movements in spaces, is all we need to perceive anything in Gibson approach. We view the world in terms of what various parts afford us in a utilitarian sense. We do not need higher cognitive processes or anything else to mediate between our sensory experiences and our perceptions. The design process has traditionally viewed the landscape as a static scene from fixed viewpoints, comprising the spatial relationship of several parts to the whole (Bell, 1999).

PERCEPTUAL PROCESS

The environment is full of stimuli that has the potential to be perceived and can attract our attention through various senses. Responses to the environmental stimulus are complex and best understood in terms of three psychological stages of human behavior: perception, cognition, and spatial behavior.

Perception of the environment, in its most strict sense, refers to the process of becoming aware of a space by the acquisition of information through the sensations of sight, hearing, smell, touch, and taste. Cognition is the mental processing of this sensory information. This may involve the activities of thinking about, remembering, or evaluating the information. Spatial behavior refers to responses and reactions to the environmental information acquired through perception and cognition. The designer creates environmental stimuli to direct these psychological stages as well as the secondary processes of motivation, effect and development (Isaacs, 2000).

An important aspect highlighted in this context is that human's aesthetic experience is actually very interrelated to its environmental perception. Environmental perception is a process to comprehend physical environment through a sense input from stimuli that have just happened or existed. Various physical environment stimuli that spread are organized by processing perception to become a complete and arranged environmental description. The theoretical framework about environmental perception above constitutes a basic approach to reveal how a psychological factor has a role in space design. Physical limits in the built environment refer to the result of architectural design whereas human's perception towards the stimuli of the built environment refers to processes of psychological relationship between humans and their environment (Nuffida).

FACTORS INFLUENCING PERCEPTION

A number of factors operate to shape and sometimes distort perception. These factors can reside: in the perceiver, in the object or target being perceived or in the context of the situation in which the perception is made (Isaacs, 2000).

EVALUATING ENVIRONMENTAL PERCEPTION

Within landscape perception studies, there are said to be four main paradigms (Zube *et al.*, 1982), following a model of landscape perception based upon human–landscape interaction to evaluate landscape. These paradigms are: expert, psychophysical, cognitive and experiential. The expert

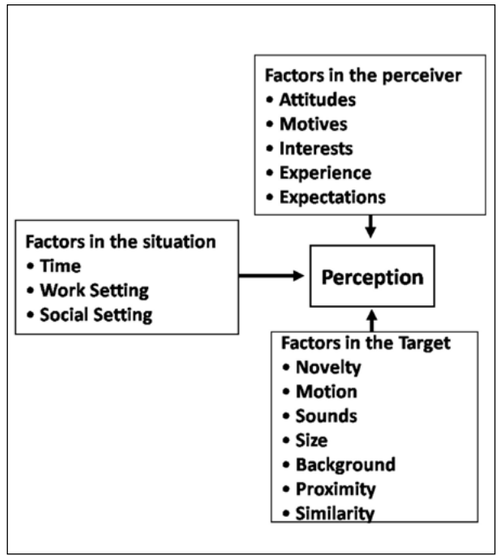


FIGURE 2. Factors influencing perception.

paradigm has also been called formal aesthetics (Daniell, Vining, 1983) and it involves evaluation of landscape quality by skilled and trained observers.

The psychophysical paradigm involves assessment through testing general public or selected populations' evaluation of landscape aesthetic qualities or of specific landscape properties (Zube *et al.*, 1982). Studies within this paradigm attempt to combine cognitive research on the subject (i.e. the viewer) with the object (the physical landscape) and customarily claim that quality is related to both the landscape and the observer, which is consistent with landscape theory (Brabyn, 1996).

The cognitive paradigm involves a search for human meaning associated with landscapes or landscape properties. Cognitive landscape studies have generally been founded in the mental process of perceiving, seeking to understand predispositions or interventions in human evaluative processes as well as meaning (Zube *et al.*, 1982).

Research that can be subsumed under the experiential paradigm considers landscape values to be based on the experience of human–landscape interaction, whereby both are shaping and being shaped in an interactive process (Jacobsen, 2007).

This study has considered expert and psychophysical paradigms by presenting objective and subjective measures. Measures of evaluating landscape are both objective and subjective and can be collected by members of a research team (often students) or by interviewing residents or employees. A number of environmental audit methodologies have emerged to collect these microscale data. The unit of analysis for these audits is the urban block face, the street segment, or intersection (Califtona, 2008).

TABLE 1. Subjective measures are shaped by objective qualities.

Landscape quality (subjective)	Physical features (objective)
Distinction	• Diversity in spatial enclosure· • Diversity in the scale of space· • Contrast in facade, form, size, usage in space· • Diversity in color and texture of pavement· • Different kinds of lighting· • Involving various senses
Continuity	• Observing and experiencing landmarks in a melodic order· • Passing the way frequently· • Curvature of the way· • Rhythmic repetition in urban elements· • The situation of elements in serial visions· • Harmony in facade, form, functions· • Color and texture of pavements
Motion awareness	• Defining focal points to find the direction· • Straight way or with smooth curved which does not lose its main direction
Dominance	• Size and location of elements· • The rate of using functions
Simplicity	• Physical and functional order· • Resemble to geometrical forms
Clarity of joints	• ·Visibility in joints of path
Directional differentiation	• ·Asymmetry· • Features to distinct start and end points· • Spatial variety (narrowness and wideness)· • Density of user in vicinity of special function
Coherence	• Correspondence with ideal situation / harmony· • Unity· • Uniformity· • Land-use suitability· • Proportion· • Harmony in height of buildings
Human Scale	• Scale 1:1, 1:2 for static spaces and 1:3, 1:6 for dynamic spaces· • Harmony in building height· • Detail of building· • Texture of materials· • Urban elements and vegetation
Enclosure	• Vegetation· • Continuity of edges· • The ratio of height of building to width of street· • Color, texture and form of materials (faced and pavement)
Comfort	• Vegetation· • Reduction of congestion of vehicles
Safety	• ·Lighting· • Dominance of pedestrian· • Width of pedestrian way
Image	• Memorable form of functions
Abruptness	• ·Unexpected elements in a uniform and coordinated context
Rhythm	• ·Frequent formal elements
Hierarchy	• ·No identical formal and functional sequences

SUBJECTIVE FEATURES

IMAGEABILITY:

Qualities of a landscape present in totality or through elements; landmarks and special features, both natural and cultural, making the landscape create a strong visual image in the observer, and making landscapes distinguishable and memorable.

LEGIBILITY:

Legibility refers to the ease with which the spatial structure of a place can be understood and navigated as a whole. The legibility of a place is improved by a street or pedestrian network that provides travelers with a sense of orientation and by physical elements that serve as reference points.

ENCLOSURE:

Enclosure refers to the degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other elements.

HUMAN SCALE:

Human scale refers to a size, texture, and articulation of physical elements that match the size and proportions of humans and correspond to the speed at which humans walk. Building details, pavement texture, street trees, and street furniture are all physical elements contributing to human scale (Tveit, Ode, 2006).

TRANSPARENCY:

Transparency refers to the degree to which people can see or perceive what lies beyond the edge of a street or other public space and, more specifically, the degree to which people can see or perceive human activity beyond the edge. Physical elements that influence transparency include walls, windows, doors, fences, landscaping, and openings into mid-block spaces.

LINKAGE:

Linkage refers to physical and visual connections from building to street, building to building, space to space, or one side of the street to the other which tend to unify disparate elements. Tree lines, building projections, marked crossings all create linkage. Linkage can occur longitudinally along a street or laterally across a street.

COMPLEXITY:

Complexity refers to the visual richness of a place. The complexity of a place depends on the variety of the physical environment, specifically the numbers and kinds of buildings, architectural diversity and ornamentation, landscape elements, street furniture, signage and human activity (Asa, 2008).

COHERENCE:

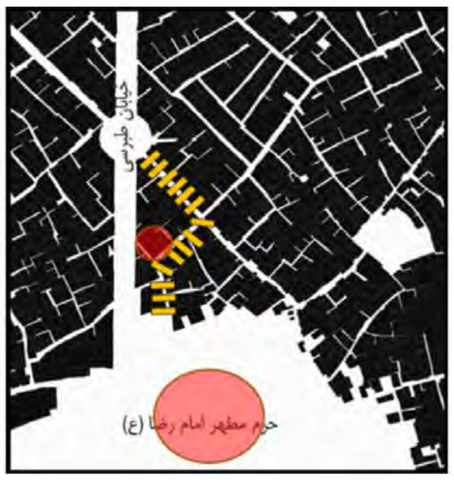
Coherence refers to a sense of visual order. The degree of coherence is influenced by consistency and complementarity in the scale, character, and arrangement of buildings, landscaping, street furniture, paving materials, and other physical elements (Ewing, 2006).

CASE STUDY (HISTORICAL BAZAAR, IRAN-MASHHAD)

The historical bazaar is located in an environment which is memorable and meaningful for people in Mashhad (FIGURE 3).

This study redesign Bazaar environment according to the perception process and upon the criteria of formal evaluation. This evaluation is from the perspective of observer in space, based on Gestalt theory and considering movement features, vision angle from Gibson theory and can be used as a method of formal aesthetic analysis.

According to formal aesthetic analysis, matrix of hypothesized relationships was created and objective features linked to landscape qualities were actually tested for predictive power in sequence 2 of this Bazaar.



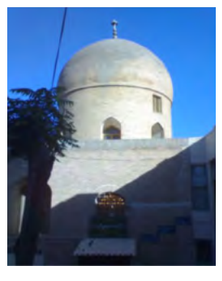


FIGURE 3: The location of case study and two memorable building.

TABLE 2. Matrix of hypothesized relationships.

Landscape qualities (subjective) objective measurements has positive impression on subjective reactions objective measurements has negative impression on subjective reactions															Physical features (objective)
Rhythm	Abruptness	emphasis	Imageability	safety	comfort	Enclosure	Human scale	coherence	Directional differentiation	Simplicity	Dominance	Continuity	Motion awareness	Distinction	
												+	+		curve in ground line leads to visual mobility
+							+					+			sense of continuity by vertical rhythm along the street
–			–					–				–			Uncoordinated skyline
		+				–	+								Static sense in space due to functional points
							+					+	+		Sense of curiosity and visual mobility with smooth curved
		+								+					Transforming line to surface to create stagnation
							–	–				–		–	Inconsistent context and background with Gonbad
												–			Disruptive rhythm and sequence in front of Gonbad
							–					–		–	Contrast in facade
						–	–							–	Lack of variety in enclosure
	–		–				–					–	–	–	Inability to see and experience Gonbad in serial visions
					–	–	–					–			Lack of vegetation
									+				+		Gonbad as a distinct joint of Bazaar
		+							+				+		High density of people near Gonbad
												–			Lack of harmony in color, texture and material
						–									Scale 1:1
				–	–		–								Interfusion of pedestrian and vehicle
			+												Memorable functional and physical features
		+													Similar activities

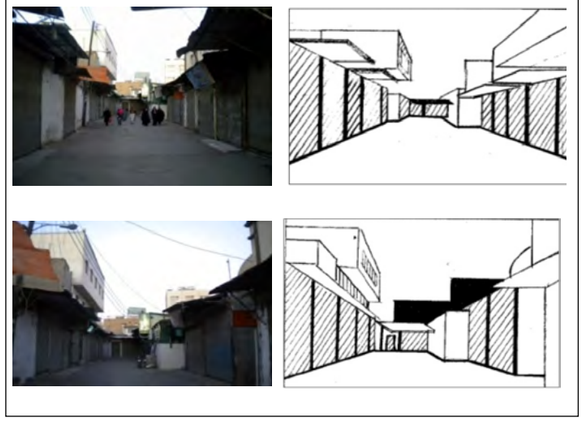


FIGURE 4: Perceptual Analysis according to Gestalt and Gibson theory.

Based on this matrix, as set of perspectives are proposed for redesigning to modify negative or improve positive impression of relationships.

CONCLUSIONS

This study has demonstrated that qualitative landscape qualities can be quantified. The power of our approach is that it used relatively simple and objective features of the physical environment to measure abstract these qualities. The measures should also be useful to researchers interested in understanding how environmental qualities, as well as patterns and combinations of particular qualities, affect people's perceptions of landscape and their willingness to walk and otherwise be active in them.

FIGURE 5. Redesigning case study.

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Towards a Typology of Urban Meeting-places

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ABSTRACT

This paper discusses how encounters and meeting-places affect social sustainability and how these phenomena can be understood qualitatively. Interpersonal and intergroup encounters are integral parts of urban life and vital elements in a sustainable urban development. However, there is a pressing need to problematize the use of the terms. Encounters always occur in socio-material spaces and are affected by preconditions such as landscape semiotics and territoriality (Valentine, 2008; Østerberg, 2000). Furthermore, urban etiquette and urbanity might be vital in the creation of vibrant cities and in providing access to public space, but it is imperative to understand that places of intense urbanity might lack preconditions for the production of community, re-negotiation of prejudice, creation of common capacity and innovation. It is also fundamental to consider the difference between spatial desegregation and social integration (Clark, 2003), to focus the different socio-material structures in public and semi-private spaces respectively, and to acknowledge how intergroup contact might lead to respect for difference (Amin, 2002). To disregard this by treating the dynamics of encounters in an oversimplified manner in the creation of places, can be devastating.

This paper is based on a literary review and sets out to develop a deepened understanding of urban encounters and meeting-places, by presenting an outline of a typology of meeting-places. It draws on an extensive theoretical framework, ranging from human geography and architectural theory to social psychology.

Keywords: sustainable urban development, public space, encounters, integration, socio-materiality.

INTRODUCTION

Defining a politics that can bridge the multiple heterogeneities [...] without repressing difference is one of the biggest challenges of twenty-first century urbanization (Harvey (1996) in Clark, 2003:149).

Interpersonal and intergroup encounters are integral parts of modern city life. In the pursuit of a socially sustainable urban development[1], these encounters and the urban landscape in which they take place must be regarded as vital components in managing the challenge pointed out above by David Harvey. Meetings and encounters are fundamental in the creation of collaborative capacity, innovation and community. However, there seems to be a discursive lack of understanding of the qualitative differences between these encounters, as well as the importance of the qualities of socio-material[2] meeting-places. Such a lack of understanding is not only a limitation, but also a potential threat to the realization of sustainable cities. Perhaps, the most vital aspect to consider is the difference between spatial desegregation on the one hand and social integration on the other (Clark, 2003). This distinction marks the difference between shared space and actual interaction, but is not always reflected upon in the discourse of cosmopolitanism (Valentine, 2008).

1 Social sustainability is, in this paper, defined through two normative principles: human capabilities and social resilience.

2 This construct is based on the notion that social and material aspects are intertwined, and best dealt with jointly (Østerberg, 2000).

Day-to-day civil behavior between strangers, a kind of urban etiquette (Valentine, 2008), might be vital in creating vibrant street life, attractive city centers and a sense of access to public space (Valentine 2008; Østerberg 2000). However, this is not the same thing as actual exchange. Rather it is a matter of encounters between carriers of personas or actors staying in character (Asplund, 1983). Therefore, spaces of urbanity might not generate community, encourage re-negotiation of confining prejudices or lead to the creation of common capacity and innovation. Understanding the dynamics of the urban landscape is imperative in this context, since the cityscape and the meanings it carry can be regarded as vital in the process of shaping identity and community (Jaworski, Thurlow, 2009).

This paper aims at increasing the understanding of the social power of urban meeting-places, by raising awareness of important social and socio-material nuances. It departs from the question how encounters and meeting-places can be discussed qualitatively.

There lies a distinguishing tone in the title of this paper and the word towards. This is used to underline the intention of openness in the typological reasoning and the fact that the paper is to be understood as a contribution to a discussion about meeting-places. The typology is focused on what we might call the anatomy of urban encounters and meeting-places, rather than fixed place-characters. This is due to the complexity of the matter, and the fact that the research at this point has been aimed at understanding the underlying concepts.

MATERIALS, METHODS AND THE RESEARCH PROCESS

The research has been conducted in two steps, so far. Firstly, a case study of an urban neighborhood in southern Sweden was undertaken during the fall of 2011. This part of the research was empirically inspired through explorative fields studies, which led to the formulation of a theoretically based draft of a typology of urban encounters. Secondly, the project was reinvigorated during the spring of 2012, when a further development of the typological discussion was conducted[3]. The scope was to a greater extent focused on the urban landscape and the socio-material implications of theories on encounter. This work is exclusively based on an extensive, trans-disciplinary literary review and it is that research phase that underlies this paper.

The reviewed literature is drawn from a broad and divers amalgam of academic fields. Examples of traditional disciplines that have had an impact on this research are human and cultural geography, urban studies, architectural theory, social psychology, sociology and political science. This crossing of academic fields is in tune with the research's focus on the lived urban landscape as a trans-disciplinary starting point (Lindholm, 2012), and a way of reaching innovative insights through holistic and new compounds of recognized pieces of knowledge.

QUALITATIVE DIMENSIONS OF URBAN MEETING-PLACES

Through the research process, three main themes have come to the fore as significant in understanding and discussing encounters and meeting-places: relationships, socio-materiality and time. These three dimensions are separated for analytical purposes (after all, this paper is aimed at presenting the outlines of a typology). However, they should be viewed as intertwined dimensions of the encounter in a time-space setting. Let us consider these dimensions through the most influential underlying theoretical concepts that has come to shape the typology.

The dimension of relationships draws our attention towards the direction and character of interaction and the creation of social capital. This partly emanates from Robert Putnam's research (see for example Putnam, 2011), in which he makes a basic distinction between social capital which bonds existing communities or groups further together and, on the other hand, the social capital that bridges the gaps between formerly separate groups. This also relates to another distinction: the difference between desegregation and integration, and the degree of actual interaction. Clark (e.g. 2003) discusses segregation as mainly a spatial concept, with its antonym in desegregation. Integration, on the other hand, can be understood as the "creation and maintenance of intense and diverse patterns of interaction and control between formerly more or less separate social spaces" (Lee (2000) in Clark, 2003) and is opposed by disintegration. Integration is by no means a certain consequence of desegregation. Amin (2002) and Valentine (2008) both conclude that encounters with Others is a complex matter, and that contact itself does not ensure a deepened respect for difference. Instead, they stress the importance of cultural destabilization in order to reach meaningful contact. This is a state in which former conceptions and prejudices concerning Others are re-negotiated (Amin, 2002). In order for cultural destabilization to actually occur, it is helpful to create a situation of shared identity or goals, or to develop and demonstrate skills together with equal opportunities to partake (Valentine, 2008; Amin, 2002). Potential meeting-places for encounters of this sort can be found in different clubs or activity spaces, such as sports associations or choirs. These kinds of organizations can also be starting point for the creation of collaborative capacity (Putnam, 2011).

It is worth noting that there seems to be a consensus about the statement that meaningful contact is facilitated by feelings of security and access to common resources and effectively hindered by fear, insecurity, marginalization or alienation (e.g. Amin, 2002; Brownlow 2005; Valentine 2008). It is also worth noting that promoting meaningful contact is valuable in the context of innovation, as this gains significantly from encounters between people with large cognitive distance (Nooteboom, 2006).

The character of urban landscape is vital in regard to the potential of meaningful contact, which brings us to the second category: socio-materiality. This is important, since encounters always occur in places affected by preconditions such as landscape semiotics and territoriality, which carries meaning for the individuals engaging in the encounter (Valentine, 2008; Østerberg 2000).

The power of semiotics can be a potential obstacle – with regard to meaningful contact, the creation of bridging social capital, urbanity and the sense of marginalization – by denying access more or less directly (Valentine 2008; Østerberg, 2000). Boundaries might, on the other hand, be vital in the creation of privacy and community (Madanipour, 2003). Therefore, the construction of semiotic boundaries (Clark, 2003) in the urban landscape is an important part of a discussion about meeting-places.

The core of this line of reasoning can be found in the degree of publicness and its effects on social activities and processes. Kärrholm's discussion on the concept of territoriality (2004) is of great value for this understanding. He discusses the degree of publicness as a function of the degree of territorial complexity. The more territorially complex the place, the more activities can co-exist. However, it is important to recognize that while a high degree of complexity might create urbanity and equal access, it can actually become an obstacle to the creation of security, community and collaboration, and thus function as a threat to, for example, neighborhood activities. In order to discuss the social inclusivity of semi-private places, such as a sports clubs, which are seldom territorially complex, we might therefore return to the understanding of boundaries and codings instead of just focusing on the otherwise valuable concept of territoriality. Material aspects are also an important part of what can be defined as indirect encounters – the encounters with consequences and products of human activity (Angelöw & Jonsson, 2000).

Moving on to the third category, time, we get the opportunity to make an interesting distinction between interaction and integration, through the reasoning of Asplund (1983). He considers integration to be interaction with a degree of stability, concerning time and relationships. In the integrated interaction between members of community, reciprocity and reputation plays an important part as the base of relationships. Indeed, this is not so in the fleeting encounters between strangers, whose interaction can be regarded as shallow and temporally limited social episodes (Bauman, 2001).

Time also relates closely to socio-materiality, since territorial complexity in Kärrholm's terms is dependent of rhythms of access and designated activities (2004). Last, but not least, temporality can once again be combined with socio-materiality to help us understand what we might define as sites and situations of normative exceptions. In these, traditional social codes and expectations might be temporarily dissolved, or be fixed in new ways in certain socio-tempo-material situations. For example, a professional boxing game is a situation where fighters are allowed to use a certain amount of brute force, which is not normatively acceptable outside the game situation (defined by temporal as well as socio-material and traditional conditions). Even the spectators are temporarily, and in the specific socio-material context, allowed to cheer the fighters' otherwise objectionable behavior. Similar situations occur on a daily basis, and taking this into account is potentially helpful in understanding encounters and in planning meeting-places.

1.Relationships: character and nuances of the meeting	2. Socio-materiality: character of place and degree of publicness	3. Time: rythm, dynamics and degree of stability
Bonding vs, bridging social capital	Territorial complexity	Duration of encounters
Degree of interaction and integration	Situation	Duration of relationships
Intentionality	Boundary dynamics	Prior experiences
Direct vs. Indirect encounters	Codings	Stability of norms
Vertical – Horizontal		Territorial stability

FIGURE 1. Typological outline of urban encounters and meeting-places.

3 At the time of writing this paper the next phase is about to be initiated: a case study of community gardens in Malmö, Sweden. The aim is twofold: 1) to examine the typology's potential as an analytical tool and 2) to discuss the qualitative aspects of community gardens as urban meeting-places.

CONCLUSIONS

From this explorative study, with a relatively broad scope, it is possible to draw a number of conclusions:

- Understanding encounters qualitatively is important in the pursuit of social sustainability, because of the dynamics of different kinds of encounters, and their certain preconditions and effects.
- In order to understand the anatomy of encounters and meeting-places, it is possible to make a distinction between three main themes: relationships, socio-materiality and time. Although this distinction can be made, and might be fruitful for analytical purposes, it is clear that these must be discussed jointly in order to reach a full and integrative understanding of the complex issue.
- Paying attention to socio-material meeting-places (thus, also planning practice and landscape studies) plays an important part in creating social sustainability. However, this must be done in tandem with other kinds of developmental work, such as the promotion of equality.

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Collaborative Landscape Assessment as a strategy to empower liveable landscapes through planning

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ABSTRACT

In this paper a concept for online-participation is presented. This concept is grounded on a constructivist landscape theory that has interferences with the European Convention's definition of "landscape". Thus, the project aims at surveying which parts of the physical space that surrounds people are recognized as landscape and, more particularly, which parts have special meaning and value for their inhabitants. In this study, members of the public are invited to draw areas on an interactive map that include preferred parts of physical space, and then to describe the landscape as well as the meanings and values subscribed to it.

Keywords: landscape assessment, european landscape convention, participation.

INTRODUCTION

The European Landscape Convention states that "'Landscape' means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors;[…]" (Council of Europe, 20 Oct. 2000: 1, Nr. a). With this definition the Convention clearly has interferences with constructivist landscape theories (Ipsen, 2006; Burckhardt, 2008; Kühne, 2008; Trepl, 2012). The basic idea of constructivist's concepts of landscape, as described by different authors, is that landscape is not objectively related to physical space but that it is constructed upon it based on individual perception, interpretation and evaluation. Thus, no two persons see the same landscape when looking at the same area of the earth's surface. Palang and Fry (2003) give an explanation that can be used in planning approaches by simply distinguishing "The human Landscape […]" that "is formed in our minds […]" and "The material landscape […]" that "[…] is the one we can touch and smell and see and measure." This theoretical basis, and the growing demands for inclusive governance forms of planning, provides the starting point for this study.

THEORETICAL CONSIDERATIONS

Considering more detailed constructivist theories by Kühne (2006, 2008, 2011) it appears advisable for landscape planning to distinguish between two levels of interpretation and assessment of landscape. The first level would be based on a common idea of landscape values und interpretation that are shared by a certain social group ("gesellschaftliche Landschaft" Kühne, 2011). This provides the basis for the second level, that would be the individual landscape construction ("individuell aktualisierte gesellschaftliche Landschaft" Kühne, 2011). At this second level singular and individual landscape experiences are added to what is shared by a discernible group.

Ideas of landscape that are shared by and are the result of group discourses are used, among other things, for the distinction of specific social groups against others, and such shared ideas are also used to wield power over other groups. Consequently, especially in the case of elite social groups (e.g. landscape planers, geographers, archeologists) landscape concepts are present that are intentionally created to differ one such group from others, and to empower social differentiation (Tessin, 2008; Kühne, 2011).

The European Landscape Convention promotes a landscape idea that appears to be based on constructivist landscape theories.. Interpreting the ELC no two people ever see the same landscape even though they are looking at the same area of physical space, thus the Convention suggests that landscape assessments should be done publicly. More specifically it states:
"With the active participation of the interested parties, [...] and with a view to improving knowledge of its landscapes, each Party undertakes:

a **i** to identify its own landscapes throughout its territory;
ii to analyse their characteristics and the forces and pressures transforming them;
iii to take note of changes;
b to assess the landscapes thus identified, taking into account the particular values assigned to them by the interested parties and the population concerned." (Council of Europe 20 Oct. 2000: 6 C Nr. 1)

Therefore it is a planner's task to develop methods for the identification not only of the materiality of landscapes but also of the concepts of landscape that people store in their minds. Methods are needed that should enable planners to gather the ideas of many different interested people to form an agreeable landscape concept of the territory that inhabitants identify with. Different participatory planning approaches exists that have been developed to be used at local scale (Jones, Stenseke, 2011). Only few examples are available that include approaches to

identify landscapes and landscape values according to the convention that successfully operate at regional or sub regional scales.

This is the point of departure for the present study. It is increasingly recognized that in planning processes the very basic decision making is done on regional levels of policy making. Thus, if landscape assessment is conducted only locally its impact on policy making on the regional level is limited. Landscape assessment done at regional or sub-regional scales would complement regional policy making, thereby subscribing to claims made by both the Aarhus and the European Landscape Conventions.

PRACTICAL CONSIDERATIONS

The basic idea of this study is to use new media for landscape assessment that includes the public. The internet is a media that can be easily accessed by the majority of people; its availability is still developing so that, in future, current exclusions of people in certain areas or strata of society will be amended and broadband internet connections will be in reach of most of the public. Even today this media has the potential of reaching out to more people than any of those media (e.g. newspaper) that are traditionally used to invite people to participate in policy making and planning. Also, the internet gives a lot more people the opportunity to participate actively in planning processes than other methods do because, contrary to face to face methods, the effort of participating does not rise proportionally to the number of participants. There is a high potential for planning participation using the internet.

To conduct online-landscape assessments three basic requirements have to be fulfilled:

- People must have access to the internet (high speed access)
- People must be able to work with maps (reading and sketching)
- People must be motivated

Former attempts to use the internet for public participation have been more or less successful. For example, in the participatory process for the "Interaktiver Landschaftsplan" (interactive landscape plan for the municipality of "Königslutter" situated in Lower Saxony) it turned out that only few comments were made using the internet. Two major reasons for this were identified: First, at the time when this project was conducted, not many people had access to fast internet connections, or they had no access at all (von Haaren *et al.*, 2005: 232). Second, it turned out that most comments made were general ones that would not have benefited from the possibility to make a spatial reference on interactive maps that were available on the internet (von Haaren *et al.,* 2005). Later (Brown and Weber) was more successful by evaluating a national park's visitors' perception using a Public Participatory GIS (PPGIS). In difference to other more complex approaches in this project only certain places within the park should be evaluated.

Concerning the ability to read and work with maps such as topographic maps of different scale as well as aerial photographs Berglund and Nordin 2007 showed that starting from an age of 10 years children appear to be able to work with a GIS using such maps. Therefore it might be assumed that most people are able to do so. Working with online maps is not a much higher obstacle than using classic maps printed on paper. Many people are also increasingly used to work with maps online, as indicated by recent developments like Google Earth / Maps and other navigation tools people use in everyday life.

Besides having some basic skills people must also be interested in landscape, and they must be motivated to take part in landscape assessment. According to the ELC awareness raising is one of the specific measures parties have to undertake to motivate the public for participation (Council of Europe, 20 Oct. 2000: 6 A). Particularly at regional scales, when the landscape to be assessed is not perceived to be immediately threatened, the motivating of members of the public appears to be one of the major challenges (Säck da Silva, 2009). However, during the previous decade, PPGIS has become a new field of research, and also planning practice has started to include PPGIS such as in 'Nexthamburg' (Kulus, Polin, Patwardhan, 2012) and 'Frankfurt Green City' . These practice projects demonstrate that it is possible to implement regional participation on the internet.

MATERIALS AND METHODS

A two-step research approach was selected for purposes of this study. In the first step people are asked to select an area that they particularly cherish as having special value, to draw the outlines of this area on a map, and to give a short explanation for the choice they made. In order to make their initial contributions people are using the website "landschaftsbild.org" that integrates the online landscape information system "KuLaDig" (Buchholz, 2008) (FIGURE 1). Inputs made during step one are processed using geographical information systems, GIS. Results are depicted on a map of 'hot spots' of common interest in the given territory. Also, descriptions given by members of the public are analysed in order to answer questions of motivation, and assessments made of the landscape area depicted on the map.

The second step is an evaluation on the method itself. After having taken part in step one participants are asked to respond to a questionnaire. They are invited to report on the experiences made in step one and also to give some detailed information on status of family, age, residence, work and education. This information is used to identify mayor obstructions that made participation difficult, e.g. technical issues, as well as to define the target group of WebGIS based participation methods

In this study the people living in "Köln-Chorweiler" (Cologne distrcit no. 6) are invited to contribute to the assessment of their landscape. To activate and to motivate people to take part, different methods have been used. First of all, an analysis was conducted to indentify the most important organisations – mostly NGOs – in the district (for approaches to 'stakeholder analysis' also see Säck da Silva (2009). The organisations, e.g. football clubs, home associations, churches, etc. were rated according to their potential to have a multiplying-function in the process. According to the potential it was decided how to get into contact with some groups. The major aim was to ask these organisations to help motivate their members to take part in the assessment. The following media then were used to inform the public:

- Letters (directly send to organisations ca. 300 or distributed by schools ca. 7000)
- E-Mails to organisations (ca. 400)
- Placards (ca. 30)
- Personal conversations during field excursion

On the website www.landschaftsbild.org there additional material was available, that should help people to make a contribution:

- YouTube tutorial videos
- PDF Tutorial
- Background information including project description and Pre-test results.

The district 6 "Köln-Chorweiler" is situated in the most northern part of the metropolitan region of the City of Cologne. It has about 80.000 inhabitants of which 45 % are people with migrant backgrounds. The whole district covers an area of ca. 67 km². It is characterized by a great variety of structures reaching from high-rise housing (FIGURE 2) to small village structures and from highly developed industry (FIGURE 3) areas to areas that are mainly influenced by agriculture and forestry. Many parts of the district can therefore be described as "Zwischenstadt" where city and open space mix with each other (Sieverts, 2001). Especially the rural areas are permanently threatened by the expansion of the city. Also, renewable energies and infrastructure projects are already starting to change the landscape in many ways.

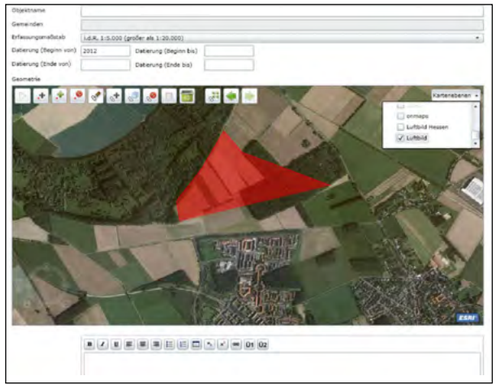

FIGURE 1. WebGIS Part of KuLaDig that was integrated in the assessment method.

RESULTS AND DISCUSSION

As the actual landscape assessment is still on-going, first preliminary results are presented and discussed.

First, it can be stated that, until now, the participation rate is much lower than it was expected. It is reasonable to assume that in the end the participation rate might be too low for the survey to produce empirically reliable information on the landscapes that people value highly, and on the reasons why. Nevertheless, the comparison in TABLE 1 shows that an average response rate of about 1 per 2500 inhabitants can be expected.

There are different reasonable assumptions that can be discussed. First, it can be assumed that especially people that are active in the organisations that

FIGURE 2. High rise areas and agricultural land border each other (photo by Simone Theile).

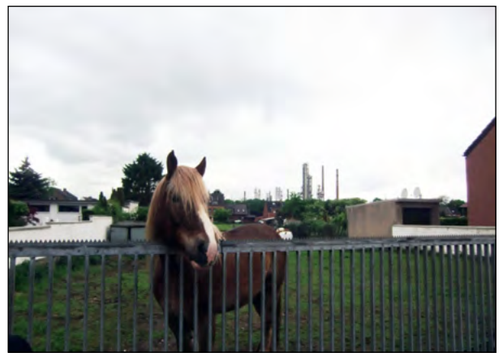

FIGURE 3. Small village area exist side by side to highly developed industrial areas in the background (photo by Simone Theile).

were directly addressed are mostly elderly people that do not commonly use computers and the internet. They might not be able to take part or do not trust in the internet as a serious media for communication.

Second, it might be possible that people are simply not interested in the issue of landscape assessment, or in the subject of landscape in general. So, as learned in previous studies, it might just not be possible to conduct a broad participatory landscape assessment, as suggested by the ELC, at regional scales, particularly when no immediate threat to landscapes is perceived.

Third, even if people were in principle interested in the issue of landscape, it is very difficult to motivate them to take part in an assessment and survey exercise when they do not recognize a personal benefit that can be derived from participation. This might be different in cases where there is a definite cause for concern over landscape quality (e.g. if a large project or development is pending to change what people value).

A preliminary map of people's landscape assessment is shown in FIGURE . Many of the contributions were made with reference to leisure time activities and recreation. Some included general descriptions of the complete living situations. Nearly all participants first gave a description of the landscape and then wrote what was special about it. The scale of the drawings differs very much as can be seen in the map. That is a phenomenon that could also be observed during pre-tests that were conducted prior to the proper study; this phenomenon appears to be related to the term 'Gegend' (rather than using the term 'landscape' as such) that was used in the questions that could and should be interpreted in different scales.

TABLE 1. Comparison of different PPGIS projects related to landscape and the described project.

Title	Area	Inhabitants	Commentaries (still in progress)
NextHamburg	755 km²	1 800 000	ca. 700 (2012-06-01)
Green City Frankfurt	250 km²	680 000	ca. 270 (2012-06-01)
Landscape assessment Köln-Chorweiler	67 km²	80 000	15 (2012-06-12) (aim 50-100)

CONCLUSIONS

At this state of the study it is too early to draw a final conclusion. If the rate of participation remains low at the end, the next step will be to conduct further research on the reasons of non-participation. Qualitative interviews with some of the addressed organisations could be a chance to have the assumptions confirmed or disproven.

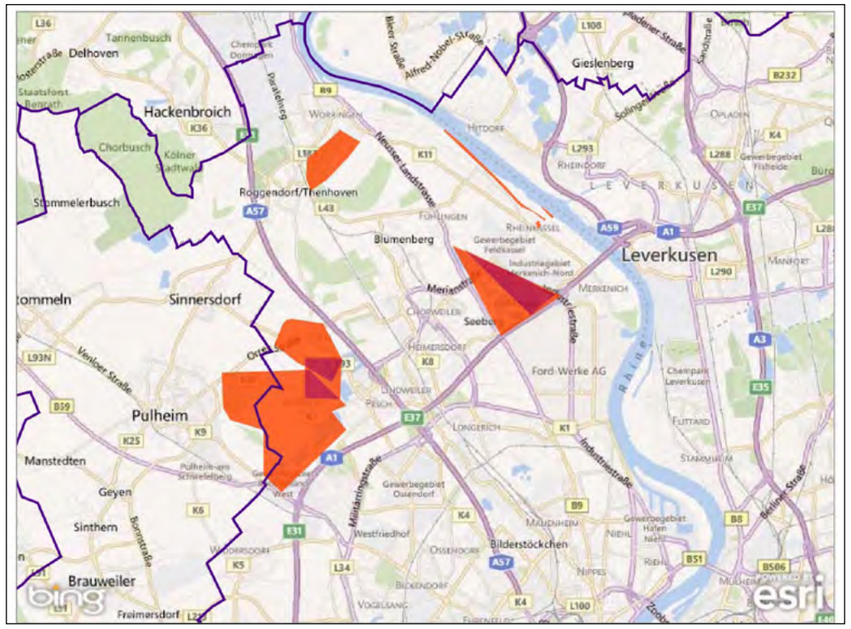

FIGURE 4. Map of preliminary results, the darker red the areas the higher the number of ratings by the participants (Bing Maps © 2012 Microsoft Cooperation and its data suppliers).

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The Power of Landscape – may the Force be with you... Landscape: "...it surrounds us; it penetrates us; it binds the galaxy together"

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ABSTRACT

The Recommendations for the implementation of the European Landscape Convention suggest that the concept of landscape is undergoing a 'period of profound and rapid change'. At a time when many other disciplines are (re-)discovering their interest in landscape, what does this mean for the discipline of landscape architecture?

The only sensible response in this situation must be to fundamentally re-think what landscape architecture is about and how it is taught. The paper briefly illustrates the transition which has taken place in the discipline, from one which was predominantly grounded in the environmental sciences towards one which looks much more equally to the academic fields on either side of the 'two cultures divide'.

Despite making some progress towards re-thinking landscape architecture in the context of the opportunities made available through a European Union funded Thematic Network Project, which is still running, there is still much to be done. The outcomes of the 'Tuning Project' and the active engagement with academics from related disciplines are positive results, but the need to both further differentiate the discipline internally as well as to strengthen and internalise links with neighbouring disciplines remains a matter of urgency. Analogies with the developmental dynamics of academic disciplines in general may be useful in helping to re-shape landscape architecture in the context of the demands of the European Landscape Convention.

Keywords: European Landscape Convention.

INTRODUCTION – LANDSCAPE: THE RISE OF THE 'DARK SIDE'

"*The concept of landscape is undergoing a period of rapid and profound change accompanied by significant advances.*" Thus says the introduction to the 'Recommendations for the implementation of the European Landscape Convention' which were adopted in 2008 by the Council of Ministers of the Council of Europe (CoE, 2008). If this is indeed the case, then this profound change ought also to be having a significant impact on the discipline of landscape architecture. But can we expect that corresponding 'significant advances' in the discipline will somehow follow automatically, are they taking place already, or if not is there something we need to actively undertake to secure them? This paper will consider some of the changes which have taken place, both within the discipline and in its wider context, over recent decades and reflect what still needs to be done.

For a much of the second half of the 20th century, landscape architecture's decisive relationship to other academic domains was shaped by its perceived role as an 'environmental' discipline. Those branches of the 'natural sciences' which concerned themselves with different aspects of the material environment were seen, not just as the closest to landscape architecture, but those which students needed to study as part of their education as landscape architects.

Geology, soil science and geomorphology provided the essential grounding in gaining an understanding of the landscape. Differing amounts of hydrology were followed by generous helpings of ecology and vegetation science. Lastly a dose of climate and microclimate contributed to the necessary understanding of uppermost landscape layer. These bio- and geo-factors, arranged in their vertical layers interacted to generate a horizontal mosaic of 'ecological landscape units' into which mankind engraved its pattern of contemporary land use to create the landscape as we knew it. It was a landscape that could, and indeed should, be surveyed and systematically analysed layer by layer, above all because enlightened designs and plans could them be derived from and supported by this careful analysis of the potentials and limitations offered by the physical site conditions.

The extent to which this world view was taken from granted is conveniently illustrated by the disciplinary sources of the range of terminology contained in the ambitious 'encyclopaedic dictionary' of Landscape and Urban Planning' prepared over an extensive period starting in the late 1970s and extending into the late 1990s, on behalf of the International Federation of Landscape Architects (Evert [ed.], 2001). (The title of the encyclopaedia gave 'urban planning' equal billing largely for marketing purposes, but those involved in preparing the document were all from the discipline of landscape architecture). The range of disciplines involved is illustrated in TABLE 1, which is derived from the list of abbreviations at the beginning of the book.

TABLE 1. Disciplines covered in the Encyclopaedic Dictionary of Landscape and Urban Planning (after Evert [Ed.] 2001).

1.	Administration	adm.
2.	Agriculture	agr.
3.	Arboriculture	arb.
4.	Architecture	arch.
5.	Biology	biol.
6.	Botany	bot.
7.	Chemistry	chem.
8.	Nature & landscape conservation	conserv.
9.	Conservation of historic monuments	conserv' hist.
10.	Materials and construction	constr.
11.	Contract procedure	contr.
12.	Ecology	ecol.
13.	Economics	econ.
14.	Civil engineering	eng.
15.	Environmental protection	envr.
16.	Forestry	for.
17.	Game management and hunting	game' man.
18.	Garden design	gard.
19.	History of fine garden design	gard' hist.
20.	Geography/geology/ geomorphology	geo.
21.	History	hist.
22.	Horticulture	hort.
23.	Hydrology	hydr.
24.	Landscape management	land´man.
25.	Landscape planning	landsc.
26.	Legislation	leg.
27.	Limnology	limn.
28.	Meteorology	met.
29.	Mineral working	min.
30.	Natural resources management	nat´res.
31.	Oceanography	ocean.
32.	Pedology (soil science)	pedol.
33.	Physics	phys.
34.	Vegetation ecology	phyt.
35.	Planning science and activities	plan.
36.	Regional policy	plan.
37.	Planting design	plant.
38.	Politics	pol.
39.	Remote sensing	rem´sens.
40.	Sociology	sociol.
41.	Statics and dynamics	stat.
42.	Cartography and surveying	surv.
43.	Traffic and Transportation	trans.
44.	Urban Planning	urb.
45.	Water Management	wat´man.
46.	River Engineering Measures	wat´man.
47.	Zoology	zool.
48.	Conservation of historic monuments	conserv´hist.
49.	Professional Practice	prof.

From this long list it can indeed be seen that they are predominantly from the natural sciences or technological fields, while the arts and humanities are conspicuous by their absence. The landscape is thus portrayed as being largely the product of the natural aspects of the material world. But that was before the rise of the 'Dark Side'. Little more than a decade later our view of what landscape is has indeed undergone a 'profound change'. Landscape is no longer considered as merely the physical characteristics of our more or less natural surroundings, but equally as the way we see and experience them: 'what you see' is only now a part of 'what you get'. The landscape that consisted previously of more or less visible and objective 'matter' has been joined by invisible and subjective 'mind'. The psychologist Jonathan Haidt (2006), for example, puts the problem like this: "*the world we live in is not really made of rocks, trees, and physical objects; it is a world of insults, opportunities, status symbols, betrayals, saints and sinners.*"

Where did this change leave graduates of landscape architecture programmes? For decades they had been taught all about 'rocks and trees', and they were now to be released into a world which was not a material one after all, but of another type altogether: not the straightforward physical world in which we thought we lived, but a much darker, more shadowy and less tangible one of our own making, with which they were ill-equipped to deal.

This state of affairs was, as it were, institutionalised more than a decade ago with the advent of the European Landscape Convention, which defines the landscape as '*an area as perceived by people*'. At a stroke, the 'power of landscape' was doubled: from then on, at least, landscape was not just 'out there' but inside us too. The new power of landscape was with us, and like George Lucas's 'Force' we might say that "...it surrounds us; it penetrates us"; maybe it even "binds the galaxy (or at least society) together." But what does all this mean for the discipline of landscape architecture – and (how) can we learn the new ways of the 'Force'?

RESPONDING TO THE EUROPEAN LANDSCAPE CONVENTION

There were perhaps three possible ways for the discipline of landscape architecture to react to the European Landscape Convention. An immediate response might well have involved a feeling of vindication. We could be passive and simply sit back and wait: landscape architects had for years been championing the importance of landscape – now it seemed as if someone had finally listened to us. 'Just wait until the Revolution comes...' we used to day – now it had arrived, and we were suddenly the profession that everyone would be seeking out. But the initial euphoria of such a response, if it indeed took place, would soon have cooled: where had landscape architecture been during the development and formulation of the Convention? If a Landscape Convention could be created without any input from landscape architecture, then perhaps it could be implemented without the discipline too?

In fact a closer reading of the Convention makes it very clear that 'we' are certainly not the 'partners of choice' – far from it – there are none; indeed the multi-disciplinary nature of the discipline is stressed. This fact notwithstanding, it was possible for almost any discipline, not just landscape architecture, to (mis-)interpret the Convention in a similarly self-centred way. And indeed it rapidly became ap-

parent that there were a large number of other disciplines which also perceived themselves as 'landscape' disciplines.

But the Convention makes it very clear: the landscape does not 'belong' to any one discipline, indeed it does not belong to the 'experts' at all. According to the Convention, landscape belongs to all the people. This state of affairs, however, can be said to present a particular challenge for landscape architecture, for whereas most of the other 'landscape disciplines' can be said to be 'also' interested in landscape alongside other more long standing concerns, for landscape architecture landscape is the central, indeed the only concern of the discipline. So what should the implications of the European Landscape Convention be for landscape architecture?

A second possible reaction might therefore have involved an instinct to close ranks and repel borders: who were these other upstart disciplines who thought they knew all about landscape – the very idea: aggressive protectionism should be the order of the day! A little consideration, however, would quickly rule out this option too. Apart from the fact that this was never a practical option, landscape architecture is still a relatively young and small discipline within the wider academic context; in fact perhaps it is we who are the upstarts and not the archaeologists, architects, ecologists and geographers, who also have an interest in landscape...

This leaves only one serious option: if the concept of landscape is indeed undergoing a period of rapid and profound change, surely the European Landscape Convention has to be seen as a wake-up call to the discipline and a cue for landscape architecture itself to follow suit and also to embrace profound change. If many other disciplines are now (re-)defining themselves as landscape disciplines, then it must be high time for landscape architecture to re-invent itself in response to the Landscape Convention. Not to do so would seem to be at best risky and at worst potentially suicidal. Passivity cannot be an option. This, third way, is surely the only appropriate reaction for landscape architecture to the European Landscape Convention – how else could we learn to use the new power of the 'Force' for the good of the discipline?

Re-invention of a discipline is, however, far easier said than done. At least two important preconditions must be met: firstly there must be the necessary understanding that the process is necessary coupled with a broad willingness to take part, and secondly there needs to be an available mechanism through which such an ambitious process can take place. As it transpired, the latter pre-condition was somewhat easier to meet than the former: it came in the shape of an opportunity to apply for European Union co-funding for a 'Thematic Network Project'.

It could be seen as a coincidence that just as the European Landscape Convention was about to be opened for signature in Florence in late 2000, the European Council of Landscape Architecture Schools had just resolved to investigate the possibilities for getting funding from the European Union's Socrates Programme for a Thematic Network. However, even if the parallel development of the ensuing LE:NOTRE Project and the implementation of the European Landscape Convention was primarily a coincidence, the former did indeed provide an overarching European framework within which ample opportunities for re-thinking the discipline of landscape architecture were made available. After all, according to the European Union's web site at the time, Thematic Networks were created to: "deal with forward looking, strategic reflection of the scientific, educational and institutional issues in the main areas of higher education" and strategic reflection of scientific issues is exactly what was called for within the discipline of landscape architecture in response to the Landscape Convention.

Looked at from ten years on, it can be seen that the original concept for the LE:NOTRE Project did indeed embrace many of the preconditions necessary for reviewing the discipline and it aimed to provide opportunities for both promoting external engagement as well as stimulating internal discourse as means 're-engineering' landscape architecture. These opportunities were not just implicit but explicit too. Thus one of the outputs identified in the initial the project application involved commissioning a series of papers from academics in neighbouring disciplines with the express purpose of reflecting on the interface between the respective discipline and landscape architecture. This theme was extended in the context of subsequent parts of the project and led to the publication of 'Exploring the Boundaries of Landscape Architecture' (Bell *et al.*, 2012).

LE:NOTRE has had other important outcomes too regarding the relationship of landscape architecture to its wider academic and policy field. These include the direct involvement of the discipline in the preparation of the European Science Foundation and COST's Science Policy Briefing: 'Landscape in a Changing World' (European Science Foundation, 2010) and in working with the Council of Europe to prepare a paper on landscape architecture education and the Landscape Convention. This paper, in turn, drew heavily on the work done through the LE:NOTRE Project in the context of the Tuning Project (see http://www.unideusto.org/tuningeu/).

But in order to exploit the force of the new 'power of landscape', what is essential alongside such activities, is a fundamental a re-examination of landscape architecture's self-image together with a re-evaluation of what the discipline is doing to educate coming generations of academics and practitioners for a world in which there will be a wider awareness of the importance of landscape on the part of society

in general. Here too the LE:NOTRE Project offered important opportunities.

The establishment of twelve 'working groups' as way of structuring both the work of the project and the organisation of the interactive project web site was also an initial attempt at suggesting a new internal structure of 'sub-disciplines' for landscape architecture. The fact that in later versions of the web site these 'working group' areas were re-named 'channels' might be interpreted as a reflection of a lack of success on the part of this initiative in stimulating a necessary debate on the structure and content of the discipline, despite the fact that the development of specialisms and sub-disciplines is a key part of the normal route through which all disciplines naturally evolve.

Indeed, participation in the Tuning Project provided an important opportunity to undertake this debate. The results, however, can perhaps be seen more as a reaffirmation and consolidation of the status quo than a new vision for the discipline

DISCIPLINES AND NEIGHBOURING DISCIPLINES: IMPLICATIONS FOR LANDSCAPE ARCHITECTURE?

What, if anything, can be learnt from the process of the development of other disciplines which might provide some guidance for the possible future evolution of landscape architecture? Are there perhaps quasi-natural laws or regular mechanisms, which govern the dynamics, the birth and death of all academic disciplines from which we might learn?

According to philosophers of science, in the beginning there was only one academic discipline: namely philosophy: "*The history of science from the Greeks to the present is the history of one compartment of philosophy after another breaking away from philosophy and emerging as a separate discipline*" (Rosenberg, 2000). It might seem that there is some organic process at work, which can be discerned in the development of academic disciplines, something which perhaps resembles biological speciation.

It can also be assumed that the process, by which what were previously sub-disciplines of philosophy branch out to become independent disciplines, must be preceded by an increasing degree of differentiation within the parent discipline. If this is the case it can be hypothesised that as a discipline matures, it will naturally develop a growing number of increasingly independent specialist fields which may be seen as potential future independent disciplines.

Whether or not this differentiation always leads to the establishment of whole new disciplines is a matter for debate. One of the oldest academic and professional disciplines is medicine, for which Wikipedia lists 53 separate specialisms for Europe (Wikipedia: Specialty Medicine) yet despite this extreme level of differentiation, the medical discipline remains more or less unified field. Much the same seems to be true of one of the longer established landscape disciplines: geography.

Here the discipline can be divided into physical and human geography as far as its treatment of landscape is concerned (although social and economic geographers represent other important branches). Historical geographers have long been interested in the evolution of landscapes, and physical geographers have long focussed on understanding and explaining it from a natural sciences perspective in terms of the 'layered structure' referred to previously, but more recently landscape has come under the intense scrutiny of human geographers.

Within the branch of human geography, one further sub-field – cultural geography – illustrates that even within this specialised area there are many different streams of thinking resulting in a variety of ways in which the concept of landscape can be understood and form the object of scholarly reflection. According to Wylie (Wylie, 2007), since the 1970s, which could be seen as a high point in the 'modernist' approach to landscape architecture, human geographers have been moving away from a 'field science' model... choosing instead to emphasise landscape as "...a milieu of meaningful cultural practices and values, not simply a set of observable material cultural facts". Wylie identifies no less than four different 'tensions' which form the basis of separate approaches to scholarly enquiry into landscape within the field of cultural geography. Here it is again possible to witness the recent growth in the study of the more subjective and intangible side of landscape.

This 'rise of the dark side' was also unintentionally reflected in LE:NOTRE Project's initiative to interrogate colleagues from neighbouring disciplines about how they viewed the interface between their field and landscape architecture. While there was no systematic attempt within the LE:NOTRE Project to cover all the possible related subject areas, the list of the disciplines covered provides a stark contrast to those involved in the 2001 dictionary (see TABLE 1). As can be seen from the list in TABLE 2, the majority of these disciplines were not from the natural sciences, with the arts and humanities playing a significant role.

It is evident that an insight into all of these subject from both sides of the 'two cultures' divide should be considered as important for a closer understanding of both the inner and outer landscapes, yet how can this changing situation be dealt with in the context of landscape education? In practical terms, the space available within a 'Bologna' two cycle dgree programme of 300 ECTS units is finite and often already over-filled.

One possibility might be to call for a 'mind over matter' paradigm shift in order satisfactorily to accommodate these new aspects within academic programmes. According to this many of the previous

TABLE 2. Subject areas of papers commissioned from representatives of 'neighbouring disciplines' in the context of the LE:NOTRE Project.

1. Landscape Ecology
2. Agriculture & Rural Development
3. Landscape Archaeology
4. Historical Geography
5. Fine Arts
6. Hydrology & Water Management
7. Dendrology
8. Urban Design
9. Regional Planning
10. Sociology
11. Environmental Psychology
12. Architecture Theory
13. Economics
14. Cultural Geography
15. Forestry
16. Cultural Anthropology
17. Information Technology
18. History of Art

natural sciences subjects would disappear from the curriculum, and perhaps also from our understanding of what landscape architecture is all about. Alternatively we may be just faced with a case of adding some further new 'humanities' layers to the previous natural sciences-based layered model of the landscape? Whatever the answer, neither of these possibilities was addressed in the context of the Tuning Report. One possibility would be to suggest a further differentiation of the discipline into a more natural sciences based landscape planning and a more humanities based landscape design, along the lines of what has already begun to evolve in some countries, but this is likely to lead to an impoverishment of both fields.

These considerations in fact suggest that there might be the need for a variation on the model of disciplinary development for landscape architecture in comparison to the one outlined above, according to which disciplines first differentiate internally before dividing into separate fields. By contrast, what appears to be necessary for landscape architecture is for aspects at least of what were previously separate disciplines from the humanities to re-integrate in some way with landscape architecture. Here the image might be one of a braided river, with channels separating and joining again in different forms rather than the cladistic model of a branching evolutionary tree, which only develops in the direction of separation of structures and contents, each of them growing further and further from their common roots.

But perhaps this is not really a different model after all. Biological speciation occurs under conditions of long-term isolation of population groups. When this isolation breaks down, the separated populations may again begin to interbreed. Perhaps there is another important lesson for landscape architecture relating to openness to the cross-fertilisation of ideas in this analogy.

It is clear that in order to make use of the full 'power of the landscape' within the discipline of landscape architecture there is a need to work to integrate a large number of different perspectives into the way in which we think and teach, not to mention carry out research into landscape. Whether there is a feasible mechanism for undertaking this in a considered and structured manner is open for discussion.

One thing appears certain, the lesson of the European Landscape Convention must be learnt by landscape architecture and the 'rapid and profound' conceptual changes which are affecting the broader understanding of landscape need to be actively embraced.

How this can best be achieved ought to be a matter for urgent debate within the discipline – perhaps a debate for which the LE:NOTRE Project should have been more intensively used. This notwithstanding, there would seem to be two important pre-conditions for maximising the chances of success of this process: the continued active and open engagement with related disciplines- i.e. breaking down the isolation; and the focus of this engagement around concrete 'project--related' landscape issues and places.

Here too the European Landscape Convention provides us with an important signpost that should not be overlooked. The stated goals of the Convention are to promote landscape protection, management and planning, and all three of these activities are defined in the Convention as first and foremost as involving 'action'. This is something that ought at least to be very close to the heart of landscape architecture.

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The power of landscape as a tool for social integration

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ABSTRACT

Due to historical reasons Estonian society has deep ethnical division. Government recognizing the problem is implementing integration policy of Russian-speaking minority based on the Estonian language teaching and increasing of interactions between Estonians and Russians (Vabariigi Valitsus, 2009), however those interactions are nearly impossible in some ethnically concentrated regions. Purpose of the study is to investigate possibility of using landscape as a tool for social integration. Buchecker *et al.* (2003) found that direct participation in the landscape changes raises residents' responsibility for their living environment, creates basis for sustainable development and enables social and cultural integration as the consequence of higher interest in regional and national politics. By the qualitative study (analysis of semi-structured interviews with locals and landscape architect, documentation) of the local population participation in the recent Kohtla-Järve (town with 82% of Russian-speaking population) main street development, following research question is answered: What prevents locals from participating in the design process and how would locals like to participate? Results show, that knowledge of the participation possibilities is incomplete. Locals had low confidence in possibility of influencing decisions and fears of lacking sufficient knowledge or language skills for understanding project discussions. Local authorities did not seem to encourage participation enough. Despite of that, interest in design project and possibilities to participate was high; locals also had clear opinions reflecting on changes in their town. Raising awareness and increasing number of possibilities for participation in the landscape design process among locals will involve them into decision making that can decrease local problems (vandalism), strengthen local identity and help social integration.

Keywords: local identity, public participation, ethnic minority.

INTRODUCTION

Society and context

Estonia has multicultural society consisting of 142 ethnical groups, the largest minority group, Russian, forms 25,4% of population. Geographical distribution of this group is uneven due to historical reasons. Majority of Russian speaking inhabitants live in Tallinn, capital of Estonia, and Ida-Viru, north-eastern county bordering with Russia (Statistical..., 2012). Russian minority is proportionally less represented in suburban and rural than urban areas. Suburbanisation process found in Estonia is ethnically selective; consequently, urban areas are becoming more ethnically concentrated by minorities (Tammaru *et al.*, 2011). Most ethnically concentrated are largest towns of Ida-Viru county: Narva 95%, Kohtla-Järve 82% and Sillamäe 96% of inhabitants are non-Estonians (Statistical..., 2012). Ida--Viru county population is rapidly declining; there is the highest unemployment rate in Estonia (ibid).

Subjective feeling of exclusion is very high among Russians in Estonia (Vihalemm, Kalmus, 2009). Estonian government recognizes need of integration of the minority group into society. However geographical segregation is not taken into account in the integration plans, which mostly focus on language learning (see Vihalemm, 2010) and increasing of interactions between Estonians and Russians (Vabariigi Valitsus, 2009). Integration policy does not include grassroots-level model, but mainly adopts top-down approach without encouraging initiative to propose integration problems solutions.

Objects in the public spaces may have different meanings for cultural groups living in Estonia. Those differences and sensibility of the Russian minority group towards changes in the urban landscape became evident with the reaction to removal of bronze soldier monument in 2007. According to Soolep (2008), bronze solder monument site had iconic value for Russian minority members generated in the Soviet time. Soviet monument was removed before the time promised by prime minister that caused riots in Tallinn, lively media discussions and decrease of trust for Estonian government among minority group. The incident also demonstrated problems that integration policy could not solve (Saar Poll OÜ, 2009). Conflict around the deconstruction and replacement could be probably less harmful if the issue would be publically discussed with participation of the minority group in decision making about the new place for monument.

Public participation

Current paper assumption is that participation in landscape planning, could influence positively integration process, among other benefits, providing minority group with the sense of inclusion. Buchecker *et al.* (2003) found that direct participation in the landscape changes raises residents' responsibility for their living environment, creates basis for sustainable development and enables social and cultural integration as the consequence of higher interest in regional and national politics. Al-Kodmany (1999) finds that widely documented broad-based community involvement in planning and design be-

nefits are enhancing the capacity of citizens to cultivate a stronger sense of commitment, increasing user satisfaction, creating realistic expectations of outcomes, and building trust.

Matsuoka and Kaplan (2008) studying "Landscape and Urban Planning" journal contributions from the grounds of people needs in urban landscape discovered that almost half of the studies concerning human interaction included ways how citizens can participate in the design process. Thus contributions highlighted importance of promoting citizen participation and provided evidence of recognition of this need. Ploger (2004) agrees that public participation processes are needed and require among other necessities ongoing dialogues between politicians, planning authorities and citizens.

Influences to the public participation activity are diverse, current study aims to explore locals interest and their perceptions of barriers for participation. Raagmaa (2010) recognises that both attitudes of the authorities and people's activity and knowledge influence public participation and success of the development process. Interest in public participation is necessary from both sides; however the activity of public participation depends primarily on the actions of authorities (ibid). Lewicka (2005) has found that neighbourhood ties rather than place attachment predict civic involvement.

Different possibilities for participatory planning have been proposed, established and tested in numerous research papers, for example internet-based participatory planning (Kangas, Store, 2003), and practice. To find suitable way of participation providing benefits for minority group specific conditions, existing barriers need to be understood. By current study of the ethnic minority participation in the recent Kohtla-Järve town main street development, following research question is answered: What prevents locals from participating in the design process and how would they like to participate?

MATERIALS AND METHODS

Case

To explore local Russian speaking minority members' relation to the public participation in the design process, example of the recent urban space development was chosen – "Kohtla-Järve town Järve district centre reconstruction project".

Kohtla-Järve is the fourth largest town in Estonia, with approximately 44,000 inhabitants, its biggest district, Järve, has approximately 20,000 inhabitants. Kohtla-Järve has been incorporated as a town in 1946. Rural area was turned into town which major structures were built during the Soviet rule time (1945-1991). Kohtla-Järve has a unique layout. Six districts of the city are scattered across the northern part of Ida-Viru county in a considerably large area. This derives from mining and heavy industrial activity, as housing for workers was build close to the mines or industries. Kohtla-Järve town is representing example of Soviet socio-economic formation setting, which flourished before Soviet Union collapced and went through harder times after regaining independance of Estonia.

Kohtla-Järve town centre reconstruction project area is 67 ha including Järve district two squares, main street (linear park) and two parks. The project general idea was to renovate town district centre using historical features remained there, but in a new way. Design concentrated on the improving space quality providing more possibilities of pedestrian movement considering also safety aspects. By design historical regular composition of the town main street was preserved, but lots of park trees and bushes were removed, some new trees introduced onto squares, amortised elements restored, pavements renewed, some objects from the past, as for example fountain near cultural house, are newly build up in a similar form; new sitting places, children playgrounds and flowerbeds were introduced. Design on the one hand preserved character of the place, on the other hand diminished visibility of the area decline, which can stronger local identification with the place through improving its image. As planned renovation and changes in the urban environment were noticeable, project had big potential for provoking public discussion and active participation. However only one public meeting was held and participation was minor, reasons of that are studied.

Data collection and analyses

Qualitative research methods chose was guided by study aims and nature. Qualitative methods according to Brockington and Sullivan (2003) are used to explore the nature and causes of individual behaviour; furthermore, qualitative research tends to collect data in natural settings, rather than constructed contexts. Data collection was conducted in two phases: preparatory and on-site data collection.

Preparatory phase. Kohtla-Järve town official web page planning documents and announcements were examined. To ascertain additional information about the project and refine interview questions for on-site data collection, structured interview with landscape architect of the project was conducted by email. Landscape architect was asked to describe changes in the project ideas through time, public participation process and citizens' or town government's influences onto outcome.

On-site data collection. Personal semi structured interviews with open ended questions were held in the area of new development in Kohtla-Järve town. Questions were read out by interviewer and given answers were audio taped. For current study judgement sampling was used (Marshall, 1996), respondents were chosen purposively, Russian speaking inhabitants of the town Järve district present on the project site, who are more likely to have interest in the project. Saturday day times were chosen for gathering data, therefore people of different occupation could be met outside. More of older people (age groups 40-60 and 60-... years old) agreed for interview that influenced age balance of the sample and may influence the results, according to Raagmaa (2010) the age group of the most active people is between 30 and 50. More women than men were questioned. 11 people participated in the interviews. In last interviews information provided by respondents started to become repetitive, it was considered that data saturation arrived and inclusion of additional participants would unlikely provide additional information.

Interview questions could be divided into two parts. General introductory questions about town, participation in its activities and information sources used were followed by questions focused on the planning process and design project: knowledge about participation possibilities, projects in the town, opinions and visions for changes.

Interview recorded texts were transcribed. Qualitative content analysis was performed with the use of selective coding (coding unit – sentence), to concentrate on information relevant for study aims and research question.

RESULTS AND DISCUSSION

Project design was not influenced by public. According to landscape architect e-mail interview general and detail plan of the site similarly to the project conditions provided by town government set no limits on the design project. On the public discussion almost no citizens were present. In the time of construction majority of the design elements (e.g. benches, lamps) were replaced by authorities' decision.

Results show that the project of town centre reconstruction was very important for interviewees. Already when the introductory questions about town were asked, majority of respondents stated that after renovation they like the town much more than before. Renovation of the town centre was perceived as important positive change. Interviewed lived in Kohtla-Järve for a long time, majority perceived it being peripheral location, where nothing was changing during the years before the project due to lack of adequate financing.

Locals are interested in and remain informed about changes in the town environment and social events. Majority of inhabitants have known about the project before construction started from mass media or from other locals. One respondent was acquainted with documentation of the project. Few inhabitants accidentally discovered than something is being constructed when works on the site started.

Knowledge of the participation possibilities was incomplete. Majority of the respondents knew no way how to participate in planning process and that such possibilities exist. However, if they would know or have the possibility to influence decisions, respondents would like to share their ideas. Few, who knew about ways of participation, were consciously not taking part in the process, because perceived decisions influencing impossible or referred to no expertise for that. Respondents, who had positive experiences of some problem solving by local government, were more optimistic about possibility to influence decisions. Ones with negative experiences, believed, that town government would not take their opinion into consideration. "Local government deals only with their own problems, not problems of citizens."

Locals fear lacking sufficient language skills for understanding project discussions. That would be problematic for all respondents except one to participate if discussion is held in Estonian. The fact that planning documents and announcements about public discussions on the town website are presented in Estonian and Russian language information gives account only of already held gatherings negatively influences locals' participation. Changing this would be possible only by authorities' will, as Estonian legislation reserves rights of getting information on mother language only for citizens of Estonia (Riigikogu, 1993).

Participation of locals in decision making was generally perceived as needed, because they are the ones who will live in town and can indicate needed environment improvements. Respondents explained that authorities are not encouraging locals' participation: "We are not invited, as we are ordinary people... I would like to participate in any form if I will be invited, decisions are made on top, ordinary people are not asked" or "I think that town needs to be interested in participating of locals, more involved among them better, but in our case process is not organized." One respondent was convinced that locals would not share their opinions, because of persecution fear.

Despite of that, interest in design project and possibilities to participate was high; locals also had clear opinions reflecting on changes in their town. Speaking about the project, changes were often described through Soviet time nostalgic image. When expressing opinions that more places for young people and children are needed, examples of possible solutions were inspired by past: "It would be good if there was dancing spot in park as in the Soviet time" or "there was attraction park for children in Soviet times, they could have restored it". Because of some fountain removal main street linear park was perceived "worse than in Soviet time". In Soviet time locals were not involved in decision making process; this habit partly remained and is transferred to younger

generation. Lack of democratic experiences is negatively influencing participation (Naylor *et al.*, 2000).

Respondents value Soviet heritage and are worried about bad condition of facades. Locals mostly liked everything about the project, but in some cases practical use of the design was negatively commented. Higher user satisfaction and better design could be achieved by locals involvement (see Al-Kodmany, 1999). In the context of new development respondents emphasized vandalism problem, worrying that new elements may be destroyed. It is in line with proposition by Alumäe (2006) that valuing features around person's home area will inspire pride and safeguarding of certain elements. Vandalism problem in the respondents view must be solved by police, in the results there is now visible conflict between age groups, as no respondent refers to the age of vandals and all age groups people perceive vandalism or bad condition of features as a problem. It is important among others to engage young people into the participation of decision making; it can be mostly done through education and schools.

Conducted study is limited in the quantity of respondents; however it clearly shows possible barriers in participation of the minority group. Despite the fact that real action (participation) can differ from referred intention, study shows that if to raise awareness and provide more possibilities locals will be interested in participation. Being conducted in particular town and development conditions limits study results transferring to other areas, but provides possibility for comparison with other circumstances.

CONCLUSIONS

Barriers preventing minority group from participation are: little knowledge of possibilities, perceived authorities attitudes (not being invited, not enough encouragement), lack of confidence in possibility to influence decisions, fears (of being incompetent, of persecution because opinion), lack of Estonian language knowledge and lack of democratic experience (habits from Soviet time).

Ways of participation preferred by locals would be attending public gatherings (as possibility to get to know about development plans, others opinions and express own), citizens ideas/visions competitions or surveys.

Raising awareness and increasing number of possibilities for participation in the landscape design process among locals will involve them into decision making that can decrease local problems (vandalism), strengthen local identity and help social integration.

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The power of landscape in the renewal of rural public spaces – the example of a small agglomeration settlement

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ABSTRACT

The power of landscape, the general quality of urban landscape, the urban fabric and the specific image of the location play an ever increasing role in the development of small towns and villages and the shaping of the local community. The developing small settlements in the central region of Hungary are now reshaping and renewing their images, which has a decisive role in the shaping of local peoples' sense of identity and the forming and reinforcing of their ties to the place and the small local communities. Earlier, the image of villages clearly used to be dominated by the church and its direct environment, or the castle and the tastefully designed mansion buildings and their gardens – in contrast or harmony with the residential houses and their surroundings. The function and shaping of public spaces was aligned with that. The building mass of the new functions, placed usually schematically in the second half of the last century, such as kindergartens, schools, cultural centres appear until today as "foreign bodies" in the urban tissue. In the central region we opted for the settlement of Nagykovácsi, as a sample area. It is a "dead-end village", free of through traffic, with 6500 inhabitants, and with the establishment of 3500-4000 new inhabitants in a ten years period. The historical town structure is determined by two focal points: the Teleki castle and the Roman Catholic church, and the wide, long Main Street between them. The municipality places an important emphasis on the renewal of the town centre. Our plans for the Main Square were carried out; the reconstructed square won in 2011 the award for excellence for public space renewal of the ICOMOS. For the Main Street a tender was announced by the municipality. The concept plans of the landscape architecture students have won the first prize. Although Nagykovácsi is undergoing a strong urbanization process, it still is a village; and this is the core value of this place, the power of the landscape that also holds the small local community together. This is also enhanced by its renewing public spaces.

Keywords: sense of place, main square, main street, renewal of open spaces of small towns.

INTRODUCTION

Strength of landscape values as predictors of place-specific development preferences in case of residential development are most closely associated with the sense of place, the urban character or the so called genius loci, together with the green and recreation values, the economic and learning values (Brown, 2006). These ideas are many a time recalled and debated ones in design and planning theory, though also the fusion of sense of place and genius loci is often seen in discussions on conservation, renewal, landscape values, urban character and even on the potential or the hidden strength of landscapes (Conzen, 1966). The design and planning aspects of urban open space renewal should take into consideration the economical, landscape and social values and necessities. These aspects may vary on the scale and functions of the settlement and also on the landscape characteristics.

Besides the historical centers and public open spaces of large cities there is disproportionately little discussion in the professional discourse about the community forming public spaces, squares and streets of small settlements (Szakács, Fekete, 2011). However, in the retaining force and the community development of small towns or villages the general quality of the landscape and urban environment and its specific image play an ever increasing role.

Villages are now reshaping and renewing their images and this has a decisive impact on the development of the inhabitants' identity, the strengthening of small local communities which is so important from the point of view of their attachment to the place and the localization processes. Significant parts of the image and the public space usage of small settlements are the main square and the main street, the character and quality of which leaves a decisive mark on the entire settlement. Writing about historical townscapes in Britain Conzen remarks: "…in the course of time the landscape, whether that of a large region like a country or of a small locality like a market town, acquires its specific genius loci, its culture- and history-conditioned character which commonly reflects not only the work and aspirations of the society at present in occupancy but also that of its precursors in the area" (Conzen, 1966).

MATERIALS AND METHODS

The function of the "Main Square" or the "Main Street" is obviously not always taken in by a sole area or linear street segment, but often by a central space, and the few streets leading there, or sometimes the center of the settlement. The main square and the main street are the most important public spaces of the traditional rural community, a scene

for community life: a channel for information, offering a stage for encounters, the exchange of ideas, the scene of formal relationships and exchange of goods. Getting together on the main square, or sitting in the front of one's house – in the public space – has once been more than a program; it has been a signal that the members of the community "reveal themselves", that they are open towards the others and the common problems. People turned to the shared square and the street, organized it, setting up a mirror for the community of their own care and diligence – while they have been real owners to the shared property as well as to their own.

The character and use of rural public spaces has been defined by the natural endowments, the possibilities of landscape forming and use, the way of living of the community and the structure of land and buildings logically resulting from them. The image of villages clearly used to be dominated by the church and its direct environment, or the settlement's castle and the tastefully designed mansion buildings and their surroundings. In this organically developing system nothing has changed in merit for centuries. Until the point when the main square and street became as a matter of course the major infrastructural space; the infrastructure, bus stops and parking lots serving an ever growing public traffic resulted in chaotic conditions.

In the second half of the 20th century as a pledge of development new settlement functions appeared: the schematic building masses of kindergartens, schools, cultural centers appear even nowadays as "foreign bodies" in the urban fabric and its image. This space usage and visual problem has now to be treated or integrated in some way. At the same time as a result of the – mostly agglomeration – development many new urban functions appeared: main square, public park, playground. "Show me your main square and I'll tell you who you are!" – one could adapt the old Hungarian saying and indeed: the appearance of public spaces is a true imprint of the economic and moral status of the local community. The maintenance and operation of local economy is the driving force and also the glue of the local community – and vice versa. If the social cohesion weakens, the conflict between the individual and the community comes to the fore: the attitude saying "everybody's=nobody's" gets spread. Besides many other worrying signs visual pollution appears: the visible degradation of architectural environment and neglected public spaces. Everything "common" loses its value and gets defeated by the arrogance and low quality of public utility developments. All that is only topped by the devaluation of green surface elements and values, and the disappearing of the once existing experience-based know-how of gardening – and the filling of the gaps following completely erroneous antitypes and rootless patterns.

The typical social processes of small settlements are the emigration and immigration, the aging, the rupture of the balance between groups of society. The solution might lay in the retaining and/or settlement of young families, the reviving and strengthening of local economy. In this process, besides cheap offers for construction sites, a functioning school or favorable exploitation possibilities, the quality of a well maintained road structure and the related modern public spaces, green areas represent a strong motivating factor. The maintenance of the "Main street", the redefinition of the "labor for the common cause" in the heads – especially in those of the younger generation – is one of the possible aspects of the public labor program. Thus, the quality of public spaces is far from being but a question of settlement aesthetics, but is a decisive factor on the level of local society and economy and it is some kind of a landscape resource, a form and value representing the force of landscape and the spirit of the location.

It is a well known fact that due to agglomeration processes and the appearance of the commercial and cultural centers of nearby cities, public spaces in many cases have lost their attraction and economic power. Facing the degradation process, through the initiative of local communities, the demand for a renewal of the rural public spaces rose in the past couple of years, which is supported by various grant resources, among others European Union Development and Investment grants. In the past years it was possible to reach a high level of support; sometimes even 100% within the different Leader and rural development programs. To examine this renewal process and to elaborate the supporting design methodology we have chosen a small settlement in the vicinity of Budapest as a model to elaborate benchmark and exemplary plans which can serve as a model for other settlements as well.

NAGYKOVÁCSI, THE MODEL AREA

Nagykovácsi is a dynamically developing settlement with 6500 inhabitants, to 5 km from the capital with an advantage of having no through traffic. The agglomeration development has already started, and in the next ten years it can be calculated with the establishment of 3500-4000 new inhabitants. With this, the supply functions and the settlement image expectations are rising. There is an increasing demand for public spaces, open spaces, where the inhabitants of the settlement can meet, organize events, and which ameliorate the quality of life of the inhabitants and reinforce their sense of identity. Nagykovácsi is undergoing a strong urbanization, but still remains completely a village and this is the core value of this place that also holds the small local community together.

The essential historic but well preserved structure of the village settled into a valley is defined by two focal points: the Teleki-Tisza castle and its park as well as the catholic church and the Church square, the main square, and the some 900 m long main street, aligned between these two. The main square and street express the community values, spirit of the village and the power of the landscape here.

RESULTS AND DISCUSSIONS

The Main Square

In the first phase the renewal of the Main Square has been carried out, for which we prepared plans at the Department of Garden and Open Space Design on the grounds of the results of a student design contest published in 2007.

The traditional village center is the Tisza István Square, which is also the terminus of the buses. The northern space wall is formed by the catholic church and parish built in the 18th century, which are the most characteristic buildings of the settlement. On the southern side there is the Lutheran church created from a peasant's house. On the northern part a new inn has been built a couple of years ago. Due to the turning point of the bus terminus and the ruptures in the square by the public roads, small green islands have been created. This way the square did not perform nor the function of a forum, nor that of a pedestrian main square.

The plan for the renewal of the main square offered, with the relocation of the bus turn, a solution of a strong longitudinal character, with subtle instrumental reactions to the endowments of the terrain. The renewed square can be divided into two parts: its eastern part is an open event area with the main entrance of the church and the monuments; the western part is a shady meeting area with trees and benches (FIGURE 1). The main square is separated from the main street by a parapet retaining wall and a grassy slope planted with trees. The southern fence wall of the church has been reconstructed according to the original sizes. In front of the wall a stepped terrace has been created, with a "sitting band" paved with natural stone. This place, protected from the wind, is also the main event scene of the village, and after the holy mess the stage of local community life, whilst in the evening it offers a place for the young generation to meet (FIGURE 2). Through the western, park-like wooded area the square on one hand "reacts" to the western part of the main street, and, with a plastically formed Italian stairs it creates a relationship to the "lower" part of the square.

FIGURE 1. Nagykovacsi renewal plan main square.

FIGURE 2. Nagykovacsi main square details and view.

During the planning, the image of the main square was a matter of principle. We realized that the characteristic, modern rural architectural style is still missing from today's square architecture. Our aim was to create a square, which does not seem to be as a "miniature" big-city area, but an environment that defines itself even today as a rural main square but still with high quality, modern design elements. According to the plan, on the public square in historic environment a real main square has been created, which takes traditions widely into consideration but also adapts to the challenges of the 21st century, giving place also to community functions.

MAIN STREET CONTEST, 2011

The renewal of Nagykovácsi's public spaces has been characterized by a high level professional work managed by the main architect of the village. For the evaluation of competition works, regularly renamed experts were invited into the jury, who previously summarized the broad concept and expectations. The points formulated for the main street design contest might even serve as a basis for local governments preparing to solve similar issues.

- The adaptation of the main street's structure to the endowments of a village/small town
- The shaping of the traffic order, the bicycle path system, by generous treatment and the connection of the public pedestrian functions
- The joint treatment of the public institutional and spatial functions of pedestrian surfaces
- The creation of a road of definitive character, which takes into account the existing green surfaces
- The harmonic shaping of the public square and space walls with emphasis on the most important built elements.
- The maintenance of the "rural main street-like" character, the safeguarding of the "sence of space" (Jackson, 1994)
- The choice of the optimal size of parking areas.
- Definition of the good proportion of paved and green surfaces, creation of interconnected green surfaces and an avenue bordering the two sides of the entire main street

To the raised questions and objectives the students' plans gave manifold responses from which besides general tendencies differences in the details and characters also became evident. These main topic groups were spatial structure, traffic, green surfaces, and the image/identity appearing through them.

Spatial structure: it is important to see and to show that the linear space of a rural main street is far from being homogeneous. The successful competition works analyzed the space structure in a detailed manner, its segments of different character and defined functional, aesthetic, traffic related and space structural focal points (Lynch, 1960). Concepts of perspective character have arisen, affecting the entire settlement, offering a perspective into space and time. A vision was rendered especially strong, when it was dramaturgically fully elaborated.

Traffic: The first key question is whether the current through traffic stays on the main street, or would only be used by those living close by and a bypass road would be constructed. The answer is twofold, since the obvious interest of the prospering local businesses is to have the most possible "spontaneous" clients. The other basic problem is the regulation of bicycle traffic, to find a place for a new bicycle path (FIGURE 3). In the regulation of parking there is also a dual effect to be observed: The reduced number of parking spots makes it possible to increase the size of pedestrian and green surfaces, at the same time reduces the stopping possibilities in front of the shops. It is a good idea to concentrate the visitors' car traffic into a larger reception area or parking lot at the entrance of the settlement. The stops of local traffic are equally important: in this case bus stops can function as community spaces which offer a scene for encounters in the mornings and evenings, for talks, and become thus highlights of the spatial structure.

FIGURE 4. Main street.

Green surfaces: During the creation of green surfaces the entire settlement needs to be taken into consideration. The applied plant species, the shape of their application should preferably match the traditional character, the local habits and contemporary challenges. All along the main street, the green surfaces receive a dominant, characteristic role. The competition works defined the avenues along the streets as decisive elements of the rural spatial structure, and aimed in many cases at the creation of an intense, "real green" environment. (FIGURE 4)

As a basis for the renewal of both public spaces, the main square and the main street respectively, a successful competition plan of landscape architecture students has been used and the suggestions on forums in relation to these. The main square has already been accomplished since then, according to the plans of the Department, the locals adopted it, they could identify themselves with it and consider it their own. Along with that the square has won the award of excellence for public space architecture of the Hungarian Society of Urbanism. The renewal of the main street is stepping into its next phase now; the designing of the execution plans is to be started according to the winning competition work.

CONCLUSION

In the shaping of the structure and image of small settlements, public spaces with strong influence on community life, play a decisive role. It is in these areas of common use where the power of landscape can appear in a really characteristic way, and also the community of people living there might receive a form of expression through them – they are like the imprints of historic past. It seems thus necessary to express the essence and spirit of the place, the power of the landscape and the specificity of the settlement arising from it and the historical values all together, while all this also needs to be interconnected with the tools of today's modern ways of existence. Not an easy task to do, for which there are no universally applicable formulas either.

The jury of the Main Street Competition consisted of architects and landscape architects of the Technical and Corvinus University and the Széchenyi University (Sándor Pálfy, György Alföldi, Imre Jámbor, János Golda), Balázs Tóth, member of the design board, and Zoltán Györgyi, chief architect of Nagykovácsi and Mónika Bencsik, mayor of Nagykovácsi.

First prize winners: the work of Katalin Anna Csillag and Lilla Szabó; third prize: Réka Nemes and Zsófia Gabriella Szabó; the competition work of Ákos Bede-Fazekas and István Bence Varga has been awarded with a purchase.

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Understanding the Power of Landscape in Building a Disaster Resilient City from Istanbul

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ABSTRACT

With a population of 15 million people, Istanbul is the biggest city of Turkey. Existing in an earthquake prone area, the city will probably face a major earthquake within 20 years. Scientific studies and Earthquake Master Plan for Istanbul indicate the disaster vulnerability of Istanbul. Today, cities need to improve themselves to resilient ones in order to cope with the challenges of 21st century. This study seeks to discuss the power of landscape in disaster mitigation for the benefit of Istanbul city. Regarding the location of earthquake fault line, this study focuses on Bakirkoy district. Bakirkoy is a coastal district, quite close to the earthquake fault line. It needs to cope with the devastating effects of the major earthquake and the accompanying secondary disasters such as tsunami, liquefaction, landslide and fire. In order to reveal the power of landscape for disaster mitigation, GIS technology is utilized within this study. Components of the urban landscape are evaluated according to eight major parameters as size, slope, accessibility, land cover, interaction with the secondary hazards, provision of technical infrastructure, ownership and proximity to socio-cultural infrastructures. These analyses indicate that major public open spaces of Bakirkoy district cannot be utilized for the social benefit during the post-earthquake period, as they are located on coastal landfills or along the riverfronts. However, this study proves that it is possible to improve existing green structure of Bakirkoy district and utilize the green structure for the purposes of evacuation, gathering and sheltering. Today, there is an urgent need for disaster mitigation in Istanbul. This study is an attempt to highlight the importance of disaster sensitive landscape planning and design, for the benefit of Istanbul megacity.

Keywords: earthquake, landscape planning, disaster mitigation, Istanbul.

INTRODUCTION

With a population of 15 million people, Istanbul is the biggest city of Turkey. Provided by its unique location, Istanbul has always been a remarkable coastal city, throughout its long history dating back to 660 BC. Today this unique location poses a threat to the city. Under the Sea of Marmara, tectonic plates move on one of the most active geologic boundaries in the world, named as the North Anatolian Fault. Existing in an earthquake prone area, the city will probably face a major earthquake within 20 years. Focusing on the expected Istanbul earthquake, Barka (2000, as cited in Kundak and Turkoglu, 2007) figures this probability as 62%. Scientific studies and Earthquake Master Plan for Istanbul indicate the disaster vulnerability of the megacity. Today, cities need to improve themselves to resilient ones in order to cope with the challenges of 21st century. Altering vision of the landscape architecture profession brings about a responsibility to take on for building this resiliency. Hence, this study seeks to discuss the power of landscape planning in disaster mitigation for the benefit of Istanbul city.

Disaster mitigation is used in this study as a collective term to encompass all activities undertaken in anticipation of the occurrence of a potentially disastrous event, including preparedness and long-term risk reduction measures (Coburn *et al.*, 1994). As a component of disaster management, disaster mitigation involves strategies and studies from national to local levels to lower the impacts of disaster. However district and neighborhood scale studies are essential for building resilient communities.

Vale and Campanella (2005) indicate that the concept of disaster-resilience has been developed in the 21st century, in lieu of the previous concept of disaster-resistance. Unlike the concept of disaster-resistance, the concept of disaster-resilience emphasizes elasticity and flexibility in coping with the particular challenges of the various natural disasters. Fleischhauer *et al.* (2005 as cited in Alarslan, 2008) define disaster resilience in terms of the adaptation capacity of a settlement system (built up and non-built up environment as well as citizens) potentially exposed to natural hazards with a view to maintaining or restoring an acceptable level of function and structure.

Today, disaster mitigation is proven to be indispensable for building a disaster resilient community. JICA (2002) which is the major study for the disaster prevention / mitigation basic plan of Istanbul highlights the importance of further mitigation studies at district and neighborhood scales in order to cope with the impacts of expected Istanbul earthquake.

Regarding their proximity to the earthquake fault line, southern coastal districts of Istanbul are subject to several earthquake risk analysis and hazard assessments like IMM (2007), Istanbul University (2007) and Hancilar (2012). However required disaster mitigation studies are still lacking for most of the coastal districts. Seeking to reveal the power of landscape planning in disaster mitigation, this study is utilizing GIS technology and focusing on one of the most significant hazard prone districts of Istanbul called Bakirkoy. With a population of 218352, Bakırkoy is a vulnerable coastal district to the impacts of the major earthquake and the accompanying secondary disasters due to the absence of district scale mitigation studies. This study is an attempt to highlight the importance of disaster sensitive landscape planning and design, for the benefit of Bakirkoy district and Istanbul megacity.

MATERIALS AND METHODS

Focusing on a multi-layered understanding of the disaster sensitive landscape planning, this study handles Bakirkoy District and scrutinizes the components of its urban landscape by utilizing GIS technology. ArcGIS 9.3 software is used in this study. 1/5000 scaled digital maps and aerial photos dating 2006 are obtained from Istanbul Metropolitan Municipality. Digital contour map of Istanbul is provided from Istanbul Metropolitan Planning Centre. Maps and aerial photos are first rectified and then registered to UTM coordinate system with ED1950 datum (Zone 35N). Supported by field works, 1/5000 scaled maps and aerial photos are used to prepare current land-use map of the district. Further information on disaster planning, mitigation, hazard assessment and risk analysis are gathered from the scholarly and government literatures for developing the method of this study. The method is developed within this study as an initial step for the prospective further studies on disaster sensitive landscape planning in Istanbul.

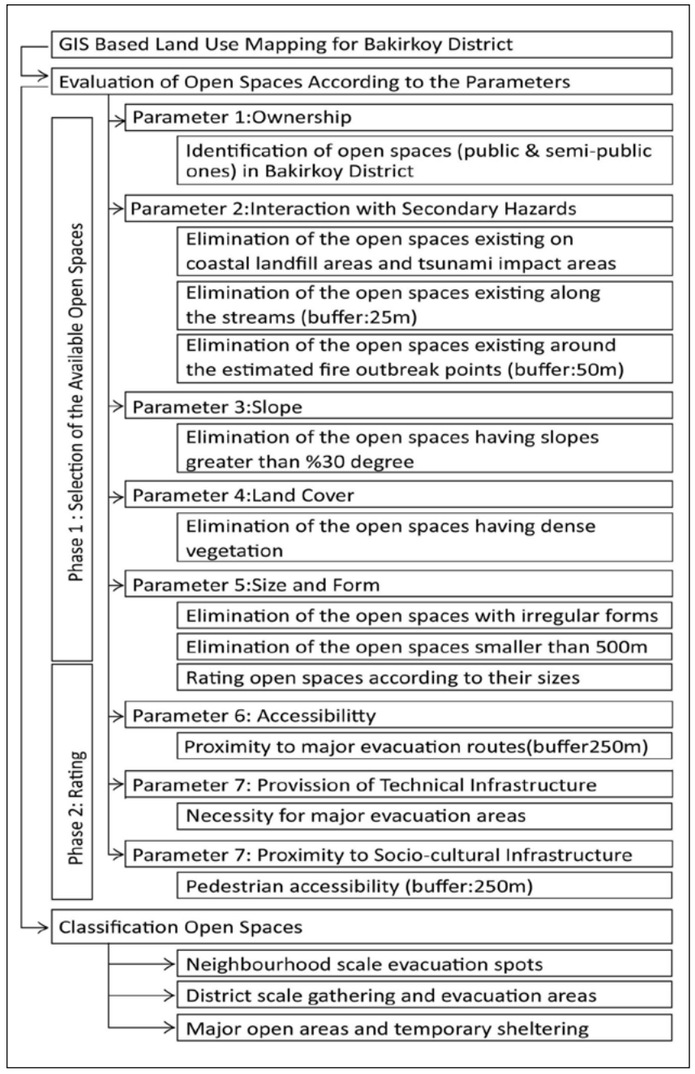

FIGURE 1. The Flowchart representing the evaluation process used in this study.

Within this study, open spaces of Bakirkoy are evaluated according to eight major parameters which are ownership, interaction with the secondary hazards, slope, land cover, size, accessibility, provision of technical infrastructure and proximity to socio-cultural infrastructures (FIGURE 1). Following to the selection of available open spaces for the mitigation studies, these spaces are ranked according to four of the major parameters and classified into three groups due to their grades representing their functional capacities in disaster management.

RESULTS AND DISCUSSION

Regarding their social benefit, open spaces are precious components of mitigation studies due to the functions they can undertake prior to, during and aftermath of a disaster. However there is a wide range of functions and responsibilities pertinent to mitigation thus not all of the open spaces are capable of undertaking them. These open spaces are also obliged to cope with the devastating effects of the major earthquake and the accompanying secondary disasters such as tsunami, liquefaction, landslide and fire. Considering their capacities to undertake functions, it should not be ignored that coping with the disaster indispensably lowers their actual capacities.

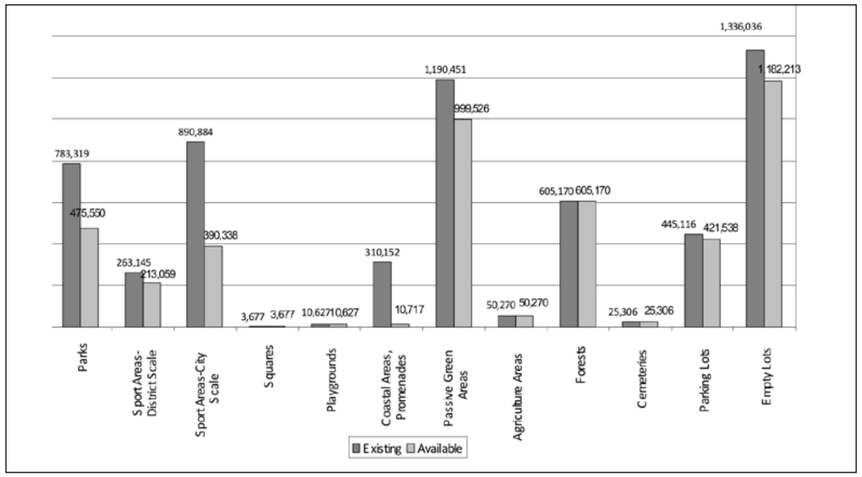

FIGURE 2. Comparison between existing open spaces and available open spaces for disaster mitigation.

Regarding its waterfront and riverfront parks with large-scale sport areas, Bakirkoy is one of the greenest districts of Istanbul. Hence, land use mapping done within this study represents that Bakirkoy captures 4,133,000 m² urban green area. Regarding their locations, these green areas are vulnerable to earthquake and this brings about a serious doubt about their functionality for disaster mitigation. Focusing on this doubt, this study scrutinizes not only the green areas but the empty lots (public and semi-public) and the parking lots. FIGURE 2 represents that empty lots, passive green areas and city scale-sport areas constitute the highest values, respectively. Due to the Turkish terminology, "passive green area" refers to the large green areas along the transportation routes and rivers. Hosting an international airport, two major highways, one railway and three historical streams, Bakirkoy is rich about its passive green areas. Its flat topography enables Bakirkoy to host several international sport areas even the only hippodrome in Istanbul. However this flat topography also increases its vulnerability to earthquake due to the tsunami.

Historical data reveal that throughout the last 2000 years more than 40 tsunamis occurred in the Sea of Marmara (Altinok *et al*., 2001). Hancilar (2012) indicates that run-up heights up to 3 to 4m are expected in Bakirkoy district and according to the hypothetical tsunami scenarios proposed by Yalciner *et al*. (2002), tsunami waves can reach the nearest coastal area within 5-10 minutes. Regarding this limited time and flat topography of the site, tsunami inundation appears to be most important secondary disaster for Bakirkoy district.

This study introduces eight major parameters for the evaluation of the mitigation capacities of open spaces (FIGURE 1). This evaluation process involves two phases which are "selection of the available open spaces" and "rating". Parameter of "interaction with secondary hazards" inarguably eliminates the highest amount of open spaces and major transportation routes by declaring that they are vulnerable to secondary disasters.

This method indicates that 5,913,876 m² open space exists in Bakirkoy while only 4,341,562 m² is available for mitigation studies. FIGURE 2 illustrates the differences between the numerical values of existing and available open spaces pertinent to disaster mitigation. Examining the ravages of disaster, coastal areas, parks and city scale – sport areas are the most significant types of open spaces losing a great amount of area. Although these areas are the well-known public open spaces that will probably spring to mind as the evacuation areas, they are considerably going to lose their functionality in the aftermath of a disaster. Beyond the communal expectations, passive green areas, empty lots and forests ensue respectively as the most important open spaces available for mitigation studies.

Beyond these numerical statements, this method ranks and classifies available open spaces into three groups by using the parameters as size-form, accessibility, provision of technical infrastructure and proximity to socio-cultural infrastructure. Illustrated by FIGURE 3, these groups are named as "neighborhood scale evacuation spots", "district scale gathering and evacuation areas" and "major open areas and temporary sheltering". Although available open spaces are classified into three main groups, there are quite many mitigation related functions for them to carry out. Hence for the distribution of these functions, ranking is essential as it reveals the capacities of open spaces.

JICA (2002) recommends an evacuation system composed of neighborhood and region scale evacuation areas accessed by evacuation roads. For the neighborhood scale evacuation areas 1.5 m² square per head is required while for the regional evacu-

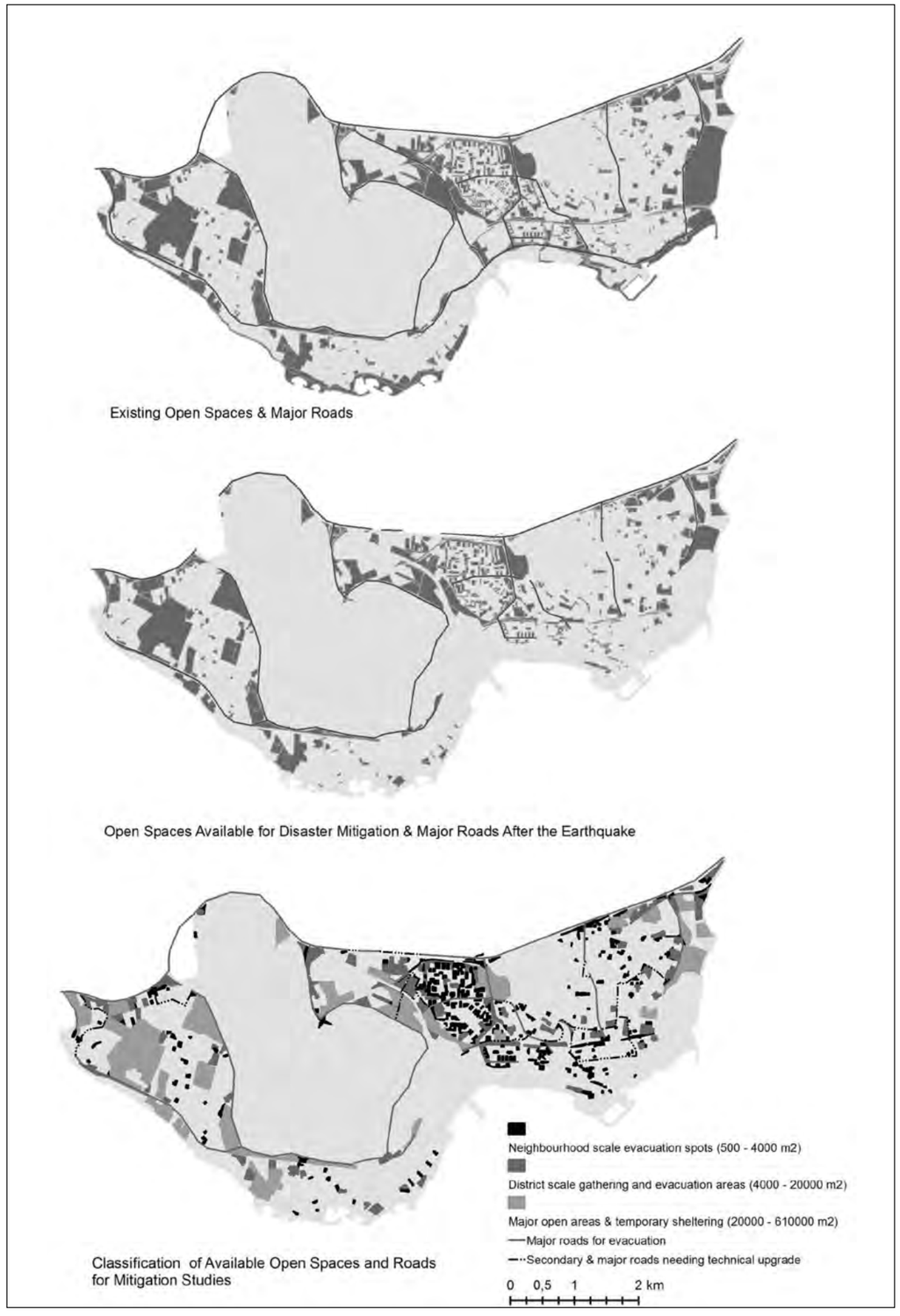

FIGURE 3. Dispersion of Existing and Available Open Spaces for Mitigation Studies.

ation areas the standard is 9 to 10 m^2 per victim in Turkey. Regional evacuation areas are also named as temporary sheltering areas or tent villages in the country. Even if we consider all of the local people as the victims of disaster, 327,528 m^2 evacuation and 1,965,168 m^2 temporary sheltering areas are needed for Bakirkoy District. This study identifies more open spaces than the required ones as it remarks 658,445 m^2 neighborhood scale evacuation spots, 1,092,922 m^2 district scale gathering and evacuation areas, 2,590,195 m^2 major open areas and temporary sheltering sites (FIGURE 3).

Although road network is an important component of the evacuation system, figure 3 illustrates the vulnerability of major roads to disaster. Being the most important infrastructure for transportation, the road network of Istanbul also functions as a lifeline and communication system as lifelines and communication facilities are located underneath the roads. Considering the disaster, besides upgrading the major roads it is also essential for Bakirkoy District to develop alternative transportation routes relying on secondary roads, sea transport means and helicopters.

Being one of the greenest districts in Istanbul, Bakirkoy has a capacity to host disaster victims from the neighbor districts lacking enough open spaces. Regarding their high proximity to major transportation roads, international airport and military air force academy, open spaces defined as "major open areas and temporary sheltering sites" within this study has a power to grasp vital functions like tent hospitals, places for international medical aid organizations and even secondary disaster management centers.

This study underlines the importance of landscape planning for the identification and classification of open spaces available for disaster mitigation. However for the success of landscape based mitigation studies, disaster sensitive landscape planning should be supported by landscape designing. These open spaces should be designed within a disaster sensitive approach regarding their prospective functions in the aftermath of a disaster. While carrying out their current functions, these open spaces should be designed creatively to be ready for transforming into essential components of disaster mitigation.

CONCLUSIONS

In order to cope with the challenges of 21st century, cities should be resilient to disasters. Altering vision of the landscape architecture profession entails a responsibility in building this resiliency. Focusing on one of the most significant hazard prone districts of Istanbul, this study attempts to highlight the importance of disaster sensitive landscape planning and evaluates the mitigation capacities of open spaces. This study reveals that major public open spaces of Bakirkoy district cannot be utilized for the social benefit during the post-earthquake period, although they are the well-known public open spaces that will probably spring to mind as the evacuation areas. However, this study proves that it is possible to improve existing green structure of Bakirkoy district and utilize the green structure for the purposes of evacuation, gathering and sheltering. Beyond the communal expectations, passive green areas, empty lots and forests ensue respectively as the most important open spaces available for mitigation studies.

Today, there is an urgent need for disaster mitigation in Istanbul. This study is an attempt to highlight the importance of disaster sensitive landscape planning for building disaster resiliency, regarding the benefit of Istanbul megacity and the other hazard prone cities.

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Greenery in multifamily houses as a factor of well being

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ABSTRACT

This paper explores a key factor of well being: the social and ecological contributions from greenery in semi-private outdoor spaces of multifamily houses. This research work aims to demonstrate and confirm why greenery is important in the outdoor spaces of multifamily housing projects. At the same time, the benefits of including greenery will be explained mainly in social and ecological terms. Furthermore, the research will suggest some key factors that make the case study projects successful ones. Another important issue is to examine whether the architects and planners have fulfilled the owner's concepts and expectations. As a final goal, the study cases will lead to arguments that could be used to propose municipal policies to promote the inclusion of greenery in private residential projects. The research question is: What is the impact (mainly in social and ecological terms) of including greenery in semi-private spaces of innovative multifamily houses? Two case studies (innovative and experimental housing projects in Zurich) are analysed on three different levels: landscape, sustainability and social. The social contribution from green spaces is about offering different possibilities of use, user identification, and social belonging. Moreover, the research presents a palette of elements in outdoor spaces, which can help to achieve a better quality of life and to add extra value to a housing development.

Keywords: greenery, multifamily houses, quality of living, semi-private spaces, well being.

INTRODUCTION

Evidence of the need to rethink urban development models can be found in the next century's global human challenges such as urbanization, poverty, climate change, and destruction of natural resources.

New sustainable designs of cities is a complex and multidimensional topic that involves different issues such as infrastructure, mobility, energy balance in buildings, water and waste treatments, urban green, citizens well being, etc. Cities with a high quality of life, like Vienna and Zurich, share common features: small-scale distances, good infrastructure, security, cultural offerings, and green spaces. The environmental benefits of greenery are broadly known[1] and proven, but the question is how to include vegetated structures at different scales (cities, neighbourhoods, buildings) and how greenery can contribute to a more sustainable human development in all dimensions: ecological, social, and economic.

If we consider the city as a possible solution to upcoming challenges, the role of the green, in a literal sense, has to be redefined. Environmentalists and ecologists have started to work together with architects to provide a new kind of architectural solutions. The changing boundaries between disciplines create new fields of knowledge that will shape future inquiries into architecture and urban design.

Because our cities' main urban fabric consists of housing complexes, including greenery in buildings could make an important contribution to sustainable urban development. In order to make our cities more liveable, should we have landscape requirements as green-factor systems[2] in housing complexes? How do green spaces improve the well being of inhabitants?

Goal

This research work aims to demonstrate and confirm why greenery is important in the outdoor spaces of multifamily housing projects. At the same time, the benefits of including greenery will be explained mainly in social and ecological terms. As a final goal, the study cases will lead to arguments that could be used to propose municipal policies to promote the inclusion of greenery in private residential projects.

1 Heat from earth is trapped in the atmosphere due to high levels of carbon dioxide and other heat trapping gases that limit release of heat into space-creating a phenomenon known as "green-house effect". Plants remove (sequester) CO^2 from the atmosphere during photosynthesis to form carbohydrates used in plant structure/function and return oxygen back to the atmosphere as a byproduct.

2 Green factor systems are landscape requirements designed to increase the quantity and quality of planted areas in some cities while allowing flexibility for developers and designers to meet development standards. Recent history shows us how Europeans cities have a tradition of incorporating greenery. In 1994, Berlin introduced the BAF (Biotope Area Factor), which was intended to incorporate green landscaping throughout the city environment. Ten years later, Malmö implemented a similar program as Malmö's Green Space Factor system (GSF). Some North American cities have emulated Swedish and German practices demonstrating that urban landscaping requirements provide numerous ecological, economic, and social benefits. Seattle, Washington (USA) has implemented a strategy called Seattle Green Factor. The green factor, which is a scoring system, is designed to encourage larger plants, permeable paving, green roofs, vegetated walls, preservation of existing trees, and layering of vegetation along streets and other areas visible to the public. In addition to being attractive, green elements in the landscape improve air quality, create habitat for birds and beneficial insects, and mitigate urban heat-island effects. They also reduce storm-water runoff, protecting receiving waters and decreasing public infrastructure costs.

Research question

What is the impact (mainly in social and ecological terms) of including greenery in semi-private spaces of innovative [3] multifamily houses?

Selection criteria

Two housing complex located in Zurich (Switzerland) have been chosen as case studies. The first building is: Pflegi Areal (2002) designed by Gigon & Guyer Architects and Schweingrüber Zulauf as landscape architects and the second one is called Hegianwandweg which was planned by EM2N Architects and the same landscape architects as the other case study: Schweingrüber Zulauf.

In the two case studies, greenery placed in the outdoor spaces plays a central and attracting role in the design layout.The innovative and experimental housing projects presented here have already been awarded or recognized. Both cases are located in Zurich and could be analysed in detail with interviews with the owners and personal observations beyond the detailed bibliography research. Other selection criteria include recent projects (built in the last 10 years) from multifamily houses typology with a size between 20 and 100 dwellings. Finally, the projects have different ownership structures: a private and a cooperative association. This selection was done to study the different requirements and concepts that lay behind a property owner's intentions.

MATERIALS AND METHODS

The two multifamily housing have been analysed on three different levels. First, the sustainability level is assessed through the building's social, economical, and ecological performance. This is a subjective analysis following the SIA 112/1[4] recommendation and is displayed in a self-assessment card for each building. The landscape level of analysis considers greenery spaces: layout of the greenery in regards to plans, diagrams, and images that shape the disposal, distribution and description of the green areas. Ecological impact of the green areas will be explained. The qualitative part of the analysis is drawn by the results obtained from expert interviews, clients' assessment, and inhabitants' experiences. All this information will be included in the social level: uses of the greenery. Finally, the main contribution of greenery in each project and the most remarkable features will be described.

3 Innovation refers to emergent, radical and revolutionary practices in design that attempt to find solutions for improving such things as water issues, well-being, and comfort.

4 The SIA (Schweizerischer Architekten und Ingenieur-Verein) recommendation SIA 112 / 1 "Sustainable construction – building construction" is a tool for communication between comissioning and planners in the order and the provision of special planning services for sustainable building in the areas of society, economy and environment.

RESULTS AND DISCUSSION

Case study I: Pflegi Areal, Zurich (CH)

Together with the existing buildings, the new housing development demarcates and defines three large exterior areas: the garden (Patientenhof), the Samaritan Court (Samaritenhof) and the Carmen Court (Innenhof).

TABLE 1: Basic Data, Pflegi Areal, Zurich.

Site/Address:	Hegianwandweg 28-36, 8045 Zürich
Architects:	EM2N Mathias Müller, Daniel Niggly
Landscape architects:	Schweingruber Zulauf + Seippel
Artists:	
Date of Competition	February 1999 1st Prize
Date of Construction:	beginning 01/2002, finalization 07/2003
Client:	Familienheim- Genossenschaft Zurich FGZ
Constructor:	Bosshard und Partner
Construction consulting and supervision:	Ct Bauberatung
Construction physics:	Michael Wichser + Partner AG
Structural Engineering:	Tragwerk + Pirmin Jung
Site area:	12,900m2 1.29ha
Usable floor area:	8,280 m2
Total floor area:	14,404 m2
Building volume:	49,716m3 (SIA 416)
Density:	FAR 1.12
Number of floors:	between 4 and 5
Number of housing units:	75
Garage:	1 underground parking (79PP)
Dwellings typologies:	
	7 apartments with 2,5 rooms
	6 apartments with 3,5 rooms
	52 apartments with 4,5 rooms
	10 apartments with 5,5 rooms
Collective spaces:	
	7 workrooms
	2 ateliers
	1 common room
	1 cellar-room
	laundry
	bike-rooms
	1 nursery school
Costs:	(BKP 1-5) 32.8 Million Swiss Francs

Patientenhof: As indicated by the name, this was the former garden for patients. The landscape architects decided to make some small improvements and left it almost entirely unchanged. The garden has a main grass area where some Japanese reed bushes were planted. The big, old, beautiful trees make this space the most vegetated with a strong, literally green character. In addition, the blue color of the building facade intensifies the old atmosphere of the old garden. In a corner, a playground for children includes sand boxes and a water gutter.

Innenhof: The Carmen Court is the place of the former nurses' garden; a new parking garage has been built under it. This outdoor space connects and provides access to the buildings' entrances. This space has an uncommon layout.The ground consists of fine gravel as well as large, poured-concrete slabs, which form a wide access-path to the apartments' entrances. Rebar baskets filled with pebble stones and earth form a nutritional ground habitat and space for roots as well as a counterweight for trees over the garage slab (Silverwene trees). The trees here work like artificial ones and are placed on the ground as "pieces of furniture" to provide the desired privacy to the inhabitants and to create a special atmosphere. The colors of the buildings facade (light yellow and white) in combination with the rebar wire baskets reflect the sun light and create a special atmosphere.

Samaritenhof: As the smallest outdoor space from Pflegi-Areal, Samaritenhof serves as a new access for the underground parking garage and offers drop-off and parking spaces for the health center. The color contrasts between the light, concrete floor-slabs and the rust-red fence is a prominent feature of this space.

Social level: *use of the greenery*

Inhabitant assessment

Appreciation[5]: The Innenhof is usually described as the most beautiful part of the Pflegi Areal complex. The elegant and Mediterranean-style layout with the trees in the stones-baskets is very appreciated by the residents They find here a special and calm atmosphere and they mostly identify with the space.

The owners also greatly appreciate the Patientengarten. The harmony between the park and the playground was most frequently mentioned as pleasant elements. The conservation of the old trees makes this space quite respected. "It is quite nice to live in a central and urban location and at the same time enjoy the view of the changing seasons reflected in the old trees"[6]. The residents seldom mention the Samaritenhof. Its parking function makes it less popular and it just serves a practical function.

Use: Most tenants very seldom use the outdoor spaces.The Innenhof functions as a circulation and communication space between the apartments and the streets. Only a few persons go for a walk, read, or play with their children in the outdoor spaces of Pflegi Areal. Due to the mostly professional jobs of the residents and due to the lack of families with children, the spaces do not need to serve any special function. Some tenants were a little critical with the outdoor spaces and pointed to some problems.

Greenery in the outdoor spaces: Most tenants think the outdoor spaces have enough plants, but wish more plants would be trees. The Patientenhof's old trees provide good and cool shade especially on hot, sunny summer days. Residents appreciate the layout of the old Patientengarten with the old trees and the new Japanese reeds. Some people find the trees in the stone-baskets from the Innenhof a little artificial.

5 Hürlimann L. & Frey S. (2006) Die Aussenraeume:Pflegi Areal, Gigon Guyer/ Regina Kägi-Hof, Theo Hotz, Zürich: ETH Zürich, Department Architektur, 69-85.

6 Conversation with Susan Gysi (inhabitant of the Pflegi Areal), December 10, 2009.

TABLE 2: Self evaluation according to SIA 112/1, Pflegi Areal, Zurich.

		Relevance	Conformance
Social			
Community	Integration, Social intermix	not relevant	achieved
	Social contacts	not relevant	n/a
	Solidarity, fairness	not relevant	n/a
	Participation	not relevant	n/a
Design	Spatial identity, mixed uses	highly relevant	best practice
	Individual design, personalis.	highly relevant	best practice
Use, developm.	Basic supply, mixed uses	highly relevant	best practice
	Slow traffic a. public transport	highly relevant	best practice
	Accessability/usability f. everyone	highly relevant	best practice
Wellbeing	Security	highly relevant	best practice
	Light	highly relevant	best practice
	Compartment air	highly relevant	best practice
	Radiation	not relevant	n/a
	Thermal protection in summer	highly relevant	best practice
	Noises, vibration	relevant	achieved
Economy			
Building fabric	Location	highly relevant	best practice
	Building fabric	highly relevant	best practice
	Building structure/alteration	highly relevant	best practice
Building costs	Life cycle costs	highly relevant	best practice
	Financing	highly relevant	best practice
	External costs	relevant	best practice
Op./maintenance	Operation and servicing	highly relevant	achieved
	Repair	highly relevant	achieved
Ecology			
Build. materials	Recources, availability	highly relevant	best practice
	Environmental impact	highly relevant	best practice
	Harmful substances	highly relevant	best practice
	Deconstruction	highly relevant	best practice
Op. energy	Heat (cold) for indoor environm.	highly relevant	best practice
	Heat for warm water	highly relevant	best practice
	Electricity	highly relevant	best practice
	Coverage of energy demand	highly relevant	best practice
Soil and land	Site area	highly relevant	best practice
	Outdoor installations	highly relevant	best practice
Infrastructure	Mobility	highly relevant	best practice
	Waste from operation and use	highly relevant	best practice
	Water	not relevant	not achieve

Places for children: In Pflegi Areal, only a few families have children. They frequently use the outdoor spaces despite limited possibilities for varied activities.

Owner assessment [7]

The owners wanted to create an attractive urban space that matches the modern design of the buildings. Thus, they assumed that tenants would prefer to not have any garden maintenance. They sought to develop a space that could be strongly influenced by architectural lines. This space should invite a dialog between buildings and space and add a value to the whole housing complex. Exclusive design is the keyword which defines the outdoor spaces and which justifies the high cost of the rents. The owners were not special concerns about ecological and participation concepts. In the same way, the owners did not place a high importance on the use of the outdoor spaces Therefore, they were not expecting many activities to take place there. The tenants' level of use of the space was not important. The owners wanted the inhabitants to identify and appreciate its aesthetic value. Its exclusive design makes it a very appealing space for creative professionals (such as authors, designers, and architects).

Case study II: Hegianwandweg, Zurich (CH)

Basic Data

This project follows, in a pioneering way, the philosophy of the FGZ cooperative related to outdoor spaces. The building cooperative strategy wants to preserve the character of the Friesenberg garden-city[8] by keeping the same number of residents and the neighborhood lifestyle. Cultivation without chemical products, conservation of the old trees, and common compost methods are some examples of the cooperative's techniques to conserve green spaces[9].

Central asphalt platform: The central hard--asphalt platform , which links the five buildings, connects the houses, not only physically as circulation space, but also as the "stage" where residents can communicate and have contact with each other. This space serves several functions: as street, vestibule, backyard, playground, and neighborhood square. It also allows children to play with the roller skates, scooters, and skateboards.

Green areas: family vegetable gardens and playground. The plot had been used as a clay-pit and later filled in with the family gardens. The open spaces are laid out like a scabbard that surrounds the platform. Seven different "islands" are placed between the houses. They connect to the main platform with different-shaped paths of small stones, which generate a variety of spaces. The islands have three main functions: playground, vegetable garden, and compost areas.

Natural meadow (Magerwiese): The rest of the outdoor spaces is treated like a natural meadow. The concept was very clear: to restore the original landscape and indigenous plants located at the bottom of the Uetilberg. The meadow allows the possibility for the establishment of some vegetable and animal species. Without this kind of intervention, the species would not find a good habitat. An analysis of the outdoor spaces of Hegianwandweg results in the keywords, "diversity, multiplicity". Both requirements and needs from the users could be combined and can sustainably work together for a better ecology. Users are concerned about maintenance and security. In this case, the green areas are treated as long-grass fields. They have the advantage that they require little maintenance: only two cuts per year are enough; the low costs make the meadow economically worthwhile.

TABLE 3. Basic Data, Hegianwandweg, Zurich.

Site/Address:	Carmenstrasse 32-38 Sonnhaldenstrasse 9-17 8032 Zurich
Architects:	Annette Gigon / Mike Guyer
Landscape architects:	Schweingruber Zulauf + Seippel
Artists:	Adrian Schuess, Mouans_Sartoux (FR)
Date of Competition:	02/1999 1st Prize
Date of Construction:	beginning 10/2000, finalization 11/2002
Client:	Stiftung Diakonewerk Neumünster
	Schweizerische Pflegerinnenschule, Zürich
Project Manager:	Russ Wotzig Architekten
Civil, Mechanical, Electrical and Acoustic Engineer:	Basler & Hofmann
Site area:	12,439 m2 (1.24 ha)
Usable floor area:	7,779 m2
Total floor area:	5,199 m2
Building volume:	49,333 m3 (SIA 416)
Density:	FAR 1.22
Number of floors:	between 2 and 5 floors
Number of housing units:	48 apartments, 11 studios
Garage: 1 underground parking (112 PP)	
Dwellings typologies:	
	1 apartment with 1.5 romms + seasonal room
	5 apartment with 2,5 rooms + seasonal room
	17 apartment with 3,5 rooms + seasonal room
	8 apartment with 4,5 rooms + seasonal room
	2 apartments with 4,5 rooms + terrace
	6 apartments with 5,5 looms + seasonal room
	4 apartments with 5,5 rooms + terrace
	3 apartments with 6,5 romms + seasonal room
	2 apartments with 6,5 romms + terrace
Collective spaces:	1 surgery
Costs:	(BKP 1-5) 33 Million Swiss Francs

7 Dr. Hans Thöni (Business Director of Stiftung Diakoniewerk

8 SCHMID, Peter (2008) Wohnen morgen: Standortbestimmung und Perspektiven der gemeinnützigen Wohnungsbaus Zürich: Neue Zürcher Zeitung, 108-109

9 Die Gärten am Friesenberg-Bedeutung der Grünraumen für das Quartier, Zürich: Familienheim-Genossenschaft Zürich, 12-13

TABLE 4. Self evaluation according to SIA 112/1, Hegianwandweg, Zurich.

		Relevance	Conformance
Social			
Community	Integration, Social intermix	highly relevant	best practice
	Social contacts	highly relevant	best practice
	Solidarity, fairness	highly relevant	best practice
	Participation	highly relevant	best practice
Design	Spatial identity, mixed uses	highly relevant	best practice
	Individual design, personalis.	highly relevant	best practice
Use, developm.	Basic supply, mixed uses	highly relevant	best practice
	Slow traffic a. public transport	highly relevant	best practice
	Accessability/usability f. everyone	highly relevant	best practice
Wellbeing	Security	highly relevant	best practice
	Light	highly relevant	best practice
	Compartment air	highly relevant	best practice
	Radiation	not relevant	n/a
	Thermal protection in summer	relevant	best practice
	Noises, vibration	relevant	best practice
Economy			
Building fabric	Location	highly relevant	best practice
	Building fabric	highly relevant	best practice
	Building structure/alteration	relevant	achieved
Building costs	Life cycle costs	highly relevant	best practice
	Financing	relevant	not achieved
	External costs	not relevant	n/a
Op./maintenance	Operation and servicing	relevant	achieved
	Repair	relevant	achieved
Ecology			
Build. materials	Recources, availability	highly relevant	best practice
	Environmental impact	highly relevant	best practice
	Harmful substances	highly relevant	best practice
	Deconstruction	highly relevant	best practice
Op. energy	Heat (cold) for indoor environm.	highly relevant	best practice
	Heat for warm water	highly relevant	best practice
	Electricity	highly relevant	best practice
	Coverage of energy demand	highly relevant	best practice
Soil and land	Site area	highly relevant	best practice
	Outdoor installations	highly relevant	best practice
Infrastructure	Mobility	highly relevant	best practice
	Waste from operation and use	not relevant	not achieved
	Water	not relevant	not achieved

Social level

Inhabitant assessment

Appreciation: Inhabitants identify with and judge very positively the outdoor spaces. Some look at the spaces from a practical perspective and especially appreciate the freedom and security offered to their children. Other renters with a cultivated background are more concerned about aesthetical issues and find a harmony and beauty in the entire housing-complex design. The diversity of outdoor spaces with a strong ecological feature satisfies most dwelling users.

Use: The spaces are used in different modalities. The central asphalt platform works like a stage where the outside life of the complex is played. Most activities happen there: children playing, couples talking, neighbor meeting informally, or simply people moving to enter into the buildings. On the weekend and in the afternoon, two playground islands are also often full of children playing. In particular, the central location of the playground for younger children (1 to 6 years old) allows parents to sit on a bench and talk to each other while they take care of their little ones. The vegetable gardens are one of the most remarkable distinctive features of the complex and offer an excellent opportunity for the inhabitants to informally meet and to keep in contact with each other. They find "something to do" beyond their dwellings and the garden provides the perfect motivation to go out, sometimes helped by their children, and to meet their neighbors. Without these gardens, the contact would probably be lower [10].

Greenery in the outdoor spaces: Apart from the vegetable gardens, which are the distinctive feature of the complex, the natural meadow is also a highlight in the landscape concepts. Residents find it special and valuable. They appreciate and love the changing of the colors during the day, for example, blue in the morning. They understand well the importance of wild nature. Mrs Schindler has lived in Hegianwandweg for seven years and greatly appreciates and loves the natural grassland landscape. "I spent all my childhood living on a farm high in the Alps. The colorful field reminds me of my early years when I used to play outside in the fields. I do not feel nostalgic but I do really like this view of yellow and pink flowers from the penthouse apartment and, at the same time, be able to be in the city center in less than 15 minutes."[11] However, a few renters from an older generation (Second World War generation) identify more with a traditional English garden layout where grass and flowers require high and intensive maintenance. "At the beginning, the future meadow looked like a 'moon-land' and some neighbors began to be impatient. There was also a shortage of shade because the trees were too young. However, now the variety of plant colors from yellow to lilac makes this landscape as one of the nicest interventions we have ever done."[12]

Places for children: Hegianwandweg is an ideal place for children and that is one of the reasons why families with children are in the majority. Children

10 Annelies Adam, (architect and expert in housing), interviewed June 26, 2010

11 Conversation with Mrs. Schindler, inhabitant of Hegianwandweg, May 17, 2010

12 Heinz Aeberli, (Director of Construction and Planning Department FGZ), interviewed April 26, 2010

can play in almost all of the outdoor spaces and be observed by their parents through the windows or balconies. The vegetable garden brings an additional educational advantage where children, by helping their families, can learn cultivation and compost practices.

Owner assessment

The owners had very clearly stated, from the very beginning, that they wanted to make an innovative project and contribute to increasing the quality of the garden city of Uetilberg. The clients were also interested in restoring old habitats for flora and fauna. Thus the concept of the natural meadow fit perfectly. The cooperative is quite engaged with ecological topics and is the largest compost producers in Switzerland.

Neighborhood participation was organized according to a green-concept commission. People's wishes and needs were heard and implementation was attempted. Despite their general satisfaction with the initial plans, they asked for another "playground island" for children from10 to 15 years old. This resulted in two different playgrounds.

The semiprivate outdoor spaces have a strong social concept: an open character where everybody can meet. For this reason, the ground-floor apartments have a terrace elevated one meter above the ground. In each apartment, everybody has his/her own private outdoor space but, at the ground level, the space belongs to the users. The second feature of the open space was to provide a place for children to play: playgrounds with swings and sandboxes. The complex is very appropriate for children who can play on the asphalt surface, in the grass fields, and in the playground islands. The space is used in different ways. People from different cultural and backgrounds meet often to chat and spend their leisure time simply relaxing and reading.

Around 12% of the budget was invested in greenery and outdoor spaces. The owners are very satisfied with this. The main reason is that the inhabitants' identification with the spaces gives an extra value to the complex.

The FGZ has its own gardening service. Nine persons are fully employed and during the whole year maintain the complex's green spaces and those of the cooperative's other housing developments. A control commission annually checks as to whether the work is done well. In addition, every neighbor must take care of his/her garden. In case he/she does not do it, another person will receive the right to the piece of land.

CONCLUSIONS

Summary

The Pflegi Areal demonstrates how different qualities of outdoor spaces bring an extra value to the housing development. This project's first success is completely fulfilling the requirements of the owners. The spaces were created with a strong and powerful artificial-design concept, which combined very well with the buildings. The Diakonises Stiftung found this as a very good investment due to the quality of the project. They could rent the apartments without any problem and charge very high rents (between 4,000 CHF and 7,600 CHF). The inhabitants' identification with and appreciation of a stylish and mannered design are key words to define the relation with the outdoor spaces. This outstanding design adapts very well to the inhabitant's needs. The target group for these spaces are professionals, workers, couples, and a few families with children. They find that the project satisfies their urban lifestyle. Consequently, the outdoor spaces are not made with the intention of promoting contact between the neighbors (probably most of them prefer to have a kind of anonymity and they would meet their friends or colleges somewhere else in the city), but rather to be contemplated and convey a special atmosphere. Architects and landscape architects worked together to find a solution that makes the project a very outstanding one. Outside and inside spaces are in harmony and the whole housing development has a unity. This demonstrates how this collaboration between architects and landscape architects is very desirable; it should be a common practice and create extra value for housing developments.

The needs of the inhabitants in the other case (Hegianwandweg) are different from the ones from Pflegi Areal, but the needs were also fulfilled. Families with children or families who had lived previously in the neighborhood (Friesenberg) had a strong desire for natural green spaces. The vegetable gardens and the natural meadow are the perfect answer for this public. People use the outdoor spaces as planned; for example, to meet, to talk, to walk, and to play. The vegetable gardens require a special comment because the inhabitants really appreciate and love them. People who have moved to another housing complex still remained attached to their small garden and return to take care of it. This example shows how it is possible to combine, in a smart way, users' wishes and ecological objectives. Some new projects which introduce these concepts can be seen in Siedlung Vista Verde in Zürich--Leimbach (Baugenossenschaften Freiblick und Zurlinden) or Siedlung Hardegg Weissenstein der Baugenossenschaften Brünnen-Eichholz in Bern[13]. Native fauna and flora were restored allowing different species to grow again. Composting techniques have been used here, and they contribute to one of the biggest Swiss compost associations (FGZ). The cooperation from the very beginning (competition phase) between architects, landscape architects and, even in this case, some artists, brought very fruitful results. The outdoor spaces are configured following a strong idea that fits with the architecture composition: "different islands of functions which bring different qualities of space".

13 Wohnen N° 6, June (2009) 23-29

Final Conclusions

Proof has been found to support the hypotheses that greenery included in private and semi-private outdoor spaces has a positive ecological and social impact but only under some circumstances.

The ecological benefits of greenery are not specifically related to the outdoor spaces of housing developments because their positive effects to the environment can be found in other typologies. Nevertheless, it has been demonstrated that housing (included as a particular case in the construction industry) is both a cause of current problems (such as climate change) resulting from the misuse of carbon-based fuels and a field of innovation for possible actions to solve urbanization challenges. Considering that the main urban fabric consists of housing complexes, including greenery in each of these types of buildings carries with it an important contribution to increasing and restoring biodiversity in an urban context.

However, greenery has another important contribution in semi-private, outdoor spaces. A critical mass now demands a new architecture focusing on sustainable construction and environmental practices. For sensitive and environmentally concerned people, ecological issues are a decisive factor when buying or renting an apartment. They want to have a full identification with the place where they live. Having a green space goes beyond the pragmatic and objective natural benefits to a more subjective and personal field, where inhabitants want to make their own contribution to "sustainability" by living in "green" dwellings.

The social contribution from green spaces is more about offering possibilities of use, comfort, and well--being than to impose a social behaviour. These semi-private, outdoor spaces are framed in a dense, urban context where issues like access to nature, free space for children to play [14], car-free areas and open--air places for informal meetings constitute a palette of elements to achieve a better quality of life.

Although this work does not closely examine economic aspects of greenery, some lessons can be learned concerning this important third pillar of sustainability (economic, environmental, and social). Greenery can also be a good economic investment that can bring extra value to the architecture. The price for rental or purchase can reflect this extra value. Good quality usually has a high price. However, some examples have revealed that the best green places do not need a huge investment.

Quality outdoor spaces with greenery can be achieved with interdisciplinary professional teams that work together from the first design process and integrate and fulfil owners' needs and wishes by implementing solutions within the budget frame. Greenery maintenance costs play an important role and must fit the owners' budget and needs. Again, professional advice and recommendations are quite relevant and reveal the importance of a fluent communication between planners and owners.

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Self evaluation according to SIA 112/1, Hegianwandweg, Zurich; Table 4

Cultural Landscapes' Contributions to Well-Being: Insights from Short Stories Written in the Biosphere Reserve Swabian Alb (Germany)

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ABSTRACT

The most comprehensive concept so far on the relation between natural surroundings and their benefits to society is the Millennium Ecosystem Assessment framework (MA, 2003). It uses the notion of ecosystem services to investigate the linkages between ecosystems and the various components of human well-being. Ecosystem services are defined as the benefits ecosystems provide to people, including four types: basic, provisioning, regulating and cultural services. The concept is seen as a powerful framework to illustrate the multiple benefits of landscapes with great potential to inform decision-making processes in landscape management.

However, in practice it proves often very hard to empirically assess the benefits provided by concrete landscapes and their links to human well-being. Particularly difficult to grasp are the non-material benefits, termed cultural services, like for instance aesthetic or spiritual values or landscape's relevance in terms of human identity. For developed countries and especially in cultural landscapes with their long and extensive history of human and natural co-evolution, cultural ecosystem services are of special importance though (Schaich *et al*., 2010).

At the example of the recently established Biosphere Reserve Swabian Alb (Germany), this paper illustrates a creative approach to capture the different benefits of landscapes and their contributions to human well-being in a given region. The paper draws on the instrument of a public short story-contest addressing the relationship between people and the place they are living in. This short story-contest was initiated by the Biosphere Reserve Management Team and formed a part of the development of a framework concept for the area. The qualitative in-depth analysis of the values and meanings of landscape as expressed by local people highlights the outstanding importance of cultural ecosystem services in the region and provides deep insights into their specific character. Finally, the paper discusses the possibilities for integrating these insights into the management of the Biosphere Reserve.

Keywords: cultural ecosystem services, landscape management, qualitative methods, assessment.

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Whose values constitute landscape?

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ABSTRACT

The European Landscape Convention takes the onus of landscape out of a sectoral perspective and places focus on those who inhabit the landscape. This moves landscape from being a purely professional domain to an expression of societal values. Involving the public does not necessarily mean that the focus of power is moved from planner to the public, it should not be seen as 'passing the book'. What it does mean is that the knowledge and values held by society can be taken into consideration when decisions are made. As such public involvement should be seen as including values which are not usually recognised, shaking up the official view. In such a way the balance of power is potentially altered through distribution of knowledge.

This focuses attention on awareness raising, which is increasingly seen as fundamental to scientific endeavours. If landscape is seen as being constituted by society, awareness raising in such a context can not be just a way of informing the public, it has to be a multi-directional process of knowledge transfer.

This paper focuses on the inclusion of the public in Landscape Character Assessment, which is seen as an instrument for helping to implement the European Landscape Convention in the UK. It has to be seen that the creation of a landscape assessment constitutes a new official definition of a landscape; the paper considers how public values and knowledge are considered within this definition. This research is based on interviews with practitioners and clients (on going) to understand their desire for public involvement. The interviewees were identified after an analysis of assessments undertaken in England between 2007 and 2011 to distinguish best practice.

Keywords: Landscape Character Assessment, awareness raising, public, professional, values.

Goodbye park, welcome landscape; reconsidering recreational areas in urban regions

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ABSTRACT

Policy and planning strategies on recreation areas in the Netherlands have been dominated by quantitative arguments for decades. It is true that sufficient recreation facilities lack in some regions, but there is also an appalling lack of quality in existing recreation areas. Many areas are mono-functional greenbelts with recreational facilities that are hardly discernable from other areas; they look worn out and have no identity. At the same time, studies show that people prefer the countryside to constructed recreation parks and that their appreciation of constructed recreation areas is declining.

In this paper I will argue that the major issue is not quantitative but qualitative and that – since space is scarce in highly populated areas like the Netherlands – the focus must be on restructuring existing areas instead of creating more areas with identical problems.

Restructuring existing recreation areas requires a different approach. Old images and procedures won't work anymore. The new questions require clear perspectives, flexibility, sensibility and size-fit solutions, as some successful examples will show.

First, a clear idea of the meaning of recreation areas and their mutual relation is the basis for future redevelopment. Second, a contemporary and diverse program of recreational facilities is necessary, but not enough. It turns out that inadequate spatial organization and inconsistent images are often the major cause of decreasing attractiveness. Third, many recreation areas in the urban periphery are in fact just expanded city parks and are simply too large to be a successful park.

Redevelopment must be based on a concentration of park functions and the creation of new, contemporary landscapes that provide an attractive environment for man, flora and fauna; and produce clean water, clean air, energy and food. Thus we can create more sustainable landscapes and cities.

A similar approach counts for areas that do require more green recreational facilities; adding recreational facilities to existing agricultural landscapes is more appropriate than replacing these landscapes with constructed recreation parks. Good accessibility and a clear identity are major prerequisites. And, last but not least, the involvement and cooperation of local stakeholders and communities is essential to create sustainable, living landscapes.

Keywords: recreation areas, large parks, design strategies, countryside, the Netherlands.

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Protecting and reinforcing the power of landscape in landscape parks through social cooperation

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ABSTRACT

Landscape parks (nature parks) are important means of the system of nature conservation in Poland. The resources in these parks are managed by park authorities through the Landscape Park Protection Plans, as constrained by The Act on Nature Conservation (2004). Nonetheless, few of the parks have their Protection Plan in force.

The paper focuses on the importance of public participation both in making the Protection Plans and in implementing their ideas. The current state of landscape management in landscape parks is assessed and the main problems are identified, with an emphasis on the lack of human resource management. The arguments are presented on two examples from the region of Lower Silesia in Poland: The Valley of Jezierzyca Landscape Park and the Chełmy Landscape Park.

Key words: landscape protection, landscape parks, nature parks, landscape management, social cooperation.

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Green or golden landscapes

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ABSTRACT

In Mediterranean urban green spaces the green colour of lawns is the image that marks in the landscape. The Mediterranean gardens were invaded by turfgrass. The same green "carpet" is present in front of the Prado museum in Madrid, in front of the Eiffel Tower in Paris, or in front of the Jerónimos Monastery in Lisbon. However, in the driest climates like the Portuguese as Mediterranean one, the landscape summer colour is golden. Since a long time the anglo-saxonic image of gardens with perfect green lawns conquered their place in the south of Europe. This work is a deep critique reflection about the role of the landscapes in the improvement of the quality of life in the Mediterranean Portuguese landscapes. A question will guide us: why is the green colour of lawns so important in the Mediterranean urban landscapes when the rural landscapes are golden in the summer? To answer this question we will analyse the evolution from the typical Mediterranean Portuguese garden, the recreation farm, to the gardens that are being created nowadays. The bases of this study are key references that explore the essence of the Mediterranean gardens like Carapinha (1995), IGESPAR (2012a and 2012b). Historic gardens like Bacalhoa farm, Fronteira Marquis farm, and Monserrate garden are examples of historic Portuguese gardens that show the evolution of a typical Mediterranean garden to a garden of anglo-saxonic inspiration. Today, almost all gardens have to have lawns. A few projects that have great influence in the well-being and recreational needs of people from the biggest cities in Portugal, nowadays, like, for example: the Gulbenkian Foundation gardens in Lisbon, the city park in Porto, or the Poets Park in Oeiras, are explored and criticized in order to answer our main question. Other references, like: Keil (2011), Filippi (2011), Tsalikidis and Athanasiadou (2007), Hitchmough and Dunnet (2004), Hitchmough (2008), Jorgensen (2004); that explore the need of sustainable landscapes that permit the correct use of resources are used for trying to build a theory that may allows us to understand how we get to the actual use of lawns in places that cannot be actively exercised.

Keywords: Mediterranean, gardens, lawns, well-being, sustainability.

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SESSION 3

THE POWER OF LANDSCAPE AS A DEVELOPMENT DRIVER

Coastal Landscape As A Link Between People And The Environment

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ABSTRACT

Jaša Tomić village is located in the far northeast of the Pannonian Plain, near the Serbian-Romanian border. Through the village flows the river Tamiš and sets the periodic problems to the residents by flooding the coast and by causing a damage to the surrounding environment. This paper aims to highlight the potential of the coastal area in the zone that offers many different opportunities for improving environmental quality and lives of people. Improvement of the coastal area value primarily is reflected in banks' protection from the flood waters, but also in spatial planning, improvement of diverse and valuable natural landscapes as a whole. In order to analyze the existing state of value there were conducted check lists as well as cartographic methods. Led by relevant global practice it was used a comparative method.

The results showed that are current usage of the space and resources diametrically in contrary and brought up to a minimum; what is more the space is disorganized and with its composition isolated from the settlement.

This paper stresses the importance of coastal planning, primarily by using biological measures for the flood protection; and the importance of improving the quality of area in the purpose of connecting with the settlement. The prominent model is a process of coastal area transformation in order to emphasize, attractiveness, river corridor potentials, and ecological function.

The river is great potential of each place and, together with its surrounding, as an integral part, provides an outstanding contribution for improving the quality of life. The potential of the coastal area should be taken out, and in order to achieve the overall effect on the environment, arrangement and planning process should be placed on the coastal as a whole.

Keywords: bio-engineering, coastal area, vegetation, landscape composition.

INTRODUCTION

As an important element of a landscape, water has a significant role in the formation of a green areas. During a centuries waters have attracted people to raise the settlements at their shores. They have an impact on economic development and urban form of settlements, and today in the modern landscape architecture, their role is invaluable in the overall picture of almost every green surfaces. In the framework of physical planning, coastal zones of water areas have big importance, for creating walking paths and view points, with perspective to a surrounding landscape (Vujković, 2003).

Floods are natural large-scale phenomena that can endanger human life or cause damage to a large scale. Floods can be regulated in several ways. First of all, by legal policies, monitoring of meteorological forecast, by raising the flood protection facilities, and by biological methods (Lješević, 2002).

Depending on an estimated flood wave, different technical measurements could be used: an accumulation and retention, installation of protective systems and embankments, quay buildings and protective walls, pressure relief and channels, but also reconstruction of the banks through regulation of water flows (Grupa autora, 1998).

Engineering processes, in addition to a technical capabilities that include biological laws, present bio-engineering measures for flood protection. These measures include usage of both "living" and "inanimate" materials. Under the "living" material is usage of a plants and their parts (rhizomes, corms, plants, parts of roots, etc.). Under the "inanimate" material is the usage of stone, wooden beams, planks, metal, etc. (Cvejić, 1999). Some of the ways of bio-engineering measures for planning riverbanks are: grassing, placing grass turf and willow twigs, interlacing (Anastasijević, 2007), but also a biological method of flood control (improvement of forest belts). Raising the protective forest belts along the streams, brings many of positive effects, such as: snow accumulation, soil erosion protection, air mode improvement, implementation of a surface water runoff into the interior of the land (Lješević, 2002). At the same time, these protective forest belts could reduce the hazardous effects of flooding consequences to the environment.

The subject of this study is a village Jaša Tomić (Vojvodina, Serbia). Throughout the history the flood was its the biggest enemy. In the last hundred years, the river Tamiš destroyed Jaša Tomić village almost five times. In the year of 2005. there was the catastrophic flood, that destroyed more than 200 homes and more than 2000 people were evacuated and resettled, while the additional 800 houses and 5000 hectares of farmland were under the water. Such intense flooding indicates that existing safeguards are sufficient and based on the past experience (Kolaković, 2005).

Catastrophic floods are the results of the interaction between hydrological phenomena and processes of natural, social and economic environment. Jaša Tomić village is not located directly along the river, but separate from the river with landscape ele-

ments such as forests and meadows. This offers the possibility for landscaping the coastline to its usage for recreation and relaxation, but also for protection against floods and reducing their consequences to the environment. By arranging a landscape composition it should be seek for achieving a connection between river shore and its settlement so that the coastal area could be accessible for all users.

The aim of this work is to improve the quality in the landscape structure of Jaša Tomić village in order to adequate flood control, but also in order to adequate quality of life in the village. Thus, besides improving and strengthening the coast in a natural way, coastal landscape is developing, but also surrounding biodiversity habitats and environment in the hydrological, biological and landscape aspects, but in the social, economic and environmental as well.

MATERIALS AND METHODS

In order to adequately regulate the floods in the village of Jaša Tomić, but also to create a space comfortable for all people, this study had multidisciplinary approach through a social, economic and ecological aspects. In order to improve future planning and to analyze the landscape structure within the village Jaša Tomić unique check lists were conducted. This process served as the method of assessment and as the method of evaluation of existing space conditions. The following check lists were used for the following analysis: check list of the space greenery and check list of the space visual and esthetic character (TABLE 1, TABLE 2). The criteria that were evaluated were based on adequate assessment according to criteria of landscape architecture and spatial composition. They were not identical for both checklists. The survey was conducted during the year of 2010 and 2011.

TABLE 1. Checklist of the evaluation of the aesthetic and visual quality of the study area.

AESTHETIC QUALITY				General mark
form	vertical	flat/ horizontal	wavy	positive negative
movement(users, wind, river, composition)	without movement	peaceful	dynamic	
color	monochrome	harmonious	rich in colors	
presentation of the elements in the space	balance	regular	chaotic	
composition	closed	open		
	monotonous	dynamic		
VISUAL QUALITY				General mark
ambient	comfortable	uncomfortable	unsafely	positive negative
attractiveness	monotonous	interesting	inspirative	
visures	close	far	in corridor	
maintaining	neglected	partly arranged	arranged	

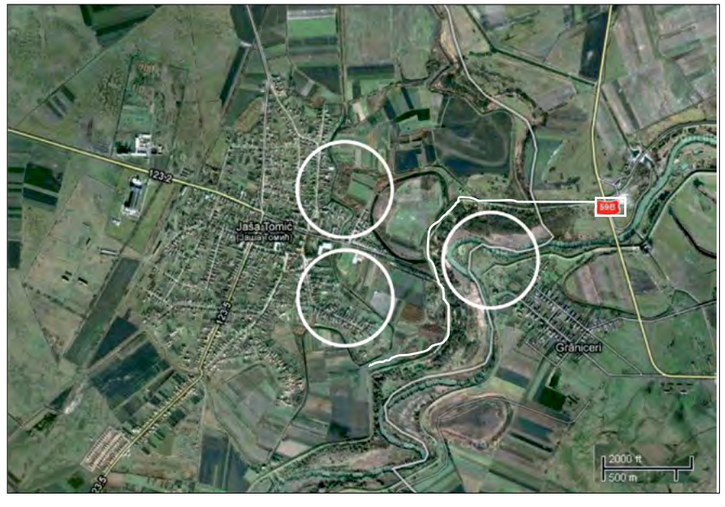

FIGURE 1. Map of the analyzed spatial areas within the study area.

RESULTS AND DISCUSSION

In order to simplify the research of the study area and to develop models that will be most effective for improving the space and life within it, the survey was conducted by analyzing four spatial areas: the southern and the northern corridor of the Tamiš River estuary, a coastal part of the Tamiš River near the state border of Romania and Serbia and earthen embankment (FIGURE 1).

It is clearly evident undeveloped landscape composition in the space. There is a great isolation between settlement and the river. The results are direct to degraded environment, invasive vegetation, inaccessibility to some segments of coastal area. An unattractive content, also is not attractive to users, and the consequence is abandoned area.

In the scope of the first territorial unit, river branch is slow with peaceful flow. The left bank has very gentle slope, so the appropriate bio-engineering measure would be grassing. Left bank is suitable for tracing the bicycle and pedestrian routes. In order to make a views to interesting landscape points, the right bank, rich in vegetation, should have plant cuttings.

The second space unit is very narrow. Larger bio--engineering interventions are not feasible. For the purpose of disturbing the monotony of the space, it is needed to plant some solitary trees to enriched composition space. Recommended species are willow forms (Salix sp.). Proposed pavement is grass--pavement, and potential for seating is under the solitary species.

Analysis of the terrain of the coastal area, showed that the area is in the great alienation and separation from the rest of the village. This should not be the case and vicinity of the river should be used for recreational purposes, whether for active or passive recreation. A good example, where the natural arrangement of the river corridor with a minimum landscape design could contribute to the dramatic progress of the region is an example of the park in Qinhuangdao on the Tanghe river in China (FIGURE 2). Following this example in the third space unit, this could be applied with paths of natural materials in order not to damage the environment. The space monotony will be break, the unit color will become a dynamic, attractive and most meaningful approach to the urban core of the village. The residents of Jaša Tomić will be enable the use this area actively. A forest openings will be direct to Romanian coast, also to the river corridor. The visual and aesthetic quality will gain strength, while space composition will be solved.

TABLE 2. Check list for analyzing the space greenery.

Category of the greenery	Number		(%)		General mark
conifers	–		–		positive negative
broadleaves	–		100%		
note	It is hard to speak about exactly number of trees because they are in the form of masses.				
Greenery floor	<10%	10–40%	40–70%	100%	General mark
high greenery	–	–	X	–	positive negative
middle greenery	x	–	–	–	
low greenery	–	–	–	–	
ground flowering greenery	–	–	–	–	
lawn	–	X	–	–	
note	Middle greenery is a wild, and direct reflects to the greenery floor.				
Composition of the greenery	<10%	10–40%	40–70%	100%	General mark
groups	–	–	–	X	positive negative
tree lines	–	–	–	–	
soliter trees–soliters	–	–	–	–	
note	The composition is monotonous.				
Mark	Bad		Good	Excellent	General mark
maintaining	–		X	–	positive negative
note	The environment is not too degraded, and the maintenance is solid.				
Space feeling	Monochrome		Reach in colours		General mark
couloring	X		–		positive negative
	Sunned areas		Shadowed areas		
light	20% 40% 60% 80% 100%		20% 40% 60% 80% 100%		
	Geometric		Organic		
form	–		X		
note	A dominance of green colour is emphasized.				
Position	Positive contribution			Negative contribution	
physical and visual barriers	The protective role of greenery is highlighted.			Physical separation of the settlements and the river.	
GENERAL MARK OF THE PRESENT STATE OF SPACE GREENERY					
Vegetation is balanced. There is a uniform relation between the mass and open space. The space is very monotonous, mainly represented by poplars and invasive species in the first floor of vegetation. There is a lot of open grass areas, which is evaluated relatively positively, because it opens up pleasant visions to the Romanian coast.					

FIGURE 2. Park Qinhuangdao in the coastal area of the river Tanghe in China (source: http://laud8.wordpress.com/tag/qinhuangdao/).

In order to its security the edges of the coastal area should be protected. Edging could be realized by placing barriers in simple rustic style that will not harm the landscape composition, but also will not lose its functionality. Shrub forms (hygrophilous communities) that also have anti-erosion function could be placed.

Besides the basic adjustments to the environment ambient in a spatial area of the enbankment, a larger interventions aren't necessary. There are proposed an opening lines to the village and to the river, by forests clearings and by paths formation (in order to connect the village and river spatially and thematically).

CONCLUSIONS

Novaković (1939) pointed out that floods are important and significant warning to a people, because of large deforested areas in river basins. Forests' disappearance cause occurrence of large floods, that carry out a material from mountains and load with it a fertile land, as well as main river beds. Flood change water courses and have direct influence on the coastal areas. Also, it destroy settlements and pollute the water. In the system of planning regions, and in order to make greener stream banks, a good practice of a bio-engineering measures should be set out.

As Đorđević (2004) said it is important that at the start point, a planning area should not be identified with a blank piece of paper on which a designer or planner can free materialize his ideas and visions. On the contrary, the area should be seen as an environment that has been exposed for years to the numerous natural phenomena, historical events and anthropogenic activities. Community development and its environment should be with each other in accordance, so it must be be taken into account the human activities which have to be in harmony with the environment.

The world examples have shown that regardless of what type of engineering structures, as a form of flood protection, one thing is certain, comprehensive scheme of landscape planning is essential in order to flood areas defense could successfully be considered. Finally, it should be emphasized that a multidisciplinary approach to coastal planning is a key against the natural hazards.

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Landscape-based design strategies as a sustainable backbone for regional public transport in a dispersed territory. Landscape as a guiding principle in the transit-oriented transformation of Flemish urbanization patterns

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ABSTRACT

One of the possible scenarios to implement a light rail network in Klein-Brabant – a peri-urban sub region of Flanders – is to integrate the hydrological system and the landscape morphology of the area as an asset when defining a light rail network. River trajectories guide the layout and design. Integrating this linear structure with its infrastructural logics in both the natural and man-made landscape requires different strategic choices, as spatial conditions are strongly heterogeneous along its course. Adding an infrastructural line in the peri-urban morphology creates a duality and frames future spatial developments into an infrastructural based landscape strategy and prevents further uncontrolled dispersed urbanization. Based on an in-depth spatial analysis of the territory and the position and layout of new stops in regard to the existing towns and the landscape, four recurrent approaches structure the layout of the line.

1. The "polder edge" approach bundles the light rail line with the existing dyke system, charging the vacant land between the artificial flood protection and the existing towns. The juxtaposition of the existing town and new development initiated around the stop ensures a sustainable framework.

2. The "polder island" approach, in which the light rail infrastructure touches existing towns surrounded by lower land, connects and borders the settlement, while the light rail serves as a necklace and creates opportunities for landscape interventions.

3. Historical river bank towns developed towards the river, with water-bound industries along the river bank. The "waterfront" strategy defines the light rail line as passing through these former harbor towns and industrial sites, creating a clearly defined public space along the riverside along which developments are concentrated.

4. In the "patch regeneration" strategy, light rail infrastructure passes along worn-out industrial patches that separate settlements from the river bank. Positioning the line between these brownfields and towns stimulates a long-term urban regeneration, as it serves as a backbone for both. The approach stimulates strategic interweaving and satellite water bank development.

Keywords: infrastructure urbanism, research-by-design, transit-oriented development, regional planning, Belgium.

INTRODUCTION

Over the last decades and all throughout Europe, public transport networks based on lightrail technology, have been developed to cover medium range distances[1]. These projects show that an efficient system not only influences travel behavior, but also has the potential to make a long-term impact on urbanization patterns. In Flanders, spatial development has always closely grafted itself on infrastructure networks, including public transport. This relationship between infrastructure and urbanization has mostly been researched in retrospect, notably by De Block (2011) and Van Acker (2011).

As argued by Smets (2001: 121), infrastructure works within the urban context have produced a variety of public spaces – thus positioning itself as a tool for urbanism – while networks for the surrounding territories belonged to the field of engineering. The gradual merging of town and countryside, which was 'discovered' in the late nineties through concepts such as sprawl, rurbanization, ville territoire, edge city[2], changed this; as the dichotomy between urban and rural was being challenged, so was the distinction in infrastructure design for both contexts. Reed (2006: 270) states that "the reformulated context within which public works have evolved is now characterized by dispersion, decentralization, deregulation, privatization, mobility and flexibility."

A number of regional lightrail projects is currently being prepared in Flanders, but their strategic potential as a de-facto urbanism tool in a changed spatial context is not being considered. Contributing to the debate, a consortium of 5 research partners has joint forces in the ORDERin'F (2009)

1 To name a few: RandstadRail (NL), Glattalbahn (CH), Mulhouse (FR), Freiburg (DE)

2 Delbaere, D. (2007) 'Possible standpoints on the diluted city / Mogelijke posities ten opzichte van de verdunde stad' in World Architecture Magazine, 2007/03 Emerging Belgian Architecture, School of Architecture – Tsinghua University, Beijing, China,

project[3]. One of the case studies in this research is the region of Klein-Brabant. This paper discusses the research-by-design for a landscape-based lightrail network in this area.

LANDSCAPE STRUCTURES AS A GUIDING PRINCIPLE FOR PUBLIC TRANSPORT CONNECTIONS

Klein-Brabant is situated in the void between the major cities of Antwerp, Brussels and Ghent, at the heart of the Flemish Diamond[4]. It is characterized by a diverse juxtaposition of open landscape, different types of housing tissue and areas of economical activities, strung together in a network of towns connected by ribbon development. As such it is exemplary for the Flemish landscape. There is no distinct hierarchy between settlements or a clear dominance of certain mobility patterns, making the layout of a possible lightrail network into a main research question. This is studied through a number of scenarios, one of which is based on the structure of the landscape.

A major driving force behind the dispersed urbanization of Flanders has been the sequence of consecutive infrastructure networks projected on the territory. A historical analysis of Klein-Brabant (FIGURE 1) shows that the 'dispersed' urbanization patterns are in fact linked to the different layers of the transport network. Underneath chronological layers of infrastructure, the initial urbanization logics emerge, closely linked to topography and hydrology. Although less distinct nowadays, spatial patterns linked to the natural landscape are still discernible, and increasingly appreciated. As argued by Nolf *et al.* (2011: 265) water structures not only have a recreational and ecological function, but they are also potential carriers of a regional identity. A re-appropriation of landscape-based urbanization patterns is the acknowledgement of a natural or rural quality in the urbanized territory. This should be supported by an efficient mobility network, which a light rail network along the edge of river valley could provide.

If the aim of a new lightrail network is to strengthen an undervalued layer in the spatial structure by reconnecting it with new infrastructure, a clear understanding of this layer is necessary. A strong diversity in morphologies can be identified, according to the position within the topographic and hydrological structure of the territory. As Flanders was geographically positioned in the transitional zone between temperate and cold conditions during the different Ice Ages, it was subjected to continuous climate change dynamics reshaping the territory. As the Scheldt River searched its way through this shifting landscape, the course and even the flow direction changed a number of times.

The current situation (FIGURE 2) shows distinct differences on the different borders of the Scheldt and Rupel rivers, resulting from different influences of natural forces. When urbanization along the rivers started, settlement patterns aligned themselves differently on each bank, according to the landscape substrate. The next section analyzes the different riverside conditions and proposes lightrail trajectories with spatial development schemes for each of them.

FOUR APPROACHES FOR A LANDSCAPE-EMBEDDED LIGHTRAIL CONNECTION

"Polder island" – in and around Bornem

Settlements on the South bank of the Scheldt River – an inner curve, prone to inundations – were founded in the few locations that are positioned slightly higher in the topography, thus protecting the villages from water risks. As no consistent dyke system was developed for the entire area, the spatial structure of urbanizations surrounded by lower polder and wetland landscapes still remains. When a new tramline connects these towns, stops are placed in the vicinity of existing concentrations of housing and other functions. Following the topography of the landscape and respecting the inherent qualities, there are no substantial expansion possibilities. Limited potential for urban growth is realized by a redevelopment or densification of the existing tissue.

3 The name of this project an acronym for "Organizing Rhizomic Development along a Regional pilot network in Flanders". Collaborating on the ORDERin'F project are the research group OSA from the Department of Architecture, Urbanism and Spatial Planning of the KULeuven, the Institute for Mobility (IMOB) from the University of Hasselt, the research group MOSI-T from the VUB, Lab'URBA from the Université Paris-Est, and finally the private partner BUUR, a design office that specializes in urbanism and urban design within the context of Flanders. This multi- and transdisciplinary research project investigates the feasibility of regional public transport such as lightrail, within the strongly fragmented spatial structure of Flanders. Methodologically, ORDER in'F relies on a research-by-design process.

4 Translation of 'De Vlaamse Ruit', a planning concept proposed in the Spatial Structure Plan of Flanders.

ARP (Afdeling Ruimtelijke Planning) (1998). Ruimtelijk Structuurplan Vlaanderen – integrale versie. Brussel: Ministerie van de Vlaamse Gemeenschap, Departement leefmilieu en infrastructuur, Administratie ruimtelijke ordening, huisvesting, monumenten en landschappen.

The two other scenarios are in fact based on infrastructure and mobility patterns as the base for a network proposal. (1) A first scenario uses existing and derelict rail infrastructures as the basis for a network layout. The tracks are already there, and having a trajectory embedded in the morphology of the landscape and the tissue, is a major advantage. The curves and longitudinal profile of the lines were once designed to obtain a high speed and degree of comfort, which makes them ideal for an efficient lightrail service. (2) The second incentive for a scenario uses displacement patterns as a base for a layout of the system. An overview of the displacements in the area shows a very diffuse pattern. The existing bus line network tries to cope in a pragmatic way with this diffusion, responding to policies of basic mobility for the scattered spatial distribution. In certain areas, multiple bus lines aggregate along one corridor, creating a line along which many public transport trips take place. A transformation of these bus corridors into lightrail lines lays the groundwork for the second scenario .

"Polder edge" – Kruibeke/Bazel/Rupelmonde

Downstream of the Scheldt-Rupel confluence, the river makes a curve and the polder landscape switches banks (FIGURE 3b and 3c). Poldering took place very differently compared to the area around Bornem. Here, a single dyke along the waterfront protected the entire area from flooding. Inland and parallel to this dyke runs the edge of a plateau, on which settlements grew. These did not spread out into the lowland polder as there was still a minor flood risk. Over the last decade the dyke system was changed as part of the Sigma plan, which aims at a containment of all flood risks along the Scheldt River. A new 8 meter high dyke was built near the edge of the plateau, while the old dyke was lowered, turning the polder into a floodable wetland.

The 'polder edge' strategy (FIGURE 3) bundles the new tramline with the new dyke, connecting the developable areas. Transversal connections between the existing road and new tramline create dynamics in the existing fabric.

The new dyke is a potential structure for the new tramline trajectory to be bundled with, as there are no crossing infrastructures or sharp curves. Additionally, stops can be placed near town centers and directly next to new developable terrain, as the

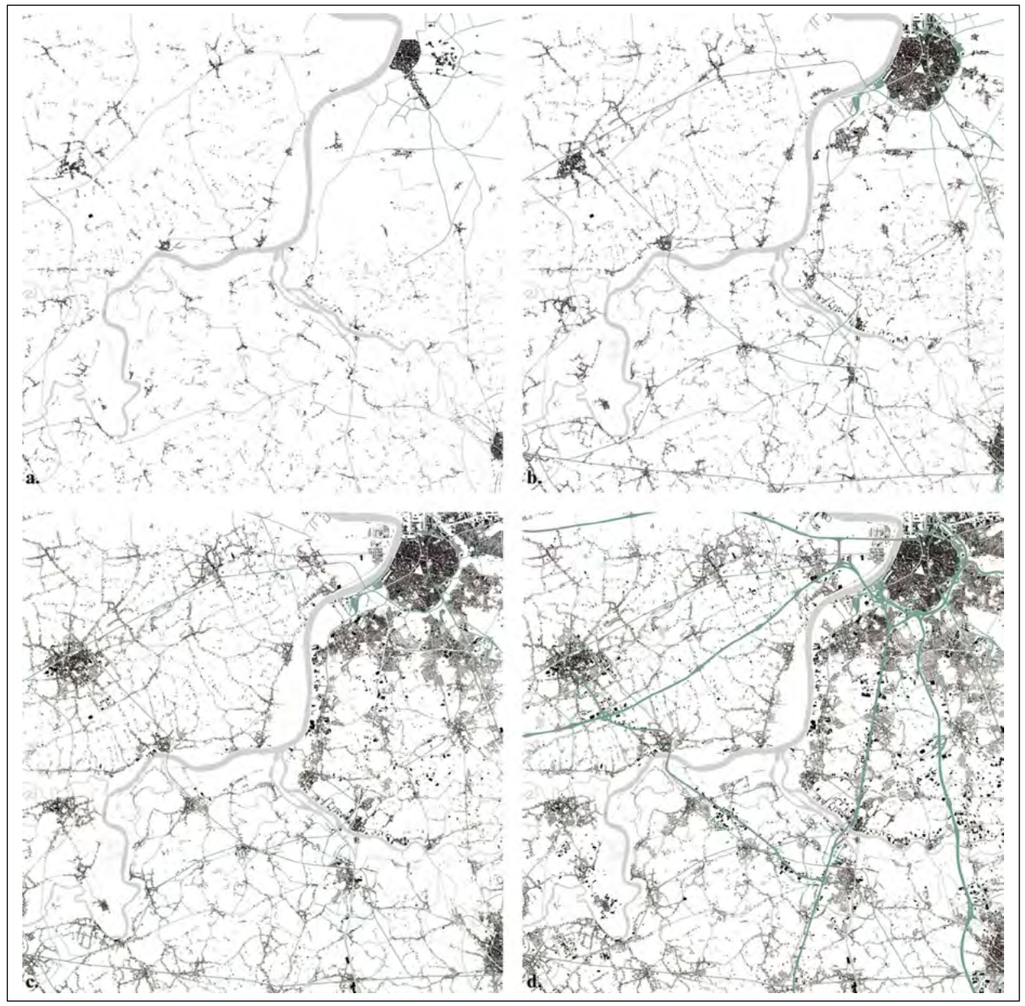

FIGURE 1. Analysis on the interdependency between different chronological layers of infrastructure networks. Based on a comparison with historical maps (1770 – Ferraris-map, 1892, 1969 and 2011 – topographic maps. Source: NGI), existing urbanization patterns were linked to the infrastructures around which they emerged in the past.
(1a) until 18th century: dispersed pattern of small settlements along main roads
(1b) 19th century: development of a dense railway network, while bigger towns develop around stations
(1c) first half of 20th century: automobility further stimulates dispersed urbanization, in particular car-oriented ribbon development
(1d) second half 20th century: construction of highways, attracting large scale developments

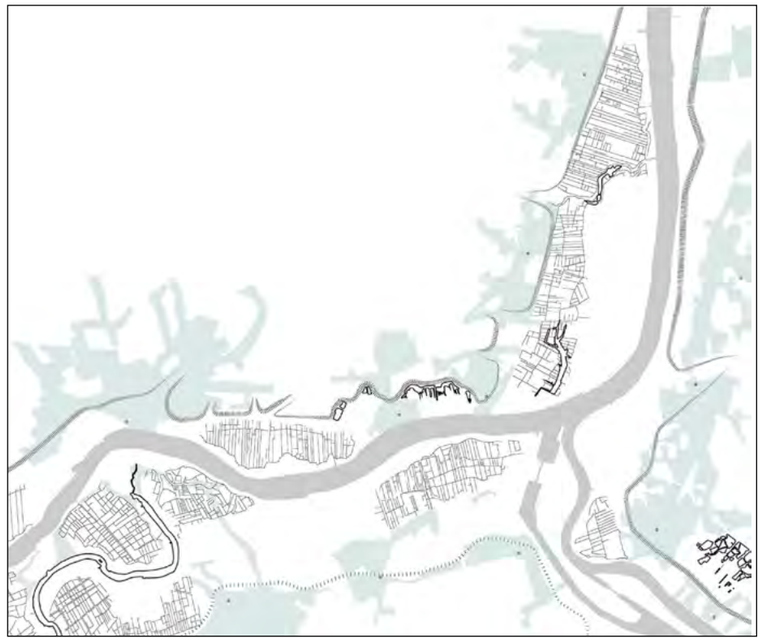

FIGURE 2. Landscape structures in Klein-Brabant: differences in topography on each riverbank creates specific conditions for urbanization patterns.

unbuilt strip of land between the edge of the plateau and the new dyke is now completely protected from flood risks. Currently the villages of Kruibeke, Bazel and Rupelmonde are connected by a secondary road, running parallel to the new dyke and the proposed tramline. This road is the main attractor for functions, resulting in car-oriented ribbon developments. Adding a new mobility infrastructure that is not bundled with the existing road, but instead runs parallel at an offset distance of approximately 300 m, creates new dynamics in the town fabric. Transversal connections between both infrastructures are the backbone for new public spaces, and – near the tram stops – for new developments as well.

"Waterfront" – Rupelmonde/Steendorp/Temse

On the outer curves of the river, developments occurred through different logics. For Rupelmonde and Temse (FIGURE 3), and to a lesser degree for Steendorp as well, the eroded cuesta front allowed a direct relation with the river. This created an economical advantage, which is still legible in the existing tissue. Temse and Rupelmonde developed as inner harbor settlements. Although the quays lost their economic importance, they are still maintained as valuable public spaces. At the edge of the town centers, shipyards were built. All but one have ceased their activities, some of them have already redeveloping as mixed-use projects, strongly promoting living and working near the waterfront as a unique quality.

Another type of economical development had direct ties with the topographic condition of the cuesta front. Surfacing layers of clay were dug out for brick production, further steepening the edge of the plateau and creating low excavation plains – later transformed into wetlands – around the settlements.

Consequently, the structure of this river bank is an alternation between strongly defined waterfronts and reclined relief slopes. The proposed tramline follows this dual structure. In the center of Temse and Rupelmonde, the tram is located directly on the waterfront, confirming its importance as a public space, making the water landscape very tangible from the tram. In-between these towns, the line retracts towards the edge of the plateau, leaving small patches of polder and the former excavation sites untouched. Development potential is found in the reconversion of former shipyards and brick factories. Within the town centers a regeneration of the waterfront could further enhance spatial conditions and create small-scale development opportunities.

The 'waterfront' strategy (FIGURE 3) bundles the new tramline with the new dyke, connecting the developable areas. Transversal connections between the existing road and new tramline create dynamics in the existing fabric.

"Patch regeneration" – Hemiksem/Schelle/Niel/Boom

Between Antwerp and Niel, on the right bank of the Scheldt, the difference in height at the edge of the waterfront is less pronounced than between Rupelmonde and Temse (FIGURE 3). Here, the proximity to Antwerp and the easy connection to the North sea made it an ideal location for bigger industries, primarily building materials and chemical plants. These typically have huge parcels, often separated by smaller brook valleys and old clay pits. The industries had direct access to the water – by quay or dock – on one side and access to the road and rail network on the other side. This transformed the entire strip along the Scheldt into a multimodal connected zone. Macro-economical changes, mobility issues in the nearby settlements and the construction of the

FIGURE 3.
(a) Strengthening elevated hills along urbanized sand dune.
(b) The 'waterfront' strategy bundles the new tramline with the new dyke, connecting the developable areas. Transversal connections between the existing road and new tramline create dynamics in the existing fabric.
(c) The 'polder edge' strategy bundles the new tramline with the new dyke, connecting the developable areas. Transversal connections between the existing road and new tramline create dynamics in the existing fabric.

A12 highway just 3 km further inland put great pressure on the economic viability of this industrial strip. There are different evolutions in the use of these sites. Some of them have transformed into service-oriented companies, some sites are currently vacant, and other activities still remain active.

As this strip is quite wide, 500 m on average, the quenching industries have a huge potential as urban redevelopment projects, adapted to the large scale of the fabric. Individual patches can have independent campus-like developments, as is already happening on Petroleum-Zuid. However, the position for a new lightrail within this strip is not self-evident. As the existing settlements deal with mobility problems, due to the limited capacity of the secondary road, a new connection should also bring service to these towns. This makes a trajectory directly on the waterfront less desirable. However, in-between the existing towns, the lightrail can have a more central location in the transversal section of the strip, claiming a spatially structuring role in specific redevelopments.

Further south, along the right bank of the Rupel river (FIGURE 3), the industrial profile of the waterfront is more similar to that of Temse and Rupelmonde. Here as well, surfacing layers of clay provided the base material for brick production. Around Boom, this was developed in a remarkably systematic way. Between the 13th and 18th century a parcel-wise excavation was structured by a linear 400x400 m raster along the river bank – 400 m being the distance one could walk in 5 minutes. This 'ladder' was stretched between the waterfront and a parallel service road. Along some of the 'rungs' of this 'ladder' one-street villages developed. At the start of the 19th century, brick production industrialized, and a second, larger-scaled excavation front was formed inland. However, urbanization did not follow this new development. It remained within the old town centers and the raster structure. Also, brick factories stayed within the raster, as they needed access to the water for transportation. However, during the 20th century an increase in the scale of industries forced the brick factories inland beyond the initial grid

The 'patch regeneration' strategy positions the new tramline on the old service road, between the first and second excavation front. Redevelopment schemes are organized transversal between the tramline and the Rupel River.

The proposed lightrail connection could strongly influence the redevelopment of this post-industrial landscape. A trajectory on the initial service road connects both scales of development with the new system. Within the 'ladder' structure, small-scale infill projects can occur, creating a contemporary alternative to the one-street village. The transversal orientation of new developments strengthens the direct relation between water and public space, rather than creating a linear built waterfront. North of the service road, the parcel structure becomes bigger.

Huge clay pits have transformed into valuable patches of reclaimed nature. The industrial areas between them are still active, but only one of them still produces bricks. The advent of a new public transport network could support a shift in mobility profile of these sites.

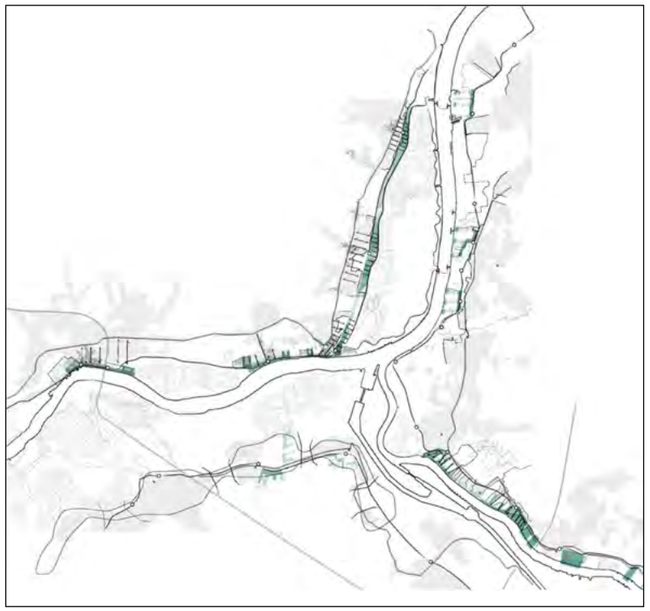

FIGURE 4. An overview of the four approaches.

CONCLUSION

The four approaches (FIGURE 4) that were analyzed in the previous section show a recurring theme. Apart from the "Polder Island" strategy, there seems to emerge a systematic approach of the waterfront as a strip. According to the specific context, this strip is broad or narrow, sharply defined or diffuse, structured by parallel or transversal infrastructures, etc. (FIGURE 4). The research-by-design explores these morphologies, and suggests possible design schemes. As such, it proposes a methodology that can be applied in other contexts, leading to different conclusions.

However, to accomplish the goals of the proposed project, a major challenge will be to integrate ambitions of spatial, mobility and infrastructure planning in a policy framework that capitalizes the synergies between them. As Smets (2001: 121) argues:

"In practice, the division among the traditional disciplines and the customary forms of commission related to it, run against this perception of infrastructure as an all-inclusive landscape. (…) A very large number of sectoral authorities intervene in the construction of the territory. Many of them have their own habits, their own budget, and like acting as their own principal. (…) The increasing complexity is the greatest drive to alter this policy of compartments."

The design thus works on a number of different levels. It is a proposal for a new mode of public transport in a region that is currently car-oriented. It is a proposal for an infrastructure that functions as the backbone for urban growth that until now was diffused along an overlay of different mobility networks. It is an exploration of the complexities and possibilities that arise when sectoral boundaries between spatial planning, landscape design, public transport and mobility policy are overcome. And finally it is a tool for initiating and enriching the dialogue between different societal stakeholders with regard to this topic.

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Urban identity with sustainable design concepts: case of Diyarbakir, Kayapinar

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ABSTRACT

Nowadays problems coming with the rapid urbanization are caused to search for new approaches in urban design. The main question of this research is: which approach can be followed to perceive urban areas as a part of natural systems. This question could be answered with sustainable urban design approaches. Because increasing the living quality in cities and providing important opportunities for inhabitants, would only be possible with sustainable urban design approaches.

The aim of this study is creating an urban identity with sustainable design concepts in case of Diyarbakır, Kayapınar new residential area in Turkey. This study analyses urban landscape design within the urban design, "brand city" concept which symbolizes the livability and recognition all over the world. This concepts are indicated together with the changes of "urban identification" concept. The urban design studies conduct both the processes of creating constructions and places by forming the city. The methodological approach of this study has three steps. The first step contains examination of the literature related to sustainable urban landscape design and urban identification in the scope of natural and man-made elements. The second step is; analyzing urban identity elements of the study area. These analyses, schemas, charts and also projects are demonstrated with Auto CAD and Photoshop illustrations. The last step constitutes recommendations and application plans to develop a sustainable urban design project in case of Diyarbakır, Kayapınar.

This research is not only a landscape design project and, also a sustainable new residential area project in 2.5 million sqm. Design decisions has revealed with shadow analyses and wind directions on past 10 years period of the study area. So that with these ecological causes, recreation areas, building highs and directions, square nodes, bicycles roads and other city usages are projected. Design with sustainable ecological values can improve the life quality in cities.

Keywords: Urban identity, sustainable design, urban design, urban landscape design, Diyarbakır-Kayapınar.

INTRODUCTION

Today's cities are continuous changing places with rapid urbanization. Rapid urbanization especially has come with the industrial revolution and starts the urban sprawl. The sprawl cannot control and this has caused lots of negative effect in human living places. Therefore in that study sustainable urban design approaches are highlighted as a solution of rapid urbanization.

In the last 1960s' urban design concept is proposed as a criticism of built environment by traditional architects and planners. Architects are interested in designing the buildings; urban planners are focus on built environments' social, political and management buildings. This revealed lots of important themes stated on gap between architecture and urban planning. The gap created by architects and urban planners revealed insufficient urban life quality for citizen and, both mentioned occupation accused to each other's about decreasing life quality. In the first of 1970's in USA and Europe to fill the gap, reverse the cities better and livable urban environments as an occupation discipline urban design studies start with the response of requirements (Butina, 1992).

Samples mentioned in the rapid urbanization, especially in Europe and Turkey on the basis of urban design for the proposed solutions to the problem arise at this point. While Europe has reached the urbanism and urban culture to the urban fabric with a higher level when searching for answers for this problem, Turkey has a passive intellectual / technical staff looked for solutions to benefit from this experience. Differences between the 'Developed and Developing Countries' were observed during this process (Khan-Magomedov, 1987). Europe and Russia based urban design solutions have formed answers in these main axles:

- Garden City
- Modernism
- The Russian experience
- Team – ten
- New City
- Brand cities, iconic buildings

Urban design projects produced at this point, must be striving to become a brand without compromising the sustainability. But this must not be misunderstood: an effort to be a brand the city is not to reject the roots and not to search for a new technological city from zero.

Being a brand at this point, can be perceived as "more livable" (Botton, 2009). This is exactly the point that the project has worked in the branding effort. For comparison, considering the equivalent of the projects in scale, the largest difference, is to start work on the basis of the ecological base.

Although a short period of time passed through the emergence of the concept of urban design, urban design is not used in the same way as it was used at that time if we look at the present day sense of it. Urban design has become a cake in which the classical understanding and the new ecological and economic data mixed and a sustainable habitability melted on.

This approach to urban design provides decisions especially in the new areas of life. This is an important study established in a new area of life in detail due to the specificity of domain-specific as it was already prepared out of implementation of these projects. The aim of this study is creating an urban identity with sustainable design concepts in case of Diyarbakır, Kayapınar new residential area in Turkey.

Beyond just responding to the needs of today's, urban design, which include sustainable uses, is very important for the continuity and commitment of urban ecosystems. Sustainability does not jeopardize the ability of future generations to meet their own needs while meeting the needs of today (Breheny, 1992). As much as the concept of sustainability and environmental protection are aimed, the developments of environmental, economic and social dimension are also targeted.

The most important component in ensuring a sustainable balance of urban ecosystems are urban open spaces and green areas (Bulut *et al.*, 2010). The sustainability of urban green space systems can be achieved with the creation of green lines which has active relationship with each other. In this context; sustainable cities are formations with developing the framework to minimize the environmental impacts, by preserving the natural environment and resources with respect to the data of natural phenomena.

The notion of the urban identity which encountered along the social extent of urban sustainability is a social sustainability perception. In the historical process continuity of tradition has been an identity; in today's cities searching for an identity, it is a foreground of social sustainability to create an identity.

Nowadays cities are mostly settlement areas which have not an urban identity, developed without planning approaches. In fact these places shapes our living quality and has lots of significant effects on individuals sensual and spiritual structure. In this context, there is no doubt that cities which have been arranged according to the needs of individuals and which have an identity are more livable places.

The landscape of a city is very important for the city to be livable. Thus, it would be appropriate to say that it is highly effective for a city acquire an identity. (Topay, Gül, 2009) Because the concept of identity is the sum of distinctive features and creating the differences for living things / objects (Morley, Robins, 1995).

MATERIALS AND METHODS

Materials

A new residential area located in the town of Diyarbakir Kayapınar constitutes the main material of the study. It is among the residential areas with a high average temperature in southeastern Turkey. New residential area is proposal residential area. The size of this new settlement area is 2.5 million sqm. The study area is within the borders of lands of a foundation.

Auto-cad drawings of digital data for the case study, Google Earth satellite images, 1/25000 Provincial Environment Plan, 1/5000 master zoning and 1/1000 on the application case study land use plans are the other materials.

Literature data resources: reviewing the national and international literature about conceptual framework, thesis related to the topic, reports, magazines were obtained from the websites of online broadcasting of official institutions in addition to digital and print resources.

Methodology

The methodological approach of this study has three main steps. The first step contains examination of the literature related to urban landscape design and urban identity in the scope of natural and manmade elements.

The second step is; to analyze urban design in the context of urban identity in Diyarbakır Kayapınar new residential area. Sustainable urban design concepts are stated within three different analysis: climatic conditions, shadow curves and connected green system.

Climatic condition, stated the wind data within last ten years (2001 to 2011). Wind frequency analysis start with the cooling need of residents. Because the location of Diyarbakır, average temperature is high in study area. The raw data gathered from governmental institution is thought to solve in two season. The reason is disappearing of autumn and spring so there is no transition between seasons anymore in the area. Selected ten-year data first divided into 12 months. For each months, 10 years average wind frequency is stated. The dominant wind direction are determined with secondary and tertiary directions.

Shadow analysis comes from the question how can connection archives in the urban design architectural sides with ecological criteria. Classical architectural mass settlements entirely obsolete in study. Three different sizes of non-standard mass directed the shadow analysis. With these analysis its aim to take all preferred sun light in the residence without obstacle with adjacent buildings.

In the study area to sustain the urban identity highlighted last parameter is connected green spaces notion. Connectivity is handling as connection with green areas in manmade and natural system. To determined lack points in green system, determined road corridor axes and fragmented lines are signed with site surveys and satellite images. To repair the lack points, recommendations are stated for the whole system with data form analysis.

These three urban design analyses, schemas and charts are demonstrated with Auto-CAD and Photoshop illustrations.

The last step constitutes recommendations and application plans to develop a sustainable urban design project in case of Diyarbakır, Kayapınar. Recommendations are developed according to the analysis and to determine urban identity in the study area.

FINDINGS

Sustainable Urban design in the context of urban identity in Kayapinar new residential area

New residential district of Diyarbakir Kayapınar has been handled as the city in search for identity. In the proposed urban design studies on the district, natural areas was used as the base data in the creation of urban identity. Urban identity concept is developed by orientation of the natural space data. In this context, the natural elements that shape urban design: a result of climatic analysis and shadow curves.

Climatic Analysis

Climatic analysis is the first step in which the analyzes create respecting the ecological values in the developing of urban design proposal. The new urban settlement was thought to state on solid foundations for the other projects when settled on the base of solar based foundations. Climatic analysis, revealing the change in climate data analysis, for the whole of the years of 2001-2011 gives information about the natural structure of the study area, the frequency of the wind.

For the study area west-northwest prevailing wind direction has been determined as a result of analysis. Urban design and planning decisions were create considering this direction as a base. Determining the changing frequency of wind in the district is valuable for the study area. Because throughout the year, Diyarbakir, especially during the summer and generally the whole year has high degree of temperature.

The findings of wind frequency analysis show the differences which the wind brings at different seasons. The reason of the differences is the urban forest that surrounds the study area in the west and dense urban fabrics on the east.

Shown in FIGURE 1 the wind with the forest vegetation in the design project proposal can bring warm air into the city by prevailing wind direction in winter. Had a different orientation been preferred (such as the conventional understanding) the desired air flow could come to the study area. Because it would lose its effect before reaching the first turn to the street. If the structures are positioned opposite

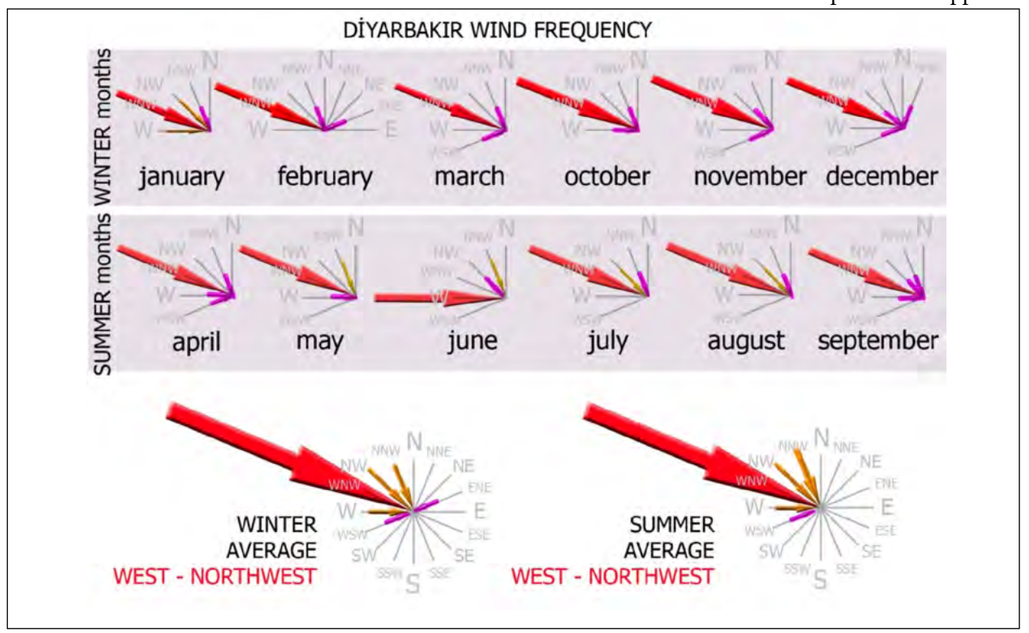

FIGURE 1. Wind frequency analysis.

the wind, hot flow would fall over the entire city, and in this way would lead to both psychological and economic problems. Design analysis based on gathered data as a result of wind was able to prevent this situation.

The study area has been positioned relative to the direction where the wind is dominant. In this way, both in summer and winter, maximum benefit can be obtained from the wind. The city is warmer in winter, while the study area is cooler and cooling costs are lower due to wind action. The proposed urban wind corridors are not effective only in mass-city relation of the urban design and also in mass-scale.

Shadow Curves

Angle of incidence solar rays is the most important factor affecting the distribution of temperature on the earth. The more the sun's rays are perpendicular, the higher the temperature is, the less tilted at an angle is, the lower the temperature is.

There are certain angles between surfaces in the world with solar angles. Information about these aspects of solar energy can be used most efficiently (Kıncay, 2011).

Cosmography disciplines examines the topic in depth, such as spherical trigonometry. However, seconds and most of the time minutes are not important for architectural studies as required by these branches of studies. In architectural studies, it is important to determine the places on which the shadow will fall.

Most of the time curves of the shadow method is not used in the architectural design work, the usual concept of general purpose design is employed as a generally required method. However, due to the fact that natural data is aimed to give direction to design for analysis in this study, the utilization of the natural factors emphasizing over the classical design approach is important for the production of the original data field. Second natural factor shadow curves affected the urban design decisions through the results of wind shadow analysis.

At this point, for example, by calculating maximum the length of the shadow of the sun incidence angles for 8, 10 and for 12-storey (FIGURE 2) buildings (average floor height was 3 meter), answers to some questions were searched:

- What impact will it make for building settlements?
- At which points will the structures ascend? At which points will they approach the floor?
- Which surface of structures will be used more in which month of the year and how much architectural drawing of this use is estimated to affect it?
- Will these angles affect the heating and cooling costs?
- What kind of creative solutions will it bring for green-challenge-to-building connections?

In response to the aforementioned questions,

- The mass settlements are based on shadow analysis.
- The actual distances of the bodies determined the distances between the shadows of the masses. Due to the fact that distances between settlements and ecological concerns are not focused on ratability, both external surfaces and interior spaces have become more livable, aesthetically pleasing and sustainable.
- Preventing the energy consumption for cooling purposes, especially during the summer months, cooling the structures will be made by the city planning and natural way and cooling the structures naturally.
- As the differences in summer and winter months are separately calculated, both mass settlements and mass uses.
- How to evaluate their use and what kind of surface to use can be determined.

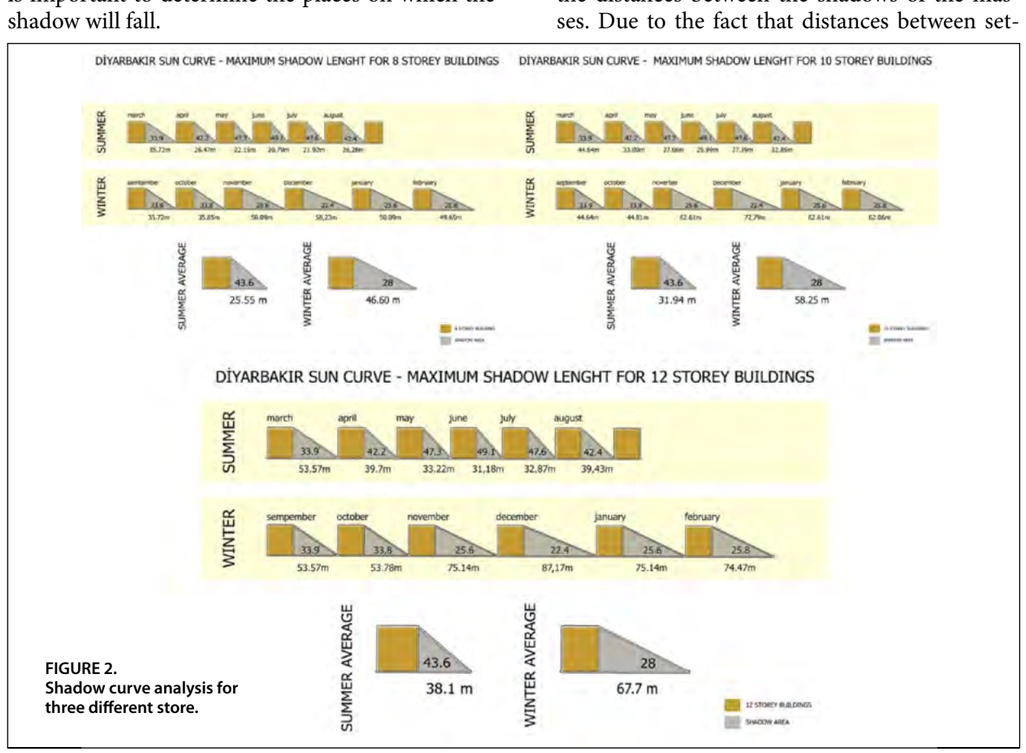

FIGURE 2.
Shadow curve analysis for three different store.

Analysis of the Connected Green System

Connected green system ensure environmental sustainability, biological diversity by increasing the continuity of ecological processes, such as the provision of recreation due to host multi-functionality is the most important component of urban sustainability. Connected green systems have potential for recreation related to ecological systems and associated direct and significant impact in increasing the quality of life were formed.

In the study area, the identification of priority areas have been demonstrated where the continuity of the green system start, then the connected green analysis to troubleshoot this system missing points (FIGURE 3).

Connected green analysis has shown that: Pedestrian paths in the current development plan (5 and 7-foot roads) are designed to install and to ensure the integrity of green, as well as recreational functions. In this context, particularly in ensuring the continuity of the green left-aligned nodules were fixed (red marked) (FIGURE 3/1).

Some ways to improve the environmental sustainability of the study area, especially in the 'green road' with the concept of a disparate nature which is arranged in the space provided in the greens and the problem is largely defined as connections with each other decreasing the number of nodules (FIGURE 3/2).

Designed to improve the continuity and the amount of green areas 'green ways' concept on the roads inside the area, including some 7 meters, it was observed that the number of nodules decreased rapidly (FIGURE 3/3 and 4).

In particular, some 10 meters of roads in the plan assessed as a 'green ways'. In the direction of the study area, a current plan to increase green building distances (thought to increase between 6 -10 meters) must be increased. Such a practice reduces greatly the number of nodules and a large proportion of green provides continuity (FIGURE 3/5 and 6).

It states that the continuity of urban green space is possible by repairing the deficiencies in the existing plan and how it reveals fragmented green areas. It is seen that, especially among the parcels of a continuous 'green way' link provided and greatly troubled by this method the number of nodules are eliminated to a great extent (FIGURE 3/7 and 8).

Initially, the nodules that have problems in terms of continuity of the green spa-

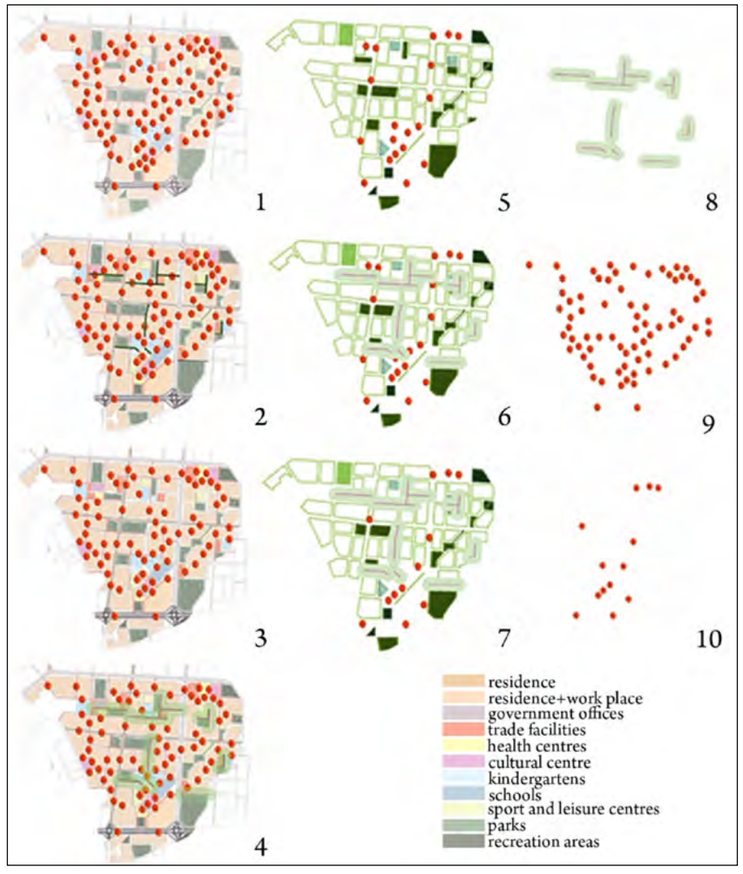

FIGURE 3. Connected green analysis.

ce and green areas (FIGURE 3/9). The number of nodules left when the proposed solution takes place at the final point (FIGURE 3/10).

CONCLUSIONS AND RECOMMENDATIONS

- Urban design concepts of the process of creating brand cities have an important place especially in European cities in the continuation of unplanned urbanization in the 20th century.
- The effort to become a brand the city is not just an effort to formalist or aesthetic, but rather a concept that represents habitability.
- The planners and designers should endeavor to establish the identity and should make efforts in this direction in public housing settlements and for the surrounding of residential area.
- Building a brand city should be considered for the population to live in higher quality and healthier building-places today.
- If the branding efforts progress in various ways, the efforts to make the dwellers urbanize more quickly and permanently will become possible.
- Suburban in the city composed by the green spaces whose continuity provided green areas participate in a strong public sphere.
- Concentration of structures in specific areas in the field has not been preferred. Curves of the sun, shadow analysis and analysis of the continuity of green played important roles in fulfilling this request.
- Urban design which targets the climate the priority breaks the impact fee policy and excludes the groups of building.
- Wind corridors, "aims to transform into the people, walking in the boundary of street to people walking in the green".

In the proposed urban design project, implementation of shadow curves and wind analysis with green system are handled in micro scale plans and sections (FIGURE 4).

It clear to see that people are going to be in the green while they are making daily activities and also this makes green connectivity in habitat aspect.

- With the ecological corridors the study area has become the backbone of breathing between Diyarbakir city center and the urban forest.
- The green pedestrian paths in the direction of north-northwest (wind corridor) have the promenade character and provide the distribution of the internal circulation to all uses.

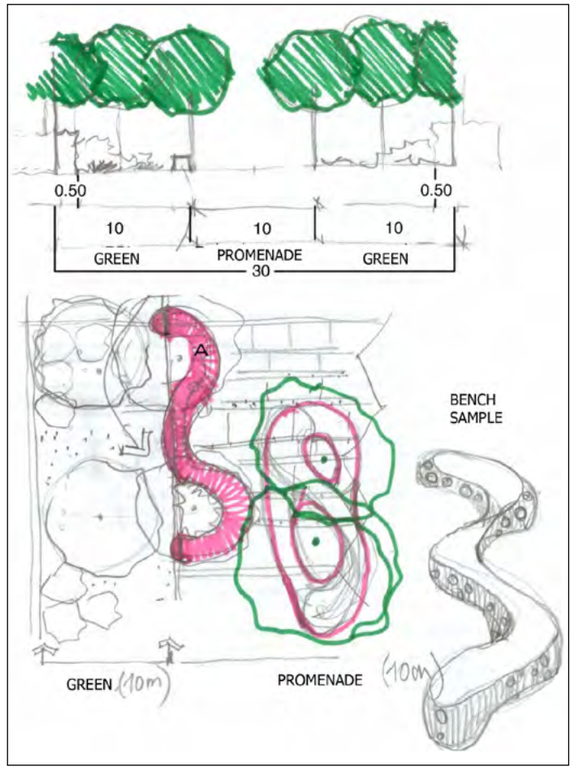

FIGURE 4. Micro scale plans and section of shadow curves and wind conditions with green system.

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Kastanje – a project employing landscape to disclose cultural heritage

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ABSTRACT

Haspengouw is a landscape region in Belgium known for its cultural heritage. This heritage is being taken care of by a range of organizations, not only trying to preserve it, but also attempting to disclose it, each with their own approach. The Province of Limburg has been developing a strategy to synchronize these approaches, appointing a central role to the landscape. Thus far, four tools have been published supporting this strategy: a master plan, two action plans and a corporate identity. At this moment, the corporate identity is being implemented in seven locations. This paper introduces the tools and implementations and reflects upon the role that landscape plays in each one of them. The main point is that the explicit linking of landscape and heritage turns out to transform the heritage strategy into a co-design process, allowing those involved to understand the (spatial) logic of a given heritage site and work with it to disclose and preserve its heritage value.

Keywords: regional strategy, disclosure principles, co-design.

INTRODUCTION: A UNIQUE HERITAGE REGION UNDER THREAT

Haspengouw is a landscape region in Belgium known for its cultural heritage, ranging from: silex excavations dating from prehistoric times; tumuli, roads and villas from the Gallo-Roman period; religious artefacts and settlements from the Middle Ages; towns, castles, fortifications and farms from the period of the County of Loon (11th to the 18th century); and industrial relicts and train tracks from the 19th century. The region is also known for its open landscape, mainly consisting of meadows and fruit orchards in the north and fields in the south.

The heritage and landscape exist in symbiosis; the history of the one cannot be understood without knowledge of the history of the other. Factors such as topography and soil type determined where and how settlements were located, while heritage elements such as castles and farms led to monumental lanes and forests and orchards, all of which continuously reshaped the landscape. What makes Haspengouw unique is that this symbiosis is so tangible that simply walking through the area and climbing up one of the numerous hills reveals the connection between the heritage and the landscape. Another factor that makes Haspengouw exceptional is the consistency among the heritage elements, most of which have been adapted and extended over subsequent periods of history, each time adopting a different role and establishing new relationships.

Taken together, the high number of heritage elements, the open landscape, the clear relationships and the consistency of the area make Haspengouw a unique region in Europe (Bongaerts, Stramien, 2007).

Yet this heritage is under threat. One of the problems it faces is the multitude of administrations that all have their ideas for the region. Another issue is that the heritage is being looked after by a range of organizations, again all with a different vision, which are not only trying to protect and preserve it, but also attempting to disclose it. A third problem is that the region is characterized by a dispersed ownership structure, with each owner typically possessing only a limited number of small parcels of land (Gulinck *et al.*, 2007).

In other words, there is no integrated heritage policy for the region. This means that some heritage elements get lots of attention, to the point that initiatives come into conflict with each other, while others get none at all and gradually fall into disrepair or are privatized. Another consequence of this piecemeal approach is that popular locations suffer from an oversupply of signs and public furniture, which visually pollute the open landscape, whereas less known locations are not disclosed at all.

STEPS TOWARDS A REGIONAL HERITAGE POLICY

The province of Limburg is one of the provinces to which Haspengouw belongs. Over the last decade, it has been developing a policy to synchronize the multitude of initiatives. The central idea behind this policy is that the disclosure of heritage helps to maintain and develop it (Bureau Bongaerts, Stramien, 2002). So, by making the scale, variety and consistency of the heritage visible, readable and accessible to visitors, it is more likely to be protected for future generations. According to the province, this not only necessitates providing information on heritage elements, but also requires these elements to be staged to generate 'unique' experiences for both visitors and locals.

Thus far, four tools have been developed to support this policy: a master plan, two action plans and a corporate identity.

The master plan, developed by Bureau Bongaerts and Stramien in 2002, consists of an inventory of heritage elements; a method to structure the inventory; a concept for the spatial disclosure of the heritage; and an action plan. The inventory lists 173 elements of regional significance, all of which

FIGURE 1. Examples of heritage elements (Courtesy Eddy Daniels).

have a 'symbiotic' relationship with the surrounding landscape. To explain this relationship, the authors structure the heritage elements on a series of maps, identifying temporal, spatial and thematic correlations. On the basis of these maps, they then introduce three concepts to spatially disclose the heritage: stages, entrances and beacons. Stages refer to collections of heritage elements that are geographically grouped and thematically related. Entrances refer to existing heritage elements that could function as places through which to 'enter' the stages. And beacons refer to new elements designed to clarify the 'symbiotic' relation. The master plan ends with a series of actions to involve administrations, visitors and locals in the implementation of the three concepts.

The first action plan, 'Romeinse Weg', also developed by Bureau Bongaerts and Stramien (2007), is a spatial translation of the master plan. It proposes to use two existing infrastructure features to physically disclose the region, namely a Roman road (one of the best conserved in the region) and a derelict train track used in the fruit industry. Both of these pieces of infrastructure configure the landscape and connect the heritage stages defined in the master plan. The action plan also defines 11 so-called landscape rooms. These exist in parallel with the stages, but whereas the stages are more thematic, the rooms refer to recognizable physical entities. Finally, the beacons of the master plan are utilized to link the two infrastructure features with the landscape rooms. The main body of this plan consists of concrete actions supporting the implementation of the infrastructure and rooms. In addition, the plan defines two overall actions, the first suggesting the introduction of a corporate identity and a second proposing the establishment of a central management structure.

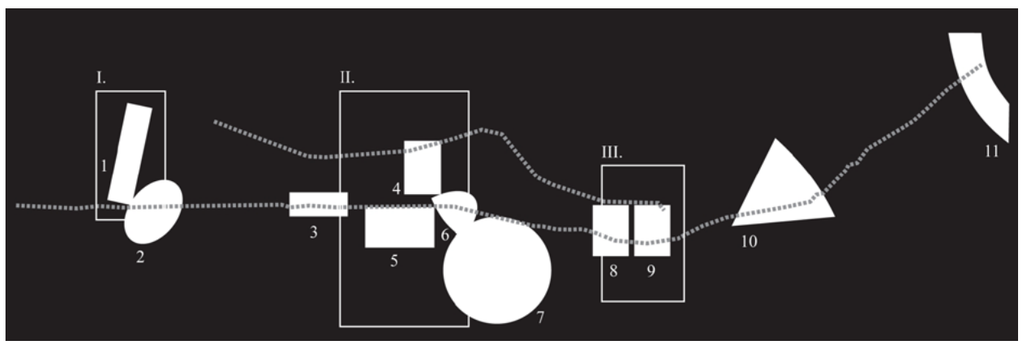

FIGURE 2. Map illustrating the 2 infrastructure features, the 3 stages and the 11 landscape rooms (After Bureau Bongaerts & Stramien).

The second action plan, 'Sint-Truiden Abdijstad', developed by Sien in 2008, is an implementation of one heritage stage. It has its own concept of disclosure, corporate identity and series of proposed actions.

The fourth tool, the corporate identity 'Kastanje', which was developed by the research group ArcK of PHL University College in 2010, is an implementation of the initial overall action of the first action plan. The brief unequivocally mentioned that this identity not only had to consist of a logo and explicit language, but also of objects that could both display information and provide experiences such as viewing points, resting places and places to withdraw to. Moreover, the identity should be applicable all over Haspengouw and be recognizable by passers-by as having a consistent style.

The authors proposed to employ the landscape, rather than architecture or art, to create this identity. The central principle is that the introduction of an object to provide information and/or experiences should always be accompanied by the (re)introduction of minor landscape elements, e.g. a row of trees, a hedge, a pond or a ditch. These elements should be positioned so that they reconstruct the symbiotic relationship between landscape and heritage. In other words, the principle combines the disclosure of heritage with heritage preservation. The objects are designed as abstract shapes, such as a column, a discus, and a ring, and are composed of COR-TEN steel to guarantee recognisability.

In addition to these four tools, the province is offering a grant to encourage local administrations to adopt the corporate identity. To obtain the grant, the province suggests involving the authors of Kastanje.

INITIAL KASTANJE IMPLEMENTATIONS

Currently, the Kastanje identity is being adopted in seven locations in Limburg to disclose the following heritage elements:

1. A former border post situated between three municipalities;
2. An orchard of historic fruit-species;
3. A burial place from the Gallo-Roman period;
4. A place of pilgrimage;
5. A Roman aqueduct;
6. A train track belonging to a former mining site;
7. A 3.5 km landscape walk.

Three of these implementations will be discussed in more detail to illustrate the disclosure principle.

Implementation 5 consists of a walk passing over a Roman aqueduct. One of the issues for the stakeholders was providing a viewing point along the walk. The area is known for its burial hills dating from the Gallo-Roman period. The designer approached these hills as minor landscape elements and introduced a new hill as a viewing point, which was slightly abstract in the shape of a cone. To ensure that passers-by would not be confused, the plan was to cover the cone with flowers. The top of the structure would then be finished with a COR-TEN steel plate (a Kastanje object) pointing to the heritage visible on the horizon. However, the client recently decided not to implement this viewing point because it was not possible to identify a farmer who would be willing to sell part of his land.

The walk of implementation 7 partly follows the trajectory of a former train track, passing through a forest. The proposal was to highlight the points where the path enters/leaves the forest by restoring an existing tree line (a minor landscape element) mimicking the shape of a (train) tunnel. Information would be provided on COR-TEN steel pillars (Kastanje objects).

The train track of implementation 6 was originally used to transport coal from a mine to a canal. The mine closed 30 years ago, and the track has gradually been transformed into a green oasis. The proposal is to redesign this track as a park, providing access to a series of communal services. Key locations will be marked with a solitary tree (a minor landscape element) combined with a COR-TEN steel pillar or circle (Kastanje objects) to disclose the mining history of the area.

In five of the seven implementations, a Kastanje author was involved in the conception phase, an important part of which consisted of exploring the terrain on foot with stakeholders.

RESULTS AND DISCUSSIONS

In retrospect, the four tools seem to be part of a carefully planned heritage policy, based on an overall vision for the region, which is then translated into concrete spatial guidelines that are, ultimately, supported by a corporate identity. As the figure below illustrates, each tool seems to frame the next, with its own target group, approach towards the landscape and resources.

However, in spite of the apparent consistency, the process described above was unplanned; the brief for the next tool was being written while the previous one was being completed. This is not in itself unsurprising or uncommon (Rowan, 2004), given a/o that the coordinating committee changed a number of times. Accordingly, whereas the first two documents are consistent (they have the same authors), the final two function autonomously. For example, although one heritage-stage was developed further in the second action plan, this happened separately from all of the other initiatives introducing a separate corporate identity. Moreover, although the landscape room concept was adopted in all of the Kastanje implementations, these rooms do not always refer to regional

FIGURE 3. Visualization of the viewing point (Courtesy ArcK).

pieces of the landscape with similar features, such as a valley, a town, a former military airport or a nature area (which was the intention of the action plan), but can also refer to minor landscape ensembles like an orchard or a burial hill in an open area of landscape. Furthermore, although the Kastanje identity was originally designed for Haspengouw, the province decided to also apply it outside the region, thereby losing all relation to the spatial concepts of the action plan. Finally, although the action plan proposed to install a steering committee to coordinate and initiate projects, this never happened; all initiatives must come from local actors.

The seven implementations suggest that this bottom-up approach appears to be the most appropriate way to introduce a heritage policy on a regional scale, given the multitude of administrations and dispersed ownership structure that is typical of the region. The aim of the Kastanje principle is to reintroduce relationships between the landscape and heritage elements and, in doing so, create consistent small-scale landscape ensembles. The expectation is that these small-scale interventions will, over time, add up and generate, rather than impose, landscape structures that are readable on a regional scale.

TABLE 1. Scheme comparing the four policy tools.

	Ambition	Target group	Approach towards landscape	Recourses
Masterplan	A structured inventory	Province of Limburg	Landscape as an object of study and a scenery of singular heritage objects	Archives, historical literature
Action Plan Romeinse Weg	Aspatial framework for the inventory	All municipalities	Landscape structures as instruments to relate and disclose heritage on a regional scale	Cartography
Action Plan Sint Truiden Abdijstad	An implementation of the Action Plan for town of Sint-Truiden	One municipality	Landscape as a source for events	Stories
Corporate Identity Kastanje	An implementation of the corporate identity of the Action Plan	Local organizations and administrations	Landscape as an instrument to restore and disclose heritage on an intermediary and local scale	The landscape

What the first Kastanje implementations primarily hint at is that the disclosure principle helps stakeholders to understand the symbiosis between landscape and heritage, and this understanding appears to encourage these stakeholders to co-design the implementation of the heritage policy. A possible reason for this is that Kastanje works on a scale that is directly recognizable and tangible for non-spatial experts. Another explanation is the notion of designing on site, while walking. Finally, a third possibility is the presence of an expert pointing to relationships between the small and the large scale.

The principle of having to use minor landscape elements, such as a hedge or a hill, requires stakeholders to try to understand the logic behind these elements. Whereas the action plan provides the reader with a landscape analysis, the Kastanje approach invites stakeholders to conduct this assessment themselves. As a result, Kastanje is adopted and translated into proposals more quickly. This is also visible in the high number of sectors that are involved in the Kastanje implementations.

Concluding, in an attempt to disclose the heritage of the region of Haspengouw, the province has developed a series of tools. These tools can be argued to rely on two opposing strategies, albeit both assign a central role to landscape: the first strategy begins by identifying regional landscape structures to then introduce concepts to reinforce them. The implementation of these concepts requires the supervision of a central authority. The second strategy starts by introducing a catalogue of disclosure-objects to then present a principle to combine these objects with minor landscape elements. This implementation does not require the supervision of a central authority.

The second strategy is currently the one being followed, and seven disparate projects are thus far being implemented. It is now up to the province to assess whether these projects do indeed generate a recognizable and consistent regional heritage identity. The province does possess a tool, namely funding, to steer the projects and, if necessary, introduce regional structures such as those proposed in the action plan. The question is: what will happen once the funding ends?

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Ecological Networks- a critical evaluation of theory and planning practice

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ABSTRACT

The relationships between the spatiotemporal patterns of landscapes and their associated ecological processes are of primary importance for landscape planning and its ability to promote biodiversity; especially in urban environments that face high demand for the space to meet the social and economic requirements of their inhabitants. In this context, planned ecological networks have an important role to play in enhancing the landscape connectivity within the urban environment, particularly as they intend to restore and protect habitats and biodiversity, support ecological processes and maintain human well-being. In spite of these inspirations in the theory of ecological networks, there has been little agreement on what an ecological network is and how effectively it functions in terms of the diversity of species it supports. The overall objective of this paper is to critically examine a variety of planning and scientific approaches to ecological networks in terms of their underlying theory, function and implications for planning practice, in the context of the city of Sheffield, UK.

Keywords: landscape connectivity, ecological networks, urban environment.

INTRODUCTION

"Ecological networks" may be defined as systems of landscape elements that are connected with the intention of maintaining/restoring ecological functions, supporting biodiversity and promoting the sustainable use of natural resources (Forman, 1995; Bennett, Wit, 2001; Bennett, 2004; Jongman, Pungetti, 2004). Besides, the term "green networks" has been used to refer to connected systems of green and open space in urban areas, of which ecological networks form a part. The concept of ecological networks was initially developed as a compensative response to the fragmentation and isolation of natural areas (Jongman, Pungetti, 2004; Lawton *et al.*, 2010) in urban environments; where human activities threaten the natural environment/biodiversity, and socioeconomic drivers and limited resources restrict the availability of land for maintaining/restoring ecological functions and biodiversity. The inclusion of ecological networks into planning strategies and decisions appears to be a promising approach to promote the multifunctional use of land but how closely does planning practice match ecological theory and what are the issues that need to be overcome to develop effective urban ecological networks as part of a multifunctional land use strategy? This paper examines these questions in the context of the city of Sheffield, UK.

In theory ecological networks comprise a set of compatible landscape elements, and are presumed to restore/conserve valuable habitats and associated species by supporting ecological processes. However, in practice ecological networks are often retrofitted on to the green spaces that remain after a city has been developed as a result of a combination of opportunistic and deliberative planning strategies at different levels. In addition, the term "ecological networks" is used loosely as the spatial expression of differing theoretical approaches, and this raises confusion over the aims and priorities of ecological network planning and decision-making. Besides, little is known about how well these networks actually function as habitats for supporting a diversity of organisms, and providing different land uses for human interest. Therefore, the purpose of this paper is to critically examine the theoretical background and planning approaches to ecological networks in urban systems, by giving an overview of underlying theories, functions and their implications for planning practice.

THEORETICAL AND SCIENTIFIC BACKGROUND

Connectivity versus Fragmentation

In urban environments, the conversion of landscapes into settlements or other intensively used areas has led to the increasing fragmentation and alteration of natural habitats. Fragmentation is a dynamic process that changes the structure of landscape through time; and causes habitat loss, reduction and isolation (Bennett, 2003; Hilty, Lidicker, Merenlender, 2006); as well as creating barrier effects. The effects of habitat fragmentation on wildlife include loss of species in fragments, changes to the composition of faunal assemblages and changes to ecological processes that involve animals (Bennett, 1998; 2003), depending on the degree of disturbance to fragments and the quality of the surrounding habitat (Farina, 1998).

In parallel with the effects on habitats, fragmentation indicates loss of connectivity within the given urban environment (Lindenmayer, Fisher, 2006); therefore, the need to maintain and restore connectivity is a widely accepted as a general principle for nature and biodiversity conservation (Noss, 1991). As an important function of landscape, connectivity is "the degree to which the landscape facilitates or impedes movement of organisms among source patches" (Taylor *et al.*, 1993; Tischendorf, Fahrig, 2000). Connectivity is identified both structurally and functionally. While spatial configureration determines the structural connectivity depending on the existence of barriers in the landscape, functional connectivity depends on the effects of landscape structure and its components on the behaviour of organisms (Baguette, Dyck, 2007). However, since connectivity is species dependent and basic landscape ecological functions and the responses of different species are under the influences of urbanisation at different spatial and temporal scales in urban environments (Ramalho, Hobbs, 2011), it is not convenient to treat connectivity only based on landscape structure. In addition to this, while the degree of connectivity required varies between different species and populations, it is accepted that the species are more likely to survive within sufficiently connected/integrated landscape mosaics. Therefore, the connectivity of different urban habitat patches has become a central issue for landscape planning to maintain the continuity between isolated habitat fragments and conserve biodiversity in urban areas.

Landscape Structure and Models

Landscape ecology constitutes the underlying theory and concept of landscape structure, function and change (Forman, Godron, 1986; Urban *et al.*, 1987; Turner, 1989). The most widely accepted landscape ecology definitions focus on the interactions between spatial components and ecological processes (Turner, Gardner, O'Neill, 2001). In this sense, the landscape structure is determined by its composition, configureration and the proportion of different patches across a given landscape (Turner, Gardner, 1991). While the landscape composition represents the amount of different habitat types (patches), landscape configureration refers to the spatial arrangement of those units (McGarigal, Marks, 1995; Selman, 2006).

In order to understand landscape structure and the interrelationship of its components, many theories and models have been developed. To begin with, "island biogeography" (MacArthur, Wilson, 1967) was originally developed to describe the relationship between the numbers of species found on an island compared with the mainland. Later on, this model was applied to habitats that are exposed to the process of fragmentation, reduced in size and quality, and surrounded by other habitats that may have hostile attributes for certain species. According to this theory, the distance between distinctive habitat patches is the main constraint to dispersal, and large habitat patches support more species and diversity with higher colonisation and lower extinction rates (Hilty, Lidicker, Merenlender, 2006). However, habitats patches do not have sharp boundaries like islands and the surrounding matrix could be hospitable or inhospitable to individuals of different patches (Wiens, 1996).

Another theory, that of "metapopulations" (Levins, 1970), deals with distinct subpopulations of a regional population that are connected by dispersal (Wiens, 1996), and considers the rate of colonisation/extinction processes as a central mechanism to maintain the metapopulation health. Metapopulations are populations of species within patches and matrix characterised by processes of dispersal, demographic behaviours and genetic variation of species (Hilty, Lidicker, Merenlender, 2006). Metapopulation theory is connected with "hierarchy theory", suggesting that every system is a component of another larger system consisting of subsystems in which more components are included (Farina, 1998). Because complexity is inevitable in a landscape, the "hierarchy theory" has been found useful for explaining various elements of a landscape and their associated processes at different scales in space and time (Allen, Starr, 1982; O'Neill *et al.*, 1986).

Both metapopulation and island biogeography theories provide some helpful guidelines to understand the structure of fragmented landscapes. However, the emphasis of those models are on discrete land patches and populations, regardless of the matrix properties, whereas the "corridor-patch-matrix" model (Forman, 1995) is widely accepted as the most realistic representation of real landscapes. The "corridor-patch-matrix" model suggests that the spatial landscape components are composed of patches, corridors and matrix (Forman, 1995). The matrix, with its background ecosystem (Forman, 1995), is the dominant component of the land mosaic, in which patches and corridors are embedded (Farina, 2010). Here, the patch is the basic component of a landscape based on discontinuity in their environmental characters (McGarigal, Marks, 1995). Corridors are linear landscape components that facilitate the movement of animal or plant species over time between distinct habitat patches (Forman, Godron, 1986; Lidicker, 1999 in Hilty, Lidicker, Merenlender, 2006). The matrix is assumed to be the most extensive and connected component of a given landscape (McGarigal, Marks, 1995). Different matrix types may behave in different ways

for resource availability, migration, dispersal and movement of species (Jules, Shahani, 2003) and influence the long-term persistence of species. Therefore, the assessment of matrix permeability is an important issue when considering the suitability of the matrix for different species.

PLANNING AND IMPLEMENTATION OF ECOLOGICAL NETWORKS

Towards the end of the 19th century, natural habitat in many North American and European cities was left fragmented as a result of historical socio economic and land use change processes, and park creation and nature conservation had to take place in what was left remnant or unused. Initially, the idea of a green network was largely driven by public use and access. In Brooklyn and Boston in the USA Frederick Law Olmsted proposed the parkways concept, to link remnant areas in a linear park system for human use and benefit (Jongman, Pungetti, 2004). Subsequently in England, the town planner Patrick Abercrombie developed one of the first comprehensive city plans to contain a comprehensive system of inked green spaces for the city of Sheffield in 1919, including what can in retrospect be seen as remnant habitat patches (Winkler, 2007). However these early "ecological networks" were based on structural and visual connections between relict habitats, urban green spaces or just available land primarily for public enjoyment as opposed to nature conservation.

Growing recognition of the importance of connected systems of green space for nature conservation during the 20th century was reflected in strategies such as Sheffield's Nature Conservation Strategy in 1991 (SNCS, 1991), whose aim was "to protect and enhance Sheffield's natural heritage and promote its enjoyment by the public", and included the establishment of a network of green spaces and wildlife corridors throughout the city as a conservation objective. On the basis of SNCS, Sheffield's green network was based on the rivers and valleys that run through the city (Lee, 2007), and considered the size and continuity of habitats as important factors for maintaining ecological quality. In addition to this, there are other designations of sites and plans to maintaining nature and biodiversity at individual site level; such as Biodiversity Action Plans (BAPs) and Local Biodiversity Action Plans (LBAPs) (Lawton *et al.*, 2010). The aim of LBAs in Sheffield is defined as to put into place action for species and habitats conservation at the local level, as projected in BAPs national targets (Sheffield City Council, 2012). In this context, the implementation of ecological network concept focused on conservation of natural areas and associated species by adding more habitat patches and corridors and/or widening the existing habitat patches and corridors at an individual level. Although this kind of an approach has been an achievement in its own right, the emphasis of these plans was still on discrete habitat patches and their connectedness, ignoring the quality of the matrix and its temporal changes as well as its permeability and accessibility.

Recently, the focus of ecological networks has shifted to more integrated approaches in which the main concern is multifunctionality (Jongman, Pungetti, 2004; Jongman, 2008; Lawton *et al.*, 2010). As a demonstration of such ideas, the Wildlife Trusts have created 100 Living Landscape schemes around the UK, "aiming to develop a national network of high-quality natural areas for people and wildlife by strengthening present connections as well as creating new ones between people and nature, town and country, and enhancing the permeability across the whole landscape" (The Wildlife Trusts, 2012).

Ecological networks are also considered as an important constituent of Green Infrastructure Plans, in which they have the potential to deliver multiple functions in the same areas as well as strengthening ecosystems and their services to people (Mazza *et al.*, 2011). Urban green infrastructure consists of a network of multifunctional open spaces, including both established and new green spaces that are embedded in and surrounded by built environments, linking urban and rural areas (Grant, 2010).

Thus recent approaches to ecological networks offer more integrated solutions in terms of maintaining/ restoring ecological coherence, conserving biodiversity and promoting sustainable land uses, especially by emphasising the importance of improving the quality of the matrix. However, in practice the implementation of such approaches may suffer from: exclusion from planning systems on a range of scales at the policy level, the loss of green infrastructure due the demands of an increasing population in urban environments, and the lack of sufficient investment and maintenance.

DISCUSSION AND CONCLUSIONS

The most common theoretical principles that underpin an ecological networks approach; are conserving biodiversity, maintaining/strengthening ecological coherence, buffering critical areas against the potential effects of external activities, restoring degraded ecosystems and promoting the sustainable use of natural resources (Bennett, Mulongoy, 2006).

Despite these theoretical aspirations, there is still a lack of agreement as to what constitutes an ecological network and what the contribution of the ecological network concept for biodiversity and public is. The contribution of ecological networks to nature conservation in urban areas has not been thoroughly assessed in terms of monitoring the responses of different organisms and the functioning of ecological network components (Bennett, 2004).

In this sense, the development of landscape metrics has been an attempt to quantify the spatial relationships of discrete landscape structure components. To some extent landscape metrics are useful for landscape structure and network analyses by measuring connectivity, fragmentation, isolation and network efficiency. However, they generally focus on the characterization of the geometric and spatial properties of a landscape at the patch, patches or landscape level, ignoring the behavioural patterns of organisms and the permeability of a matrix as a whole.

At the same time, other methodological advances in Remote Sensing and Geographical Information Systems for observing, analysing, determining, evaluating and modelling the spatiotemporal landscape structure and its relationships with landscape processes, offer a range of solutions to develop flexible and adaptive planning approaches to ecological networks in dynamic urban environments. For example, the combination of least cost models and network analysis tools, in which the cumulative cost/friction for movement and access is identified, may provide approximations and comparisons on the functioning of ecological networks.

Finally, former planning and spatial implication approaches to urban ecological networks generally focused on improving individual habitat patches, adding new habitat patches and corridors or widening habitat patches and corridors. However, in terms of delivering multifunctionality, the planning and implementation of ecological networks needs to be expanded to the wider landscape by examining how the matrix can be improved. With this purpose in mind, future research for planning and implementation of ecological network approach should focus on:

- setting the main purposes and defining the intended benefits for the biodiversity and the public,
- analysing the properties of matrix that it can also be a habitat in its own right, and improving the matrix permeability for the development of multifunctional landscapes,
- connecting the actual protected areas and potentially valuable areas,
- protecting remaining green spaces and adding those to the network,
- promoting the involvement and cooperation of public and governmental/nongovernmental authorities (Ahern, 1995; Jongman, 1995; Lawton, 2010),
- getting support from planning systems at the policy level.

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Conservation subdivision development as a means to preserve and promote the powerful flint hills aesthetic

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ABSTRACT

Subsurface flint in the scenic Flint Hills ecoregion of eastern Kansas and north-central Oklahoma thwarted the plow and preserved a vestige of tallgrass prairie that once covered the Great Plains. Encroaching development in the northern portion of this ecoregion is affecting the landform and aesthetics of this renowned landscape. This paper summarizes results of a university landscape specialization studio that considered conservation subdivision planning as an alternative to conventional planning methods to better protect the Flint Hills. Two project sites were explored: the first project demonstrated how increased dwelling unit density can be used to enhance land preservation; the second project demonstrated the imperative of using conservation development techniques to protect landform and vegetation. Although conservation planning is not new, there are no local precedents of built conservation subdivisions. Working with local planning agencies, these studio projects will be continued for additional testing as a means to overcome impediments to conservation policy adoption.

Keywords: conservation subdivision development, Flint Hills of the United States, Great Plains, tallgrass prairie, aesthetics.

INTRODUCTION

Conservation development, pioneered and popularized by Randall Arendt, seeks to replace traditional large lot subdivisions with smaller lot, clustered development where open space is aggregated and preserved as a common amenity (Arendt, 1996; MaMahon, 2010). This shift in residential development pattern reduces the impacts of suburban sprawl, which severely alters natural land cover. In the case of the Flint Hills ecoregion, promoting conservation design as a means to counter localized development sprawl is paramount to protecting the visual integrity of this regional landscape (FIGURE 1).

Flint Hills Resource

Omernik (1987) delineated ecoregions in North America as geographic regimes having similar climate, geology, soils, topography, hydrology, land cover, vegetation, and wildlife. The Flint Hills ecoregion extends through 19 eastern Kansas and northeastern Oklahoma counties (2.4 million ha/6 million ac) (FHRC, 2011:1). Rolling hills, cuestas, and drainage-incised valleys define landform. Geology of the region predominately consists of Pennsylvanian and Permian period shale intermixed with cherty limestone from which the region derives its sobriquet. Differential erosion results in numerous exposed rock layers and the benched signature of distinctive cuestas.

Cherty and rocky soils thwarted plowing which transformed most of the remaining Great Plains into tilled farmland. Consequently, the Flint Hills supports the last 4% of the tallgrass prairie (Steinauer, Collins, 1996). This ecoregion supports about 90 native grass species–among which big bluestem, switchgrass, Indiangrass, and little bluestem are most common–and more than 500 forb species (USFWS, 2010). Fire is an important range management tool that supports the ecology of the prairie (FIGURE 2).

Conserving the Regional Landscape

Protected land within the Flint Hills ecoregion includes the Tallgrass Prairie National Preserve (4,408 ha/10,894 ac), the Konza Tallgrass Prairie Biological Station (1,411 ha/3,487 ac), and voluntary set-aside conservation easements as part of the Flint Hills Legacy Conservation Area (USFWS, 2010). Most of the remaining tallgrass prairie is privately owned for ranching operations.

At the regional level, development pressures are easing since most of the Flint Hills is undergoing depopulation. Maintaining employment, education, social, and health services for a dwindling rural population is becoming increasingly difficult and has become a primary objective of the recently formed Flint Hills Regional Council (FHRC, 2011). The aforementioned cherty limestone will protect the landform into the future, but priorities for keeping the landscape intact include keeping development off ridgelines and locating potential wind farms in less visually sensitive areas.

Conserving the Flint Hills Around Metropolitan Areas

It is the more densely populated northern portion of the Flint Hills where development pressures are most evident. The U.S. Office of Management and Budget recently designated a three county area (Geary, Pottawatomie and Riley), anchored by the city of Manhattan, as a Kansas Metropolitan Statistical Area (MSA) (OMB, 2008). A July 2009 estimate places the MSA population at 123,086 (USCB, 2009). Despite the 2008 economic downturn, population growth is being driven by Fort Riley (a major Army military base) near Junction City and Kansas State University located in Manhattan.

FIGURE 1. The Flint Hills grassland (Hahn 2009).

FIGURE 2. Fire is a prairie management tool (Hahn 2009).

Visible impacts of this population growth are reflected in both residential and commercial development. New housing built as traditional subdivisions completely grade over topography and remove native vegetation, or appear as scattered residences insensitively sited on hillsides and ridgelines. City and county planning agencies have written generalized prescriptions to enhance development practices and aesthetics in peripheral areas, but no detailed planning has occurred to provide enough specific guidance to change outcomes.

Need for Introducing Conservation Development Practices

One key strategy for lessening subdivision sprawl is the promotion of conservation development approaches. There are many conservation subdivision developments (CSDs) throughout the United States, but to date, there are no known CSDs in the Manhattan/Junction City area. Local developers may simply not be familiar with this new development paradigm or are adverse to perceived risk in the current economic environment. Construction of several prototype conservation developments is needed for evaluation and public demonstration.

Towards this end, a landscape architecture specialization studio at Kansas State University worked with two landowners who were interested in design studies focused on conservation development. Selection of two sites on the peripheral edge of Manhattan compared conservation development options relative to conventional development. If these projects reach fruition by being built, prototype conservation developments can be applied to other areas of the northern Flint Hills where development pressures threaten visual integrity.

PROJECT SITES AND ISSUES

Winslow Site

In the fall of 2010, a 12.7 ha (31.5 ac) parcel located in southwest Manhattan was chosen as a studio study site. A conventional subdivision plan had already been prepared in 2005 for the property owners, but in this studio, a conservation development plan was offered as an alternative so development metrics could be directly compared.

This site resides at the peripheral edge of existing suburban development. Native grasses cover the gently sloping, developable portion of the site. Along the western and southern peripheral edges of the site, the topography abruptly changes to slopes steeper than 20%. These slopes support mature woodland and understory that screen views to adjacent properties. At select locations and during leafless winter months, the site offers dramatic scenic vistas.

Springer Site

In fall 2011, the specialization studio again examined conservation development, but planning efforts mainly focused on visual issues. A 31.8 ha (78.5 ac) wooded hillside parcel was chosen near the visually sensitive K-177 transportation corridor, which serves as the southeast entry to Manhattan. In 2011, City of Manhattan and Riley County planners updated the K-177 "Gateway to Manhattan Plan" as a means to protect visual resources along the corridor and guide future residential and commercial development supported by recent utility extensions (City of Manhattan and Riley County, 2011).

The Springer site exists outside the Manhattan city limits and the Manhattan Urban Services Boundary (USB). It resides on Riley County land and is located in a transition zone between urbanized and rural development. The site is clearly visible from the K-177 highway corridor. Topographically, the site is part of a cuesta formation that extends approximately 4 miles to the south where it adjoins the Konza prairie reserve. Prairie burning in this area has been restricted for more than thirty years, so invasive eastern red cedars cover a majority of the site.

In 1978, a local engineering firm prepared a preliminary 175-lot residential layout plan for the property. Since 64% of site has a slope classification of 15% or steeper, achieving this density would be nearly impossible without severe grading impacts and denuding the site of all vegetation. The plan also largely ignored existing drainage patterns. If implemented, this plan would have continued existing development patterns, obliterated the indigenous character of K-177 corridor, and failed to comply with the Gateway Plan.

Conservation Design Imperative

A design alternative, based on conservation design principles, was sought to test how new development might be better integrated with the Flint Hills character. Several design objectives were established:

- Inventory, protect, and feature the naturalistic amenities of the site
- Exclude siting structures on the upper ridgeline to preserve its visual integrity
- Sensitively align internal roads to minimize grading and slope scarring
- Reduce the overall residential footprint by shifting the program to smaller single family lots, or shifting the mix to more multi-family attached units
- Consider non-residential development options (bed & breakfast, retreat lodges/cabins, equestrian facilities, etc.)
- Investigate architecture forms, colors, and textures compatible with the context
- Use existing vegetation to screen development where possible

METHODS

In accordance with procedures outlined by Arendt (1996), a site inventory and preliminary analysis was conducted for both sites using GIS (ESRI ArcGIS). Inventory work consisted of mapping slopes, aspect (for solar gain), soils, and vegetation. Next, a computerized site suitability analysis was conducted to identify areas where development would pose the least site disruption.

Development alternatives were quickly worked out on tracing paper for iterative evaluation to arrive at preferred alternatives. Maintaining a maximum gradient of 10%, road alignments supporting these alternatives were then engineered using Civil 3D software, followed by automated earthwork estimates. It was necessary to use retaining walls in some locations to avoid massive slope disruption and filling key drainages.

Aesthetics are primary concerns of the public when introducing naturalistic landscapes in semi-urban contexts. The synthetic landscape program, Vue Infinite (e-on Software), was therefore used to realistically simulate how the proposed designs would appear in a grassland and woodland context.

RESULTS AND DISCUSSION

Winslow Site: Comparing Development Models

To date, no conservation developments have been built in the northern Flint Hills from which post-construction metrics can be assessed. A comparison can be made, however, between the proposed conventional plan (2005) and conservation plan (2010). Metrics were estimated for dwelling units/density, street lengths, right-of-way areas, lot areas, total developed areas, and preserved natural areas (FIGURE 3).

a. Conventional layout plan (Monica Miller, 2005)

b. Conservation layout plan (Heather Grogan, 2010)

Description	Conventional Development	Conservation Development
Dwelling Units (DU)	23	54
Net Density	3.1DU.ha (1.5 DU/ac)	9.8 DU/ha (3.9 DU/ac)
Street Length	961 m (3153 ft)	1,324 m (4,347 ft)
Steet Right-of-Way	1.4 ha (3.5 ac)	1.7 ha (4.1 ac)
Lot area	6.2 ha (15.3 ac)	3.9 ha (9.6 ac)
Total developed area	7.6 ha (18.8 ac) 59.7%	5.5 ha (13.71 ac) 43.5%
Natural area	5.1 ha (12.7 ac) 40.3%	7.2 ha (17.8 ac) 56.5%

FIGURE 3. Comparison of conventional and conservation development for the Winslow site (Hahn 2011).

Typical of conventional suburban sprawl, the 2005 plan eliminates most existing natural features and vegetation (except for the steeply sloping site periphery) and re-contours all developable land. The entire parcel is subdivided as individually owned lots in which homeowners are responsible for maintenance. No developable land is left for communal benefit requiring a homeowner's association. Typical suburban architectural styles and lot landscaping (irrigated, manicured lawns) are expected commensurate with standard energy and water use.

By contrast, a selected 2010 conservation plan exceeds the residential density of the 2005 plan, while preserving natural site features: major drainages, rock outcrops, and windbreaks. In addition, several amenities were introduced: community clubhouse, pool, recreational fields, trail system and community orchards/gardens. For the most part, native meadows will replace manicured lawns and energy and water inputs are expected to be substantially reduced.

Meadow maintenance consists of seasonal burning or mowing timed to optimize healthy root structures and competition against invasive species. There has been resistance to prairie burning which generates plumes of smoke that drift into urbanized areas. But recently introduced legislation seeks to retain this prairie management option which is vital to cattle operations and the health of the tallgrass prairie ecosystem (Federal Information and News Dispatch 2011). Prairie burning within the Manhattan city limits is allowed with permission, but it is unclear if this policy can be retained if conservation developments become popular and widespread. Controlled burning may also increase structure insurance risks. All of these issues need resolution before conservation design is a favored development model.

Residential density of conservation developments can match or exceed conventional development (FIGURE 3). This is accomplished through smaller lot sizes or introducing multi-family attached dwelling units. Recent demographic projections for the U.S. favor smaller or attached dwelling units as baby-boomers reach retirement age and desire reduced maintenance or simpler lifestyles (Nelson, 2009).

Springer Site: Attention to Aesthetics

When analyzing the 1978 conventional plan relative to the highly accurate LiDAR topographic data acquired in 2006, the proposed residential density is largely infeasible due to street gradients often exceeding 20%. Essentially, the entire site would need to be stripped of vegetation and undergo severe grading which would be in direct conflict with the Gateway Plan. A rework of the plan to something more feasible dropped the dwelling unit count from 175 to 95. Even so, this conventional plan was deemed incompatible with aesthetic goals of Manhattan and Riley County.

Several student conservation development plans were prepared, and a single representative plan was selected for this discussion (FIGURE 4). To meet the construction schedule and prime the financing, the client preferred a conventional cul-de-sac scheme for the lower elevations of the site to be developed as Phase I. Higher, more scenic, elevations of the site will be developed in later phases according to conservation layout principles.

Instead of maximizing residential density, the client was open to a diverse development program emphasizing aesthetics and retaining the natural character of the site consistent with the Gateway Plan. Most student plans featured similar concepts: a retreat or conference center with clusters of cabins, equestrian facilities/trails, and limited residences carefully sited for minimum site disturbance.

The most significant visual impact would be constructing the road linking the lower levels with upper site terraces. Steep topography limits routing options, and structural retaining walls were necessary in some locations to minimize slope scarring or preventing road fill from extending over a prominent drainage. The road was aligned parallel to K-177 with the intent of preserving as much hillside vegetation as possible to provide visual screening.

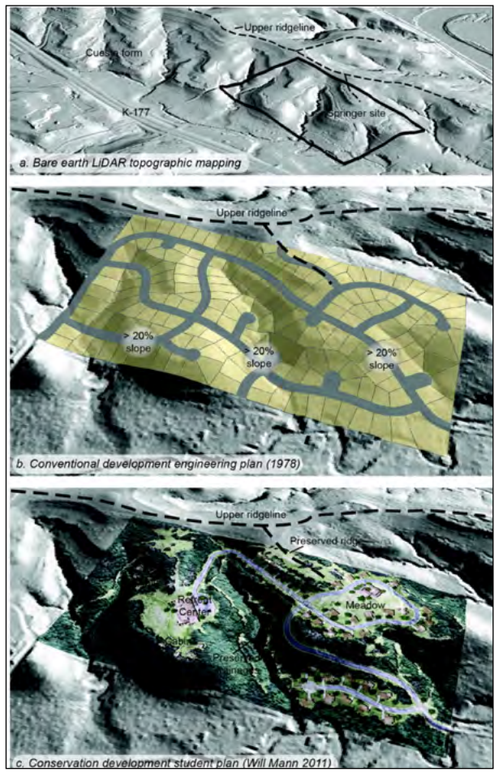

FIGURE 4. Comparison of conventional and conservation development for the Springer site (Hahn 2011).

Every studio scheme featured preserving the highest ridgeline as an open meadow by prohibiting structures. With cooperation from adjacent parcel owners, one attractive option would be to dedicate the entire upper ridgeline to communal open space. It is possible to route a trail along this ridgeline all the way to the Konza Preserve to the south, and the Flint Hills Discovery Center to the north.

All of the conservation development schemes attempted to use vegetation or topography to screen structures from lower elevation views. Architectural precedents were reviewed to propose prairie compatible styles and naturalistic materials/colors for better landscape blending.

CONCLUSIONS

Conservation development is currently not used in the Flint Hills landscape, but its introduction could lessen the impacts of suburban sprawl on this renowned ecoregion. To be effective, application of this development model relies on aggregating large enough land parcels to maintain aesthetic continuity and support prairie maintenance practices. Using several test sites as part of a landscape architecture specialization studio, it was shown that conservation development can match or exceed development metrics of conventional approaches. Even so, several challenges remain before this development model is locally tried or popularized:

- Initial risk of being the first developer to finance and build a conservation development
- Uncertainties if requisite prairie burning will be allowed within a suburban context or its potential influence on homeowner's insurance
- Uncertainties if a prairie landscape aesthetic, especially if not properly managed over time, will be attractive to home buyers
- Most landscape maintenance companies lack specialized knowledge and experience required to successfully manage prairie landscapes

A landscape architect is arguably the best professional to pioneer this new development model in the local Flint Hills landscape. The worldwide trend is towards urbanization and the countryside is being depopulated. Introduction of land conservation principles will likely follow conservation patterns found in more densely populated northern Europe where urbanization has reached 80% and the countryside is being abandoned (Antrop, 2003: 9). Ongoing residential development is occurring on urban fringes and "government policies have been aimed at preserving open space and preventing its fragmentation" (Rietveld, Wagtendonk, 2004: 2060).

FURTHER RESEARCH

For conservation subdivision development to gain local acceptance, future research and testing should focus on the following topics:

- Through design prototypes and field testing, formulate optimum native plant palettes and architectural forms/materials that best define the "Flint Hills aesthetic";
- Compare the effectiveness of burning versus mowing for maintaining prairie landscapes in a suburban context;
- Develop education/training materials related to prairie establishment and maintenance.

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Liquid post-modernity
Awaking a sublime experience by sustainable brownfield redevelopment

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ABSTRACT

In the recent 'eco' labeled societal shift, the ideas of sustainability and ethical values of democracy, equality, respect, care, empathy and love are bases of a New Humanism. The technological progress is an internal part of this concept. In order to respond to the discourse about the value of the aesthetic experience in landscape designed sustainability, this article explores a practical application of a 21st century re-definition of the aesthetic category of the sublime into four types of sublime awareness (Roncken, 2006; Roncken, Stremke, Paulissen, 2011). A contemporary reading of the sublime provides a set of design principles in developing a project of a brownfield which deals with natural and man induced disturbance. The brownfield called Rohanský Island lies in the heart of Prague (Czech Republic) on the right bank of the Moldau River. The flood is the primary sculpting natural force which changed the use and identity of the place many times and has become the main design feature of the project.

This design proposal deals with distance between post-modern ideas of sustainability presented by political or educational institutions and the everyday sublime by revealing dynamic natural cycles and intersecting social routines. The main aim is to create hypernature as a combination of the art and science and juxtapose man and nature in order to form experience, connection or emotion between people and the surroundings which leads to empathy and care for the environment. The importance of the everyday sublime lies in activating and connecting humans to the earth in their immediate work/live/recreational atmospheres. To conclude, the attempt of this master thesis is to overcome the separation between people and nature by creating a new type of sublime experience, where values of new humanism are translated to the everyday life.

Keywords: hypernature, looding, sustainability, landscape machines.

INTRODUCTION

In the recent globalized world under the pressure of climate change and recognition of human impact on the living environment, the idea of sustainability and ethical values have become core ideals of 21stcentury enlightenment (Taylor, 2010) or New Humanism. This paradigmatic shift in understanding the nature of our world results in creating new norms, values and symbols of culture. Sustainability and eco labels became a new fashion. The post-modern concept of sustainability is a term that cannot be presented to the general public. There is a distance between what is experienced and how it is interpreted. Sustainability is not only a general term for ecological cycles and technologies but it is about our relationships, feelings and empathy towards our environment and ourselves as well. It is important to expand the concept of sustainability beyond the ecological health realm into social practice and to the cultural sphere (Meyer, 2008). The main scope of this work is the value of the aesthetic experience in the sustainable landscape design of everyday landscape and its power to move citizens towards more conscious and responsible perception of our living environment. As Malene Hauxner (2011: 71) assumed, changes in nature and social conditions lead to the development of new uses and new aesthetics.

This paper refers to a currently being written master thesis project, the landscape laboratory, struggles, learning and design process. It is a part of the on-going research at Wageningen University on 21st century redefinition of the aesthetic category of the sublime. The main aim of the design proposal is to create a site where nature and culture are fused, which will protect an urban structure against water and in the same time recreate the lost relationship between city and river. To ensure a 'sublime sensation' dynamic water processes and seasonal flood events will be revealed in order to recognize hypernature as a result of art and science, and to enhance a poly-sensual experience of the landscape. I believe that the significance of this project lies in the increase of environmental awareness and its contribution to the understanding and the stimulation of urban sustainable and conscious behaviour. The methodology is incorporated in the text, where the reader can follow the taken steps while exploring this article.

PRAGUE

´The Mother of Cities´, ´The Golden City´ or ´Hundred – Towered´, these are all epithets for Prague (Czech Republic). A dynamic landscape of massive rocky hills crowned by cathedrals and castles reflect Prague´s golden glory in the wide curves of Moldau River (Vltava). The river has become the driving force which pulled life on the banks together and is the subject of this work. The Moldau as a main development axis of the city, formation, waterway connecting Bohemia´s capital with Hamburg (Germany), the source of subsistence for fishermen and source of inspiration for a great number of artists, has changed its function and character over the centuries. From the romantic and in the same time majestic natural feature towards a photoshopped trademark on postcards. Over time not only its character and function changed, but the attitude and relationship between citizens and the river as well. Water became the enemy for the city many times in form of the flood. Floods hold one of the major shares in the shape of the city today. Between years 1840 – 1846 the stone walls and waterfronts were built (Malý, 1999) in order to protect the city and keep the river in its boundaries. This creation disturbed the notion of the graceful uprising of the city from the water. However this was not the only touch of the hands of man. Conjunction of the old archipelago called ´Big Venice´ (Veľké Benátky) with the Karlin district coast and the relocation of the river bed in the north stream of the Moldau transformed the nature of Prague to human interest. The egocentric attitude and the human lust for domination over natural forces and economical profits caused people to turn their backs to the Moldau River.

The flood, as an unpleasant but at the same time fascinating natural force, poses the greatest direct risk for the city of Prague. These extreme water events can occur irregularly in time and place with different levels of intensity (Slavíková *et al*., 2007). According to the IPCC (2007) in the future we can expect an increased frequency of great inland floods (often winter floods) which arise mainly as a consequence of heavy precipitation or ice melting. Riverbed spillage is not a problem on itself but it becomes one in the moment of contact with the buildings or other man-made elements. This situation was experienced in August 2002 when the biggest flood ever recorded hit Prague with a water flow of 5300 m^3/s (Slavíková *et al*., 2007).

The city of Prague is a place with great potential for a better urban future and quality of life, which was remarked by the previous communistic regime. One of the problems is the passive attitude of Prague´s citizens in the matter of civic engagement and sustainability. Design research applies brownfield Rohanský Island / Maniny (Prague, Czech Republic) and its immediate collusion with the Moldau river and the Holešovice bank. Brownfields are neglected everyday landscapes, places which lost their function over the time. They are potential sites of redevelopment where unique physical and socio-economic challenges can merge into a vibrant place. Rohanský Island / Maniny lies on the east bank of the Moldau river and is a result of natural and man inducted disturbance. This place combines the dynamic system of raw forces in the form of the river and artificial man- made relict symbolizing the decay of the modern industrial society. It has great potential to expand man´s aesthetic capability, due to the urban context in which it is placed, in the context of two complex elements, urbanity and nature, intersecting. The city quarter Holešovice is becoming the second Prague centre where the creative young spirit is ubiquitous.

CITY VERSUS NATURE

Try to imagine nature. What do you see? Of course, everyone has a different view of nature which is influenced by the place where he or she grew up, but usually it is a picture of balanced, harmonic, inherently good and threatened entity, the untouched nature which shines from our PC screens. The idealised theological utopia of Eden paradise strongly influences our romanticised and in the same time politicized attitude towards nature. We still see nature as a phenomenon of the physical world, including plants, animals, the landscape, and other features and products of the earth, as opposed to humans or human creation (Oxford, 2012). According to Cronon (n.d. in Metz, 2011: 79) paradoxically this imagination completely separates human from the nature, creating dualism between these two phenomena. Our presence in nature by definition implies the downfall of nature. The place where we are is the place where nature is not (Metz, 2011: 79).

Most of the people on this planet live or will live in cities in the near future. Streets, concrete blocks, plazas and shopping malls are our living environment. City and its artificial nature. Artificial not in the sense of plastic trees, grass or flouting islands, but in the sense of the thoroughly designed, controlled and governed living environment. Truly, we do not like nature itself. We do not like its imperfections but rather the part of the nature which is in our comfort zone, the part of nature which we can control. We want to have a perfectly round and red apple without a worm inside. In this sense, the nature in the cities is not old, untouched nature but rather the result of human activities. Nature is culturally generated. It is a cultural nature. As van Mensvoort (2011: 3) stated, nature has become one of the most successful products of our time. Nature is interwoven in our living environment in the form of a designed entity.

CURRENT AESTHETIC DEBATE

Natural environment, human-influenced and human-constructed landscapes became a subject matter of new area of aesthetics which emerged in the second half of 20th century, due to growing public concerns for the quality of environment. Environmental aesthetics changed 18th century notion on aesthetics of nature from a distant object of our

appreciation towards view on nature as an environment which surround us. We are immersed within the object of appreciation. We occupy or more around and among such an object which impinge upon all our senses. It is in constant motion. No frames of object, no limitations in time and space (Carlson, Allen, 1998; 2011). Aesthetic experience of the world at large (Carlson, Allen, 1998; 2011) is different from the aesthetic appreciation of paradigm works of art. It is understandable that environmental aesthetics became important philosophy in the discourse of current landscape architecture. In my understanding, the landscape design is an ´art´ which differs in the way of experiencing and which has the great power to effect people in its all modes of being. Interesting is the notion that some fields of today´s art, for example new media art as an interactive art, are using the key feature of environmental aesthetics, the immersion as a tool for communication and experiencing the art work.

Over the centuries human beings tended to look up to forces and concepts which were beyond their understanding and control. There is something inside us which longs for an extraordinary experience enabling us to move towards a higher psychosomatic encounter. In the pre-eighteen century God was the centre of people's lives. After 18th century we moved from God-fearing towards more rational explanations of our existence where the scientific progress was playing the key role in this paradigmatic shift. Nature became an aspect which had psychological and somatic effects on individuals in the era of enlightenment. According to the 18th century philosopher Burke, the sublime could be found in experiencing the raw natural forces. The feeling of emptiness, solitude and silence could be viewed as pleasant when we experience terror which cannot control and hurt us (Eco, 2007). Kant does not see the sublime in nature or in the object but in our minds, in our own ideas and imagination. Sublime is a capacity of thinking (Chou, 2007).

Although the environmental aesthetics is a relatively young philosophy, it was built upon traditional landscape aesthetics and extended by the art aesthetics of the 19th and early 20th century. The landscape aesthetics of 18th century was primarily concentrated on the notion of sublime and picturesque (Carlson, Allen, 1998; 2011). Those two conceptualizations were related to Nature and God creation, exclusively. The concept of the beautiful was traditionally seen as something small, smooth and related to the art ('man-made') aesthetics. If we look at today´s definitions of beautiful and sublime, we realize that the notion on the sublime did not change radically from the 18th century. It is still related to the form and the size mostly. But how are these conceptualizations translated in the current environmental aesthetics? Apparently, there is a theoretical gap. Paul Roncken is trying to explain what actually is possible within the environmental aesthetics, by researching the 21st century redefinition of the sublime. He distinguished between three modes of aesthetic appreciations (Beautiful, Sublime, Zen). Zen is the energy, soul or God which is difficult to grasp, even more to design. He describes the Beautiful as a sensation, a feeling which is usually interrelated to the object. And the Sublime is an idea by imagination. It is fundamentally transformative and it has the ability to alter our consciousness (Orkina, 2011: 6). If pleasing is what the beautiful does, than activating is what the sublime does (Roncken, 2006). What is an aspect in the 21st century which enables us to be moved? Towards what are we moved? Is it humanity and its complex technological system or personal well-being?

ELISABETH K. MEYER

Elisabeth K. Meyer is an Associate Professor in the Department of Landscape Architecture at the University of Virginia. She studied urban design, historical preservation and landscape architecture in which she sees an opportunity to integrate interest in social and ecological aspects of making cities and settlements. Meyer is environmental aesthetician, exploring importance of aesthetics in sustainable design. She claims that an aesthetic experience can change the human attitude towards our living environment. She states that many people equate aesthetics and beauty with the frivolous. They ignore the intellectual and psychological aspect as well as ethical agency of aesthetic experiences. The interesting ideas of Elisabeth K. Meyer became the base of a critical analysis of today´s role of landscape architecture. 'Sustaining beauty. The manifesto of appearance' (2008) and 'Seized by Sublime Sentiments (1998) are two key articles of text analysis related to this presented paper.

Meyer´s article 'Seized by Sublime Sentiments' introduces the author´s view on two projects designed by Richard Haag, Gas Works Park (industrial ruins adapted to recreational use) and Bloedel Reserve (private estate garden). Both projects are examples of how human action modifying natural rhythms and natural events modifying human rhythms where both can be understood as disturbance (ibid, 1998: 7). By minimal interventions into the found conditions and processes of a site, disturbance is not masked but implied in the designs. Haag´s selective editing allowed the landscape to speak, to tell its history of disturbance. What connects these two projects in this sense is what they do to visitors. According to Rademacher Frey´s (in Meyer, 1998) attempt we can consider these sites as sublime. Using contrast, simulating vastness and closeness, the elusiveness and tangibility of the natural world are the elements of the ´old´ sublime which are elevating the underlying story and experience of sites. However, these feelings are the reflection of the highly educated and intellectually advanced personality of Elisabeth K. Meyer, who has knowledge of the surrounding community and the stories behind it. Is it possible to read these landscape designs in the same way by ´average´ visitor, non-landscape architectural expert, who came here to have nice Sunday afternoon? I do not think so. Meyer reflects upon this point as well where she states that we must be engaging with works in order to experience them deeply. The post-modern sense of sublime in Haag´s work has more to do with limitlessness of time than with limitlessness of space or mass, which is experienced through narratives of these places.

In the second article ´Sustaining beauty. The manifesto of appearance´ Meyer (2008) is considering the role of aesthetic environment experience in the discourse of sustainability. The aim of Meyer's manifesto is to explain how immersive aesthetic experience can lead to recognition, empathy, love, respect and care for environment (ibid, 2008: 7) by the aesthetic category of the Beautiful. She distinguished between the ecological and sustainable landscape design, which can reveal natural processes and intermingle social cycles. Sustainable development requires more than sustainable technologies. Sustainability should be attained in all its aspects, from social aspects of engaging and connecting citizens with their environment to economical and ecological elements of design. Meyer (2008: 8) claims that beauty and aesthetics is necessary for sustainable design if it is to have significant cultural impact. It is not simply an act of pleasure, but possibly, one of transformation. In order to immerse it is important to guarantee a multi-sensory experience of design, where body connects with poly-sensual human capacities and natural processes. Strange beauty became an immersive aesthetic experience in developing environmental ethics in Meyer´s vision.

FUTURE SUBLIME

Most experts argue that ultimately human behaviour has to change in order to reduce environmental impact (Jacobs, 2012). I believe and agree with Elisabeth K. Meyer in the point, that aesthetic experiences cannot change society as a whole, but it can alter individual consciousness. She argues that immersive multi-sensory experience of the Beautiful can assist in restructuring the priorities and values of people (Meyer, 2008: 10). However, are not we already immersed just by the fact, that we are part of the object of appreciation? Is it really true, that positive experience such as the Beautiful, can change people´s values towards a more sustainable future? Isn't it a little bit too naive? From a pragmatic point of view it is really unlikely to be true. Already ancient Greeks like Sophocles or Euripides, knew that negative experience, portrayed in their tragedies, creates powerful emotional responses. Negative experiences are stronger than positive ones. Also Kant considered negativeness as a strong emotion which can perform in a surprisingly positive way, when we are moved to higher emotional and ethical level. It means that terrifying landscapes are more powerful in altering the consciousness of users, thus changing their values, than beautiful landscapes.

Actually, there is a crack in the definition of aesthetics itself. Aesthetics is a philosophy which studies human experiences of the world through their senses. It is especially concerned with the appreciation of particular objects when they strike the senses in a pleasing manner (Carlson, Allen, 1998; 2011). The beauty has become the canon, the only option of aesthetic appreciation. It must entertain people and perhaps cure them of their bad habits (Roncken, Stremke, Paulissen, 2011: 70). What about the negative aspects of environment, such as floods or earthquakes? We are living in the bubble, in the plastic world, where imperfections makes us nervous. By blocking negative experiences, our senses and minds are becoming flatten. Is this sustainable? Is this what we want? We should understand that we are integrally connected to social and natural worlds and most of our behaviour including social interactions is a result of us responding to world around us (Taylor, 2010). I believe that landscape architecture is a brilliant tool to provide places which challenge human perception. We need to do it in order to alter people´s consciousness towards more environment-friendly attitudes. Designed landscapes should provoke those who experience them to become more aware of how their actions effect the environment, and to care enough to make changes (Meyer, 2008 in Roncken, Stremke, Paulissen, 2011: 70)

The sublime is not different from the beautiful (Roncken, Stremke, Paulissen, 2011: 68). This is true if we consider the facts that they are both immersive aesthetic categories and they both work on the human´s psyche by entering the mind via senses. Then it depends on individual´s state of the mind, how information about surrounded environment will be processes and evaluated. This can lead to a positive or negative reaction, experience. It means that beauty is not only positive but also negative sensation and that the sublime is not exclusively bad or scaring but it can be also a positive,

mind-lifting experience. As Paul Roncken suggested, beauty relates to the object of aesthetic appreciations, landscapes and environments, which trigger positive or negative sensations, thus we evaluate these objects as beautiful or ugly. Are the sensations enough to change human attitudes? If Kant is right and the sublime sensation is not in the object itself but the subject, the appreciator, then is difficult to restrict sublime landscape to architectural composition, form or shape. Sublime is an aesthetics sensation which allow us to gain knowledge (Roncken, Stremke, Paulissen, 2011). We do not need knowledge in order to gain knowledge but rather imaginative and fantastic features. As Albert Einstein said, Imagination is more important than knowledge. For knowledge is limited to all we now know and understand, while imagination embraces the entire world, and all there ever will be to know and understand. The word strange used by Elisabeth K. Meyer can underpin the sublime where something is not quite normal but it is not quite clear how it is different. The appreciator must use his own intellect and imagination to classify the situation he/she was just exposed to. However one of the main questions in the profession of landscape architecture is how to translate these philosophical considerations into the practical manner.

LANDSCAPE MACHINES

A good way to challenge human perception is by letting people wonder and imagine upon what they are experiencing. Concept of the Landscape machines can serve up to that. It is about making landscape processes visible, and not only that. The relevance of landscape machines lies in relation to important issues as climate change, energy scarcity, food production or waste treatment (Roncken, Stremke, Paulissen, 2011: 72). The main mechanism behind is the cycle of certain material input and output which are driven by critical amounts of energy input (ibid, 2011: 72). These new living landscapes, the sublime landscapes, perform in a way that challenges human perception, i.e. imagination and fantasy. The appreciator can gain instinctive awareness of processes and the complexity of environments (Roncken, Stremke, Paulissen, 2011). Sublimity and understanding is subjective and depends on intellectual advance and imaginative capabilities of individuals. As Koh (2008) stated by revealing landscape and ecological processes we enable people to see and experience them in daily and ordinary place and learn what the processes do for the city and people. To sees and experience is to know, and to know is to care.

Formal brownfield Rohanský Island/Maniny is a place with great potential to expand man´s aesthetic capability and environmental awareness. Brownfields are former productive landscapes which should stay productive. Negative experience of the dynamic water processes and seasonal flood events will be revealed where the Moldau river and its force will become the energy input of a new landscape machine. The result of this sustainable brownfield redevelopment will be a place with a hybrid program which results in formal and functional juxtaposition. The strong social agenda can emerge due to the imaginative character and location of the place.

CONCLUSIONS

Presented article tries to expand concept of sustainability into the social practice and the cultural sphere by referring to value of aesthetic experience in landscape design. Sublime and its imaginative capacity became the aesthetic category which can move man´s consciousness towards more environment-friendly state. Contemporary landscape design should not become only making nature for nature but cultural product where knowledge could be gained. This is supported by the concept of Landscape Machines, as the productive landscapes which can ensure fusion of natural processes with human agenda.

Landscape architecture cannot change human´s values by single-shot sensation. It has to move away from providing exclusively comfortable and pleasing leisure places with symbolic representation towards landscape architecture which can challenge human perception and thus help to gain knowledge by imagination. Landscape architecture can have a share in educating and transforming new generation of environmentalist citizens. People should not be educated to see phrase sustainable development as an oxymoron, the contradictory term which rejects meaning of each other. A development cannot be an unlimited growth but a cycle, the key mode of sustainability. Sustaining environments means sustaining cycles. Cycles of nature and our lives where development is unlimited growth of our minds and personalities.

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The Driving Forces To Realise a Large Landscape Project. The Vienna Garden Exhibition 1964 – Donaupark

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ABSTRACT

In 2011, the landscape planning department of Vienna commissioned the exploration of the conditions leading to the Vienna International Garden Exhibition, WIG 64. The area on a former river island was transformed into the Donaupark, an 85-hectare park on the left bank of the Danube. The event of WIG 64 is a result of a long political and planning process. The research focuses on the prerequisites of the park's genesis rather than the constant adaptation and change of the area. This site specific research is based on Kahn's (2005) theory that politics and societal structure define a site. In the paper we show the driving forces, which led to WIG 64. We give a detailed view on the relation between the political and public discussion and the success of the planning intentions.

The area had been in political and public discussion for decades before the decision was taken to finally turn it into a recreational area by the means of an international garden exhibition. The new park would replace a former landfill site and an illegal housing settlement thus restoring these urban defects. Two more arguments counted for this site: to complete the green belt, enacted in 1905, around Vienna, and to create a spacious urban recreational park on the left bank of the Danube.

Garden exhibitions are an appropriate means to develop derelict sites and to realize large urban parks (cf. Preisler-Holl 2002). This includes not only the chance to attract many visitors and retrieve part of the enormous expenses; besides, it is the spectacular event as a publicly noticeable effect that can obviously further the political decision to develop sustainable parks. Furthermore, a garden exhibition can provide a framework to demonstrate and promote new trends and strategies in landscape planning and landscape design.

Keywords: landscape architecture, garden exhibition, planning policy, park, park policy.

INTRODUCTION

In the 1950s and 1960s, garden exhibitions were part of an urban vision and a means to create large parks in Europe. Whereas in the 19th and early 20th century municipalities as "single powerful agencies" (Corner, 2007: 14) developed European urban public parks such as Stadtpark in Hamburg (1914) or Amsterdamse Bos (1928), the creation of new large parks has become a matter of more complex decisions since then (cf. Corner 2007; Tate, 2001). This fact can be verified using the example of the multifaceted and long genesis of Donaupark in Vienna, Austria, which, in the end, resulted in a long term strategy. In 1964, the park was initialised by an International Garden Exhibition. Garden exhibitions as a means to gain long-term recreational ground were a feature applied also in other large cities of which Hamburg, Planten en Blomen 1953 and 1963, and Dortmund, Westfalenpark 1959, are probably the best known (cf. Preisler-Holl, 2002). These garden exhibitions were ground breaking for city planning and landscape architecture and well known among politicians and professionals.

In the research presented here we discuss the political goals and the planning policies which made it possible to realise a park of 850.000 m² in Vienna. It is a site specific research based on a theoretical basis of park politics (cf. Burns, Kahn, 2005). According to Kahn (2005), politics and societal structure define a site. Furthermore the planning policy can be traced back to the original decision to realise a large park. Our research was commissioned by the landscape planning department of the City planning of Vienna in order to learn about the circumstances and basic requirements for realising a large landscape project and to draw conclusions for future decisions. To realise Donaupark, two major arguments were used from a planning perspective: to complete the Vienna green belt from 1905 in the east of the city and to create a large recreational area along the left river bank in order to move the city closer to the river Danube. Political reasons, however, were to repair a long lasting problem in urban development: a large landfill and an illegal settlement had been situated on that site. The genesis of Donaupark is one example of the catalyst function of garden exhibitions with regard to the reuse of derelict sites (cf. Hauser, 2009: 105ff; Theokas, 2004: 2).

MATERIALS AND METHODS

The research explored the circumstances leading to the realization of the exhibition and the large park for Vienna in terms of politics and planning policy. A circumstantial primary inventory of archives as well as an analysis of the documents was carried out with regard to the following questions: What was the history of the site before the exhibition? Which was the spatial and functional framework? Which visions and strategies led to realising the exhibition? According to the research focus, the emphasis of this paper lies on the prehistory of the Donaupark including the conditions of its emergence.

Materials were drawn from the Vienna Archive (Wiener Stadt- und Landesarchiv), the museum of horticulture (Gartenbaumuseum Kagran) as well as the image archive of the National Library (Bildarchiv der Österreichischen Nationalbibliothek). Primary sources included protocols of the City Council, documents from the municipal authorities, press portfolios, dossiers of the Garden Department, plans and aerial photographs, private and public slides among others. We verified and compared the thus identified data in content, consistence and value, and examined it according to our research questions. Secondary literature was analysed concerning the background and development of the site.

RESULTS AND DISCUSSION

Site history

The site itself shows an interesting history: it is situated on a Danube island created by the first regulation of the river in 1870. The position of the new riverbed was determined by the projected Vienna World Exhibition of 1873 (Ladinig, 2000) (see FIGURE 1). The island's history shows the changes of industrial, military, settlements and land fill uses. The military gun range existed on the eastern part of the area from 1871 until the end of World War II. Beside the training ground, National Socialists turned the military gun range into a killing field and executed 129 resistance figters from 1940 to 1945. The bombing of the island in 1944 destroyed parts of the settlements and killed soldiers and civilians. There was probably also an illegal cemetery on the site. After World War II, the Austrian railway-agency installed a sports field on the former military ground.

From 1880 to 1960, the northern parts of the island served as landfill alongside an informal settlement called Bretteldorf. Despite the resistance by the settlers, the area for the dump was continuously extended which lead to the so-called Bretteldorf war in 1926, a harsh conflict between the dwellers and the city. At its peak in the 1930s, 1.000 inhabitants were living in Bretteldorf (see FIGURE 2). Despite

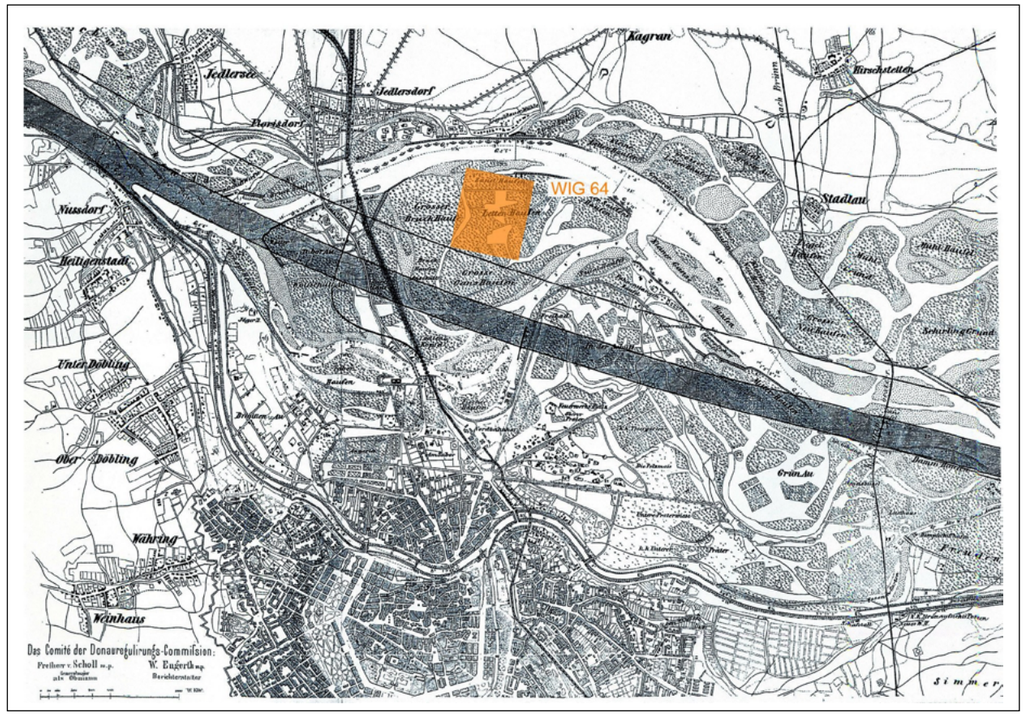

FIGURE 1. Map of the 1st Regulation of the River Danube (Ladinig 2000:34).

the improvement of the settlement, from 1935 on, the whole northern part of the island was defined as landfill, which should be turned into grassland after completion. The garbage dump was filling up needing more space for extension and the city started to remove the settlement. By 1963, the city had bought out all the lease contracts.

FIGURE 2. Bretteldorf, streetscape: Foto by Hans Slanar, 8.3.1933, (Austrian National Library, Image Archive Nr. 298.100-A).

Projects for the area

From its origin in 1870, there was no conclusive idea of how this site in the city was to be defined, which opened up the scene for big plans. Over the decades, authorities and politicians planned various projects of different use and political impact, such as a harbour, a central building for commerce and industry or even a forum for the NSDAP (Benedik, 1999). In 1952, Karl Brunner, head of the city planning department, promoted the subdivided city expansion following the Corbusier model, but with low density. On the grounds of the landfill and informal settlement, he planned sports fields and parks (Brunner, 1952). Brunner, as well as other politicians and journalists widely discussed Bretteldorf and other informal settlements all over Vienna as serious deficits in the field of urban planning. Even the mayor gave a radio speech titled "Wild Settlements a Danger for the City" in 1955 (Jonas, 1955). In 1962, Roland Rainer, then head of the city planning department, was structuring the city with green corridors, claiming their social use and their protection against development, as if they were a vacuum without function (Stadtbauamt Wien, 1962: 158). He also argued for the Danube landscape to be protected. This was ahead of the installation of a landscape planning department in the city. It was only in the late 1950s that the head of the Garden Department commissioned landscape architects to develop landscape and green space concepts.

The social policy went along with a shift in the city development. Green spaces and landscape were given a social function by politicians as well as experts. Alfred Auer, the director of the Garden Department, which then was part of the City Planning Department argued in a brochure entitled 'Social green' that green spaces have to meet social needs and that a shift from 'decorative to sanitary green' was carried out (Magistrat der Stadt Wien, 1963: 14).

The Vienna International Garden exhibition 1964

The 4th IFLA congress took place in Vienna in 1954. This can be seen as a move to connect Austrian garden art and landscape architecture to the international professional network. It was in the 1950s, when the idea of hosting an international garden exhibition in Vienna was first discussed. After the inception of the national treaty in 1955, which reconstituted the Austrian republic after World War II, time seemed to be ready for an international exhibition. However, the place for the exhibition was by no means fixed. There were studies carried out to hold it in the Prater, or another feudal hunting ground, the Lainzer Tiergarten or a former baroque landscape garden outside Vienna, the castle garden of Laxenburg. A group of experts favoured the Prater due to its scenery and vicinity to the Viennese city centre.

Even though there is no final evidence how the shift to the derelict landscape, the later Donaupark, came about, it seems obvious that the city's plans and the project of the garden exhibition could merge in the new site. In the late 1950s, the landfill on the Danube Island reached its limit. The application for an international garden exhibition in Vienna was filed in 1958 at the Association Internationale des Producteurs de l'Horticulture AIPH and finally granted by the Parisian Bureau Internationale des Expositions in 1962. To achieve the political approval in the City Council the committee argued that the landfill had to be changed into a park since no other use was possible and the land fill had reached the limit of its capacity. The informal settlement was not even mentioned at first. Later, in 1963, when the works had already begun the director of the building department, Rudolf Koller, emphasised the overall planning goal to upgrade the whole area by providing a large recreation park. The park should become a link between the two sides of the Danube River. This argument was also brought forward by the director of the garden department of Vienna, Alfred Auer. The exhibition was an ambitious enterprise with high ranking international landscape architects such as Roberto Burle Marx from Brasil and Willi Neukom from Switzerland creating national gardens. The event itself is not part of this paper

FIGURE 3. Title page of a brochure for the WIG 64 (Austrian Horticultural Museum, Slide collection WIG 64).

and is described roughly in an article by Krippner and Lička (Krippner, Lička, 2007: 385-391). It showed a forward looking design attitude and clear presentation of new garden design even in the suggested allotment gardens. The Vienna garden exhibition 1964 was resoundingly successful resulting in the council's decision in the very same year for another garden exhibition – the WIG 1974.

DISCUSSION

Research proves that a site has not only a physical, social and cultural history, but also a history of realized and unrealized planning projects. This 'secondary' history is less known and documented than the 'primary' one, but – to the same extent – important for further planning decisions. Alongside recent challenges, these histories influence the starting point and direction of further strategic planning processes. Research shows that plans to transform the landfill to further land use existed long before the idea of a large park and a garden exhibition was launched. In the end, the inevitable restoration of the landfill became one of the essential catalysts in the municipal planning process. A garden exhibition seemed to be an appropriate means to retrieve part of the enormous expenses for the restoration and the realization of the large urban park. Following Preisler-Holl (2002), this strategic decision went alongside with those in many German cities which had to restore their derelict post World War II landscapes. Whereas in Vienna, only two garden exhibitions, 1964 and 1974 were carried out, German cities pursue this strategy up to these days, like Potsdam (2001) and München Riem (2005). Nevertheless the two garden exhibitions led to the last new parks of grand size in Vienna until today.

Decision making processes to realise a large park have become more complex, as James Corner pointed out (Corner, 2007). The complexity of the process, however, is not only due to a democratisation and a multiplication of parties within the process. The availability of sites as well as the political urge to clean up derelict sites and upgrade neighbourhoods has become a planning motor. Nevertheless, the plans stay unrealised and problems untouched until several aspects coincide in order to achieve as big a decision as one for a new large park nowadays. This shows clearly the shortcoming of a strategic development plan when seen as a unique basis for planning decisions. A spectacular event of a garden exhibition as a publicly noticeable effect can obviously further the political decision to provide 85 hectares recreational land and transform it into a public park. Thus preparations have to be carried out on manifold tracks, heading for the overall goal to boost the creation of a new park.

FIGURE 4. Despite the success the chairlift of the exhibition was left to decay after the exhibition. (Austrian Horticultural Museum, Slide collection WIG 64).

CONCLUSIONS

Creating large urban parks in hosting garden exhibitions is an especially Western-European phenomenon. Austrian and German examples illustrate that garden exhibitions are an appropriate means to develop derelict sites and to realize sustainable, modern parks. This includes not only the chance to attract many visitors and retrieve part of the enormous expenses; besides, it is the spectacular event as a publicly noticeable effect that can obviously further the political decision to transform land into public parks. Furthermore, a garden exhibition can provide a framework to demonstrate and promote new trends and strategies in landscape planning and landscape design. Thus, garden shows are especially suitable to develop projects of exceptional size and location, rather than as to serve as a regular instrument within the planning process. What we need is a long term planning strategy and an active voting for new landscapes. After all, a successful garden exhibition and a sustainable landscape planning in general require visionary politicians, authorities and landscape architects.

This fact raises new research questions. We do not only need comprehensive research on urban sites, their history, challenges and perspectives; we have to look at the structure of planning departments, at municipal planning policies and political decisions. The findings of these community based research can foster the various parties and structures, which are decisive for creating new landscape projects. Another intriguing question for us as landscape architects is if and how politics have influenced the park design according to a "junction between aesthetic practises and political practises" (cf. Rancière, 2006: 9ff).

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Strengthening ecology in the landscape – the eco-account is an important instrument to stabilize ecological functions

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ABSTRACT

In April 2011 the German state Baden-Württemberg enacted the eco-account order ("Ökokonto-Verordnung"), according to §22 of the Law of Nature Protection. The concept of the eco-account is to implement measures such as the restoration of rivers, streams and moors as parts of natural landscapes and to re-establish typical elements of cultural landscapes like hedges, wet meadows, and traditional orchards. The financial means and political power to enforce this is given by the use of the instrument of environ-mental impact assessment (EIA). In advance of the enactment, the State Ministry of Rural Affairs authorised the Institute of Landscape and Environment (University of Nürtingen) to conduct and evaluate the process of developing the instrument through a research pro-ject. Its results influenced the outline of the eco-account order.

The currency of the eco-account is the "eco point" (EP). Dependent on size, age, charac-teristics, number and type of abundant species and other factors, biotopes are evaluated from 1 (e.g. asphalt) to 64 EP (natural moors). By this, intended impact sites and sites for restorations can be evaluated similarly. Both evaluated in EP per unit area, the loss of eco-logical quality on the impact site has to be balanced by increasing the quality on other sites which are of high ecological potential but of low actual value. Measures can be planned and realised by all land owners such as farmers, foresters, municipalities, and the state with the help of landscape planning offices. Realised measures can be evaluated and booked on the eco-account, allowing the owners to trade their EP with all institutions causing impacts to landscape that are obliged to realise compensatory measures to mitigate their impact(s).

The intention of this paper is to show the method of the eco-account, its interaction with the EIA system and its political implementation on the municipal and state level. Several professional examples of planned and constructed projects are given. With the help of this instrument, a significant increase in quality and quantity of realised measures is expected.

Keywords: eco-account, environmental impact assessment, project realisation, landscape ecology, landscape planning.

INTRODUCTION

Since the late 1990s, eco-accounts are installed in many municipalities and government admini-strations in Germany. Eco-accounts are used to simplify and particularly optimize planning and realization of mitigation and compensatory measures within the environmental impact assessment (EIA) and other impact coverage systems. Impacts caused by specific projects (residential areas, roads, wind energy plants etc.) are to be compensated according to §19 BNatSchG, the German Law of Nature Conservation. This can be done by specific measures like river renaturation, plant-ing hedges, converting (intensively used) fields for example into grasslands of high biodiversity under low input of fertilizes, or other measures. Finding the appropriate measures and locations is provided by the instruments of landscape planning. Impacts and compensation measures are evaluated in the same "currency": the "eco point" (EP).

The idea of the eco-account is to implement measures like the restoration of rivers, streams and moors as parts of natural landscapes and to re-establish typical elements of cultural landscapes like hedges, wet meadows, forest edges and traditional orchards (Küpfer, Röhl, 2011). By this, the ecological value of an area is enhanced by specific measures and – for accounting reasons – EP are generated. In general, an eco-account should be developed out of a landscape plan which covers the whole surface of a municipal district. e.g. within a district, the potentials for measures to improve the ecological situation of the landscape are to be evaluated. Lots being appropriate and available for measures are pooled ("pool of appropriate lots", PAL). As soon as a planned measure on one of these lots is realised its ecological value (measured in eco points, EP) can be transferred onto the eco-account and be used as a compensatory measure for any impact. In many cases the land for such measures belongs to the state or municipalities. But also farmers, foresters and other land users can provide measures on their private land and sell EP to authorities causing impacts and needing EP to compensate them.

In this paper the general method of the eco-account, its interaction with the EIA system and its political implementation on the municipal and state level are shown. Examples of planned and con-structed projects and their compensation measures are given. With the help of this instrument, a significant increase in quality and quantity of realised landscape planning projects is to be consid-ered in Baden-Württemberg.

HISTORICAL AND SPATIAL CONTEXT

Building traffic lines, residential areas or industrial zones impact the landscape. The Federal Law of Nature Protection defines that such impacts must

be (if possible) avoided and mitigated or (if not possible) be compensated with measures which have the same or similar ecological functions or at least are of a similar ecological value. In reality, the compensation measures very often lack func-tional coherence (Küpfer *et al*., 1997). Until 1998 the measures had to be located in spatial context with the impact. This spatial restriction caused a lot of problems in quantity and quality of realised measures.

Today it is possible to compensate impacts also in a wider landscape context. This was the hour of birth of the eco account. Municipalities and other authorities causing impacts can realize ecological measures like afforestations with local tree species, renaturalize rivers and creeks, initiate wet-lands or dry sheep pastures – and they are allowed to shift the cost of the measures to those who profit by the impact, for example the builder-owners: in addition to the regular land price the builder-owners pay for ecological compensation measures. Generally, these costs are around 1 to 5, sometimes up to 10 percent of the basic land price. This means a maintainable rise in the costs for the builder-owners, but a very high rise in the possibilities of compensating the effects of an impact and to maintain the ecological balance.

Enactment of the eco-account order Baden--Württemberg ("Ökokonto-Verordnung")

In October 2005 the German state Baden-Württemberg (Southwest Germany) published an advi--sory instrument to evaluate impacts in EIA for municipal authorities (file under www.lubw.de -> Na-tur und Landschaft -> Eingriffsregelung -> Ökokonto). These guidelines were taken as a basis for the eco-account order ("Ökokonto-Verordnung") which was enacted by the state in April 2011 ac--cording to §22 of the Baden-Württembergian Law of Nature Protection. In advance of the enact-ment, the Ministry of Rural Affairs (Stuttgart) authorised the Institute of Landscape and Environ-ment at HfWU Nürtingen-Geislingen (University of Applied Sciences) to conduct and evaluate the process of developing the instrument by a research project. The idea of the eco-account is to im-plement measures like the restoration of rivers, streams and moors as parts of natural landscapes and to re-establish typical elements of cultural landscapes like hedges, wet meadows, forest edges and traditional orchards (Küpfer, Röhl, 2011).

Dependent on size, age, characteristics, number and type of abundant species and other factors biotopes are evaluated in a scale from 1 (e.g. for asphalt) to 64 eco points (EP) (for natural moors). TABLE 1 shows an (abriged) list of biotope types and the evaluation system. The first column gives a generally admitted number to identify the biotope type. The second column describes the biotope types (all in all about 300 in Baden-Württemberg), including up- and downgrading criteria: for ex-ample Nr. 12.10 stands for natural creeks with a biodiversity above average and unmodified (natu-ral) morphology. All in all, the typical biotope type of this category has a value of 35 EP (see third column for existing biotopes). If the found biodiversity of a specific creek is above the average, and/or if the morphology isn't altered by man at all, the evaluator may give more than 35 EP. To avoid manipulations, all biotopes have to be described transparently, especially if strong discrep--ancies are manifestated. The last column ("planned") stands for not yet existing or freshly created biotopes which are or might be planned as compensatory measures.

TABLE 1. List of biotope types and evaluation.

Nr.	Biotope type	existing	planned
12.10	**natural creek**	**18 - 35 - 53**	**18 - 35 - 53**
	+ biodiversity above average+ macrophyte vegetation above average + creek morphology is unmodified(natural) + water quality above level GWK II – creek morphology is modified – water flow is modified/disturbed – water quality is below level GWK II – disturbance indicators occur (eutrophication, garbage,...)r		
37.11	**Fields with (special) weed vegetation**	**4 - 8**	**4**
37.12	Fields with (special) weed vegetation, alkaline sites	9 - **12** – 23	**12** – 23
37.13	Fields with (special) weed vegetation, acid sites	9 - **12** - 23	**12** - 23
	+ biodiversity above average (species being rare and endangered in baden-Württemerg occur) + special site (very dry, very wet site conditions) – low weed biodiversity		
41.20	**Hedges**		
41.21	Hedges on dry and warm sites (with adapted species)	14 - **23** - 35	14 - **18**
…	…		
41.23	Hedges mainly consisting of *prunus spinosa*	10 - **17** - 27	-
41.24	Hedges mainly consisting of *corylus avellana*	10 - **17** - 27	-
41.25	Hedges mainly consisting of *sambucus nigra*	9 - **13** - 22	-
…	…		
	+ biodiversity above average + vegetation next to hedge with rare species + rich hegde morphology – disturbance indicators occur (eutrophication, noise, …) – hedge consists mainly of non specific species – low biodiversity (hedge consists of 1 to 2 species)		

Both measured in EP per unit area, the loss of ecological quality on the impact site has to be lev--elled out by increasing the quality on other sites. By this, impact sites and sites for restorations etc. can be evaluated the same way. Measures can be planned and realised by all land owners such as farmers, foresters, municipalities, and the state with the help of landscape planning offices. After evaluation, realised measures are booked on the eco-account and the landowner is allowed to trade his EP with all institutions causing impacts to landscape and being obliged to realise com-pensatory measures to mitigate their impact(s). For example the ecological value of an existing creek (e.g. 20 EP) can be risen to e.g. 45 EP by renaturation: taking out the concrete bed, making shallow water zones, planting typical bank vegetation etc. The difference of 25 EP (per square me-ter) is multiplied by the extension of the area needed for measures (maybe 1,000 square meters). By this, 25,000 EP can be transferred to the eco-account.

Fields in general are of a lower ecological value, especially when special weeds don't occur (see biotope type 37.11: 4 EP in average). If the kind of land use can be changed into low input farming with a rich biodiversity on alkaline or acid sites (37.12 and 37.13), their value might be of 12 or even more EP, depending on the kind and quantity of species coming up on this site after the measure is done.

Arboreal vegetation and hedges (biotope type group 41.xx) are evaluated between 9 EP (type 41.25 for elder hedge, low end of value scale) and 27 EP (41.23 for sloe hedge, high end of value scale). Due to the lack of botanical development, planned or newly planted hedges of the same types are awarded about 20% less EP.

HOW TO CREATE A MUNICIPAL ECO-ACCOUNT: FROM THE LANDSCAPE PLAN TO THE PAL (POOL OF APPROPRIATE LOTS) AND THE ECO-ACCOUNT

Step 1: Landscape Plan

As a rule, and if ever possible, a municipal eco--account should be developed out of a municipal landscape plan. The landscape plan (FIGURE 1) defines

(1) areas of existing high ecological value ("areas of maintenance"): in the Region of Baden-Württemberg such areas are for example moores, wetlands and didicious forest, but also cul-tural landscapes like dry meadows or pastures and traditional orchards. The ecological values of these areas are to be maintained. They are very important but cannot be taken as measures to compensate impacts, because compensatory measures must improve the ecological situation (see 2).
(2) areas of high potential for "high quality biotopes": these are for example slopes, depressed areas or dry, poor or wet soils. The ecological potential there doesn`t correspond to the real situation, for example because they are under intensive agricultural use. By definition meas-ures in these areas cause ecological improvements and can be taken as compensatory measures.

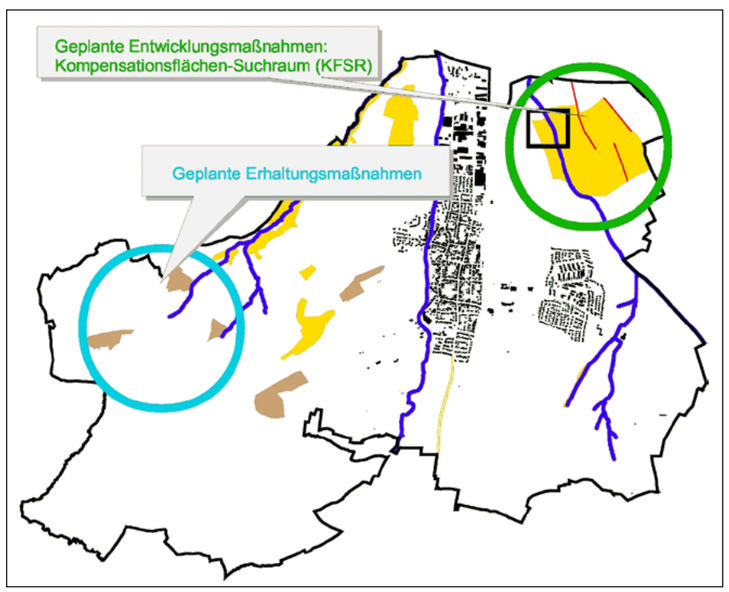

FIGURE 1.
Definition of PAL areas (pool of appropriate lots) out of the landscape plan of the municipality of Dettingen unter Teck, Baden-Württemberg (STADTLANDFLUSS, 2003): "Geplante Erhaltungsmaßnahmen" (blue circle) means "area of maintenance; no possibility to take lots into the eco-account"; "Geplante Entwick-lungsmaßnahmen" (green circle with yellow surface within) means "area with a high potential for ecological improvements; measures could be realized on all available lots"; black rectangle with in the green circle: site of some available lots.

STEP 2: POOL OF APPROPRIATE LOTS (PAL)

When areas of high ecological potentials are defined, these areas have to be further investigated: the availability of the lots has to be cleared and the measures have to be planned in detail (Lande-sanstalt für Umweltschutz Baden-Württemberg, 2005):

Most of the parcels of land (or lots) in the countryside are private properties. For example, maybe 7 out of 100 lots of high potential are municipal and another 3 are easily available from private land-owners. These 10 lots then are defined as PAL (pool of appropriate lots, FIGURE 2). Lots without availability cannot be taken into the PAL or even into the eco-account. If there are no appropriate lots in public property, the municipality buys such lots from private landowners to fill the PAL. It is important to have enough lots in the PAL to reduce price speculation.

FIGURE 2. Available lots in the PAL: lots 752, 748 and 716/2 are municipal properties and have a high potential for ecological measures (Landesanstalt für Umweltschutz Baden-Württemberg, 2003).

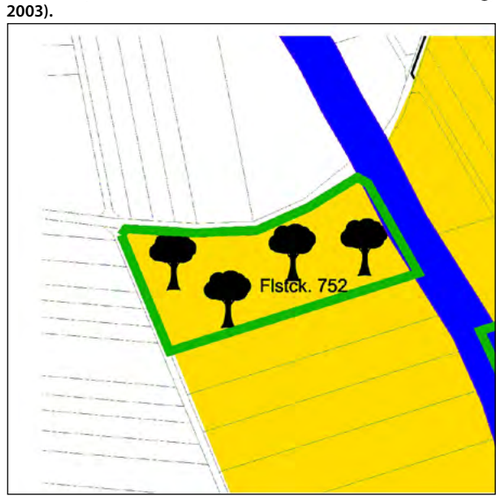

FIGURE 3. The municipal administration has chosen lot 752 to realise measures on it (plantation of dedicious trees). After the plantation is done, the measure can be transferred onto the eco-account.

STEP 3: THE ECO-ACCOUNT

Maybe the municipality decided to realize measures on 4 out of the 10 available lots described above. After realisation (FIGURE 3), the measures and lots can get transferred onto the eco-account. EP are given per lot, depending (a) on the difference between the biotope qualities before and after the measure realisation and (b) the dimension of the lot in m². An example is given below in table 3. When realised, the municipality has to organise and finance the maintenance of this newly cre-ated biotope. The cost for maintenance can be shifted proportionally to the building owners.

Appropriation of compensatory measure to impact

After the evaluation both impacts and compensatory measures, they can become appropriated. Thus step is needed to define the quantity of measures needed for a full compensation (TABLE 2).

TABLE 2. Example for the appropriation of an eco-account measure to an impact.

a) impact: development of a new residential area on a meadow of a medium ecological value	
(1 ha, 60% asphalt/buildings, 40% house gardens)	
Ecological value "before":	130.000 EP (13 eco-points x 10.000 m²)
Ecological value "after":	30.000 EP (1 eco-point for asphalt/ buildings x 6.000 m², and 6 eco-points for the gardens x 4.000)
Eco-balance 1:	**-100.000 EP**
b) eco-account measure: change from intensive field use (4 eco-points) to extensively used dry sheep pasture (19 eco-points) on 8.000 m², giving 15 x 8.000 = 120.000 units).	
Eco-balance 2:	**+120.000 EP**
Net, there is a plus of 20.000 eco points which remain on the eco-account after appropriation of the eco-account measure to the impact.	

With this system, the impacts of different development areas can get compensated very easily and foresighted. TABLE 3 shows a statement of a municipal eco-account:

For simplifying the booking of measurements (+) and impacts (-), most eco-accounts are based on a data bank, for example ACCESS. These data banks can be updated regularly and make the data transfer and control very easy. They also can be linked with a geographical information system (GIS) like ArcView or others for planning cartography.

TABLE 3. Statement of the Eco-account of Dettingen, Baden-Württemberg (January 2012).

date	Compensatory measures	Units	Impacts caused by developments	Units	Units net
Apr. 2007	Measure 1 (lot 752)	120.000			+ 120.000
Aug. 2009			Spatial plan "Letten"	– 100.000	+ 20.000
Dec. 2010	Measure 2 (lot 748)	85.000			+ 105.000
Jan. 2012			Spatial Plan "Mark"	– 73.000	+ 32.000
Nov. 2012 *(preview)*			*Bypass road "Hart"*	*around-* 64.000	*Note: new measues needed*

CONCLUSIONS

Planned smartly, eco accounts can be very effective means to compensate impacts. When the whole surface of a municipality is taken into consideration for measures, there is a high flexibility for finding appropriate measures and to realise them together with farmers and other land users. The possibility to trade eco points provides a chance to earn money with realised measures and this helps a lot to rise the ecological quality of the landscape. Those who work in and with the landscape – the farmers and foresters and their families – have financial benefit from measures for ecology. As the cost is borne from the the measures. So last but not least the eco account is not only to be seen as an instrument for ecological purposes but it also has economical and social aspects (FIGURES 4 and 5).

FIGURE 4. A previous field under intensive use is prepared by a farmer for a low-input sheep pas-ture…

FIGURE 5. … meanwhile the plants have covered the whole pasture and enrich the biodiversity in this area. The municipality now has a "well-filled eco-account" and the farmer got financial benefit for creating the pasture and his sheep will graze here in future.

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Cultural Landscape as a Source of Power. Experiences from a Project on Landscape Management and the Production of "Green Energy"

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ABSTRACT

The paper presents a regional project linking efforts on maintenance and management of a traditional cultural landscape to the production of biogas for electric energy. The project "Climate, Energy and Cultural Landscape Model Sauwald-Donautal" was carried out in an Austrian rural region. Based on a newly developed technology – the 3A-biogas®-system – goals of the project included a) organization of maintenance of abandoned grasslands and nature conservation areas as a contribution to stabilize the rural landscape of the region, b) recycling of the resulting organic materials and c) transforming it to electric and thermal energy available for regional costumers. The project was implemented in a bottom-up process in cooperation with regional stakeholders, representatives of local municipalities, landowners and nature conservationists. The focus of the paper is set on the process of creating a regional programme interlinking landscape-, waste- and energy management based on implementation of the 3A-biogas®-technology. Therefore two scopes are highlighted: Cross-links between landscape-planning, energy- and composting-technology in the field of engineering are sketched in the first part of the paper. The 3A-biogas®-technology is briefly introduced, followed by an overview on how the technology is "translated" to fit to questions of regional landscape-, waste- and energy management. In the concluding section some important questions on calculation of costs for landscape management based on 3A-biogas® are discussed, regarding experiences from our pilot study.

Keywords: cultural landscape management, energy landscapes, integrated rural development, landscape planning processes.

INTRODUCTION

Following current discourses in landscape planning and in regional development, we can observe an increasing interest in cultural landscapes as focussing points for cooperative processes in regional development (Apolinarski *et al.,* 2004; Gailing, Röhring, 2008). European documents as the European Spatial Development Perspective (ESDP) or the European Landscape Convention (ELC) emphasize cultural landscapes' potentials for regional development and stress their importance as economic resources. Cultural landscapes are seen as "soft locational factors" (Curdes, 1999), which shall help regions deploy their endogenous potentials, encourage regional action ability and self-organisation and improve their marketing and presentation (Fürst *et al.,* 2008). Therefore, bottom-up-steered processes should provide feasible strategies, not only to realize a regions' cultural landscape potential, but also to improve the awareness of landscape as a community asset (Apolinarski *et al.,* 2006).

However, maintenance and management of cultural landscapes requires continuous input of labour, and if there is no adequate reflow – for example through agricultural products – regional projects on cultural landscape will lack a sustainable economic grounding. Raising awareness for cultural landscape issues thus cannot be limited to questions of regional identity and peculiarity, but has to go beyond that to the economic backgrounds of regional land use. Only if it is managed to combine activities in cultural landscape management with self-supporting economic concepts, embedded in socio-economic structures, regional landscape projects stand a chance to succeed.

CULTURAL LANDSCAPE MANAGEMENT AND "GREEN ENERGY"

One possible linkage between maintenance of traditional cultural landscapes and activities in regional development can be the utilization for energy production. Ongoing abandonment of traditional farming systems raises increasing interest in alternative strategies in the management of – frequently touristy employed – rural landscapes. One possible alternative to livestock breeding may be the use of landscape-management hay for production of bio-energy. However, earlier experiences in trying to link production of bio-energy with landscape management issues for ecological, but also for social reasons did not end up with satisfying results: large scale projects advanced processes of intensification, concentration of land-tenure, displacement of regionally grown structures of land-use and external grasp on regional resource base (Kruska, Emmerling, 2008; Schulze, Köppel, 2007). Thus, demands for technologies better adaptable for specific needs of landscape management and conservation issues were raised (Hasselmann, Bergmann, 2007). Crucial questions appear a) abilities to dispose low-energy materials in rather small capacities b) varying capacity utilization and c) low costs in investment, maintenance and management (Prochnow *et al.,* 2007). Those framework conditions do not necessarily go hand in hand with profit maximising entrepreneurship strategies. This is why – apart from technological issues – further considerations focus on how to organise a system fitting the different needs of land-owners, communities, land managers and conservationists. As important as the technology itself seem the modes of its implementation and the embedding in regional structures within a "co-evolutionary process" (Schulz-Schaeffer, 2000).

This Paper explores experiences with introduction and implementation of a small-scale technology – the 3A-biogas® system – for the use in landscape management and decentralised energy production in a regional pilot project. Choosing a bottom up approach – cooperation between experts, communities and stakeholders – the first part of the paper describes the pathway of integrating the technology into the regional environmental, economic and social structures. In the second part a few figures on financial calculation of grassland management based on 3A-biogas®, as they can be educed from our case-study experiences so far are outlined.

3A-BIOGAS®-TECHNOLOGY

3A-biogas® is a technology developed for the treatment of organic material containing high dry matter percentage to produce electric and thermal energy. The technology combines biogas- and compost– production including sanitation of the compost. Using a batch-process, the biological decomposition in 3A-biogas® takes place during 3 operating phases (aerobic, anaerobic, aerobic) in a closed domain without intermediate movement of substrates (Müller *et al.,* 2006):

1. In the initial aerobic phase the input material is ventilated, the substrate is aerated and the aerobic microbiological activity causes an increase of temperature. Within this phase lightly degradable substances are reduced (decrease of acid formation), substrates are sanitized (reduction of pathogen) and the material is heated for the second phase. Carbon dioxide and water is the output of the initial phase.
2. The second phase of the process is carried out under mesophile anaerobic conditions, starting the methane production. Digestion takes place, biogas is produced and the volume of the input substrate is gradually reduced.
3. The third phase starts with anew aeration of the substrate. Organic materials are stabilised and becomes quite inodorous. Output of the phase is compost, which can be further composted outside the fermentation reactors to reach a further stage of maturity.

While treating such substrates in conventional liquid biogas plants high volumes of water would be necessary (remaining mostly as wastewater subsequently), the 3A-biogas® batch-process for solid state bio-waste can reach the best available synergies of composting and fermentation technology. The technology is integrated in a container system. Minimum load of organic material should not go below 500 t/year, optimized use of capacity can be reached up to 2000 t/year. Average gain of biogas is 120 m^3/t, containing 60% of methane. Energy output is 3 kW (electric) and 6 kW (thermal) per m^3 CH_4 (Müller *et al.* 2006).

TABLE 1. 3A-biogas® technology (source: Müller *et al.,* 2006).

Technology	Process	Substrate	Outputs
Composting	aerobic	solid state	Compost
3A-biogas®	aerobic / anaerobic	solid state	Energy & Compost
Liquid fermentation	anaerobic	liquid	Energy & liquid Digestate

CLIMATE-, ENERGY- AND CULTURAL LANDSCAPE MODEL SAUWALD-DONAUTAL

Several 3A-biogas® facilities have been employed successfully in the treatment of organic waste in earlier projects (see Müller et al., 2006). Experiences indicated that well structured materials such as lop and grass contribute to an improved process. Outcomes of those test runs justified considerations on application of the technology under "field conditions" in landscape management, where high amounts of dry organic materials emerge (Prochnow *et al.*, 2007). The 3A-biogas® technology – so the assumption – therefore could provide a tool which not only allows reintegration of those materials in regional material flows, but also contributes – to a minor degree – to regional energy autonomy. These were the considerations which ended up in development of the pilot project "Climate-, Energy- and Cultural-Landscape Model Sauwald-Donautal". Involving a team of experts in waste management, energy management and landscape planning the project was initiated by the regional LEADER- management. Basic conception was to link issues of cultural landscape management, organic waste management and decentralised, regional energy support. Core of the project should be the 3A-biogas® technology. However, according to the philosophy of endogenous regional development (Van der Ploeg, 2009), broad integration into existing regional (environmental, economic and social) structures was defined as a central goal of the project by the regional LEADER management. Therefore a cooperative, participatory approach to implementation should be designed. As a particular objective of the project the stabilisation of the open landscape and its diverse grassland types was drafted.

The chosen model-region, the Donautal (Danube Valley) is a mountainous area, characterised by small scale agriculture. Grassland- and forestry are the pre-

dominant categories of land use. While tourism forms one of the major sources of income, land abandonment and reforestation create massive problems in regional development of the touristy used region (Kurz, 2011). Decline of tiny structured open landscapes not only implies losses of diversity and splendid views. It also induces negative influences on micro-climate and quality of life of the narrow valley landscape as a whole. For these reasons several efforts on finding practical alternatives to ongoing reforestation had been undertaken in the past.

DESIGN OF THE PILOT PROJECT

FIGURE 1 visualises the workflow of the pilot-project: Around the 3A-biogas® technology a model bottom-up process was designed, structured in a four stage setting. Starting with general information on technical performance (Stage 1) a feasibility study regarding regional framework conditions was assigned (Stage 2). This formed the foundation for participatory development of an integrated concept in the fields of landscape management, organic waste management and regional energy production/support (Stage 3). Stage 4 should contain the elaboration of the definite plan for the implementation of the project. Each stage should be characterised by interaction between experts` inputs (analysis), followed by discussion and further elaboration in teamwork. These processes should help identify possible conflicts and problems, commonly elaborate solutions and – by the way – forming a regional network pushing the project forward.

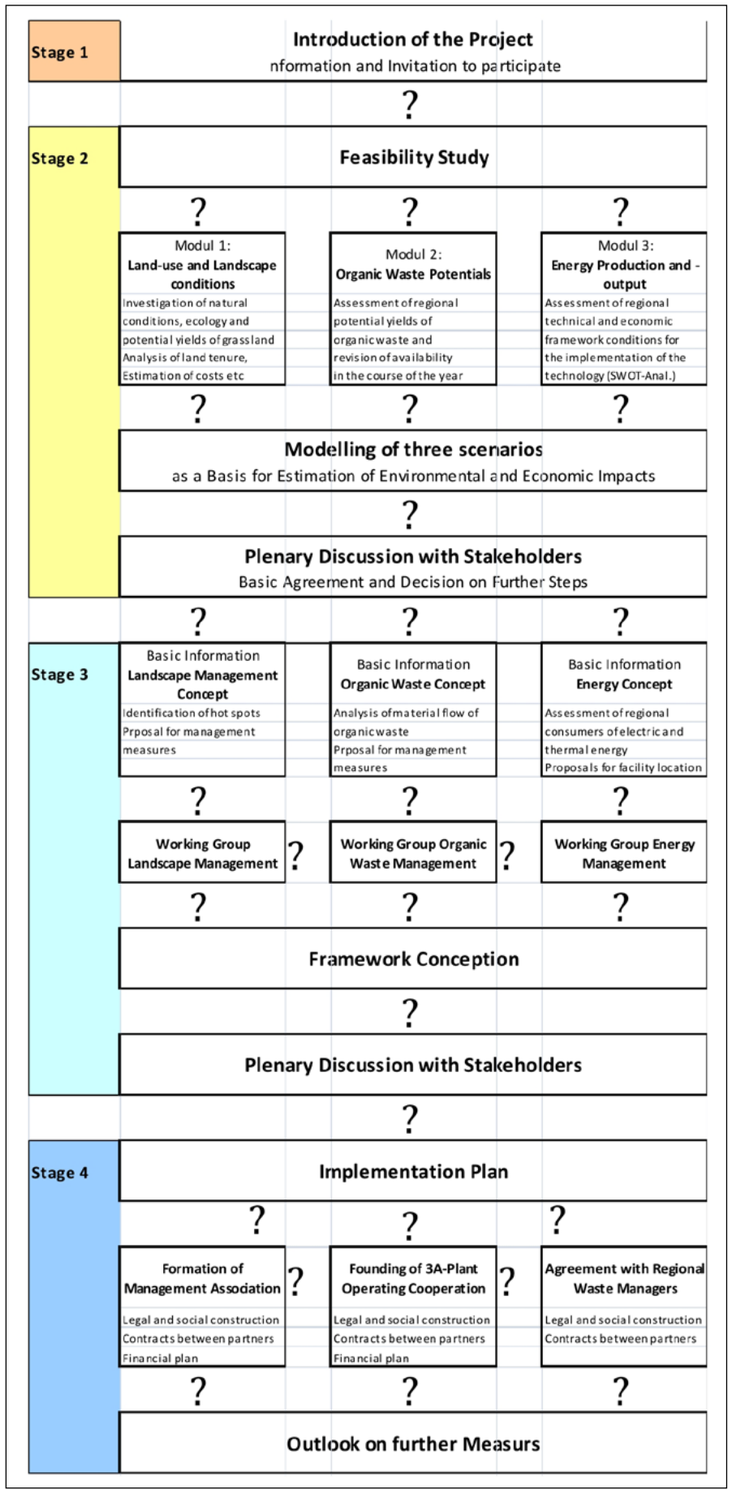

FIGURE 1. Process design.

ASSESSMENT OF FEASIBILITY IN LANDSCAPE CONSERVATION AND LANDSCAPE MANAGEMENT

In the case of landscape- and grassland management basically two questions were considered significant:

a) How much organic material can be allocated, when does the material occur – according to time and frequency of harvesting – and which are the expectable costs for harvesting and transport?
b) How has management to be organised so that ecological quality and diversity of regional grasslands can be sustained or even improved?

To answer those questions, comprehensive analyses of regional grassland vegetation was conducted. Grasslands were typologically described and vegetation dynamics were analysed focussing on different management techniques. Potential yields were evaluated, regarding optimized dates and frequencies of mowing (Kurz, 2011). By mapping grassland types, structural data as plot structure, land tenure and allotment could be integrated in the examination. Founded on evaluation of field data several maps and GIS-based analysis were generated. Technical analyses lead to the modelling of three scenarios, which functioned as a tool for communication in the following participatory process.

- minimum scenario: implementation of grassland areas currently managed by nature conservationists
- optimum scenario: currently managed additionally including abandoned areas
- maximum scenario: optimisation of energy output by including all areas regionally available.

While scenarios 1 and 2 should estimate economic impacts of proceeding under ecologically favoured conditions, goal of scenario 3 was to assess environmental effects within an income-orientated setting.

FURTHER STEPS IN PROJECT DEVELOPMENT

Comparison of these alternatives formed the starting point for a discourse process, in which the pressure groups (landowners, community representatives, landscape managers, team of experts etc.), elaborated the operational framework for possible implementation. Collaterally, more detailed information and data were organised. For a management concept on landscape issues for example

- hot spots of land abandonment were identified,
- measures for maintenance and management were defined,
- organisational questions of logistics were discussed and
- possible arrangements in the processing (legal frameworks and social organisation of cooperation, contracting between involved actors etc.) were weighed.

These processes took place in small group settings, accompanied by the expert team, moderating the working groups and operating them by providing data, tools and working papers. Results of these workshops were presented and discussed in another plenary session, which was eventually followed by elaboration of a definite plan for implementation. This contained the formation of regional landscape management association, founding of a cooperation operating the 3A-plant and contractually agreements with regional waste managers on supply with organic waste (see FIGURE 1).

LANDSCAPE MANAGEMENT BASED ON 3A-BIOGAS®: REMARKS ON COSTS AND RETURNS

A central issue in application of 3A-biogas®-technology in landscape maintenance and –management actually concerned economic questions of cost effectiveness. At best, so the general assumption at

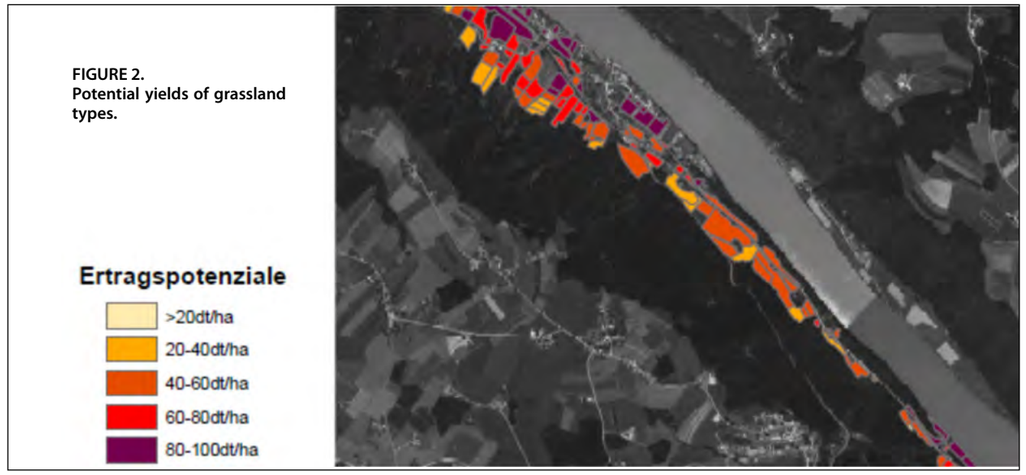

FIGURE 2.
Potential yields of grassland types.

the starting point of the project, landscape management and expected energy outputs should form a self supporting system. To estimate economic feasibility of the tested technology, a cost calculation for the pilot region was elaborated. The model was based on a balancing between harvesting costs and expected yields out of the composting. Our cost modelling regarded the factors *potential yield/ha, plot size/allotment and mowing frequency* on the input side. For calculation of labour- and machinery costs we could access cost schedules from regional landscape management associations (using a compensation key of 30€/plot+5 Eurocent/m²). Calculation of outputs is based on experiences from previous test runs of 3A-biogas® – assets: Taking in account a yield of biogas of 120 m³/t (60% of methane), an output of 3 kW and an electricity tariff of 18 Eurocent/kWh, we can estimate a yield of 50 €/t organic material. Additionally already gained subsidies out of agro-environmental- and nature conservation schemes were taken in account for calculation. Based on these data we could calculate expected costs and earning for each single plot.

TABLE 2 gives calculation examples for three regionally "typical" field plots: Examples demonstrate, that for large size fields (>1 ha) with intensive grassland types yields of biomass are the central factor allowing a positive financial balance. With poor grasslands, on the other hand, a positive balancing is achieved due to nature protection subsidies. In contrast, from an economic perspective problematic appear so called "average" grasslands generating medium yields on middle sized plots (0,5-0,8 ha). Those types usually do neither hold high potentials of organic material, nor are they currently favoured as ecologically notably valuable by nature protection schemes. However, as highlighted by our vegetation analyses, those typical hay meadows not only cover considerable parts of the project area. They actually also suffer the highest pressure of abandonment and reforestation, so that measures for maintenance in their cases are badly needed (Kurz, 2011).

Transforming the computation to the level of the region of inquiry as a whole (about 70 ha of grassland to be managed, estimated 470 t of organic material from hay, 24.000 €/year earnings, 37.500 € costs, 10.000 € from subsidies), our calculation saw a deficit of 3.500 €/year. This was almost exactly the amount that could be gained of charges for deposal and composting of organic wastes. Therefore – as a result from combining the proceeding of organic waste and hay – the project could achieve an equated "raw" balance. However, neither investment cost, nor maintenance and manpower are considered in the calculation yet. These expenses have to be funded from additional sources. In the case of our project these contain landowners' contributions to maintenance, sponsoring and – in the long run – hopefully contributions by regional touristy as a beneficiary of cultural landscape maintenance.

CONCLUSIONS

Summarizing our experiences we can state that 3A-biogas® technology offers a practical tool for combined, integrated management of landscape, organic waste and energy on a small scaled regional level. In our case study the system proved adaptable to local framework conditions and needs. Central importance for our project achieved the combination of the different sources: organic waste, lop and hay from landscape management. This results from technical issues – achievement of well balanced relations between energy density and composting performance – as well as from the economic point of view. While material from landscape management is only seasonally available and expenses for harvesting and bringing of allocated materials cannot be fully covered by 3A-biogas®, organic waste material may balance and compensate those shortcomings to a certain degree.

However, a cost-effective processing of landscape management products turned out to be impossible through 3A-biogas®, so that additional financial sources (nature protection schemes, sponsoring, tourism as a beneficiary of landscape management) have to be funded. Retrospective, for these purposes the chosen bottom-up approach proved viable: It helped creating a network of regional actors who gradually identified with the project and took on responsibility for it. From this perspective we could observe not only a broader regional awareness for cultural landscape issues, promoted by the project. It subsequently also increased the willingness to financially support landscape management as a regional concern, especially with some regional non-agrarian great landowners.

TABLE 2. Example calculation for three plots with typical regional grassland type.

Vegetation Type	Intensive grassland Alopecurus Type	Hay meadow Arrhenatherum Type	Extensive grassland Festuca rubra Type
Potential yield (t/ha)	10	7	3
Plot size (ha)	1,2	0,6	0,3
Yield (t/ha)	10,8	4,2	1
Mowing frequency/year	3	2	1
Harvest costs in €*	630	330	180
Subsidies in €**	120	60	130
Netto costs in €	510	270	50
Yield earnings from 3A biogas in €***	540	210	50
Difference in €	30	-60	0
* Calculation basis: 30 €/plot + 5ct/m²			
** Calculation basis: Austrian Environmental Scheme ÖPUL, Nature protection schemes			
*** Calculation basis: 50 €/t of organic material with an calculated price of 5ct/kWh			

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Urban sprawl, conservation of agricultural land and densification processes – examples from municipal planning in Sweden

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ABSTRACT

Sweden is a relatively sparsely populated country with, as it would seem, plenty of land to build on. Preservation of agricultural land has from time to time been highlighted in the course of political discussion, but no statutory protection has been introduced. Today, farmland seems once again to have moved further into the target area for urban planning. Cities in many countries, Sweden included, are looking round for alternatives to sparse, land-consuming development plans.

The purpose of this general introductory study was to investigate how the preservation of good farmland is valued in relation to urban development in municipal comprehensive planning, and to see by what strategies/policies and methods such preservation is asserted. The study was jointly undertaken by Agriculture and Built Environment under the SLU Environmental Monitoring and Assessment (EMA) Programmes.

Keywords: urban sprawl, densification, land use conflicts, agriculture, planning.

TRENDS, PROBLEMS AND POSSIBILITIES CONCERNING CULTIVABLE LAND

A total of 3,430 ha of agricultural land were built on between 1996 and 2005. During that period the pace of urban development accelerated and in 2005 was three times what it had been in 1996. (Swedish Board of Agriculture, 2006). In Skåne alone, the most intensive agricultural region, 13,000 ha of the very best farmland were built on between 1962 and 2000. This equals 7% of Sweden's prime farmland. (Skåne County Administrative Board, 2001).

The safeguarding of good farmland in urban planning is beset with numerous difficulties. Chap. 3, Section 4 of the Environmental Code lays down that "Agricultural land that is suitable for cultivation may only be used for development or building purposes if this is necessary in order to safeguard significant national interests," but in practice agricultural land is poorly protected. Other forms of area protection, such as special areas of conservation and national interest areas take precedence over national interests. Planning responsibility for the conservation of agricultural land devolves on the municipalities, and there is no central authority charged with monitoring the protection of agricultural land from urban development (Skåne County Administrative Board, 2006). The question of elevating the most productive agricultural land to national interest status was considered in 2009 by the Environmental Regulation Committee, which, however, opted against taking the matter any further (Ministry of the Environment, 2009).

The Swedish planning system centres around a municipal planning monopoly, where national and regional authorities have very little power apart from providing general laws and safeguarding that laws and regulations are followed by the municipalities (Busck *et al.*, 2008). One reason for the municipal planning monopoly, which Sweden in many aspects shares with other Scandinavian countries, might be found within the history of a sparsely populated country with little need for regulating sprawl. As a consequence, it is common practice in Sweden for residential areas, industrial zones and infrastructure to be permitted to sprawl, sparsely and spaciously, on the fringes of towns and cities (Qviström, 2008). Peri-urban agriculture in some areas has been plunged into a state of uncertainty and insecurity regarding the future, with the result that more rational, long-term decision-making is not a paying proposition, given the contingency of urban development at some future date (Qviström, 2009).

The trend everywhere in Europe is for the proportion of artificially surfaced area (such as buildings, roads, parking lots etc.) per capita to increase in relative terms (EEA, 2010; Nuissl *et al.*, 2009). European land use statistics at regional level however show Sweden to be one of the countries with the largest proportion of artificial surfaces per capita; see FIGURE 1 (ESPON, 2006). This, of course, is subject to differences in geographic conditions and population density, but it still shows that other countries are building with far greater density today that Sweden is doing, which can prompt the conclusion that we ought to be capable of going on building and developing our urban communities without needing to exploit cultivable land.

FIGURE 1. The meeting of conurbation and agricultural landscape in South Malmö (Photo: Pekka Kärppä).

METHOD

In this general, introductory study we carried out a limited mapping of the strategies/policies and methods which municipalities are using today where conservation of productive agricultural land is concerned.

We were given the opportunity of adding a question to the 2011 Environmental Objectives Questionnaire (the Swedish National Board of Housing, Building and Planning (Boverket) and RUS – the joint organisation of Sweden's county administrative boards for co-operation concerning environmental objectives). The question we added, no. 1.13, read: "Does the municipality have a policy on the preservation of productive agricultural land?" The alternative responses were "Yes", "No, but work is in progress" or "No". The municipalities also had the possibility of naming a contact person. From those replying "Yes" we selected 20 and read the comprehensive plans on their websites, searching relevant sections for information concerning municipal policy for the preservation of agricultural land and any methods for striking a balance in the event of conflicts over land use. We also searched for particulars concerning the agricultural acreage marked down for development. Finally, we also carried out semi-structured interviews of urban planners in three municipalities where we had found some of the more advanced arguments on the problems concerned. A short comparison with Denmark and Germany was also performed.

An empirical study of this kind has not been performed previously in Sweden. This study will later be followed both by further empirical studies and research projects where the findings will be more thoroughly examined.

RESULTS

THE QUESTIONNAIRE STUDY

The questionnaire item "Does the municipality have a policy on the preservation of good agricultural land?" was answered in the affirmative by 58 municipalities, which is 20% of the total number. Twenty, i.e. 7%, answered "No, but work is in progress" and nearly half (49%) answered "No" and a quarter (24%) made no reply at all. This gave a response rate of 76% (FIGURE 2).

The municipal response patterns were plotted on a map (FIGURE 3). This can be compared with a map of fertility zones in Sweden, to see whether there is any geographic concurrence between the existence of fertile land and municipal policy for the preservation of good cultivable land. FIGURE 3 does not show any clear correlation with fertile or less fertile farming areas.

REVIEW OF COMPREHENSIVE PLANS

We selected 20 out of the 58 municipalities answering "Yes" and studied the comprehensive plans on their websites. Most of them expressed a policy on preservation of agricultural land in words similar to the following excerpt: "By building densely and concentrating new development in the towns and certain chosen localities, further urban development of agricultural land can be limited. Urban development will be given priority over preservation of agricultural land within or directly adjoining existing settlement in the towns and cities, the priority development localities and the attractively situated housing areas." (Municipalities of Linköping and Norrköping, 2010: 29).

Thus most of the municipalities investigated have a polarised attitude where safeguarding agricultural land is judged important but the land can be built on where this is found justifiable. This describes a conflict of land use and a concern with striking a balance between the different interests.

Several of the municipalities investigated make a direct link between preservation of agricultural land and suburban infill development. The Municipality of Lund, for example, writes: "Infill and conversion are an important strategy for the city's development, with a view to conserving good agricultural land." (Municipality of Lund, 2010). The City of Malmö writes: "A densely developed city is more economic of resources and energy efficient than a sparsely

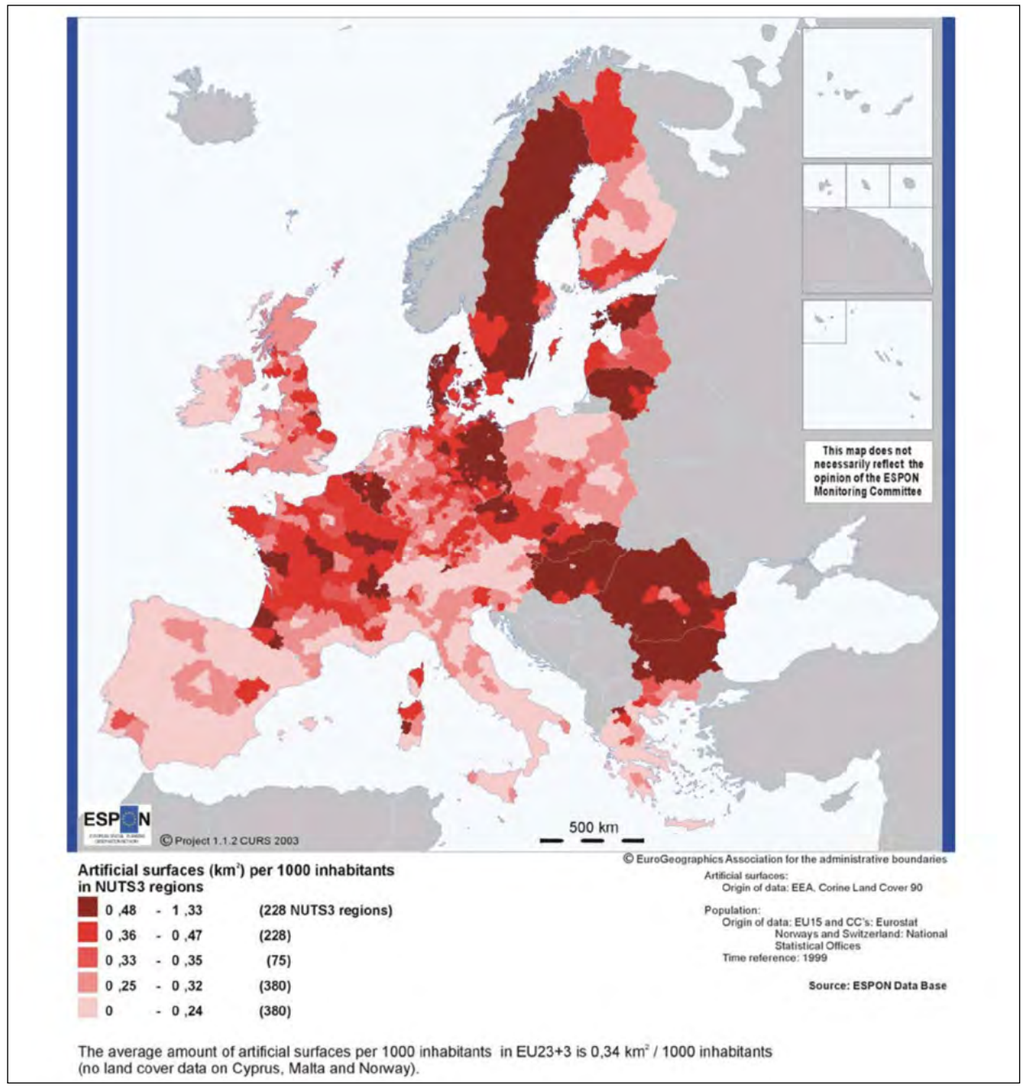

FIGURE 2. Map showing proportion of artificial surface per inhabitant (© ESPON 2006).

developed, sprawling one, and agricultural land can be saved" (City of Malmö, 2010).

The majority of the comprehensive plans examined do not indicate how many hectares of different kinds of land have been reserved for urban development. Lund, Landskrona and Tomelilla differ in this respect by stating how much agricultural land in different classes will be required for different development options (Municipality of Lund, 2010; City of Landskrona, 2009; Municipality of Tomelilla, 2002).

INTERVIEWS

Following the review of comprehensive plans, three municipalities were selected where we had found some of the more advanced argument concerning the above mentioned problems, namely Malmö, Lund and Helsingborg. Demographically, these are three relatively large and growing municipalities. Their central urban localities are surrounded by very good agricultural land, which brings the land use conflict to a head. We contacted urban planners in the three municipalities and conducted semi-structured interviews. These interviews revealed several examples of methods for agricultural land preservation and infill development. We encountered the infill discussion at comprehensive planning level, in connection with the development of new areas and with reference to mass transit planning. The urban planners we interviewed saw several reasons for saving agricultural land and going for infill development. It saves municipal land resources and leaves a wider range of land use options for the future. Favouring efficient public transport rather than motorism is more environmentally friendly. Infill helps to put more life into cities, with amenities and meeting points close at hand.

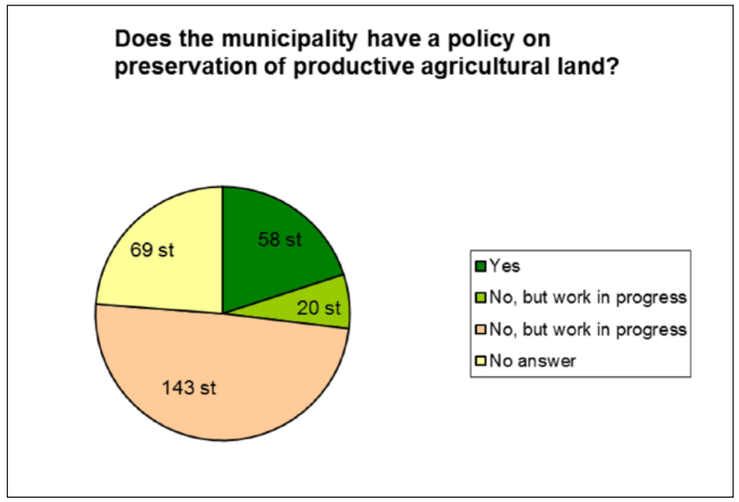

FIGURE 3. Results for the questionnaire item "Does the municipality have a policy on the preservation of good agricultural land?" (Data from the Environmental Objectives Questionnaire, 2011).

On the other hand, infill development is more complicated than greenfield development. The processes involved are longer, with more people demanding a hearing. Ownership is more fragmented and there are many property owners involved. Infill development is usually the more expensive proposition. There are technical and legal obstacles such as noise guidelines, safety distances and air pollution. The City of Malmö has drawn up a Dialogue Memorandum entitled (in Swedish) "Infill development for Malmö – this way!" (City of Malmö, 2010). This is basis for discussion in the comprehensive planning process, showing how Malmö's population could be increased by 100,000 through the conversion and infill development of areas that are already urbanised. Current comprehensive planning work is to a great extent being based on this memorandum. The four strategies presented are those of using near-station locations and public transport routes, creating a more diversified city, converting wide traffic arteries into city streets and developing the green and blue interstices. The view taken of agricultural land is that its protection is desirable but also that it should be made more accessible for recreation purposes and the landscape given greater biodiversity. (Jönsson, personal communication 2012).

Lund's 2010 Municipal Comprehensive Plan describes infill and conversion as an important strategy for conserving agricultural land, but the location of the space-consuming Max IV and ESS research centres near the city is judged to present such development opportunities for the municipality as to justify the utilisation of land (Municipality of Lund, 2010). The area, therefore, is now being developed with the aim of conserving land without any sacrifice of attractiveness. A high level of land utilisation is being aimed for, but not so high as to jeopardise fundamental urban qualities such as security and comprehensibility. Floor area ratio and free space ratio are being used in Lund for calculating development density (Winterby and Dalman, personal communication 2011).

One of the main strategies in Helsingborg's 2010 comprehensive plan is to reinforce urban settlement in locations near stopping points. Priority for expansion in station localities can also save other parts of the countryside, with high-grade agricultural land or important natural and cultural qualities, from urban development (City of Helsingborg, 2010). The City of Helsingborg has done a great deal of density calculation, for example, in pilot studies concerning new trackways and stations. The guiding principle here is that good density is needed to justify a station and high-quality public transport (Ydmark and Bengtsson, personal communication 2011).

INTERNATIONAL COMPARISONS

Denmark has been divided since 1970 into three different zones: urban zones, rural zones and summer cottage areas. This zonal division serves as a central instrument showing where and in what manner development is permissible. Urban development may not take place within the rural zone (Busck *et al.*, 2008). In this way, then, a very powerful "method" has been put firmly in place for preserving the cultivable land.

Baden-Württemberg, with Stuttgart as its largest city, is roughly three times the area of Skåne but also has three times as many inhabitants per sq. km (Wikipedia, 2012). There, for example, experimental use has been made of so-called eco-accounts, where interference with a certain environment gives minus points. This has to be offset by bettering the qualities of other places (Küpfer, 2008). In addition, active efforts are being made to combine the phenomena of infill development and green structure development by classifying different areas according

to their renewal potential and identifying structural deficiencies of the existing urban structure. High potential is often discovered in antiquated industrial zones. A green structure plan is then drawn up which includes both existing and desirable green structures and forms the basis for discussing opportunities for both infill development and green structure reinforcement. The German regional planning authorities also proscribe development outside an existing urban structure and require that the boundary between town and country should be clearly marked. All in all, these things have resulted in successful infill development in urban and already very densely populated areas, at the same time as it has proved possible to augment the green structure and improve its quality (Küpfer *et al*., 2010). In consequence there have been improvements on the social plane, e.g. through better customer potential for food stores in the urban communities, which in turn has benefited an ageing population, not all of whose members are motorised.

CONCLUSIONS

The questionnaire findings show that only some 20% of Sweden's municipalities have a policy for the protection of agricultural land. One simple explanation may be that many municipalities are untroubled by heavy development pressure or else are located in forest areas. It is more logical for municipalities in intensively farmed areas to have a policy of this kind, which in turn makes it surprising that there is no very clear geographic congruence between municipalities with this kind of policy and the most fertile areas (FIGURE 4). Thus many municipalities in the areas with good agricultural land lack a policy for the protection of such land, but it is also possible that they protect their farmland even without specific objectives.

The study also shows that the municipalities lack concrete methods for striking a balance between protecting or developing agricultural land. Quite clearly, though, certain municipalities are commendably intent on conserving agricultural land. Above

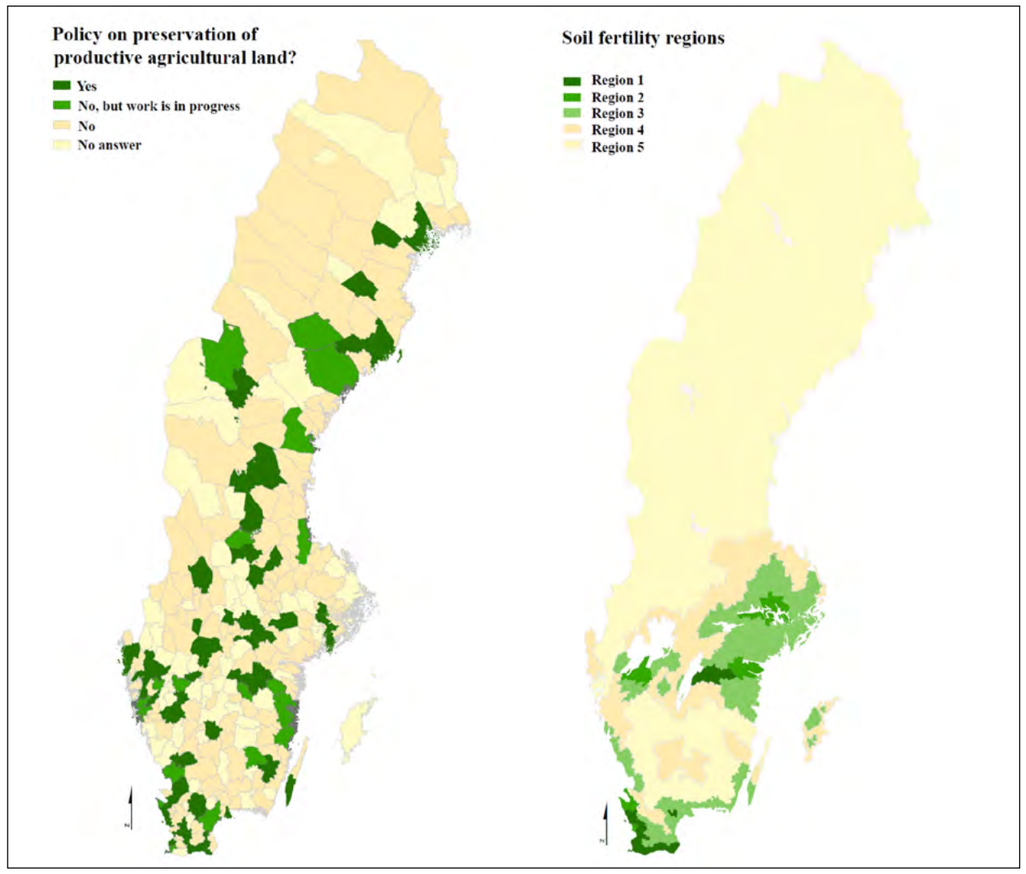

FIGURE 4. Map of Sweden's municipalities, with answers to the question: "Does the municipality have a policy on the preservation of agricultural land?" © Lantmäteriet, i2012/107. Map of fertility regions in Sweden, illustrated from the Board of Agriculture map of farm support regions. GIS & layout, Maria Barrdahl.

all, those municipalities highlight infill development as a strategy. But there are no established methods for using infill development in areas that are already urbanised.

Only a handful of the municipal comprehensive plans we studied indicate the agricultural acreage marked down for urban development.

DISCUSSION

A uniform model should be devised for continuously monitoring the amount of acreage built on, the density of this building development and future planning. Given better methods of measurement, monitoring and statistical presentation, development, both past and future, can be made visible.

The biggest potential probably lies in increasing the knowledge of space-saving urban development and of best practices, so that many more alternative course of action can be made clear and illustrated for the enlightenment of clients, planners and decision-makers. More R&D is needed here, involving agents at every stage of the process, one important starting point of course being that infill development must lead to a parallel development of the green qualities of the city, which have a vital bearing on citizens' health and wellbeing. The difference between Sweden, Denmark and Germany in terms of knowledge, aspirations and opportunities for dialogue is not all that great, but there are differences with regard to formal regulatory instruments and concrete methods. For example, other European countries have regional planning and national legislation prohibiting urban overspill beyond existing urban boundaries and requiring a clear line of demarcation between town and country. We believe that it should be possible in Sweden to achieve better management of the land use conflict between conservation of agricultural land and urban development. In the longer term, a properly worked-out planning strategy can result in both more attractive urban communities and better protection of the cultivable land.

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*Texts and maps stemming from research projects under the ESPON programme presented in this report do not necessarily reflect the opinion of the ESPON Monitoring Committee.

Landscaping for social manipulation

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ABSTRACT

'Nature is God's gift to mankind' used to be the main idea promoted through landscape in western culture until the dawn of the 20th century. In countless circumstances, either societies or their rulers have enriched landscapes varying from territorial extent to garden scale with meanings encompassing the concept. Considering the divine origins of the power they assumed, support landscapes could target the sublime.

Behind landscape manipulation, vanity was the prevalent engine. Supporting the brands of the ruling class or the group identity up to national scale, landscapes were assigned memorial or manifest purposes. In the first case, social thus fragile values – such as the sense of belonging, authority or cultural identity – were empowered with the 'perenniality' of landscapes. The manifest landscapes were set to be intimidating, witnesses of power exertion. Both, the conservative approach as well as the progressive landscaping, were expressions of power in different forms – but with the constant preoccupation to perpetuate itself as against the corresponding social systems. The management of this involves in many cases manipulation techniques, some of them making use of the landscape – as a message transmission medium.

The growing preoccupation for sustainability of the 20th century has determined changes in power landscaping – diversity and system awareness became the means of promoting the 'democracy' slogan. Since short-sighted planning is part of human nature, it is easy to presume that long-term, sustainable policy could only be promoted by manipulation techniques.

In the 'shallow' democracies – such as those of the Balcans – political manipulation through landscape turns out to be common practice, since the financial costs of gaining votes through cosmetic landscaping are very affordable.

In the recent years, Global recession revealed new tendencies regarding the possible reasons of the manipulation: nationalism exacerbated through protectionism and therefore, isolationism can be targeted by landscape subliminal messages. The promotion of regional or national landscapes combined with lacunose ecologic argumentation could instigate to exclusive use of local resources and goods.

The work will investigate the possible manipulation techniques that could involve landscaping. The message inoculation means are traced in social psychology. Among these, subliminal messages are those of the greatest interest.

Keywords: democracy, ideal landscape, subliminal messages.

INTRODUCTION

Powerful societies, with strong territorial identities, appropriate landscapes by loading them with clear messages, thus consolidating their cultural identity. On the other hand, disorganized, un-cohesive societies are less efficient in integrating landscape and culture – from a low need of expressing self-identity, landscapes are abandoned to short-term profit chasers. Local resources are over-exploited and landscape characters are ultimately lost. Social system collapse follows consequently.

This study identifies a few topics connecting rulers and landscape:

1. 20'th century ecological revolution and the industrial – post-industrial gap: landscape ideal shift and cultural management (national context, goals, techniques, landscape semiotics approach)
2. 'Nature is God's gift': faith as manipulation technique (Kliuchnikov, 2011)
3. Aesthetics in the service of political manipulation: methods; aesthetic categories and landscape impact (Patrick, 2009);
4. Landscape manipulation vs. psycho-social manipulation: goals; common techniques (the psycho-social methods – subliminal messages), synergy; efficiency assessment (cosmetic landscaping issue – in connection with consumerism)
5. Landscape manipulation risks and benefits: general considerations (ethics, sustainability, context – spatial, temporal, cultural, social, environmental); manipulation techniques

MATERIALS AND METHODS

Urban and rural landscapes are both exposed to the effects of the cultural shift to uniformity under consumerism pressure, which is rapidly damaging the social welfare indicators (Andrén *et al.*, 2006) determining fractures in the traditional connection between communities and their home-landscapes. Life quality is, according to the Felicia Pratto *et al.*, essay – Power basis theory: a psychoecological approach to power (Dunning, 2011), an essential tool of power: power is (...) the means to meet survival needs or to create deficits in needs.

Life satisfaction in Romania of the 2000's was affected mostly by human habitat quality; economy and (un)employment, education and social cohesion came after. In order to preserve landscape character, parameters like scenic quality, sense of place, unspoilt character, landscape as a resource or conservation interests (Countryside Commission, 1993) are essential issues. Their approach requires political interest.

Human footprint in mountain areas is a political theme generally neglected in contemporary Romanian society. In the Land of Vrancea (Damian, 2011), the cultural context derives from the historic isolation – not counting on outer (government) support, people are helping themselves to reach the cultural models that outer world is exposing them to, regardless of the long-run, wider implications, like common wealth and security. In the modern democracy age, artificially induced frustration determines them to give up their identity landscape for immediate benefits (TABLE 1): they erase whole forests off the map, use untested survival techniques (various pesticides, construction materials, zootechnics new trends, high efficiency deforestation machinery), they change everything in their lives, eventually their whole identity, only to buy themselves the comfort of having an expensive car, a satellite dish, the latest mobile phone or a plastic-coated house… on a muddy road.

The traditional hierarchies of the life satisfaction parameters are altered (Ferrans *et al.,* 1998), turning the simple happy peasants – lured into the consumption society – into the poor and frustrated buyers. The loss of cultural (identity) references allows cheaper access of *the power* to the local natural resources.

Focşani, the capital of Vrancea county, was also the first political capital of the state of Romania: local elections in the summer of 2012 rewarded the county and the local representatives with new mandates (notoriously, Marian Oprișan, a local *Putin*-inspired politician, was granted with 80% of the votes); the Union Square setup, as a regional-impact civic center, was the essential condition of their re-election. The traditional authorities of the county are represented in the square with dominant buildings: an orthodox church and an administrative palace, set along the national symbol of the Union – a red granite column, in the middle of the square (FIGURE 1). Middle age undergrounds – wine cellars and smuggling tunnels, uniquely connecting the former Romanian provinces before The Small Union in the 19th century, were demolished apparently to speed up building works. Still, they were reminded on site by brand new shiny concrete and ornamental brick structures. The administrative palace is partly surrounded by a double defense line: a stainless steel fence and a water ditch. A small park nearby was connected to the square composition through its main axis – focused on the Union Monument, observable against the communist apartment house background. Exotic trees, 19th century inspired kiosks, strident modern furniture and building materials – like the light poles or the faience water basins – fulfill the landscape.

The square landscape was approached as a political instrument: the promotion of the ancient institutions of power (laic and ecclesiastic) is made in a context that could serve as well middle age executions (the Union Monument yet replaces the 'pole of infamy') – the message of respect over traditional values is replaced with 'beware of the authority might'; the public space quality is based upon comfort and security, while heritage valuation was intentionally skipped (the 1856 Union of the Romanian Provinces was alleged to be the expression of

TABLE 1. The Land of Vrancea: community – landscape connections.

Landscape character influences	Middle Ages	Modern dictatorships	Modern democracies
Ruling class	Priesthood and local laic assemblies	Central and local administration	Central and local administration, priesthood, local laic assemblies, justice
Education	Priesthood, oral traditions	Laic school, oral traditions	Laic school, priesthood
Sustainability management	Local assemblies	Challenged by the sectorial development of economy – social and cultural costs	Based upon local administration capacity to provide integrated development and landscape management; church involvement
The feeling of belonging	Very high; local	High; clientele society and anti-communist resistance in the mountains	Low; clientele remains, social complicity on natural resource depletion and emigration
Landscape aesthetic impact	Folklore source – the tragic and the sublime	Nationalist interpretation – beauty landmark, picturesque	Symbol of wealth (middle class picnics, power class hunting games) – the 'nice' and the comic
Cultural references	Miorita ballad	intellectual resistance	Low, commercial manipulation
Spiritual load	High: forest, mountains, wild life semiotics; archaic animistic remains	Church replaced traditional semiotics	Low, general

FIGURE 1. The Union Monument in Focsani – Vrancea, and the nearby park design.

the public will, while today's ruling class perpetuation is based upon voters passivity, since public satisfaction levels are low); national identity values are changed – undergrounds are faked, natural landscape references are mean, consisting also of faked elements, such as vegetation, water elements or the piles of rocks imported from China. Traditional valuation of truth and beauty was not an option for the occult square design. Exoticism and cardboard scenery determine a shallow aesthetics of the landscape.

Habitat quality was limited to satisfying comfort demand, security and public vanity. These were enough to ensure the perpetuation of the political system. Unfortunately, cultural identity goes beyond policy, not to mention the environmental sustainability. An authentic sense of place, based upon historic and cultural heritage conservation could have triggered the social un-obedience that the 1859 Union relied upon. Culturally unchallenged societies are more predictable and easier to control using repetitive, unsubstantiated messages, in opposition to the cognitive persuasion, as Ion Dafinoiu synthesizes (Neculau, 1996). Between the high and the ordinary landscape culture (Jusuck, 2008), Focşani targeted la latter.

Going in this direction, in a distant future, the restoration of the square could even replace the central monument with the image of a moment's hero and commercials would be likely to fill the place. The decay of a brand makes room for another.

RESULTS AND DISCUSSION

To serve democracy, education through landscape subliminal messages involves the following: purpose (sustainability, complexity comprehension, diversity, tolerance, environmental responsibility, sense of belonging, cultural identity), context, leadership, material support (physical landscape) and target (social).

The anti-democratic tendency induced by the studied landscape is consumerism. Its landscape impact consists of stereotypical models propagated especially in human-scale environments (public open space at street-park-square level). Along traditional media and marketing techniques, the landscape's lack of diversity along the shallow conceptual consistency of the major social-impact landscapes contribute to the erosion of the social values – manipulation follows consequently (Malachi, 1990).

The suggestion power of the landscape is a social leadership tool just as human footprint affects landscape character starting even from a simple meaning change:

1. Common environment elements are assigned common meanings in a particular context;
2. The symbol association spreads into local culture;
3. The environment element aesthetic perception is altered by its new meaning;
4. The physical element is used to express the meaning it was assigned with;
5. The meaning could be altered by unusual context or excessive use of the landscape element;
6. The whole landscape spiritual load (Lazăr-Bâra, 2011) is altered by the reinterpretation of pre-existent elements.
7. The social system connected to the landscape reacts upon the new landscape message and eventually adapt it through physical interventions to fit a landscape ideal.

Human pressure in landscapes depends in a great extent on the feeling of belonging. This indicator is vulnerable to cultural imports, but it can be maintained with education and democracy. Since education is hardly an option in a traditional clientele society – especially in the remote Romanian countryside – landscape sustainability can't be reached through democracy.

In order to prevent the full and irreversible loss of landscape amenities, a non-democratic attitude might help in the first stage. Social manipulation could be a transitional option, and landscape could offer a sound communication medium for subliminal messages. Structural social recovery – mainly through education – should trigger itself a sustainable democracy revival, based on authentic cultural needs.

The end of humanism in landscaping derives from the superior understanding of natural balance. In order to ensure human-kind sustainability, post-humanism should give up on traditional concept milestones, like social wealth, equitable access to resources, population growth, economical growth, universal democracy, and replace them with natural environment laws – such as the law of the minimum, the law of the universal interconnectivity, the law of systemic periodicity, the law of the living matter constancy etc.

CONCLUSIONS

Mutual agreement is not a realistic basis for socio-ecologic system planning in specific circumstances. Social manipulation is inherent and essential on a macro scale, since democracy is not universally suitable.

Landscape mirrors society in terms of time, space and meaning; power change determines landscape change:

- Since social systems mobility is generally higher than landscape's buffering limit: any power change involves negative landscape impacts,
- Identity crisis and lifestyle change lead to landscape impacts through leadership power exertion.

The social lack of interest regarding landscape as a cultural issue reveals the poor state of democracy. The erosion of cultural identity – including the landscape heritage oblivion, turns societies into better consumers, thus better integrating them into global economy. Yet, on the long run, the lack of cultural diversity exposes humanity to major adaptation risks.

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Development tendencies of the Livonian coastal landscape identity in Latvia

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ABSTRACT

Landscape development and related changes is a continuous process, which is influenced by natural and anthropogenic factors. Each landscape type or region has its own characteristic landscape trends associated with cultural and historical characteristics of this region. The Livonian nation and the Livonian coast occupy a special place in Latvia. Already since the 800th year A.C. the Livs managed the coast, from the very beginning forming a unique environment and a peculiar Livonian coastal identity which included individuals, policy, wars, power change and reform, as well as nature itself. The Livonian Coast is located on the Northwestern part of Latvia and occupies the coastal landscape zone from Ovīši to Kolka the length of which is 60 km. The research of the development tendencies of the Livonian coastal landscape identity was performed during the period from August to December in 2011, which included several phases – historical research, analysing the models of formation of the fishermen's village, landscape survey and the elaboration of development models. The results obtained define the answer to the main task of the research – to define the development trends of the fishermen's village landscape, to define the identity of the landscape and to elaborate the models of spatial development. As a result, a number of spatial development models of the formation of the fishermen's village of the Livonian coast were elaborated, as well as the main factors influencing the landscape identity and their changes were defined. The cultural historical landscape development was divided into stages. The most important landscape changes were defined. Summarizing all the results of research, the Livonian coastal landscape identity of the fishermen's villages was defined.

Keywords: livonian coast, coastal landscape, landscape identity, spatial landscape development.

INTRODUCTION

Landscapes are subject to dynamic development and landscape-related changes are an ongoing process influenced by both anthropogenic and natural factors. In addition to changes in individual elements and structures of the landscape, landscape identity also undergoes changes and region-specific trends in development emerge that are closely linked to the regional heritage features and more recently exposed to the impact of globalization (Murzyn-Kupisz, Gwosdz, 2011) The impact of globalization in Europe raises awareness about landscape identity, particularly in sensitive landscape areas such as the coastal landscape.

The mosaic structure inherent to Latvian landscape is endangered because it is subject to the processes of marginalisation. The processes of marginalisation are influenced by economic factors, environmental factors, geographical location, and the structure of agriculture, social factors, and policies (CEC, 1980; Brower, Baldock, 1996). Here, it is not possible to separate any individual factors because the process must be seen as a simultaneous effect of all factors, this also fits well with the landscape holism – it is not possible to examine a process or a component separately but one must have the vision of the whole in its dynamic development both from temporal and spatial perspectives (Antrop, Eetvelde, 2000; Naveh, 2000; Naveh, 2001). Scientists see the processes of marginalisation as a dynamic concept the assessment of which applies only to a given short period of time and is associated with a set of various influencing factors (Pinto-Correia, Sorensen, 1995).

It is important to realize that a landscape researcher should analyze the processes of marginalisation of landscape at different levels – at regional, local area, farm level, within a holding (Brower, Baldock, 1996). At each of these levels, the optimization of production, recreational, and social conditions take place which contribute to the processes of marginalisation. Some agricultural areas are abandoned due to their relatively low productivity, but other ones are expanded, therewith sometimes replacing a traditional sphere of activity or even destroying it completely. In some regions we can see an intense development of recreational infrastructures with extensive financial support while in other regions the sphere disappears completely (Jones, 1993; Antrop, 2006).

Regarding the landscape identity, it must be recognized that it is closely related to national identity (Stewart, Liebert, Larkin, 2004; Rourke, 1999). Livonian people and the Livonian Coast occupy a special place in Latvia. In this territory people carry out economic activities for over 800 years and it's an environment that carries a sense of traditions and national consciousness. The marginalisation of the landscape of the Livonian Coast is associated with decline in population and disappearance of traditional economic activities under the influence of various economic and political factors. This study aims to determine the trends in identity development of the Livonian Coast landscape and create spatial development models on the basis of a historical development research and a visual survey. The main results described in this paper are directly related to the spatial models of landscape development.

MATERIALS AND METHODS

Landscape identity recognition is closely related to the identification, survey, and description of the constituent elements thereof because landscape elements are the key to the perception of identity and they play one of the key roles in shaping the landscape identity. On the basis of multidisciplinary research of the structure of the identity, the constitutive elements of the landscape are divided into three groups: visual, historical, and cognitive. The landscape identity recognition method itself is based on a sequential research and identification of each group of the constituent elements of the landscape with combining mapping and descriptive methods and approaches during each landscape research phase (Nitavska, 2011; Nitavska, Zigmunde, Lineja, 2011). The study results were used to identify developmental trends and spatial development models specific to the Livonian Coast.

A study of the trends in landscape identity development was carried out during the period from August to December, 2011, which included several phases – heritage research with analysis of the fishing village formation patterns, visual examination using visual survey matrices and, finally, a population survey was carried out in order to clarify the current trends in landscape development. Questionnaires were processed in Microsoft Excel and SPSS environment. Using the above-mentioned computer programs data were coded and prepared for processing in the SPSS environment. The questionnaire contained 15 questions.

The area under study known as the Livonian Coast is located in the Northwest part of the territory of Latvia on the shore of the Baltic Sea and occupies approximately 60 km long and 4 km wide zone on the sea coast. From ancient times, this area has been inhabited by the Livonians – one of the Baltic Finno-Ugric peoples who formerly inhabited a wide territory of Latvia. Nowadays, most of the Livonian fishing villages ranging from Sīkrags to Kolka are included in the Slītere National Park territory. At the beginning of the 20th century, they belonged to two manors: Pope and Dundaga. Under the Soviet regime, the Baltic Sea coast from Ventspils to Kolka was a "closed zone", where the civilian population movement was limited. This further contributed to the depopulation of the Livonian villages, they remained virtually empty (Zirnite, 2011).

RESULTS AND DISCUSSION

As the main goals of this article are to examine the trends in landscape identity development and spatial models of these trends, then as the main results of the study historical development stages summarized in TABLE 1 and spatial patterns of landscape development depicted in FIGURES 1 and 2 should be highlighted as well as some of the survey results which directly show the opinion of the respondents about the constituent elements of the landscape identity and ,the importance of preservation of the landscape identity.

The results of recognition of historical constituent elements of the landscape are consolidated in the matrix for historical development of the landscape (TABLE 1) where the landscape elements are arranged according to the relevant periods of time, the changes emerged in these periods of time in the landscape are identified as well as the current landscape image and the place of historical landscape elements in the said image are identified.

The stages of landscape development can be most effectively demonstrated by spatial development models (FIGURES 1 and 2). Six stages of development are separated for spatial modelling. The spatial models represent the emergence or disappearance of the constituent elements of the landscape which also represent the identity formation process for each period. Spatial modelling helps to visually track the changes in the landscape, driven by different groups of factors – biological, economic and social (CEC, 1980; Brower, Baldock, 1996). These influencing factors are shown also in TABLE 1.

Within the study, a population survey was also carried out. The questionnaire has been developed with the aim of clarifying the respondents , views on the cultural and landscape values of the fishing villages of "the Livonian Coast" as well as to obtain information about the trends in development of these villages, processes and activities that might contribute to the development of the villages and their future growth while preserving their natural and cultural values. In total, 166 of the respondent questionnaires were processed. The survey was attended by 70 persons less than 30 years of age, 63 persons between the ages of 31 and 50 years and 33 persons aged over 51 year. As a major obstacle for visiting the Livonian Coast the respondents mentioned the large distance and lack of information. The distance from the capital of Latvia, Riga, to the Livonian Coast is at least 150-200 km, which is a considerable distance for Latvia. The most popular answers to the questions what factors attract most people to the Livonian coast were: untouched nature (89 times), the Baltic Sea (79), silence and peace (75 times), and Livonian heritage (39 times). Exac-

TABLE 1. The Stages of the Landscape Development.

Periods of time	Stages of development, events	Landscape elements wholly or partially disappeared	New landscape elements
800-1200	Economic activities of the Livonians, driven by the environment - sea, forest and sandy soil, were not significantly different from other Latvian coastal regions and until the Soviet period was not subject to substantial changes.		Traditional fisherman's homestead
12th -14th cent.	Period of Livonia. First castles, settlements and fortifications. Land division.	Buildings	
16th, 17th cent.	Acts of war and devastation. In 1670, Anna Sibilla Maidel becomes the owner of Dundaga. She carried out an extensive rebuilding of the castle, built the port in Sīkrags, built ships, maintained lighthouses in Oviši and Kolkasrags. In 1693, Vidzeme Governor General Hastfer issued an order prescribing all "damned superstition and idolatry serving things as chapels, crosses, groves or bushes, trees, rocks, etc., to tear down, hack, burn together with offerings, extinguish and eradicate in any useful way." As a result, a large part of the ancient Livonians cult monuments were destroyed.	Many landscape elements, Livonians cult monuments, disappeared	The port in Sīkrags
1700	Northern War, the Russian yoke, forests cut down for military purposes	Partial woodlands	
18th – 19th cent.	Foundation of parsonage in Mazirbe. Second known wooden church built in Pize. The third, current, church in Pize was built of bricks in 1893.		Church
19th cent.	In Lielirbe, Jaunciems, Sīkrags, Mazirbe, Košrags, Pitrags, Saunags, Vaide, Kolka and Melnsils about 500 sea-fishing boats were listed. Lighthouses in Oviši and Slītere were built. Start of an extensive afforestation of sandy coasts of the Baltic Sea and Riga Gulf to stop the shifting dunes. Sandy afforestation lasted for 12 years. A new building of parish school in Mazirbe, the first known lighthouse in Pize (Miķeļtornis), Lutheran church building in Kolka, Mazirbe Naval School building.	Individual fishing boats	Lighthouse
1900-1918	In 1914, the Naval School in Mazirbe was closed. In 1916, German Army Corps of Engineers in North Kurzeme built narrow-gauge railway from Ventspils through Mazirbe and Dundaga to Talsi and Stende. The First World War, ruined houses, neighbourhood, fallow lands.	Many homesteads were devastated, buildings collapsed	
1920-1945	In the post-war period, the main sources of income were coastal fishing, agriculture, and stock farming. With the agrarian reform, in the coastal villages devastated in the First World War emerged construction of a new type with age-appropriate residential and farm buildings. Opening of People's House of Livonians in Mazirbe.		Construction of a new type, People's House of Livonians
1940-1980	The Second World War, occupation. Buildings and neighbourhoods devastated. The Red Army started to build he broad-gauge railway along the coast from Ventspils to Lielirbe but the construction never was completed. In parallel, unpaved road was built. The Livonian Coast becomes the restricted zone on Soviet western border. Part of the buildings Livonians sold to cottagers, part remained as the family property but many buildings without owners collapsed. Jūrkrasti primary school in Miiķeļtornis as well as narrow-gauge railway transport was closed.	Small-scale fisherman's households gradually disappeared, abandoned buildings and households collapsed. Narrow-gauge railway transport disappeared	Troops – new buildings, railway embankment
1990-2000	The 90-ies was the most active period for restoration of Livonians national conscience. On February 4, 1991, the Council of Ministers of the Republic of Latvia adopted the decision "On establishing of the State specially protected heritage areas "Līvõd randa"". Livonian village residents in North Kurzeme can once again engage in their traditional activities.	Abandonment of military bases	Small activity in construction of new houses
2000-	In today's economic conditions, more and more emphasis is placed on tourism.		Objects of tourist services

FIGURE 1. Spatial development models – first 3 stages.

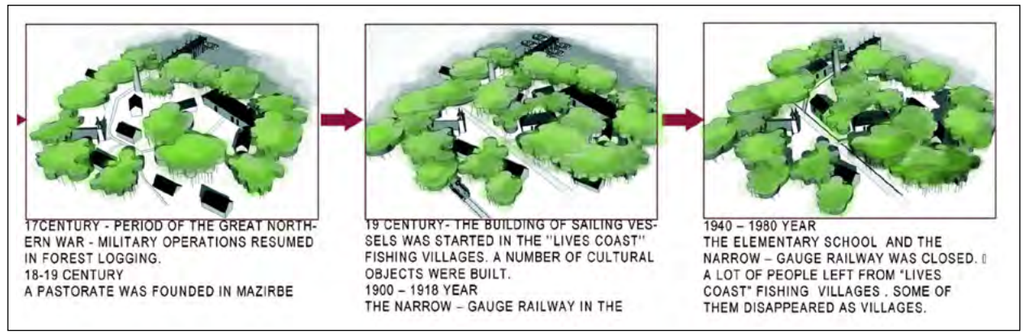

FIGURE 2. Spatial development models – last 3 stages.

tly these factors together constitute the Livonian coast landscape identity. The answers to the question what would attract more visitors to the Livonian coast were split pretty evenly, it is indicative of the fact that any public activity would be welcome, as right now they are at a relatively low level; the most popular responses were as follows: popularisation of Livonians festivals that are closely related to the culture and the belonging to these places. On the question about the most endangered landscape elements of the Livonian Coast the most popular answers were as follows; the dunes and the beach – 51 persons, as well as the Baltic Sea water and its quality – 43 persons; this might be due to the fact that this topic is most viewed by mass media. A number of respondents, i.e., 37 persons, as the most vulnerable elements mentioned also the fishing gear visible in the landscape. After a visual survey of the landscape and when compared with historical images, one must agree with the last group of respondents – fishing gear as a landscape element and main identity key is most endangered in connection with the disappearance of these traditional economic activities. On the question about preservation of the landscape characteristic for the Livonian Coast, 124 respondents replied that it is important, 30 persons – it is rather significant, which generally constitutes 94% of respondents these answers point to the general importance of preservation of the characteristic Livonian coast landscape and also the importance of preservation of its identity.

CONCLUSIONS

Continuous changes in the landscape are related to both human and natural factors and they occur alongside with the changes in the landscape identity. It is not possible to distinguish the influence of separate factors due to the landscape holism but it is possible to distinguish several stages in the landscape identity and use them to illustrate the spatial development thereof with showing the role of the constituent elements of the landscape.

In general, the current trends in the landscape development are closely linked with people's past and present economic activities and economic situation of the whole country, because the influence of natural factors is not so strong and cannot bring any radical changes in the landscape, all natural processes are slow and progressive, with the exception of storms and other elements. It should be noted that all the developmental trends across the Livonian Coast are not the same and they are related to the historical development of each village. Here we can distinguish three main directions of development: dying villages with very small number of inhabitants, therefore, no development of infrastructure or economic activities, or tourism is present; the second group – the villages with relatively high num-

ber of inhabitants, relatively slow pace of construction, relatively law economic activity and traditional economic activities present in some locations; the third group – the villages with actively developing tourism infrastructure, preserved or restored traditional economic activities, relatively active traditional cultural events. These differences are closely related to the historical development of the villages and current events are a continuation from the first sight the same history of the entire Livonian Coast, and yet so different histories of each separate village history. At state level, the Livonian Coast development is relatively inactive and, according to the survey, this is due to the long distances between the Livonian Coast and major cities, small-scale programs of activities as well as unprofitability of traditional economic activities.

As a positive trend Livonians cultural and consciousness revival should be noted that in the future could be the foundation for stabilisation of the landscape identity and weapon in the figuret against globalization.

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Manpower: Making Landscape in the Rocky Mountains

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ABSTRACT

The accumulated physical power of many men, burros, hydro-electric power installations and 'Buckeye' (a 1920s diesel engine) have, like burrowing animals, redistributed matter at the former Ute-Ulay silver mine in remote Colorado, USA. They took material from inside this precipitous area of the San Juan region of the Rocky Mountains, and processed it into a new topography of plateaux and terraces. The Colorado Art Ranch's 'Hardrock Revision' collaborative residency brought assorted artists and scientists to develop a vision for the Ute-Ulay as ownership passes from the LKA International mining company, to the County government. A further landscape architectural research project (the Ute Ulay Project) is now in the process of developing a masterplan for the site. The masterplan will integrate the history, culture, and remediation of the site into proposals to enable the local population to develop pragmatic solutions for their contemporary economic problems. This paper will explore the nature of the history and environmental circumstances of the site, and current economic conditions in the region. Furthermore it will describe the methodology used to identify these conditions, and propose that integrative and flexible proposals for the site will be important strategies for long-term success.

Keywords: post-industrial sites, mine reclamation, the American West, narrative landscapes, everyday landscapes.

INTRODUCTION

At the Ute-Ulay, a shed split under the weight of snow, spilling out detritus (FIGURE 1). When the snow thawed, the guts – tools and 'come-in-handies' from decades past – fell under the gaze of tourists on their way along the scenic Alpine Loop. The collapse was counterintuitively opportune, since 'ruins provide the incentive for restoration' (Jackson, 1980: 102), and the owner (LKA International) had decided to sign over the site to Hinsdale County.

In the summer of 2011 the Hardrock Revision residency brought seven artists (including a landscape architect) and seven scientists to spend one month working intensively with the local community to understand the processes and history of the Ute Ulay site. The aim of the residency was to produce a collaborative vision for the site, however the group was allowed complete freedom as to the form these might take. This collaborative vision was then presented to the community, which focussed on potential future uses. The resulting focus of the vision was to provide economic support for the nearby populous in Lake City. This is unsurprising, since 'our predominant landscape strategy now is the economic exploitation of the earth' (Shepheard, 1997: XIV). Other examples of preserved historic mining camps for tourism exist along the Alpine Loop: at nearby Animas Forks any structure 50 years or older is preserved, as is proposed for the Ute-Ulay by the federal archaeologist. But this leaves only a skeletal form where debris once revealed that 'the primary shaping of the mining landscape is a manifestation of male identity' (Francaviglia, 1991: XIX). The identity of the Ute-Ulay is of everyday masculine utility: to restore it to some 'scene of unreality' (Jackson, 1980: 102) is to erase the cultural reality of the past.

FIGURE 1. The Falling-Down Shed (image copyright Becky Sobell).

AN INTEGRATIVE APPROACH

Alan Berger has tackled many issues relating to abandoned mine reclamation in his books 'Reclaiming the American West' and 'Designing the Reclaimed Landscape'. The Ute Ulay Project hopes to build upon the knowledge in those publications by using landscape architecture to integrate historical, economic and environmental aspects of mine reclamation on a real site. This is relatively uncommon in mine reclamation in the USA, which is usually carried out by state and federal authorities that focus almost exclusively on environmental issues. Landscape architecture has something valuable to offer within the redevelopment process for the Ute-Ulay. As a historian member of the Hardrock Revision residency notes, the 'preservation need not be static or sanitized, remediation does not have to make the industrial past disappear, and new uses can reflect or riff on prior uses of the site. Mining can be memorialized, and even honoured, while allowing for its deep inconsistencies and inherent conflicts to remain' (Lewandowski, 2011).

FLEXIBLE FUNCTIONALITY

Future requirements are unknown, and it may be argued that once a landscape project is built, and the landscape architect is no longer involved, the project really begins. But the incrementally altered, pragmatically developed landscape of the Ute-Ulay stands a better chance than most of accepting whatever change comes its way without a change in culture. 'A landscape that is the product of tinkering… has a great advantage over the canonical monuments of landscape design created out of whole cloth… as a product of accretion, it can accept new uses and meanings with less friction' (Ruddick, 1997: 111-112). Flexible functionality is a good way to be sustainable, it allows for re-use and will allow future operators to adapt the site to their needs without recourse to large-scale redevelopment. As Francaviglia states, 'it is worth remembering that miners never built things to become historic, but rather to be used – if not used up – and their landscape shows it' (1991: 182).

CONTEXT

Hinsdale County, home to the Ute-Ulay, is the county with the most 'roadless space' in the lower 48 states of the United States (Watts *et al.*, 2007). Tiny Lake City – a few miles from the Ute-Ulay – is the only town in the County, with a year round population of 400. The nearest supermarket is 55 miles from Lake City. The population fluctuates wildly with 70% of homes in the county being second homes, often occupied by Texans seeking summer respite in the cool mountains. Economically, Hinsdale County is in a particularly vulnerable situation; 96.4% of the land is publicly owned, meaning very few taxes can be raised. In addition to the second-home owners, who provide construction work for year round residents, tourists bring in most of the income in this highly seasonal location. The town's on well-preserved Historic District and remote mountain location attracts visitors seeking beautiful scenery and 'old time' Americana. According to many visitors, being in Lake City is like 'going back in time'.

THE SITE

The Ute and Ulay veins were discovered on August 27th, 1871 (Irving & Bancroft, 1911: 13) at an altitude of 9200 ft. (2800 m) above sea level, the Ute and Ulay veins were originally Ute Indian summer hunting grounds. Named after the Ute People, and a mispronunciation of Chief Ouray's name; the Ute-Ulay mine in remote western Colorado, was officially claimed in 1874 after the Brunot Treaty removed 4,000,000 acres of land from the Utes in the San Juan region, and opened up the area for mineral exploitation (O'Rourke, 1980). In common with most lode mines in the Western USA, the Ute-Ulay mine went through a series of boom and bust cycles. These cycles were 'a little more eventful' (Irving, Bancroft, 1911: 12) around nearby Lake City than in the rest of the San Juans due to 'the extreme richness of a few of the ore bodies discovered and the poverty of the rest' (Ibid: 13). The first boom at the Ute-Ulay reached its climax in 1876, rapidly followed by a lull. But another boom came in 1880 (FIGURE 2) only to end in 1881 when plans for the intended railroad to Lake City were cancelled. The Ute-Ulay ceased production entirely in late 1883, and Lake City was practically dead for four years. Cycles of boom and bust continued, but by 1911 the Ute-Ulay had produced an estimated $12,000,000 dollars worth of ore (Ibid: 17).

FIGURE 2. Ute-Ulay: The Boom Years (image courtesy of Grant Houston).

Mining continued in a sporadic way into the 20th century, but the site finally ceased economic operations (milling gold) when the 'Buckeye' diesel engine blew a manifold on the 28th August 1995. Currently (April 2012), the Ute-Ulay still has an active mining permit, but the permit will be annulled once Hinsdale County Commissioners become landowners. The rich seams of lead, silver and zinc, have been extensively mined, and the remaining deposits are now so difficult to access that no profit can be turned.

RESEARCH HISTORY AND CONTEXT

The Colorado Art Ranch (a non-profit arts organisation) worked in collaboration with the local organisation Lake City DIRT (Downtown Investment and Revitalisation Team) to organise the Hardrock Revision residency. The local support enabled the team to integrate more fully with a wide cross section of people in the region. During the one-month Hardrock Revision residency, the interdisciplinary team undertook over 15 videotaped interviews with local residents, made over 25 site visits, met regularly with a local advisory group and Hinsdale County Commissioners, attended the *Lake Fork Valley Land & Water Workshop* and gave regular presentations to various groups. The team also held almost daily meetings, and spent many hours informally talking

to people in the local area. The collaborative vision presented at the end of the residency was developed through consensus, with the team using creativity theories for ideation. The collaborative vision took the form of a series of images representing proposals with accompanying text, linked to points on the site.

As part of The Ute Ulay Project, a landscape architectural researcher, who took part in the Hardrock Revision, was funded to spend 12 weeks in Lake City, Colorado from February to mid April 2012. This project was initiated in order to develop a masterplan from the collaborative vision of the Hardrock Revision team, and to facilitate the transfer of ideas into the site. The research question was 'How can the Ute-Ulay inactive mine site be repurposed in a way that takes into account and addresses the multiple and complex problems it entails?' Working in collaboration with academics from UC Denver, UC Boulder, University of Virginia, local people, Hinsdale County Commissioners, the CDPHE (Colorado Department for Public Health and the Environment), DRMS (Colorado Division of Reclamation Mining and Safety), in addition to previous and on-going collaborations with members of the Hardrock Revision team, the initial part of the project has served to gather more in depth information about the site. A combination of literature reviews, archival research, interviews, and on site observations was conducted to determine economic, historical and environmental conditions. A topographical representation of the site (FIGURE 3) was also produced to serve as a basis for the masterplan, and record of current site conditions.

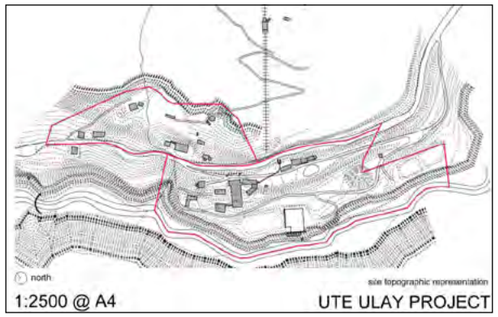

FIGURE 3. Site Topographic Representation and Boundary (image copyright Becky Sobell).

HISTORICAL PRESERVATION

A wide variety of historically interesting structures remained in use, and therefore standing, on site up until the mid-1990s. Now deserted, many have large holes in the roof or are threatening imminent collapse. The pockmarked landform and uneven topography are also unstable to varying degrees. Ideas for preservation at the Ute-Ulay have centred almost exclusively on the remaining buildings. It seems to be an innate feature of humans when regarding a landscape to focus on the objects within it. Diane Balmori argued recently for "diminish[ing] the importance of objects (buildings) in our landscapes" and mak[ing] "primary the expression of our spaces" (ASLA, 2012). The narrative history and culture of this landscape is one of pragmatic alteration over time, and it's processes formed the topographic details of the site. As such a reading of the topography provides as much information about mining here as the remaining buildings do, and it could be argued that the landscape is more central to a historical reading of the site.

ECONOMIC REGENERATION

The Ute-Ulay site straddles the Alpine Loop: a popular and bumpy mountain route up to 13,000ft (3960 m) in altitude, only passable in the summer because of large accumulations of snow in winter. It requires high-clearance, and a head for heights. It accumulated over 366,000 user days in 2009 (BLM, 2010: 79). The Ute-Ulay – on a relatively smooth part of the Alpine Loop – is easily accessible to normal cars in the summer, and to 4 wheel drive vehicles in the winter. Since Lake City is already popular with visitors in the short, high-altitude summer, the aim is to provide attractions that extend the tourist season. It is also important that facilities at the Ute-Ulay do not replicate those already offered in Lake City, and so endanger the profitability of local businesses. Hinsdale County may be able to lease out refurbished properties on site to local entrepreneurs; thus generating an income to be used for maintenance, which would otherwise be unaffordable.

ENVIRONMENTAL REMEDIATION

Two tailings ponds (impoundments containing finely crushed metal-rich material resulting from the milling process) exist at the Ute-Ulay, as well as large piles of waste rock (less metal-rich but still potentially acid producing) near Henson Creek at the base of the site (FIGURE 4). All this metal-laden matter is the result of over one hundred years of mining activity. Recent studies show that the Ute-Ulay is releasing little pollution into the water, but the concern is that 'release of these tailings during a major storm event or by failure of an impoundment structure would certainly put these materials into Henson Creek' (Nash, 2002: 86). In the litigious context of present-day America, it is imperative that the tailings and waste rock are stabilised for Hinsdale County to be able to take over ownership of the site. Initial proposals from reclamation agencies assigned little value to the landform on site – historic or otherwise. The land was to be re-graded with the aim of mitigating potential release of pollutants into the creek. Only some buildings would be retained as historically important structures, and the historic landform would be lost.

FIGURE 4. Ute-Ulay: Tailings Pond and Waste Rock (image copyright Becky Sobell).

CONCLUSIONS

The power of the Ute-Ulay mine site is inextricably tied into economics, history, environment and the raw materials of the Rocky Mountains themselves. The efforts of many human hands transformed these raw materials at the Ute-Ulay into economic power for the development of the region. As that power waned, the economic power of tourism in Lake City grew. Tourists come to the region for the clean, historical feel of Lake City; J. B. Jackson reflects that 're-enactments of historic episodes are gradually changing the new reconstructed environments into scenes of unreality, places where we can briefly relive the golden age and be purged of historical guilt' (1980: 102). But the Ute-Ulay currently presents a more complex view of the past. The multifarious, complex narratives of past lives are tangled up with the dirty, dilapidated buildings and polluted landform. A light touch is required; 'discrete, tactical operations over the clumsy "totality" of the master plan' (Descombes, 1999: 80) would help to re-frame the processes for tourists.

Waste rock piles and tailings impoundments of post-mining sites all over the American West are regarded only as polluters requiring remediation and implying the 'restoration to health of something that was sick' (Turner, 2008: 5). The current cultural approach for remediation is to attempt some kind of return to nature – or at least a 'natural-looking' landscape. But 'landscape architects have the methods and tools to create a dialogue between science, mining and society' (Arbogast, 2008: 55). As Dorian Sagan argues, 'industry and technology, despite the tendency to see them as uniquely human, have deep precedents in nature.' (Sagan, 2008: 36). Francaviglia argues that 'mining-related topography – if not re-worked by mining interests or reclaimed through conservation efforts – may be the most permanent, and therefore the most important, of the indices of human activity in a mining district.' (1991: 149). Integrating the historical importance of post-mining landform into environmental remediation is a key aesthetic design driver for The Ute Ulay Project. Using this integrative strategy in addition to functionally flexible interventions could make the historical narrative legible and attractive to visitors. This in turn would aide the economic prospects of future custodians.

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The neglected power of landscape amenities: on peri-urban development and landscape as a driving force

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ABSTRACT

In the contemporary debate on urban sprawl, densely built cities are proposed as the solution, but this strategy underestimates the power of landscape as a driving force for urban development. Peri-urban development in Western countries such as Sweden is largely driven by lifestyle preferences related to landscape amenities and the desire to live in the countryside and if new settlements do not meet these ideals, they will not prevent urban sprawl. Furthermore, the ordinary town or suburb in Sweden is very unlike the urban ideals raised as a model in contemporary policy documents within planning. The rural-urban character of small towns plays only a minor role in the debate, although close examination of such settlements and their landscape amenities could offer an understanding on how to combine urban and rural ideals in a peri-urban context. This paper reviews current literature and discusses the need for a wider perspective on the role of landscape amenities in gaining deeper knowledge of urbanisation process. The analysis identified a need for critical studies focusing on the current neglect of the power of landscape and preoccupation with the urban ideal.

Keywords: amenity migration, landscape theory, urban sprawl, spatial planning, Sweden.

INTRODUCTION

The aim of this paper is to discuss the role of landscape for peri-urban development, and more specifically: the need to acknowledge the power of landscape as a driving force for such an urbanisation. The article is primarily based on a literature review of the current peri-urban discourse, although it also introduces a historical perspective as a means to gain further knowledge on the complex role of landscape. Finally, a newly initiated research project is introduced in order to discuss alternative strategies within planning and the need for future research.

LANDSCAPE AS A DRIVING FORCE FOR PERI-URBAN DEVELOPMENT

Landscape is more than the arena for urban and peri-urban development – it is an agency. In order to develop future policies within planning, the role of landscape amenities as a driving force needs to be critically examined. As an agency, however, landscape is not confined to scenery, leisure or consumption: in order to fully grasp the role of landscape, we need to study it beyond the divides between labour/leisure and production/consumption, which have informed policy and planning during the post-war era.

Houston (2005: 209) characterises peri-urban areas as "superficially rural districts within the sphere of influence of adjacent urban centres … generally understood to comprise the zone of transition between the edge of the newest suburbs and the outer limits of the commuter belt". Within this zone, acute conflicts between urbanisation, recreation and agriculture need to be solved, as this is where urban sprawl makes its most apparent marks on the landscape (McGregor *et al.,* 2006: 9 ff; Qviström – in press). As urbanisation and urban sprawl is an escalating problem in Europe, the search for solutions on how to protect farmland and curb such sprawl is regarded as being key to sustainable development (European Environment Agency, 2006; Couch *et al.,* 2007). However, the peri-urban landscape is also where new solutions beyond the rural-urban divide occur, which makes it an important arena for further research (McGregor *et al.,* 2006; Qviström, 2007).

In the Western world a peri-urban discourse emerged in the 1930s, lamenting the incremental development at the urban fringe and the threat to landscape amenities (Qviström, 2010b). The modern divide between city and country and the close association of country with nature informed this discourse (Bunce, 1994). For instance, in 1932 the Swedish Society for Nature Conservation planned to launch a commercial in order to raise public awareness about emerging environmental conflicts at the urban fringe. The script for this silent film encapsulates the debate:

> **"A series of beautiful scenes from an untouched and as yet unexploited island in the archipelago or Lake Mälaren (close to Stockholm). Text: "This is the undiscovered island, one of nature's peaceful paradises before…" – A motorboat land and a picnic party starts to unload its equipment: blankets, bags, Primus stoves, a gramophone. The picnic is soon in full swing. Text: "… before 'nature-lovers' on holiday found their way to the island". The group departs – one can see the rubbish they leave behind. Text: "and the transformation of the beautiful island into a rubbish dump has begun". Trick-filming: paper, cans, bottles and rags rain down and finally the island appears as a dump." (Riksarkivet, SNF, F b 1 vol. 22).**

The author of the manuscript commented: "Thus, with instructive and beautiful scenes, the movie will teach Swedes the right way to interact with our beautiful Swedish nature." (Riksarkivet, SNF, F b 1 vol. 22). The quote illustrates how the emergence of a welfare society, new means of transportation and societal ideals led to a search for peaceful and scenic places for leisure, thus giving rise to peri-urban conflicts (FIGURE 1). Even if the national perspective is being emphasised in the quote, the trend was to be found in many Western countries: the similarities with quotes in Matless (1997) are striking.

In Sweden, peri-urban development has primarily been driven by lifestyle preferences rather than (as in southern Europe) accessible transport infrastructure (Couch *et al.,* 2007). This lifestyle is based around landscape amenities and the dream of a life in the peaceful countryside, with urban facilities close by (Bunce, 1994; Cadieux, 2008). This has come to affect the peri-urban landscape, not least through the transformation of former second homes, the location of which is based on landscape amenities. Vepsäläinen & Pitkänen (2010: 195) argue in a paper on second homes that: "From being conceived of as a space of production, the rural is now understood as a space of consumption… Countryside has become a tourism landscape appreciated for its recreational and aesthetic values." The countryside of the second home is regarded as a post-productive landscape, where a myth of the rural idyll is constantly being reproduced. Hines (2010) describes this development as rural gentrification caused by "permanent tourism" and argues that amenity immigrants from the city regard their everyday peri-urban environment as a tourist attraction and aim to transform the social and physical landscape accordingly.

Referring to the divide between production and consumption and between leisure and work, Vepsäläinen and Pitkänen (2010) and Hines (2010) emphasise the differences between urban and rural. However, recent peri-urban research shows this approach to be misleading for three reasons. First, second homes no longer play a distinct role as a summer or weekend cottage and the actual divide between first and second homes is in many cases an administrative issue rather than part of everyday life. Second, peri-urban settlers do not necessarily maintain a passive attitude, or a primarily spectatorship attitude, to their surroundings (Cadieux, 2008). Horsiculture and part-time farming, as well as specialist shops, are important economic drivers in the peri-urban zone (Elgåker, Lindholm, 2010). Third, these activities are not necessarily driven by an economy based on the divide between leisure and work. Yokohari and Bolthouse (2011) illustrate the emergence of a new category of urban residents becoming semi-professional farmers; as a consequence, they also argue the need to acknowledge a new landscape within planning – a third zone beyond the urban and rural (see also Terada *et al.*, 2010). Similar arguments are raised by Crankshaw, who criticises the description of peri-urban settlements as "too small to plow, too large to mow"; i.e. inefficient for production and expensive to maintain (2009: 219). On the contrary, he argues, these settlements are useful in protecting biodiversity. By questioning these three divides, the importance of landscape amenities for urbanisation can be critically analysed.

FIGURE 1. The development of second homes in the Stockholm archipelago in the 1930s was an important driving force for the emerging debate in Sweden on peri-urbanisation: here, landscape was the main issue for home owners and in the public debate.

During the post-war era, rural and urban policies were treated as exclusive entities within planning. With the highly modernist planning from the 1960s onwards, the separation between not only rural and urban but also leisure and work came to be embedded in the landscape, and separate spaces were pinpointed for production (e.g. farmland, industry zones, infrastructure corridors) and consumption (e.g. second home areas, nature reserves, cultural heritage sites, coastlines). Each subdivision was affected by specific policies, further contributing to mono-functional use and management. Even though spatial planning based on ecology (in its widest sense) was argued for in Sweden since the late 1960s, with national land use enquiries and landscape analysis being introduced at roughly the same time, the importance of landscape amenities for urban development was largely disregarded. Rather, it was treated as a sector interest dealt with in areas demarcated for its scenic qualities. When aiming for re-conceptualisation of the importance of landscape amenities, this is the heritage we need to encounter – a heritage which has largely been manifested in the present day landscape (Qviström, 2010b).

DISCUSSION

The historical development as well as the review of the literature illustrates the need for studies of the importance of landscape amenities for urban sprawl, not least with regard to second homes in Sweden. It also indicates the importance of highlighting commuting to work, in which the divide between work and leisure is no longer apt: the longer the distance to the second home, the more severe the traffic impact. Finally, it brings us back to the city, or rather to the small and medium town. Is it possible to provide sought-after landscape amenities within these towns or their suburbs? Such a solution would promote sustainable development. Unfortunately, the current debate in Sweden is single-mindedly focused on densification, aiming to develop urban qualities based on old-fashioned ideals of the urban/rural divide (Qviström, 2010a). This could become detrimental for small towns, creating an urban agenda they cannot achieve and at the same time destroying landscape amenities within the realm of the town.

In the project '*The Metropolitan corridor revisited*' (2012- 2014), we aim to study the urban development of small towns within the Malmö region during the 20th century, with urban-rural relations as the basis for the analysis rather than urban/rural divides. The project aims to develop methods for tracing the relational geography of the Metropolitan corridor (i.e. the landscape, including small towns and villages, which has developed along a railway), thereby revealing its character as a rural/urban hybrid. The analysis will reveal the presence of multifunctional land-use in general and the role of landscape amenities in specific. We believe that such a historical study could facilitate not only a more nuanced discourse on the identity and cultural heritage of the Metropolitan corridor but also contribute to a more nuanced understanding on the role of landscape amenities within urban development. To implement the project, we will collaborate closely with local and regional stakeholders, paying attention to the spatial and conceptual reinterpretations of the current corridor and the role of the landscape.

Terada *et al.* (2010) and Yokohari & Bolthouse (2011) illustrate how the "reinvention" of concepts within planning has nurtured land-uses beyond the above criticised modern divides of urban – rural, production – consumption and work – leisure. Historical studies and concepts are crucial coining new notions; with the reinvention of the concepts satoyama and desakota, concrete examples for "rurban" planning have been offered. This has facilitated multifunctional land-use and contributed simultaneously to the preservation of the cultural heritage (Terada *et al.,* 2010; Yokohari, Bolthouse, 2011). As argued above, not only the Japanese suffer from the results of modern planning and its spatial divides; equal reinventions are needed in the western world as a base for future planning. To acknowledge the complex and sometimes contested role of landscape for urban development is a promising point of departure for such an endeavor.

CONCLUSIONS

Based on a literature review and historical examples the paper discusses the powerful, yet sometimes elusive, role of landscape for urban development. As the project 'The Metropolitan corridor revisited' emphasises, landscape research could provide new perspectives on the process of (peri-)urbanisation by illustrating the complex role of landscape, thereby bringing forward downplayed values within planning.

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The art of landscape architecture as a development driver – the civic art era and its influence on contemporary movements in urban design

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ABSTRACT

Decades between 1880-1920 changed the view about designing cities, and gave birth to the emerging new movement, Civic Art. Significant contributions by Camillo Sitte (1843-1903), Charles Buls (1837-1914) and Charles Mumford Robinson (1869-1917) are milestones of the theoretical literature of this period. Contrary to the former thinking about town extensions – lead mainly by German theorists – Sitte, Robinson and their followers, for example Werner Hegemann (1881-1936) or Thomas Hayton Mawson (1861-1933), emphasised the aesthetic quality of the city. They regarded the design process as the Art of Town Planning. Open spaces in these plans played a crucial role in creating aesthetically pleasing and livable urban environments at the same time. Beautiful green spaces became not just drivers for developing the cityscape, but also vehicles for improving the well-being of society. In post WW II modernist theory the functionality overshadowed the aesthetics of the city and its open spaces. However, at the end of the 20th century theories such as New Urbanism, Smart Growth or New Environmentalism emphasised the importance of beauty and aesthetics again. The influence, Civic Art exerted on the late 20th century theories has been the subject of numerous research. Nevertheless, relatively little has been written on the role of landscape architecture in these theories. The power of landscape as a development driver was essential for the theorists of Civic Art, and many of the important contributors had a professional background in landscape architecture, such as Thomas Hayton Mawson and Elbert Peets (1886-1968). The research will closely investigate late 20th century Urban Design movements and their relation to landscape architecture, seeking to answer whether open space design has, or could become a development driver like at the beginning of the last century. The comparative analysis of the primary sources in both periods will shed light on the methods of the movements and also on the possible implementations into contemporary landscape design practice.

Keywords: civic art, urban design, new urbanism, open space design, landscape design movements.

INTRODUCTION

The search for, and analysis of 'beauty' in the built environment appeared in town planning theory at the end of the 19th century. These decades were marked by core theoretical writings on city aesthetics by Camillo Sitte (1843-1903) or Charles Buls (1837-1914), which regarded town planning as art.

From a landscape architectural point of view, the most important contribution among the aesthetics based writings derived from the American journalist, Charles Mumford Robinson (1869-1917), who has been the first, defining the theoretical basis for the American town planning movement, City Beautiful. Mumford's seminal book, Modern Civic Art was followed by other publications with the same approach. This period, from the turn of the 20th century until the 1930s, is the first age this paper will closely investigate, the 'era of Civic Art'.

However, in post WW II modernist theory the functionality had overshadowed the aesthetics of the city and its open spaces, in the last decades of the 20th centuries the values of Civic Art started to gain more appreciation again. The post 1960s period, the 'era of Urban Design' was also a 'Culture of good place-making' as 'Civic Art' had been (Bohl, 2009: 4)

The aim of this paper is to build up a contrastive analysis of two periods in town planning history by examining the role landscape architecture played in them. The comparative analysis of the primary sources in both periods will shed light on the methods of the movements and also on the possible implementations into contemporary landscape design practice.

RESULTS AND DISCUSSION

Birth and Golden Age of Civic Art

The guidelines of development of town planning had been various in the different European countries and in the United States of America. While in the United Kingdom the idea of Garden Cities and the improvement of the Victorian suburbs were in the forefront of the professional thinking, in Germany the engineers led city extensions and legislations were emphasised (Cherry, 1974: 31). In case of the history of urban design in the United States, the role of landscape architecture was crucial. The legacy of Frederic Law Olmsted, and his first coherent green system plans allocated the direction of the theory (Cherry, 1974: 25). Professionals from a diverse background advocated the various principles. Among the leading theorist architects, engineers, landscape architects, sociologists and journalist were also present.

The turn of the 20th century brought not just new theories into the field of urban design, but also broad international discourse, which helped the professionals from different countries and backgrounds, to spread their ideas. Conferences, such as the First Congress on Public Art in Brussels (1898), the 7th Congress of Architects in London (1906, the International Congress of Architects in Vienna (1908), the First International Town Planning Conference in London (1910), and the yearly organised National Conference on City Planning in the United States and exhibitions, such as the Columbian exhibition of Chicago (1893), several exhibitions in Paris between 1856 and 1900, and especially the City Planning Exhibition in Berlin (1910) helped to build up transatlantic relationships, which meant that American ideas could influence the European designers and vice versa. The period of 'Civic Art' can be characterized by these, also nowadays exemplary discourses. The aim of the period was to revitalise and design cities in a complex, artistic way.

'Civic Art' as a term dispersed widely after the American journalist Charles Mumford Robinson published his seminal writings, The Improvement of Towns and Cities, or The Practical Basis of Civic Aesthetics and Modern Civic Art or The City Made Beautiful in 1901 and 1903. His books echoed the aims of the 'City Beautiful' movement a "nationwide effort to bring order, system and pattern" (Wilson, 1980: 165) into the American city structures, which principles derived from the post 1860 city renewals, such as the example of Paris and Vienna, and from the park system plans by Frederic Law Olmsted. The latter was mentioned by Robinson as "the most important artistic work which has be done in the United States" (Dümpelmann, 2005: 78). As he defined "*the function of Civic Art is the making of artistic– which is to say, of aesthetically pleasant– provision for the circulation, for hygiene and for city beauty*" (Robinson, 1904: 30). Nevertheless, for Robinson this aesthetic way of seeing town planning was more than just creating beauty. As he defined "[Civic Art] represents a moral, intellectual, and administrative progress as surely as it does the purely physical" (1904: 17). Since it was a collaborative approach to think about cities, he saw it as 'municipal art', a successful cooperation between various artists, such as sculptors, painters, landscape designers "for the glorifying of civic art" (1904: 26). It also meant, that it was not art for art's sake anymore, it was art for the sake of the community, for the sake of the city, for the sake of creating livable, successful and also beautiful environments, where landscape architecture played as important role as any other art, and the systematically designed green spaces became drivers for the environment- argued Robinson (1904: 26).

The American City Beautiful Movement had also impact in England, due to the publications by Robinson, and the Chicago Plans by Daniel Burnham and Edward Bennett. The Atlantic port of Liverpool, had vibrant professional life, and was the city where the City Beautiful Conference was held in 1907. The first degree-course on planning in England in the department of Civic Design was established here at the University of Liverpool in 1909. The course contained a separate unit on landscape design, according to the principles of the American City Beautiful Movement. The lecturer of this unit was Thomas Hayton Mawson.

Mawson, the self-educated nursery owner and designer, started to put more emphasis on the role of landscape architecture in town planning from the turn of the 20th century. He published his principles in several Conference Proceedings, and in his seminal book, Civic Art, in 1911. In his writings he referred to Robinson's book as "the most delightful work on modern civic art in the English language" (Bohl, 2009: 9), and described Civic Art as the "aesthetics of town planning" (Cherry, 1993: 317). He strenuously argued for the cooperation between different professions, and for the importance of comprehensive plans. As Mawson wrote "*a town plan must be the result of the joint efforts of the surveyor, the architect, the sanitary engineer and the landscape architect*" and "*that each part of the city plan and each separate feature should be designed with strict regard to its connection with every other part.*" (1921: 81, 83).

In 1922, more than ten years after the appearance of Mawson's book, Elbert Peets and Werner Hegemann published their comprehensive book of Civic Art. The American Vitruvius An Architects Handbook of Civic Art collected the best examples of artistic solutions in city planning from the ancient times to their own period. To emphasize the role landscape architecture played in the theory of the era, one could mention a Chapter in the American Vitruvius, namely the 'Garden as Civic Art'. In this chapter the authors displayed the Stadtpark in Hamburg, together with the gardens of Versailles, as good examples for green spaces as development drivers.

As Bohl (2009: 9) stated, "[Civic Art] *was truly part of an international public discourse, a result of the robust exchange achieved through exhibitions, conferences, publications, speaking tours and formal partnerships forged between key European and American figures*". This approach defined all the aspects nowadays architecture, landscape architecture and town planning covers. The theorists of Civic Art saw this pursuit as a collaborative approach to design cities as Artworks. Crucial part of this was the creation of comprehensive plans for all different parts of the settlements, which contained not only the design of street furniture or layouts of trees, but also long term strategies for the enlargements. Green spaces in these designs were crucial parts of the artworks, as they were drivers to create liveable, sustainable and beautiful urban environments.

Improving the cityscape instead of urban landscape: the designer's attitude from the 1850's to the beginning of 21th century

From its dialogue-like nature, Civic Art couldn't be considered as a movement. It was more an attitude characterizing the designers of that time. To see its role in the urban planning theory of the 20th century, we have to take a look on the urban design movements from a wider angle.

The leading trends of the 20th century can be described through the visions of Ebenezer Howard, Raymond Unwin, Patrick Geddes, Lewis Mumford, Daniel Burnham, Edwin Lutyens, Le Corbusier, Frank Lloyd Wright, John Turner, Christopher Alexander, John Friedmann, David Harvey and Elizabeth Plater-Zyberk– their names have repeatedly recurred. Most of them were visionaries, but for many of them the time was not ripe. The visions and design proposals themselves were often utopian, even charismatic with differing linkages to the actual social-political environment. The twentieth-century city planning is often estimated as an intellectual and professional movement, which essentially represents a reaction to the evils of the nineteenth-century city – articulates Hall (2002: 7).

In England for example from the 1880's to the end of the century the main challenge of city planning has been the Victorian slums and the social pressure they have caused. A newly planned social order, mass housing and suburbanisation has come that time. London led the world in this process, followed by Paris, Berlin and New York. For the years between 1900 and 1940 Hall (2002: 8) defines four parallel urban planning movements. To find the right way to connect suburban areas to the urban core and the challenges of mass transportation arrived first. To respond to the Victorian city Ebenezer Howard made the garden-city concept. The born of the vision of the regional city and regional planning, and the grandiose city plans of totalitarian regimes have completed the era, in this lay the roots of City Beautiful. The 'City of Monuments's' (Hall, 2002) theoretical ground and the monumental tradition of city planning goes back to Vitruvius and revived in the mid-nineteenth century in the masterplans of Georges-Eugéne Haussmann and Ildefonso Cerdá. Then in the 20th it reappeared as an implementation of totalitarian megalomania.

In Europe the golden age of Civic Art run into this era: political absolutism and then the social--economic break caused by the WW II. The urban landscape and green infrastructures have lost their importance in city development for a while.

'Urban renewal' and the rediscovered importance of urban landscape

By the mid-twentieth century the functionalist modernism had become anachronistic. The public opinion argued, "that the built forms of cities should, as generally now they do not, come from the hands of their own citizens" (Hall, 2002: 9). We could find these thoughts in the Howardian garden--city and in Geddes's projects for urban rehabilitation, so in Frank Lloyd Wright's Broadacre City. John Turner and Christopher Alexander have been major thinkers of the relationship between humans and their built environment as well.

This movement culminated in the 1970-80's, as the era of 'urban renewal' had come. The urban renewal was committed to regenerate whole neighbourhoods in the city, turning them into new office quarters, shopping malls and motorways – peculiar in North American cities. These kinds of processes caused a huge change at the scale of human vitality of a city. The size and utility of green open spaces and vital urban landscapes has begun to decrease. To this phenomena the urban society responded quickly: activists and social scientists like Jane Jacobs (1961) and William H. Whyte (1988) took a powerful critique on the urban renewal policies.

Is Urban Design the new Civic Art?

The city planning and architecture disciplines could not get over the critique of the social sciences and these societal changes have caused different responses from planners and designers. While planning moved in the direction of public policymaking, architecture stood up for its individualism and independency of context and civic relationships. Bohl argues that "T*he international exhibitions that Hegemann and others organized gathered all manner of architects, planners, engineers, landscape architects, city administrators, scholars and urban reformers [...] today each group and many subgroups meet separately and regard one another's events, publications and design work with a mixture of disinterest, suspicion, perplexity or outright contempt.*" (2009:

14) The common language of Civic Art has given equal opportunities for planners, society and decision makers. Nowadays the new attitude of Urban Design is a more fragmented and conflicting internal dialogue between disciplines.

New era, New Urbanism

Following the cities of England and North America, in Western and Central European cultures appeared the community-support for urban public causes as well. Consensus design process and advocacy planning are the trends of the 21th century. The contemporary city planning and design programs are practicing the skills of soft design, their scale is as human as once the Civic Art's has been. Although the city planning and architecture are walking on a different path, the new and complex challenges of the contemporary city are common issues. Many diverse architectural languages have to be applied. The next generations of planning professionals are raised in a more open-minded and collaborative environment: they are facing cooperation-based design proposals already during their studies.

If we consider this period of time from the perspective of urban design movements, we have to reach back to the 1970's when the conception of 'New Urbanism' has come into being. By now The Congress for the New Urbanism (CNU) has become the leading organization promoting community-supporting neighbourhoods and livable urban environment. In the last decade there are dozens of new movements like 'Smart Growth, 'New Environmentalism', 'Integral Urbanism', 'Landscape Urbanism' or 'Urban Sustainability'. It is interesting that "*Robinson speaks of the civic improvement "movement", and indeed it may have been the greatest popular movement dedicated to the architecture, planning, design, and "improvement" of the city in history, and the last one to so fully enter the mainstream until the arrival of New Urbanism in the 1990s.*" – summarised Bohl (2009: 8).

New Urbanism is a system of urban design that incorporates a number of set principles which are supposed to be followed in the creation of contemporary urban space. NU provides planning principles to three scales: to the city as a metropolis, to the neighbourhood and district and to the block, the street and the building in the city. Modernist planning as mentioned before, despite its ambition, was insufficient in dealing with the organization of large scale, liveable spaces and that even previous attempts to deal with urban planning through landscape were flawed in terms of the new perspective that the Landscape Urbanism offers. After Modernism, there were various other schools of thought that tried to improve on modernism, involving architecture as the medium, including post modernism, that were equally insufficient- argues Daggers in his essay 'What is the Relationship Between Landscape Architecture and Landscape Urbanism?' (2012).

In his essay 'Landscape as Urbanism' Waldheim states that historically, it has been the role of architecture to be the building block from which urban spaces are conceived, but that as a system of understanding (urban spaces at a large scale) architecture lacks the analytical means to interpret an area (2006: 36). The categorical separation between landscape and urbanism persists today not only because of a perceived difference in material, technical, and imaginative/moralistic dimensions of these two media, but also because of a hyper-professionalized classification, a construction further complicated through competing power relations (Corner, 2006: 27).

CONCLUSIONS

The eras of Civic Art and Urban Design are easily separable in terms of time, theoretical background, and city planner's, landscape designer's attitude. While Civic Art was based on the newly invented collaboration of planning disciplines during the decades of 1880-1920, Urban Design was brought into being by the seceding of professionals around the 1960's. The World Wars, the social pull-up caused by the political orientation of Eastern- Central European states and the loss of scale of modernist city planning have forced into a broke-up the Arts of Town Planning.

During Civic Art the landscape architecture and elements of urban green infrastructures (park systems, greenways, alleys) played a crucial, orderer role in town planning. In our days the Urban Design has no complex solution or all-around accepted planning process; there are several movements applying diverse implements.

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Power of green networks for urban sustainability

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ABSTRACT

Sustainable cities are viable with green networks. This case study explores the power of urban green network to promote sustainable and livable urban environments in Sariyer, Istanbul. Sariyer covers 151km^2 area along the Bosporus and Black Sea coast. It comprises most of the Istanbul's unfragmented forests and ecologically, economically and socially significant spaces. Native vegetation cover of Sariyer is rich due to its location, morphology and high moisture rate. Nevertheless, Sariyer struggles with the challenges of urbanization: Population growth, urban expansion on natural areas, spatially and structurally changing urban matrix is just few to mention.

The current condition of Sariyer province with regards to green networks was analyzed by using GIS methods and site surveys. Existing and missing network elements were presented and measures to improve urban ecology and ecological aesthetics were proposed. Urban nature interaction was investigated through landscape and site scale examples. The findings of this study elaborate how cities can be developed to mimic natural processes, and how green networks can contribute to urban sustainability.

Keywords: green networks, GIS, Sariyer, sustainable urbanism.

INTRODUCTION

Urban sustainability is a growing concern due to the effects of global warming and population increase. The utilization of green networks proposes important opportunities for creating livable urban environments. Green networks are also essential for ecological viability of urban environments. Three major green network approaches emerge from the literature: Ecological networks, greenways and green infrastructure. Ecological networks are approaches playing an active role in the sustainable planning and management of urban areas (Jongman, Pungetti, 2005). Ecological networks are systems that provide habitat for flora and fauna while enabling connectivity in landscapes. Promotion of sustainable urban landscapes, which balances the natural and man-made environments in cities, is basic concern of ecological networks. As a sub-element of ecological networks, 'Greenways' are corridor systems of linear open spaces which provide recreational, cultural, natural and economic benefits (Little, 1995). As a relatively new approach, green infrastructure aims to improve the urban sustainability by counting on even the smallest opportunities for continuity of green system in urban areas (Benedict, 2000).

Green network approaches aim to improve connectivity between green space patches. Connectivity is an important concept for species diversity, and energy and material flow, hence supporting the ecological functioning of urban environments (Bierwagen, 2006). The promotion of green networks and corridors are perceived as efficient nature protection policy instruments in Europe and all around the world. Great numbers of initiatives has been taken in this regard (The Pan-European Biological and Landscape Diversity Strategy, Pan–European Ecological Network – PEEN, the EU Habitats Directive, the Birds Directive, the EU Biodiversity Action Plan for Agriculture). The Pan-European Biological and Landscape Diversity Strategy (PEBLDS, 1995) emphasises the role of networks in developing Pan European Networks, NATURA 2000 network, and EMERALD network.

A study in Phoenix, Arizona elaborates urban scale benefits of green networks (Cook, 2002). The network provides ecological, environmental, social, recreational, aesthetic and economic benefits to urbanites. Urban green network is a system consisting green patches, green parks and green corridors (Li *et al.*, 2005). This system can be realized in regional, local, and site scales (Tokus, Esbah, 2010). Analyses and detection of existing green network elements are essential before the city takes over them. This is also important for improving the existing structure. The objective of this paper is to analyze green system in the town of Sariyer, Istanbul. Existing and missing elements are detected through site surveys and GIS analyses, and measures to improve urban ecology and ecological aesthetics are proposed. Findings of this study elaborate how cities can be developed to mimic natural processes, and how green networks can contribute to urban sustainability.

STUDY AREA: SARIYER, ISTANBUL

Sariyer covers 151km^2 area. Sariyer province is located at the 410 north latitude and 290 east longitude, at the intersection of Black Sea and Bosporus, on the European side of Istanbul (FIGURE 1). Sariyer's neighbors are Black Sea at the North, town of Eyüp at the West, Beşiktaş and Şişli towns at the South, and the Bosporus at the East.

It comprises most of the Istanbul's unfragmented forests and ecologically, economically and socially significant spaces. Vegetation cover of Sariyer is rich due to its location, morphology and high moisture rate. In the forests, it is common to see species of *Castanea, Quercus, Ulmus, Carpinus, Tilia, Acacia and Fraxinus* (Sariyer Municilapility, 2010). Together with the development of the town, the use of forest products for heating and construction increased (Sariyer Municipality, 2010); this has negatively affected ecologically important forests. The north and west parts of Sariyer province are state forests. There are also private woodlands. Meadow like vegetation covers the rest of the open spaces in the study area. In its current context Sariyer has already a substantial green system which could be turned into green network in the future. Agricultural and industrial uses are relatively low in the town. The major industrial plants are factories of paper and match.

Sariyer province has 23 districts and 9 villages. Bahçeköy village covers the biggest area whilst Çayırbaşı district is the smallest one. Sariyer struggles with the challenges of urbanization: Population growth, urban expansion on natural areas, spatially and structurally changing conditions is just few to mention. Furthermore, the proposed third bridge over Bosporus is going to dissect the forests of Sariyer hence causing further fragmentation and urbanization. According to the latest census held in 2010, the population of Sariyer is 280,802. Rural population is 13,506 and urban is 253,649. Approximately 10% of the population is living in rural parts. The annual population growth rate is below Istanbul average. Population of Sariyer experienced a stabile population increase from 1940 to 1970. But after 1980s, the population increased even faster. Most of this population preferred to live in urban areas of Sariyer, hence transforming the landscape from a modest fishing town to a popular settlement area. Especially with the construction of the second bridge on the Bosporus (Fatih Sultan Mehmet Bridge) in 1988, not only the coastal but also inner areas were occupied. The second bridge also triggered irregular settlements in the town. After 2000, a significant population increase occurred in Zekeriyaköy and Uskumruköy due to villa type housing developments. Currently, Tarabya, İstinye, Reşitpaşa and Fatih Sultan Mehmet (Armutlu) districts are the dense population settlements in Sariyer. Also Çamlıtepe (Derbent) and Çayırbaşı districts are high density population areas. These districts have dense and irregular settlements. Derbent district has a significant increase of population by the formation of slums after 1990's. The total urban area of Sariyer covers 14,600 hectares: consisting 43,46% slums and 36,66% irregular settlements.

The third bridge over Bosporus is being proposed between Poyrazköy, Beykoz at the east of the Bosporus, and on Garipçe, Sariyer at the west. The

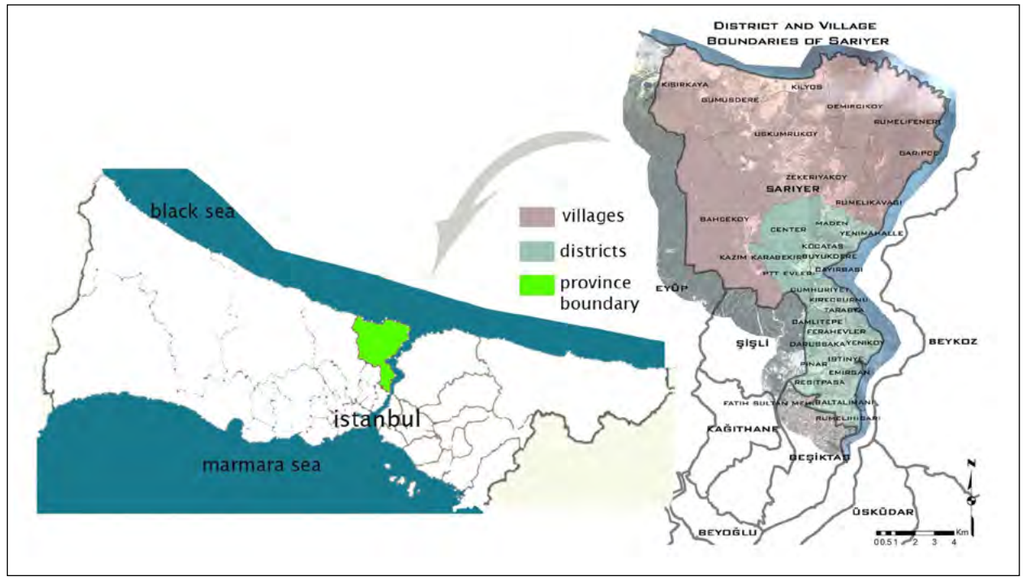

FIGURE 1. Location of the Sariyer province.

third bridge is not compatible with the 1/25000 scale North Marmara Highway Master Plan and 1/100000 scale Istanbul City Environmental Plan. Berköz *et al.* (2011) states in the expert witness report that there are 10 ecologically and biologically very important habitats on the proposed third bridge route. Moreover, Garipçe is a small coastal fishery village in Sariyer. If the sustainable planning actions are not taken on time, the construction of the bridge may cause three major problems: mushrooming of illegal settlements with high population, increasing disturbance to natural habitats, and increasing volumes of environmental problems (Tokus, 2012).

MATERIALS AND METHOD

This study mainly utilized already rectified and pan sharpened IKONOS images (dated 2005). Also, 1/100.000 scale environmental plan and 1/5000 scale master plans were used as ancillary data. Population information was obtained from the State Statistical Institute. The boundary of case study was adapted from Istanbul Municipality district map. Moreover, information about the study area was gathered from plan reports, historical documents, theses, international and local literature resources.

Green network elements were determined as patches and corridors in land mosaic of Sariyer. The typologies of green network elements (patches and corridors) were defined based on their origin (Forman, 1997). These categories included natural forest, agricultural, urban green, water surfaces, and disturbance patches (vacant lots and abandoned mining sites). Land use map generated in a previous study by Tokus (2012) was reclassified based on these categories. Obtained data were verified by site surveys. First the existing patches and corridors were scrutinized, and second, the missing network elements or the gaps in the network connectivity were displayed. The later was done through visual analysis of the existing structure, hence observing only the physical continuity of the green network elements. Because the data related to the species' behavior in Sariyer does not exist, we followed the structural connectivity approach. More in depth conclusions can be made once such data is available in the future.

RESULTS AND DISCUSSION

86% of Sariyer's landscape has potential to be included in a green network system (82% patch and 4% corridor). As part of a possible green network in Sariyer, there exist five major patch categories. In the order of their importance for ecological viability, they include natural forest patches, water surfaces, agricultural patches, urban green (vegetated urban areas), and disturbance patches (vacant lots and abandoned mining sites). There are four types of corridors in the study area: environmental corridors (natural corridors), water corridors, forest paths, and roads (FIGURE 2).

Currently, patches constitute 82% of the detected elements and the corridors constitute 4% (FIGURE 3). Natural patches hold a significant percentage (66%). Second major patch type is the vegetated recreational areas in Sariyer (8%). This category includes parks and coppices, arboretum, campuses, cemeteries, nurseries and urban agriculture plots. These introduced patches are antropogenic additions, thus their recreational, social and aesthetic attributes outweigh their ecological value.

These areas are planted heavily with exotics except for coppices and Ataturk Arboretum which are important cultural landscapes. Disturbance patches of vacant lots and abandoned mining sites constitute 6.4% of the study area. Rural settlements of Kısırkaya and Gumusdere and their vicinity are primary areas for disturbance patches. Here, not only the morphology of the site but also the native vegetation cover has been severely altered. Agricultural patches could be important elements of

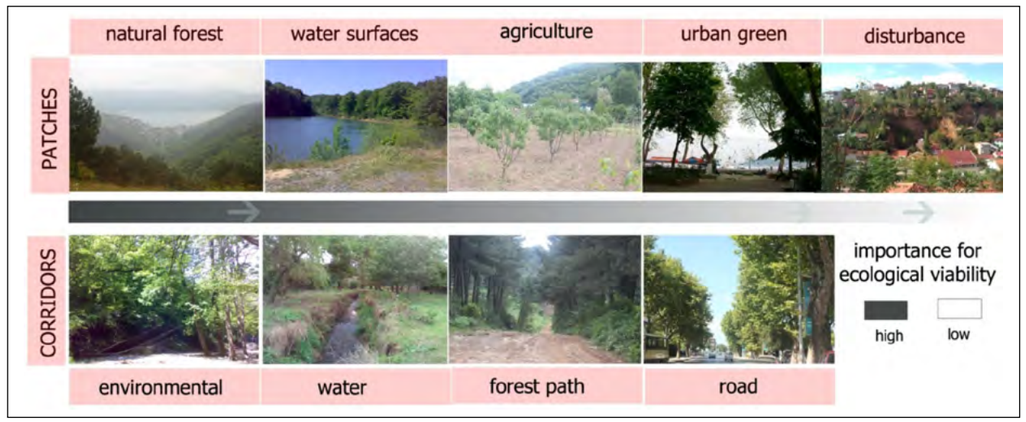

FIGURE 2. Current green network elements in Sariyer.

green networks in urban environments. They can function as buffer zones, and are compatible with natural patches more than any other patch type. 2% of Sariyer's land is agricultural land. Located mostly around Gümüşdere village, these areas are subjected to intensive agricultural practices.

There are substantial amount of natural corridors in the overall landscape. These corridors range between 77 m to 3.62 km in length. They are finely segmented hedgerows, yet they are important opportunities for connectivity especially in agricultural areas. River and creek corridors are important natural corridors. They range between 43 m to 271 m in width. Planted corridors are formed by vegetation along the roads in developed urban areas. The width of these corridors ranges between 10 m and 250 m. and the length ranges from 43 m to 22337 km. Similarly, these corridors are planted with exotics. Their width is above average compared to other urban cases in Turkey, hence wide enough to support different species movement. There are many disturbance corridors in the form of vegetation clearing to open forest roads. Average width of these corridors is 15 m which is too wide.

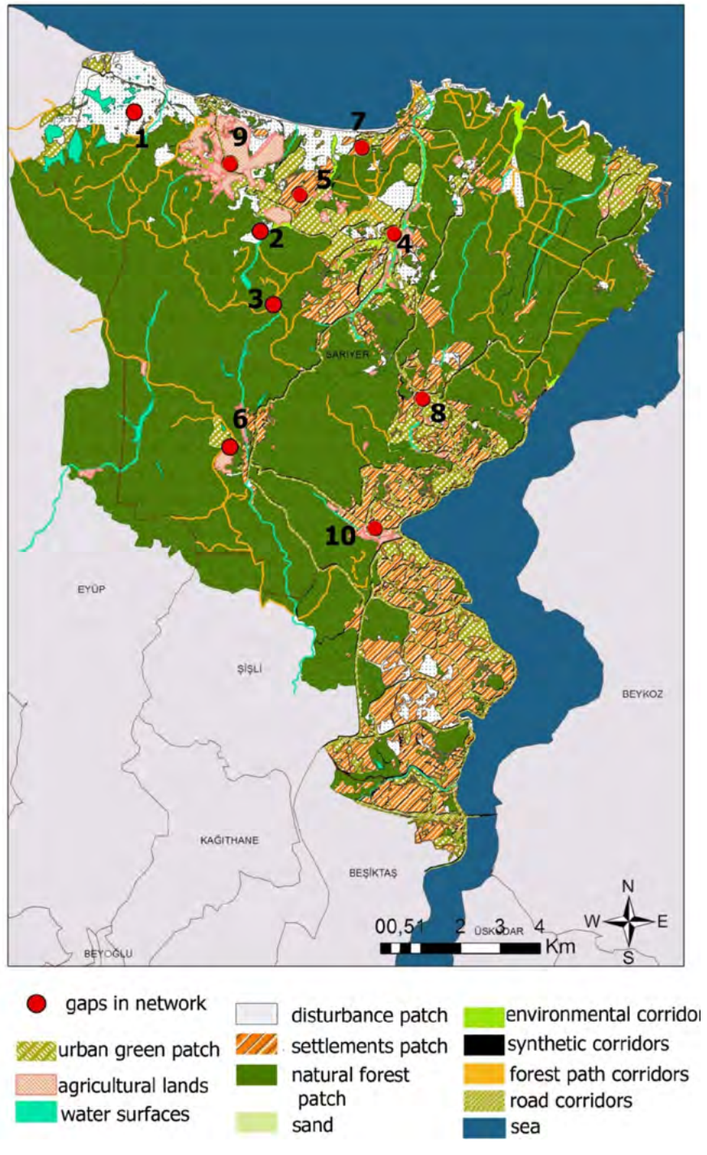

FIGURE 3. Existing green system.

In its current context, the developed sites (synthetic patches) of Sariyer proposes the biggest threat to the continuity of the natural corridors due to excessive amount of impervious surfaces and asphalt pavements (FIGURE 4). The layout and the construction of housings create barriers and cause fragmentation. The level of their impact varies based on housing opportunities by different income groups. People with high income usually resides either one of three housing styles all of which have lush exotic landscaping and adequate green space: villas, gated communities with attached housing, and waterfront mansions.

Middle income people usually live in few story apartments. Their neighborhoods are usually medium density developments with fair amount of green cover. Lower income people lives in squatter settlements or slums where the neighborhood structure and form is more organic. Here the problem is not so much of the availability of vegetation for establishing green network but is the lack of infrastructure. Imperviousness in the industrial and commercial sites is other factors effecting viability of green system in Sariyer. In sum, the following ten major points are the main drivers of the gaps in the network.

1. Gaps resulted from vacant and degraded lands.
2. Incompatibilty of the degraded lands with the surrounding natural landscapes.
3. The fragmentation of ecologically valuable forest due to villa type housing developments and forest paths.
4. Inadequate hedgerow corridors in agricultural matrix.
5. Excessive amount of exotics in villas and gated communities.
6. Lack of buffer zone.
7. Increasing imperviousness along the coastal line.
8. Old river beds converted to housing developments.
9. Cumulative effects of both agriculture and urbanization.
10. Unplanned squater settlements.

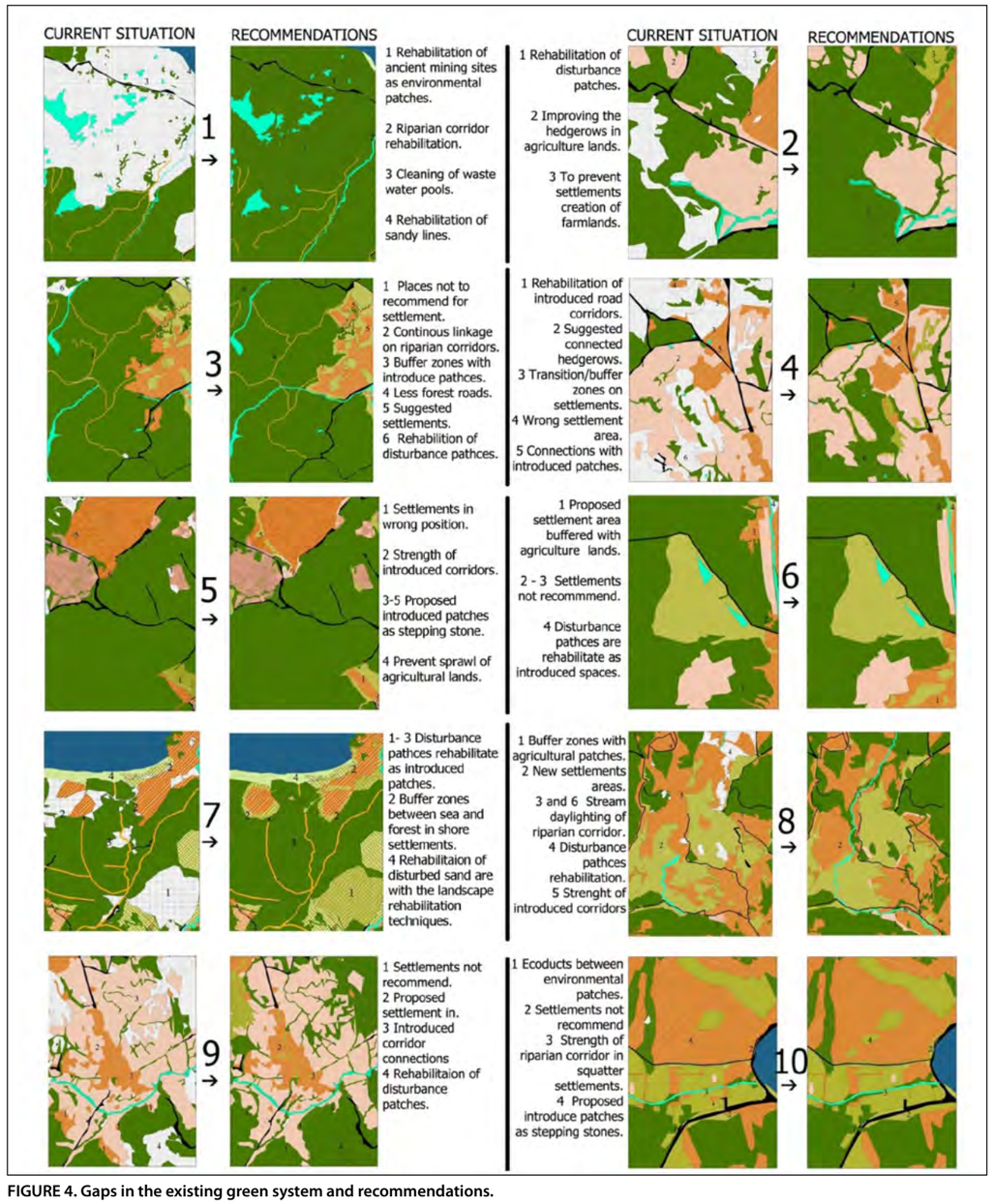

FIGURE 4. Gaps in the existing green system and recommendations.

CONCLUSIONS AND RECOMMENDATIONS

Urban development of Sariyer directly affects its surrounding forests. The expansion of Sariyer, which is faster than ever due to rapid population increase since 1990s, has been fragmenting forests. The housing style at the perimeter of the forests is primarily villas with tall walls and vast amount of exotics. Even though it is low density, this type of development increases edge effects due to its structural composition. Whilst urbanization is fragmenting forests in Sariyer, inside the urban area there are almost no remnant patches of forest. Rather, urban landscape relies on introduced patches of parks, playgrounds, cemeteries etc. In order to improve their contribution to the green system, vegetation structure in these patches should predominantly include native species, and the amount of impervious surfaces should be kept minimal. There are a lot of vacant lots or abandoned construction sites in and around developed areas of Sariyer. These disturbance patches need urgent improvements in their soil, hydrology, and vegetation cover. Similarly, agricultural patches require some improvements to be structurally more compatible with their surrounding forests. One way of achieving this is to converting existing farming practices from intensive to more organic. The other way could be to utilizing these areas as community farms, hobby gardens, and other urban agriculture uses. This will not only improve their buffer qualities but also help meeting recreational demands of urbanites. This study acknowledges the role of synthetic patches (developed areas) if they are designed in an ecologically sound approach. Using native species and previous materials, promoting energy efficient neighborhoods and buildings, utilizing green roofs and facades are some of the actions to improve ecological integrity and ecological aesthetics in Sariyer's urban matrix.

Following suggestions are presented to safeguard the integrity of green system in Sariyer:

1-Stop illegal and unplanned developments, and comply with the existing development plans, 2- Include green patches and green corridor typologies in the existing plan practices and legends, and generate policies to improve them, 3- Increase use of native plants in planting scheme of Sariyer urban area, develop regulations and policies to encourage their use, 4- Transform agricultural areas from being intensive on natural resources to being more compatible with the natural process, 5- Generate policies and finance to rehabilitate disturbance patches, 6- Pay attention to coastal dynamics and specifically to restoration of disturbed sand dunes, 7- Enlarge vegetated bands along the road corridors and road medians, employ native species for road planting, and use pervious materials as much as possible, 8- Limit the number and extend of forest paths, 9- Restore stream beds to bring back their natural structure and function, remove and prevent development in these corridors, and 10- Pay attention to hedgerows, develop policies to increase their size and continuity in agricultural and urban landscapes.

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Potential of visual exposure as objectification assessment tool of visual landscape character

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ABSTRACT

Determination and evaluation of typical landscape characteristics depends on objectively measurable attributes. Aesthetic evaluation of landscape is subjective and therefore makes its objective measurement quite difficult. It depends on the visual area perception. We have created a software tool that helps to determine landscape potential of visual exposure (PVE). PVE is the determining factor of landscape planning and assessment activities with the visual-aesthetic impact on landscape and its visual quality. PVE value is being determined by the area size that the concrete landscape point is visually identified from, or by the area size that can be identified from the concrete point. Potential of landscape visual exposure represents potential of each relief surface point to appear visually dominant in comparison to the other points of terrain surface.

Visual and potential exposure of a relief point does not represent its real visual prominence. It stands for the ability to improve visual dominance of the landscape element value being situated in the concrete point. The paper is focused on the software tool that is being used for the needs of potential visual landscape exposure determination supported by geographical information systems (GIS). GIS application is an important part of ecological and landscape planning. It is part of the education process in the field of landscape planning. The most frequently used GIS software does not offer complex solutions in visual quality landscape evaluation. The main attribute of this process is represented by the potential of visual exposure. Software tools in GRASS GIS have been developed to determine PVE. It uses analytical functions of Visibility as well as functions of region adjustment, input map to ASCII format transformation, map and mask import, and data generation. A program being used for map visualization has been created. It facilitates complex solutions of landscape potential visual exposure. The output is done by data matrix of the selected area in which each cell of matrix stands for Visibility function converted in km^2. The proposed model is in the testing phase of complex software solution determining landscape PVE.

Keywords: potential of visual exposure, landscape, landscape structure, visual connections, geographical nformation systems (GIS).

INTRODUCTION

Issues of visual connections in landscape are partly developed in many landscaping, geographical, urban-architect and landscape ecology studies.

Experimental and methodological works are the most common, but social and legislative demand in the field of visual impact assessment is higher therefore case studies and new methodologies are more common. Landscape visual connections are significant not only in historical content but also in present landscape planning and formation. Qualitative level of landscape perception is essentially a test of values. Landscape area is valuable also for its uniqueness and originality. Characteristic patterns are repeated to express the substance of land use. Any utilised landscape can be visually attractive, if its current use and structure are similar to human perceptions of appropriate utilisation.

A landscape is a set of geometric elements in a technical point of view. Particularly cultural landscape is being presented by elements with regular and linear character. Even such landscape organised in "unnatural way" can be presented as valuable from the landscape ecology point of view if it was functional. Landscape values are reason for its protection, and can be ensured with appropriate regulations and incorporation into legislative tools of landscape formation. Formulation of regulations has to be universal and objective on the basis of simple but effective assessment. Our objective is to create a universal software tool, which will be the starting platform for determination process of landscape visual connections. We have created a digital model of landscape potential as complex software solution for determining the potential of visual exposure in our experiment. In the testing phase of this experiment, we attempted to determine which areas of Slovakia are most visible and exposed from the largest possible area, while providing the best view at the same time.

ISSUES ANALYSIS

Issues of analytic and synthetic landscape recognition are elaborated inside the landscape ecology school. The principle is to learn about landscape relationship within the horizons of landscape structures. Secondary landscape structure is a reflection of its functions. We can say that arrangement of land use elements creates repetitive patterns of landscape types. Specific features are expected and assumed by their arrangement, shape, composition and repetition. Landscape visual structure is projection of human ability to perceive space and space itself. Visual structure is elaborated as part of landscape studies methodologies in the works of Oťahel (1999), Štefunková (2000). Jančura (1998) methodologically elaborates the landscape differentiation principle and its typology based on repetitive patterns. Horizontal arrangement of landscape structure and its analytical and synthetic assessment together with landscape types differentiation helps in landscape visual structure assessment by using the visual connections in it. Landscape visual connection assessment and landscape as an object of sense perception started being promoted in Anglo-American literature from the second half of 20th century. Landscape as a source of visual information was first naturalized for Lynch (1960), and later Zube, Pitt, Anderson (1974), Litton, Tetlow, (1978), Litton (1982), Smardon *et al.*, (1988). Authors understand landscape as the scenic and visual source of information in this and future works. We also understand landscape in this way. The importance of landscape visual in formations assessment is today mainly associated with (Clay, Smidt, 2004) and their landscape visual impact, for example in connection with environmental impact assessment.

Current assessments are dependent on the expertise which measures landscape visual quality subjectively.. We realize that it is not possible to evaluate landscape as a source of visual information in an exact and automatic way. Every landscape is unique and landscape visual quality depends on a combination of special landscape attributes: Zube, Sell, Taylor (1982), Jančura (1998), Štefunková, Cebecauer (2006), Salašová (1996), Vorel, Bukáček, Matějka, Sklenička, Culek (2004), Löw and Míchal (2003) and other works also promote expertise research of landscape perception.

Our ambition was to create objective platform for landscape assessment as a source of visual information. Similar issues for software solutions of visual landscape properties are in the works of Bishop (2002), Bishop, Hulse (1994) Shang, Bishop (2000), Bishop, Wherrett, Miller (2000).

The relief is that the limit for visual landscape perception, defines how every landscape spatial unit is viewable and in a visible place. We understand this limit as the basic starting point of solving the visual landscape exposure problematic.

Visual landscape connection issues in progress are the results of software options in a comprehensive landscape assessment. We use the term potential of landscape visual exposure in landscape visual connection assessment. The term is only hypothetical (because landscape surface is limited just on relief without landscape structure elements), but still remains a main attribute in the process of visual connection's determining and assessment. The state of visual landscape quality is caused by perceptual capabilities of the observer and landscape structure. According to Štefunková (2000) it is a set of landscape physiognomic and morphostructural features able function as visual attributes. These approaches are elaborated in the works of Štefunková (2000, 2004), Oťahel (1999), Jančura (1998) and they depend on indicators of landscape visual quality. According to Löv, Míchal (2003), they are physical properties of outer landscape form. These are better identified on the basis of methods of assessment of horizontal layout of landscape structures (Ružička, Ružičková, Žigray, 1978). Also the most important landscape ecology work of Forman, Godron (1986) begins with a visual perception of landscape.

Any of the most commonly used GIS software still doesn't offer the possibility of a direct visual determination. They offer functions as Visibility or Viewshed, which can identify pixels on input raster visible from one or more observation points. A complex solution is possible, when Viewshed analysis in GRASS GIS software with next programming in Bash shell is used.

MATERIALS AND METHODS

Our input in to the field of determining landscape visual connections is to present out a model of landscape visual potential (LVP) It is based on morphological properties of relief, potential visibility of the observer and Viewshed analysis function which the software offers. The resulting map of visual exposure defined in Viewshed analysis is a raster map; when each pixel carries a visibility value index (visibility value of specific point).

The principal starting point for creating the LVP model of Slovakia was to compare potential visibili-

ty of each pixel to others. Our assumption was that every point (pixel) in a landscape is potentially visible and viewable at the same time. Landscape visual connectivity is expressed by the presence or absence of visual barriers and visibility.

It takes a lot of time to calculate and create the landscape visual exposure map. The main factors that affect the duration of calculation, except the performance of a computer, are DMR resolution, area size and maximum visibility limit defined by the user.

Visual exposure algorithm was tested on a raster map. We used DEM of Slovakia (Mitášová, Hofierka, 2004) with a spatial resolution of 500 meters and 842 x 408 pixels.

A digital model was created in GRASS GIS software. The main input is a model (entry matrix) of Slovakia, where each pixel of matrix has Visibility value. Visibility was set on 50 kilometres (only to the borders of Slovakia) and observer of 1,75 metres in height. We named the output map of landscape visual exposure a map of potential visual exposure, because we didn't consider the real elements in landscape structure.

RESULTS AND DISCUSSION

We got the potential landscape visual exposure map of Slovakia and then counted in inputs with a 50 kilometre potential visibility, which was actually verified in field research (FIGURE 1).

The visual exposure of Slovakia's landscape potential is surprising but logical. Ridges of hills, uplands, highlands, and mountains visually represent the most exposed mountain parts. The altitude does not remarkably influence the values of the potential visual exposure of the landscape. We identified the mountains of Malé Karpaty, Považský Inovec, Tribeč, Vtáčnik, Kremnické vrchy, Štiavnické vrchy, Poľana, Vysoké Tatry, Čergov, Slánske vrchy, and Vihorlatské vrchy as compact areas with a high value of the potential visual exposure of the landscape.

The digital model of the visual exposure potential is a result of the software processing with the resulting scale of the visual exposure values from 1.25 km² to 4487.5 km². The biggest area visually identified covers 7850 km². The scale ranges from the minimal exposure cell with the initial value 1.25 km² to the maximal exposure cells with the maximal value 4487.5 km² of the possible visibility (FIGURE 2). The visibility of each point was derived from an area of the circle with the radius of 50 km, which presents the maximal range of visibility. The highest obtained value presents 57.16% of the total value of the visibility (FIGURE 3). Our results showed that the highest value of the possible visibility was achieved for the Zobor Hill (586 m a.s.l.) (in the Nitra region). The Zobor Hill belongs to the Tribeč Mountains and is situated in the contact zone of the Carpathian Mountains and Pannonia Basin.

Further investigations were focused on the identification of the localities with the relevant value of 25% of the possible maximum. We made a new digital model of the visual exposure potential with good readability of high visual quality (FIGURE 4). This digital model defines the areas with the visibility from 25% to 57.16% (the maximal value). A map with the most potentially visually exposed areas in Slovakia's landscape was created by the data visualization. The highest visually exposed areas were the mountains of Malé Karpaty, Slánske vrchy, and Vihorlatské vrchy.

FIGURE 1. The Mountains of Zoborské vrchy from 50 km distance.

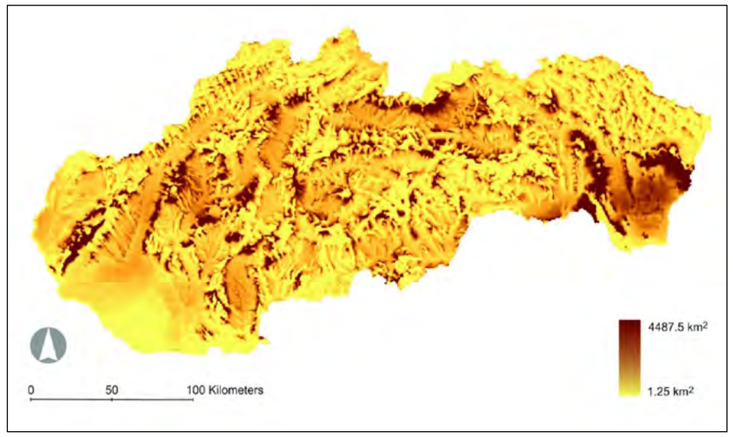

FIGURE 2. The potential of the landscape visual exposure of Slovakia.

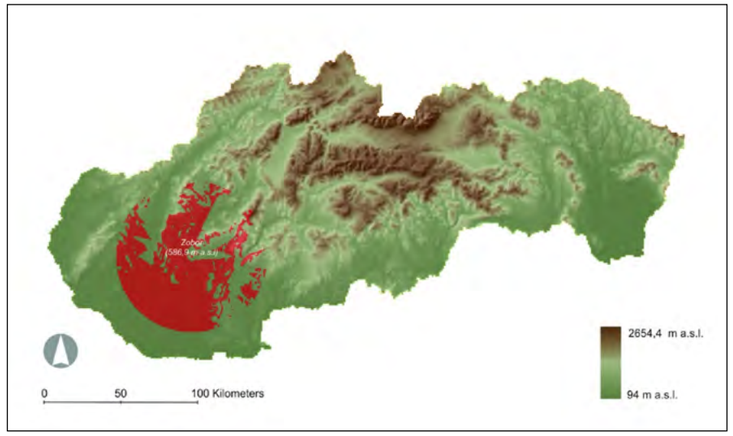

FIGURE 3. The location of the highest value of the visual exposure obtained with the radius of 50 km presenting the maximal range of visibility. The Zobor Hill (586 m a.s.l.), Nitra.

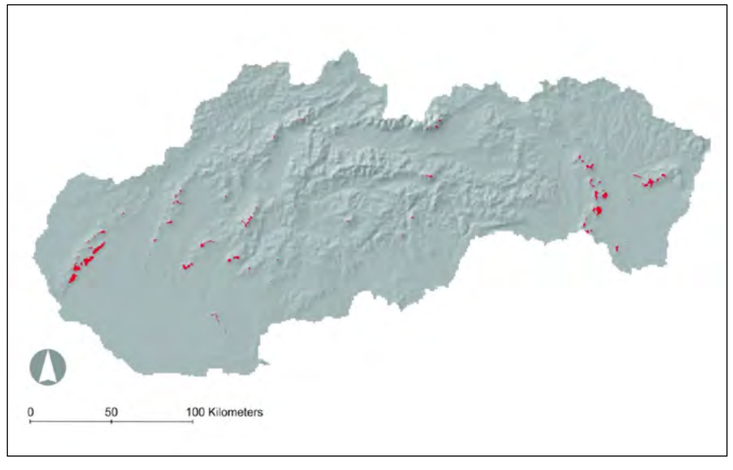

FIGURE 4. The identification of the potential visible areas exceeding 25 % of the possible maximal area.

These observations are in agreement with our assumptions because of the adjacent lowlands (the Podunajská and Záhorská nížina (lowland) in contact with the mountains of Malé Karpaty on the west and the Východoslovenská nížina (lowland) in contact with the mountains of Slanské vrchy and Vihorlatské vrchy on the east of Slovakia). Similarly, the mountains of Zoborské vrchy with the peaks Zobor (585 m a.s.l.) and Žibrica (617 m a.s.l.) are surrounded by the wide Podunajská pahorkatina highland, which enables one a wide view of the localities. Smaller areas with the relevant value of 25% of the possible maximum are scattered over the whole area of Slovakia with culmination on hilly and mountainous parts of the Zoborské vrchy – Zobor (586 m a.s.l.), Štiavnické vrchy – Sitno (1009 m a.s.l.), Pohronský Inovec – Veľký Inovec (901 m a.s.l.), Považský Inovec – Marhát (748 m a.s.l.), Inovec (1042 m a.s.l.), Malá Fatra – Veľká lúka (1476 m a.s.l.), Veľký Kriváň (1709 m a.s.l.), Nízke Tatry – Chopok (2023 m a.s.l.), Kráľova Hoľa (1948 m a.s.l.), Vysoké Tatry – Gerlachovská štít (2664,4 m a.s.l.), Lomnický štít (2632 m a.s.l.), Poľana – Poľana (1458 m a.s.l.), Slánske vrchy – Šimonka (1092 m a.s.l.), Makovica (981 m a.s.l.), Bogota (855 m a.s.l.), and Vhorlatské vrchy – Vihorlat (1076 m a.s.l.). These localities are identical with the scenic and cultural and historical symbols of Slovakia.

CONCLUSIONS

Our results are part of the testing phase for the direct visual exposure potential determination of Slovakia. If we combine the potential visual exposure map with land use elements, we get real visual exposure. The Visual exposure model and current landscape structure elements can be part of environmental impact assessment, but basic landscape values must be identified first.

It is also possible to identify areas with high importance as landscape attributes, when we use visual exposure potential in detail. Landscape visual aspects provide information about landscape elements and its character. According to Jančura (1998) it is a landscape system of attributes, which can be a primary assessment of elements. We can use landscape visual exposure potential as a basis for landscape planning processes, especially where activities are planned with visual-aesthetic impact. This issue is very practical with rising number of investments in to activities in landscape. The importance of potential landscape visual exposure increases with the force of 49/2002 law or in protection of cultural heritage with significant panoramas. Conservation of characteristic landscape panoramas and countryside views, that are signified by the condition of relief and area exposure is important but we still don´t have system and regulation for objective assessment. We see very close correlation between landscape visual characteristics and basic landscape functional properties preservation. Landscape elements ensuring landscape functions are its primarily identification attributes at the same time.

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Landscape as a Development Driver for the Semmering Region

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ABSTRACT

The landscape at Semmering Region represented at several times over the history the starting point for new regional development. The different ways of dealing with landscape can be described as conquest, discovery, and preservation of landscape. Each phenomenon has a different impact to the development of the cultural landscape. The paper is based on qualitative literature review and on deep reflection on the region itself. The paper points out the interdependence between infrastructure, architecture, natural processes and man made natural processes and declares all these as parts of the landscape (cf. Meyer 1993). This understanding of landscape implies constant change and has to be developed carefully.

Keywords: infrastructure and landscape, landscape change, railway.

INTRODUCTION

The Semmering Region is one of the last branches of the Austrian Alps, about 70 km south of Vienna. The mountainous topography forms a powerful barrier on the way from Vienna to the south. Through the history the existing landform was reconfigured by several interventions not only for transport infrastructure. The pre-existing landscape asked for special solutions in order to overcome the Semmering pass. These interventions strongly influenced the development not only of the immediate surrounding but also of the whole Semmering Region. Which role played the power of landscape in different stages of history and how was the region influenced by this power?

MATERIALS AND METHODS

This research contains a deep reflection based on a thorough analysis about the development of Semmering Region. Three mile stones marked through distinctive changes were extracted out of the history. The paper discusses the cause for this changes, the changes itself as well as their impact on the region. A qualitative literature review delivered results concerning the process of development in the region as well as the regional identity. The role of landscape in all three cases is explicitly described and finally compared and discussed in the context of the contemporary use of the term landscape. The paper is based on the main literature to the Semmering Region on primary sources as well as on Elizabeth Meyers (1993) contribution to the landscape discourse: "The Expanded Field of Landscape Architecture".

RESULTS AND DISCUSSION

Conquest of Landscape

The first trail over the Semmering was already built around the time of Christ's birth. In 1160, a hospice was founded at the Semmering and at the same time, a simple mule track for the transportation of goods has come into being. Up to this time, the countryside all over Europe was in a self-deve-

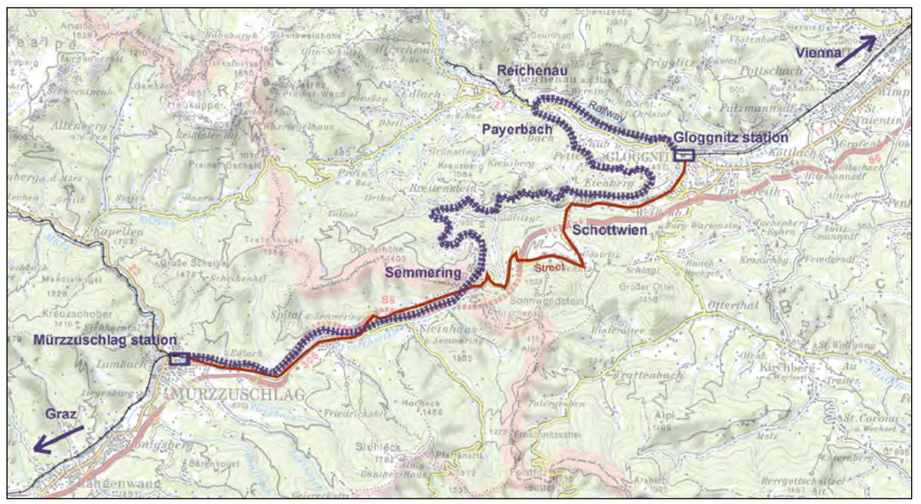

FIGURE 1. Semmering Region.

loping condition, which Friedrich Achleitner characterises as follows: "This condition could be described as paradisiacal but it has a catch – as usual in paradise: that those living in it cannot appreciate it" (Achleitner, 1997: 165). In the 18th century trade connections were established all over Europe and as a consequence of it a strong need for international trade routes emerged. In 1728 the Emperor Karl VI commissioned to build a network of major streets, the so-called "Commercial-Straßen" through the Monarchy. In the course of this investment also the street over the Semmering was improved. From 1839-1841 a second street connection over the Semmering was built. At Semmering pass the so called "Carolus Memorial" refers to this conquest of landscape until today.

This new built infrastructure had a broad impact on the landscape. It offered a way to save time not only for the transportation of goods it had also a strong influence on the overall development of the region. The towns Gloggnitz, Schottwien and Mürzzuschlag on the base of the Semmering became increasingly important. Locations for blacksmiths, horse and cart enterprises as well as accommodation facilities were built and the growing towns became important regional centres of that time. Moreover it was the place where the traveller had to pay road charges. The towns retained their central role in the region as long as the pass was crossed with carts and horses. The conquest of landscape was the driver for the urban development of these towns.

DISCOVERY OF LANDSCAPE

In the 19th century the means of transportation was the railway. Due to the industrialisation, man's attitude towards his environment changed strongly. The terms technology and nature suddenly oppose each other without anyone realising that they strongly interact. The understanding of landscape described in binary sets like man-nature, culture-nature and architecture-landscape goes back to that time and has been cultivated all over the 20th century (cf. Meyer, 1992: 46 f).

Also, the Semmering Region was reached by the new transportation technologies which over time changed the perception of landscape strongly. 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 passengers travelling by train from Vienna to the south had to get off the train and the Semmering had to be overcome via horse and cart. Again improvement for the trade routes from the Baltic Sea via Vienna to the Adriatic Sea and of course strategic considerations provided the trigger to build the railway across the Semmering. It was, eventually, the revolution in March 1848 that initialised the beginning of the railway construction across the mountain.

The landscape, marked through an extreme topography, was not the ideal place for the new means of transportation. The landscape seemed to be insuperable. In the years 1848-1854, the 42 km long missing link of the railway line over the Austrian Alps was constructed. The connection of the royal seat of the Danube Monarchy, Vienna, with its most important seaport, Trieste, was completed and thereby, the Adriatic and the Baltic Regions were connected. The railway was a pioneer work of that time. An intensive involvement with topography took place in order to figure out the best location of the line in the landscape. Carl Ritter von Ghega, the engineer of this railway, described this process: "Indeed, I had to view the environment again and again in order to figure out the entire terrain" (Ghega, 1989: 16). For the line the maximum rise of 25‰ and the minimum curve radius of 190 m present the two main technical parameters. Following the slope on one side into the valley the rail line turns crossing the valley and follows the slope on the other side of the valley, constantly gaining altitude. In this way the rail track reaches the summit via several viaducts and tunnels. In 1854, the opening date of the railway, the station at Semmering was the highest railway station in the world. The railway together

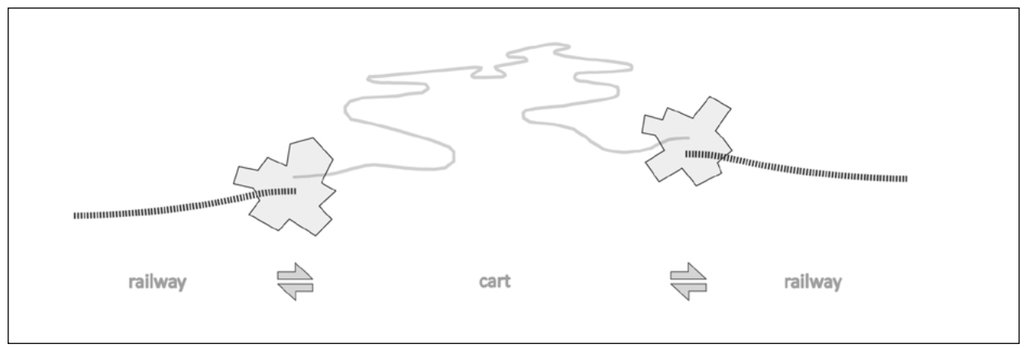

FIGURE 2. Interchange from railway to cart as development driver.

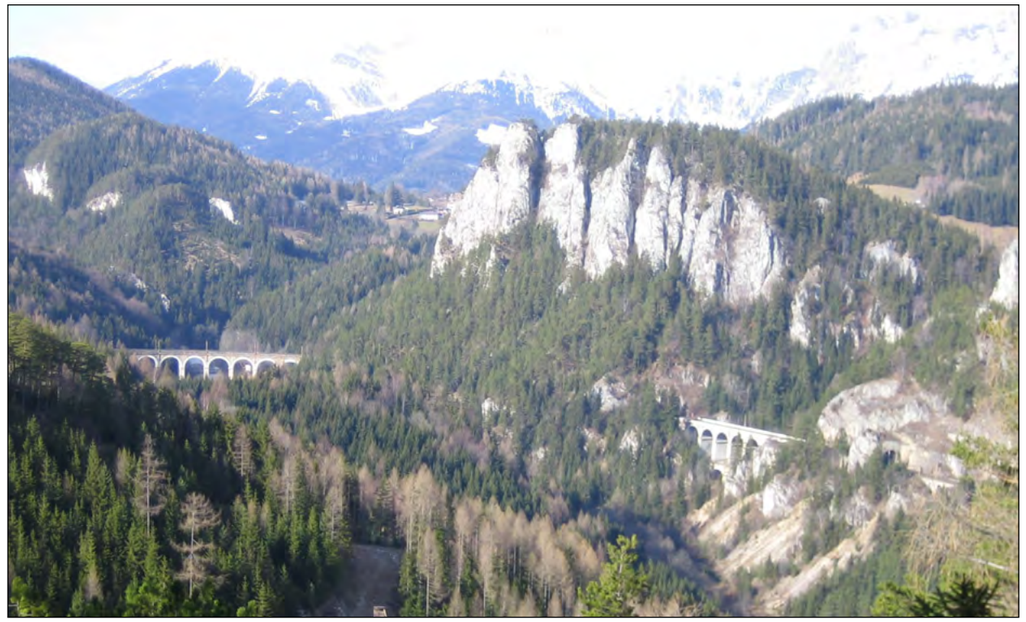

FIGURE 3. Semmering railway, infrastructure and mountainous landscape.

with the landscape came into public consciousness. Which influence did the railway as an infrastructural project on the development of the Semmering Region have?

Soon the exceptional quality of this landscape was discovered by the Viennese bourgeoisie which had a big effect on the whole region. Eduard Warrens, a civil servant at the board of trade, who was responsible for the public relations for the railway project, had become familiar with the region already during the construction period of the Semmering railway (1848-1854). He was one of the first who chose the beautiful landscape of the Schwarza valley to build a summer residence in Payerbach above the Schwarza meadows near to the base of the Semmering. The villa was designed in the neo-Gothic style and was publicised in the architectural journal "Allgemeine Bauzeitung" (cf. Anonym, 1866: 339f). The villa was exemplary for the following projects. The discovery of the landscape began. In 1870, the house of the Austrian Emperor represented by the archduke Karl Ludwig engaged the architect Heinrich von Ferstel to build the villa Wartholz in Reichenau, which served as official summer residence for the house of the Emperor during the last years of the Danube Monarchy. The House of the Emperor was followed by the House of Rothschild, a banking dynasty, who also built a villa for representation. The Rothschilds chose a site close to the villa Wartholz but a little bit upwards on the slope. Their residence was not only larger but its location was better as it provided the possibility to look "down" onto the villa Wartholz, which can be read as a sign of demonstrating the distribution of power in the monarchy in these days. The winner of this building contest in society was the region of Payerbach-Reichenau, which prospered as summer resort during the last years of the Danube Monarchy (cf. Schwarz, 1992).

Near the summit of the Semmering, at 1000 m above sea level, a different type of country houses came up. The Viennese royal sculptor Franz Schönthaler was the first person to build a villa for himself as a place to stay during the summer in the Semmering Region, his architect was Franz Neumann. While the villas at Payerbach and Reichenau basically had representational functions, the country houses near the Semmering pass were built for private recreational reasons. A lot of public people from the Viennese bourgeoisie and artistry followed him. Also the architect Franz Neumann built a villa for himself. He was inspired by the landscape, which he had probably discovered through the project he accomplished for Schönthaler. A unique European colony of villas developed in the regionalist style of Swiss houses, which reflects the special interest in the morphology of anonymous architecture at that time. The Semmering Region was discovered by the Viennese upper class and intellectual elite.

The Association of the Southern Railway of the Danube Monarchy (k.k. Südbahngesellschaft) understood itself as a travel agency and thus, they provided not only the means of transportation like the rail track and the trains but also a number of hotels along the railway lines leading to the south

of the Monarchy. For their hotels, they chose places in particularly beautiful parts of the landscape like the Semmering. The architect of the Südbahnhotel at the Semmering was Wilhelm Flattich. A short period after the hotel at Semmering had been opened in 1882, it was necessary to enlarge it in several steps. The style was related to the regionalist style, inspired by the anonymous architecture of the Alpine region. Even in advertisements for the hotel, we can find the Semmering described as "the Austrian Switzerland" (die österreichische Schweiz). One of the leaseholders of the Südbahnhotel decided to build and to run another hotel close to the railway station Semmering, the Panhans hotel. In 1888, he also started with a small building which had to be enlarged after a short while. The Semmering prospered as a tourist region and soon, also the health insurance company followed and built a spa hotel on the Semmering (1909). The Semmering became a recreation area near Vienna, which often refers to the Swiss Alps, like the phrase "the Austrian Davos" (das österreichische Davos) shows. During the last years of the Danube Monarchy, the region had its last upsurge. After World War II, the three large hotels were left damaged and it took some years to reopen them. But the region did not recover after the war and in the 1960s and 70s, all three proprietors had to shut down their hotels. Only the Panhans hotel reopened again and is run today as a luxury hotel with a tourism college connected to the hotel.

Preservation of Landscape

During the 20th century the railway as a pioneer work on one hand and the cultural landscape created by the villas and hotels on the other hand became more and more recognized. Interests came up to put the region under protection. Already after World War I the question of preserving the Semmering railway as a national monument arose for the first time. The region is well known for its mountainous scenery and the cross over of Panonian and Alpine flora. In 1955 it was declared as a protected landscape area. In 1997 the whole railway structure including rail track, viaducts, tunnels and stations was declared as national heritage. Finally in 1999 the Semmering railway together with the surrounding landscape was listed by the UNESCO as a world heritage. The Semmering railway was the first railway in the world which was listed by the UNESCO. "The Semmering Railway represents an outstanding technological solution to a major physical problem in the construction of early railways. With the construction of the Semmering Railway, areas of great natural beauty became more easily accessible and as a result these were developed for residential and recreational use, creating a new form of cultural landscape. (UNESCO/CLT/WHC,1998)".

Again landscape was the starting point for new development. Today the cultural landscape which was developed in a process over more than 150 years has the power to initiate new activities for the region. Several initiatives force soft tourism in the region. For example a hiking path along the rail track was built, a railway museum was founded, centres of information at the stations were established and an annual conference concerned with the world heritage started this year. Semmering landscape gained a role as respected heritage region.

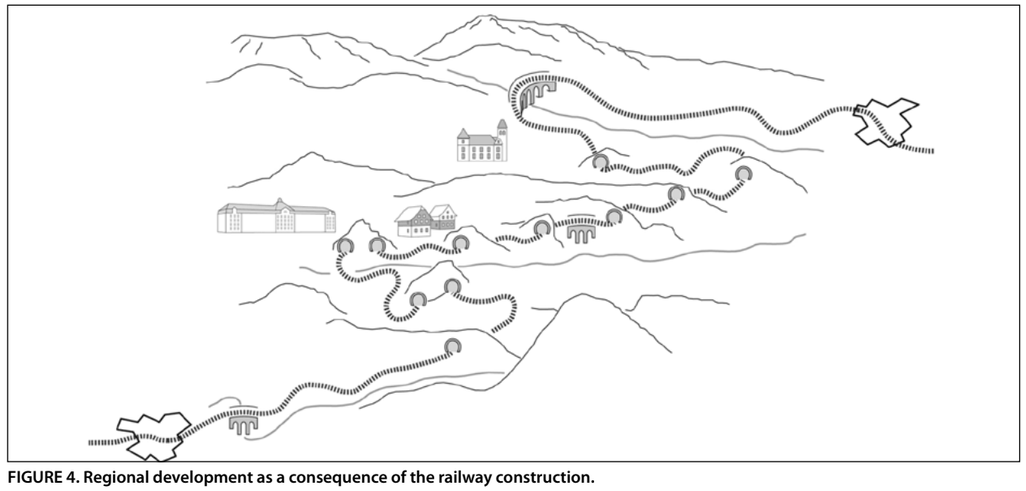

FIGURE 4. Regional development as a consequence of the railway construction.

The role of landscape changed at Semmering due to the construction of the railway, landscape was spotlighted by the Viennese society, and together, the landscape, railway, and architecture present a unique cultural landscape. During the 20th century structural changes affected the region badly. The interest of tourists for the region was decreasing and the Semmering lost its importance as a recreational area.

CONCLUSIONS

Conquest – Discovery – Preservation

According to the contemporary understanding of landscape, infrastructure, settlements, villas for representation and recreation, grand hotels, mountainous topography, vegetation and also man are part of one system called landscape. Infrastructure and landscape are no longer opposites; they are interdependent. Landscape understood in this holistic way is formed by human interventions as well as by natural processes, some of them also initiated by humans. The existing landform of ancient times represents the basis for several changes through history. Landscape forms an enduring ground, on which all kinds of interventions have influence and leave their marks. The permanence of this figured ground, as Elizabeth Meyer (1993: 53) puts it, is not removable and saves the continuity of landscape. The permanence and power of landscape as a driving force for development is shown through the history of the region. Conquest, discovery and preservation of landscape are observed phenomena at different stages. They all had extensive influence on the landscape. A holistic view on the landscape and a commitment to human interventions of a high design quality are the basis for the powerful development of the Semmering Region also in the future.

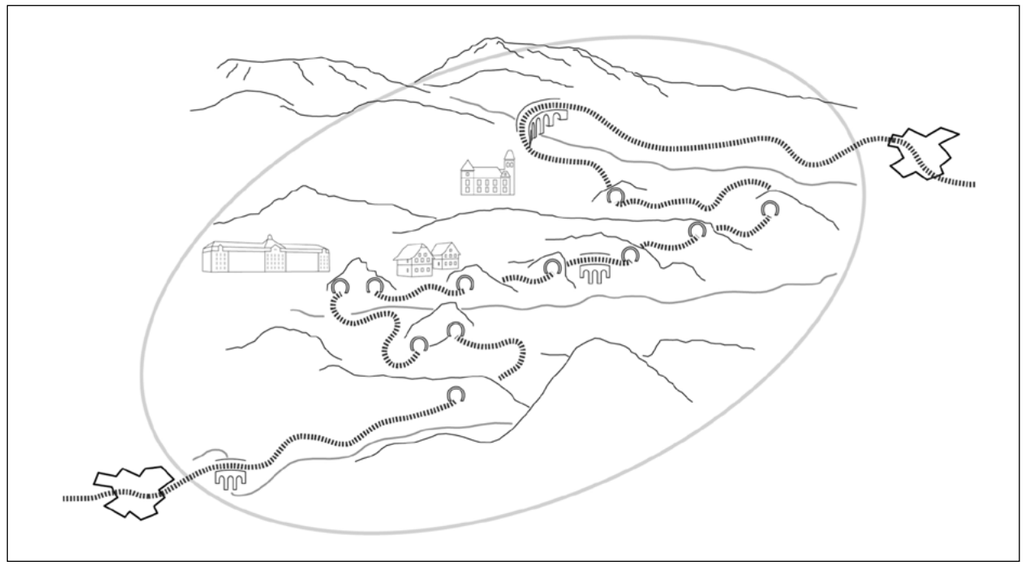

FIGURE 5. Landscape, infrastructure and architecture form together with a new cultural landscape.

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Interaction Between Landscape Change and Landscape Quality: Example of Turkey, Düzce Aksu and Uğursuyu Basins

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ABSTRACT

Spatial and timing scales are the basic subjects that are required to be well analyzed in the studies regarding the landscape change. Changes in structure and function of the landscape also shift according to spatial and temporal scales. Successful management of the changes in structure and function of the landscape is necessary for the sustainability of landscape quality. In literature, ecological and visual landscape quality has been studied with regards to the landscape quality.

Classification of landscapes of countries, determination of landscape quality objectives and developing conservation and management proposals are emphasized in European Landscape Convention as well. As a result of the studies conducted, it has been revealed that the criteria used in the ecologically based and visually based evaluations of landscapes are substantially mutual. However, ecological evaluation methods with regards to landscape quality tend to be more objective than the visual evaluation methods. As a result, landscape change and the landscape quality are directly related to each other.

This study was conducted in basins of Uğursuyu with an area of 359,5 km^2 and Aksu with an area of 279 km^2. In this study, by adopting an approach based on landscape ecology and using a method based on the analysis of the processes that occur within the landscape in Düzce Aksu and Uğursuyu Basins, the following were analyzed: water, habitat, biodiversity and stream corridor properties of the landscape; the landscape quality created by cultural landscape functions; erosion, landslide, flood, pests, spreading pollutants and the factors arising from Hydroelectric Power Plants which reduces the landscape quality. In conclusion, comments and some proposals were given with regards to the interaction between the landscape qualities achieved in the basins and the landscape change, as well as the decision making processes in landscape planning.

Keywords: landscape change, landscape quality, landscape planning, Düzce, Aksu and Uğursuyu basins.

INTRODUCTION

Landscape is a mosaic of land stretching out for miles where specific local ecosystems and area uses are constantly repeated (Forman, 1995). According to European Landscape Convention, "Landscape", as perceived by people, is an area whose character is formed as the direct result of natural and/or human interactions. Three substantial characteristics of landscape, which are emphasized by landscape ecology, are structure, function and change (McGarigal, Marks, 1994). Structure of the pattern of a landscape or a zone, consists of three types of components: patches, corridors and matrix (Dramstad *et al.*,1996).

According to the dictionary of Turkish Language Association, "quality" is defined as "the situation of bearing the best known attributes" (Anonymous, 2012). In literature, studies regarding the subject of the landscape quality focus on ecological and visual landscape quality.

In different publications on visual landscape quality, expert and perception-based approaches are used in the evaluation of the landscape quality (Daniel, 2001; Dearden, 1980; Dramstad *et al.*, 2006; Lothian 1999; Arriaza *et al.*, 2004; Ramos *et al.*, 1976).

Landscape change focuses on functional and structural changes of the ecological mosaic which form the landscape over time (Uzun, 2003). Changes in the function and structure of the landscape vary according to the spatiotemporal scale.

Patch – corridor – matrix model is used in landscape planning, landscape evaluation, establishment of protection and improvement policies such as management, restoration etc. and analyses regarding landscape structure, function and change (McGarigal, Marks, 1994; Forman, 1995; Dramstad *et al.*, 1996; Uzun, 2003; Uzun, Gültekin 2011; Uzun *et.al.*, 2011).

Purpose of this study, which focuses on Duzce Ugursuyu and Aksu basins, is setting forth a method for determination of the landscape quality; according to the method, creating strategies to constitute the basis for planning decisions which also include landscape change, and making some suggestions regarding the basins.

MATERIALS AND METHODS

This research was conducted in Ugursuyu Basin of 359.5 km^2 and Aksu Basin of 279 km^2, both of which are within the Province of Duzce. Duzce is located between two major metropolises: the capital city Ankara and Istanbul. Being very rich in terms of water resources, the district is situated within the Great Melen River Basin in the No. 13 Western Black Sea Basin, which also provides drinking water for Istanbul. The study area, which is located between 0° 42′ 20,27′′- 40° 37′ 09,21′′ Northern Latitudes and 31° 08′ 16,89′′-31° 13′ 02′′ Eastern Longitudes, covers a total surface area of in 638.5 km^2 (FIGURE 1). The study area is closely related to Northern Anatolian Fault Line. Efteni Lake Wetland and Wildlife Development Area, which is one of the most important wetlands in the district, is situated in the intersection point of Aksu and Ugursuyu basins. Province of Duzce is under the influence of the humid and mildly harsh climatic conditions encountered the coastal areas of the Black Sea Region. The province's average annual temperature is 13.0°C and average annual precipitation is 823.7 kg/m^2.

FİGURE 1. Location of Study Area.

In the study, an approach based on landscape ecology was adopted and a method based on the analysis of the processes occurring within the landscape of Duzce Aksu and Ugursuyu Basins was used (TABLE 1). Different methods were utilized during the execution of analyses (Uzun *et al.*, 2011).

In the first stage of the research, an inventory study was conducted for natural and cultural landscape components of the research area. Information such as the conditions of climate, soil, geology, hydrology, flora, fauna, socio-economical structure, village settlements, agriculture, forest, tourism etc. were transferred into the digital medium through Geographical Information System (GIS). Current database was created in the ArcGIS 9.3 program. During the land explorations and surveys with the village headmen, it was made sure that the natural and human based criteria which enhance and reduce the landscape quality in the research area were determined and recorded by photographs.

In presentation of the water function of the landscape, grades of infiltration zones were mapped according to soil structures and rock permeability values. The areas with high permeability were referred to as "the areas with high landscape quality." In presentation of the habitat function of the landscape, "patch – corridor – matrix" model was used. A habitat function map of the landscape was formed by evaluating the patch size and number, patch shape, patch edge and core areas. The areas with high habitat function was referred to as "the areas with high landscape quality." In presentation of the bio-diversity function of the landscape, vegetation maps which had been classified according to the categories of International Union for Conservation of Nature (IUCN) were used. The landscape quality was referred to as "high" in the patch grades related to the points which harbor endemic species. For evaluation of the stream corridors within the landscape in relation to the landscape quality, the patch grades with natural vegetation that are directly related to each main stream corridor were assessed. The patch grades which are in contact with the streams were referred to as having "high level of landscape quality." In the evaluation of the cultural function of the landscape, the settlement units with high cultural landscape function were referred to as having "high landscape quality." A landscape quality map was formed by overlaying water, habitat, bio-diversity, stream corridor and cultural function maps of the landscape as the factors enhancing the landscape quality. Following the overlaying process, both basins were classified into three types of landscape: Very High Quality, High Quality and Average Quality.

In presentation of the erosion potential of the landscape, potential soil erosion risk maps were obtained. Areas with high soil erosion risk in those maps were referred to as "the areas reducing the landscape quality." Areas where landslides occur or have the risk of occurring were referred to as "the areas reducing the landscape quality." The areas

with the risk of flooding in the basins were determined and evaluated in accordance with the landscape quality objectives. Problems Related to Spread Contaminants were mapped and evaluated as "the factors reducing the landscape quality." Hydroelectric Power Plant (HPP) projects within both basins were referred to as "the areas reducing the landscape quality." The areas which include forest pests in the basins were referred to as "the areas reducing the landscape quality."

TABLE 1. Stage of the Research Method.

Stages	Details
1. Inventory	Elements of Natural Landscape Elements of Cultural Landscape
2. Data base	Establishing a data base by the help of Geographical Information System
3. Land observations and questionary with village	Land issues and photographing of key points
4. Ecological Quality of Landscape	
5. Basic functions of Landscape for the ecological Quality of Landscape	Landscape Water Function Landscape Habitat Function Landscape Biodiversity Function Stream Corridors Landscape Cultural Function
6. Reducing Landscape Ecological Quality factors Nature and Human Disturbance	Landscape Erosion Potential Landscape Landslide Potential Problems Caused By Floods Problems Caused By Spreaded Pollutants Problems Caused By Hydroelectric Power Plants Problems Caused By Pests
Evaluation of Landscape Quality and Interpretation of Changes	

In the last stage of the method, the criteria which create the ecological quality of the landscape and the criteria which cause reduction in the ecological quality of the landscape were overlaid in ArcGIS 9.3. As a result, "Factors Enhancing the Landscape Quality" and "Factors Reducing the Landscape Quality" maps were obtained. Both maps were evaluated according to TABLE 2 by using the information on the database and as a result, "landscape quality" maps were obtained. Eventually, based on the landscape quality objectives, evaluations were made about the area related to landscape change. For conducting the analyses in relation to the method, GIS program ArcGIS 9.3 and its extensions were used as well as the Patch Analysis (Rempell 2010) program which works under ArcGIS.

RESULTS AND DISCUSSION

As a result of the implementation of the method to Aksu and Ugursuyu basins, the areas with Very Degraded Landscape Quality, Degraded Landscape Quality, Medium Degraded Landscape Quality, Little Degraded Landscape Quality and Non-Degraded Landscape Quality were determined as shown in the table and were mapped (TABLE 3, FIGURE 2, 3, 4).

TABLE 3. Landscape Quality Degrees in Aksu and Uğursuyu Watersheds.

Landscape Quality Values	Uğursuyu Watershed (km²)	%	Aksu Watershed (km²)	%
Very Degraded Landscape Quality	0.4	0.11	35	12.54
Degraded Landscape Quality	11	3.06	11	3.94
Medium Degraded Landscape Quality	198	55.08	119	42.65
Little Degraded Landscape Quality	150	41.73	114	40.87
Non-Degraded Landscape Quality	0.1	0.02	-	-
Total	359.5	100	279	100

Very degraded areas in Ugursuyu Basin are clustered in the parts which are closer to the main road and settlements. Southern parts of the basin have higher landscape quality. However, as we proceed to the north of the basin where settlements and hazelnut farming areas around them are located, degradation in the landscape quality starts to rise (FIGURE 2).

TABLE 2. Quality Criterias Used to Determine the Ecological Landscape.

Landscape Quality	Reducing Landscape Quality Criterias					
	Negative Effective Landscape					
	Very High	High	Medium	Low	VeryLow	Non
Very High	VD	D	MD	LD	LD	ND
High	VD	VD	D	MD	LD	ND
Medium	VD	VD	D	MD	MD	ND
ND: Non-Degraded Landscape Quality, LD:, Little Degraded Landscape Quality MD: Medium Degraded Landscape Quality D: Degraded Landscape Quality, VD: Very Degraded Landscape Quality						

In Aksu Basin; the immediate surroundings of the stream, the parts which had suffered landslides, the parts around the transportation network and the settlements have a very high level of degradation in the landscape quality. This condition is particularly encountered in southwest – northeast direction of the basin. Degradation in the landscape quality reduces in the southern part of the basin due to presence of a forest cover. Unless necessary measures are taken in the parts of the basin which have very degraded landscape quality, a landscape change that will cause negative shifts in the landscape quality will occur (FIGURE 3).

Definitions and suggestions regarding the grades of the research area which had been established according to "Landscape Ecological Quality" are as follows:

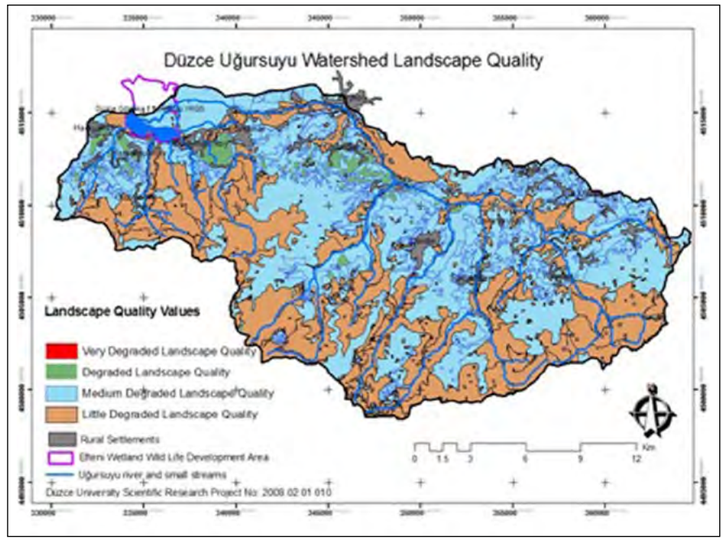

FİGURE 2. Landscape Quality in Uğursuyu Watershed.

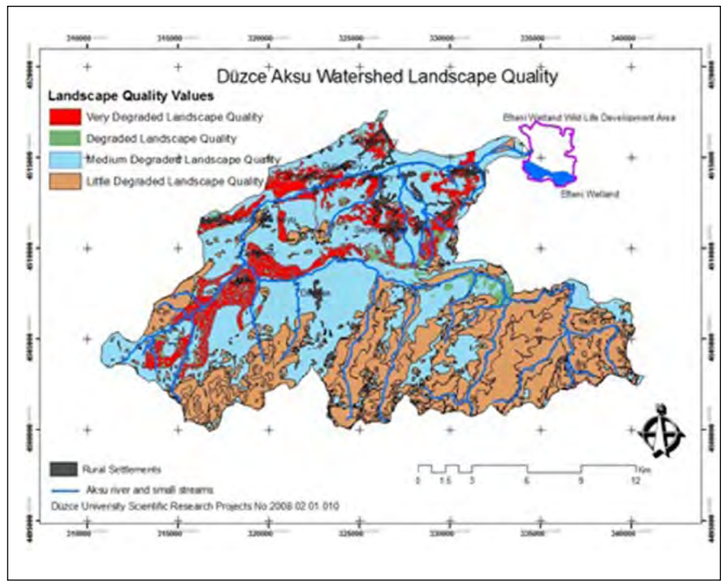

FİGURE 3. Landscape Quality in Aksu Watershed.

Non-Degraded Landscape Quality: These areas can be defined as having "Natural and/or Close-to--Natural Landscape Character." In order to preserve their current conditions, protective measures should be taken. Only a little part of the Ugursuyu basin includes a "non-degraded landscape" in the research area.

Little Degraded Landscape Quality: These areas have "Natural and/or Close-to-Natural Landscape Character" but have suffered some problems which reduce the landscape quality. In order to preserve their current conditions, positive changes should be made in protection and management mechanisms related to the areas. Otherwise, in case the current negative implementations are increased, a landscape change will occur where the landscape quality rapidly reduces.

Medium Degraded Landscape Quality: Protection of the areas with "Medium Degraded Landscape Character" is sufficient for improvement of the landscape. However, as the degree of degradation rises, it will be necessary to increase the measures to support the landscape as well as the level of protection. Implementation of protection policies without any intervention in these areas will cause them to rapidly heal themselves. On the other hand, decisions in favor of increasing and improving the uses will cause rapid reduction in the quality of these landscapes.

Degraded Landscape Quality: In the areas with "Degraded Landscape Character", substantial level of Biological Reparation measures and protection is required. These areas should be re-evaluated by land studies according to the type of the problems. Primarily rehabilitation and then restoration studies should be planned for these areas. Policies or approaches on the contrary will cause more problems in these areas in the short term.

Very Degraded Landscape Quality: In the areas with "Very Degraded Landscape Character", gradual Biological Reparation measures and protection is required. In case the land uses proceed in this manner or increase, the landscape may lose its character. In these areas, rehabilitation and restoration studies with heavy monitoring and supervision, and if necessary, promotion studies should be performed.

Successful management of structural and functional changes of the landscape is necessary for sustainability of the landscape quality. European Landscape Convention also emphasize the classification of landscapes of the country, determination of the landscape quality objectives and making protection and management suggestions. After all, landscape change and the landscape quality are directly related to each other. During the scrutinization of this relationship, functions such as water, soil erosion etc. that occur within the landscape should be evaluated.

Models regarding the landscape change may serve different purposes from understanding the interaction between natural processes to determining the management strategies (Baker, 1989). It is seen that the results of the study are parallel to each other.

CONCLUSIONS

The study conducted and the results obtained have a substantial influence on the decision mechanism of the landscape planner, the people working in the field of nature protection and the local community. Evaluation of the processes within the landscape and analyses of the structure and functions of the landscape in the study provide important advantages for the planner. Research findings also indicate that the reduction and enhancement of the landscape quality is related to the character of the landscape change. Implementing the planning decisions, which do not provide the balance between protection and use, to the land causes substantial reduction of the landscape quality in the temporal scale and short term.

Furthermore, the planning decisions regarding the protection and sustainability of all resource values by providing the balance of protection and use should also be approved by the local community residing within and around the area. Thus, the planning decisions to be made should include the objectives such as Protection and Sustainability of Resource Values, Supporting the Economical Activities, Prevention of Environmental Pollution, Development of Management Activities and Management Organization, Education Programs etc. These planning decisions should also support the implementation of activities which may provide alternative income for residents of the basin and contribute to their socio-economic lives.

In conclusion, unless human beings, which are the most influential factor in landscape change today, do not accept the planning decisions to be made for their residential areas and are convinced for the implementation of planning decisions, enhancement of the landscape quality will not be achieved. As also emphasized by European Landscape Convention, human factor should be understood very well in the policy, protection and management decisions to be made regarding landscapes.

ACKNOWLEDGMENTS

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Positive or Negative? – The power of the river revitalization to urban fabric, neighborhood and its citizens

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ABSTRACT

River spatial planning as a facilitator to drive urban renaissance is still the crucial strategy in metropolitan areas of the world. Researchers often concern about the positive economic benefits brought by the river revitalization, whilst the evolution of urban spatial fabric, the neighbourhoods and its citizens affected by the river have not attract more attention, especially the negative aspects.

This study, taking the case of Hai River's revitalization in Tianjin, summarizes the spatial impact of river revitalization, and attempt to reveal the negative impact to neighbourhood and its citizen. One triangle relationships existing between river, urban spatial fabric and citizens were clarified as the research logical chain. Which can be described as: The reconstruction of river drives the evolution of urban spatial pattern. Due to the urban fabric stimulated by the river revitalization, the spatial structure of neighbourhoods has been modified. Simultaneously, citizens' activities has been leaded or constrained by the most important manifestations of urban fabric.

Analogous to the "belt transect" approach proposed in 2001 aiming to preserve the integrity of different types of urban and rural environment, the paper also proposed a belt transect which can be used to describe the spatial changes of river revitalization. On the negative aspect, the river revitalization has weakened the close relationship between the river and the original neighbourhood beside it, the open space along the river is no more everyday landscape, additionally, sustainable landscape from the social aspect has been discussed. Historical map from Google earth provides important evidence for this study.

Keywords: everyday landscape, sustainable landscape, belt transect, human activity.

INTRODUCTION

Withdrawal from everyday landscape into urban public landscape

Everyday landscape, which defined as the territory of the residential community where the inhabitants spend their everyday life and where they have a privileged political influence (Buchecker *et al.,* 2003), has been radically withdraw from private spheres of inhabitants' homes into remote recreation areas (Kaplan, Kaplan, 1989; Buchecker, 2009).This transition of leisure participation pattern is the consequence of the great spatial alienation of urbanization, in which, the power of landscape is not only the economic motivation but also social and cultural force (Mitchell, 2002).

The recognition of sustainable landscape

Recent 20-30 years, China and also many other countries have experienced rapid urbanization, or even urban revitalization, traditional rural structures has been radically replaced by modern and urban landscape structures. And since sustainable development has been defined in the Brundtland Commission in 1987 (WCED, 1987), reasonable spatial development with physical or natural resource is becoming the widespread principle for landscape planning (Carsjens *et al*., 2007; Botequilha Leitão, 2002; Livingston, 2008). On the contrary, the exploration of 'sustainable landscape' in the social perspective has already been conducted (Valencia-Sandoval, 2010), but still it has potentiality on the precise indicator, definition and reflective impact with social innovation.

CASE STUDY

Foundational theory

Based on the concept of landscape service, the 'structure–function–value chain' has been clarified and elaborated as a knowledge framework for landscape research (Termorshuizen and Opdam, 2008). Which includes recognizing the role of spatial heterogeneity in both ecological and social function in urban areas. Following this instruction, the transits of urban fabrics/landscapes (structure) and citizens' activities (function) triggered by urban revitalization are detected, the power of landscape in the social aspect is explored in this study.

Study area

Tianjin, which locates near Beijing in china, is a city originated from its mother river-Hai river. Since 2000, there is a strong commitment of Tianjin to revitalize the historic port city. Hai River revitalization has been undertook (Baohua, 2006). The whole River has been renewed with recapitalizing economic, cultural and natural asset. Profound transformations and spatial alienations have occurred, which followed the evolution of urban structures and social functions.

Especially, two main typical urban fabrics and citizens' activities has been compared before and after the regeneration plan.

Subjects for analysis

Urban fabric and river landscape

In the process of the river revitalization, two typical urban fabrics near the river need to be concerned. The first one is the traditional urban fabric; the second one is the urban fabric in historical concession regions, three sub-fabrics have been identified in the second fabric (Jing, 2005). Significantly, Tianjin can be identified by those two fabrics both spatially and culturally.

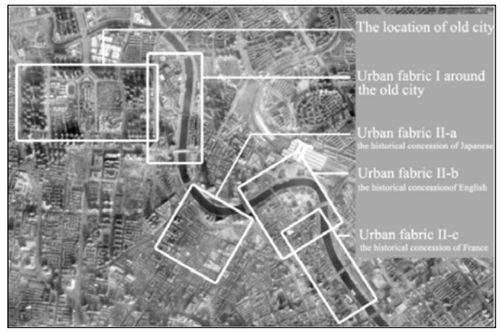

FIGURE 1. The locations of the urban fabrics.

Inside the urban area, there still exists a historical and traditional area. It is the old city of Tianjin, which has sustained for 600 years, and featured by the traditional residential form, street scale. This urban fabric was also the typical structure in the rural area. In this study, a analogous area adjacent to the Hai river is selected.

The historical concession region , which occupied most part of the area along Hai river, was once the economic center of Tianjin. The urban constructions in the former concessions of Japanese, English, and French relatively were comprehensive and systematic (Jin, 2010). Additionally, the location of these three concessions is also crucial in the new urbanization, offering a special case for spatial and social research.

Citizen's activities

Landscape services for the residents means providing multi-function space for better living and more participation pattern for leisure and entertainment. In this study, the citizens' activities has been observed corresponding to differing urban fabric and river landscape triggered by river revitalization.

RESULT AND DISCUSSION

The power to the urban fabrics

Changes of the traditional urban fabric (Urban fabric I)

In the planning of river revitalization, two major transitions occurred in the traditional residential areas. The first is the regeneration of residential living form, the traditional neighborhoods featured by alley have been replaced by new residential community. The second is the establishment of cultural--commercial blocks.

- Regeneration of residential area

Transitions are evident in this regeneration of residential area. Traditional Chinese courtyard house has been substituted by multi-storey building which not closed to river; the former residential alley has been replaced by bigger-scale streets. Additionally, the neighborhoods existing in the traditional alley has been completely changed. Furthermore, the relationship between Hai river and inhabitants was undergoing changes, residents only can walk through one or two big road to the point of the riverfront. For whom lived near river, the river was no more their everyday landscapes but remote urban space.

- Establishment of cultural-commercial blocks

The cultural-commercial blocks as new premier tourist consumption areas have completely replaced the original residential areas. This new area has preserved the original road as its current traffic system; fundamental changes demonstrate on that the large commercial and cultural buildings have totally dissolved the former alley. Larger walking street limited for vehicle becomes the pass way to the Hai River.

Changes of Urban fabrics within the historical concession area

The transformation in the historical concession area is the former mixed-function district shifting into commercial area.

- Urban fabric II-a

In the former concession of Japanese, one whole block has been completely removed; the former urban fabric which can extend to the river has been completely cut off. New high-rise commercial building has emerged as a landmark. The heavy traffic and riverfront in this region have been separated. The riverfronts become an independent open space which has been well planned and redesigned.

- Urban fabric II-b

In the former French Concession area, large

low-rise building of traditional European style for commercial has been constructed; open square and riverfront are integrated. An underpass successfully diverts the traffic from the riverfront and its adjacent open square, the riverfront has been optimized.

- Urban fabric II-c

In the former British concession area, the block retains the original urban fabric, some of the entire blocks have shifted into green open space. The original architectural forms has disappeared. New individual and larger commercial and service buildings are emerged.

The power of landscape to urban structure

In 2001, the 'transect approach' has been bought out, which is a planning strategy that seeks to organize the elements of urbanism-building, lot, land use, street, and all of the other physical elements – in ways that preserve the integrity of different types of urban and rural environments. It indicates that environments can be viewed relative to a continuum that ranges from rural to urban, varying in their level of urban intensity (Talen, 2002).

The belt transect objectively describe the evolution of urban develop to some extent. Analogous to this kind of transect, the succession of Hai River in Tianjin also hold some spatiotemporal characters.

The historical British and French concession area was located in the city centre, before Hai River' revitalization and highly urbanization, it can be analogous to the "urban centre" in the "belt transect". After the Hai River' revitalization, it transited into the "urban core" in the "belt transect". The former British concession area can be analogous to "urban centre". It still keeps this role after the Hai River' revitalization. The area around the old city along Hai River can be analogous to the "sub-urban" before the revitalization, after that it partly shifted into "general urban" and partly shifted into "urban centre", all this four part – "urban core" "urban centre", "general urban" "sub-urban" – composed a transaction of riverfront. By the analogy of this special belt transaction, the study summed up the power of landscape to urban structure in the process of urbanizations.

In the spatial succession of the area along Hai River, there are four features can be identified.

1) The area occupied by buildings has increased. In contrast, residential area gradually decreases.
2) The road corridors gradually widening. In the "Urban Core", traffic corridors and river landscape are separated.
3) The walking space in the urban fabric changes from dispersed to concentrated, and also has been expanded.
4) The impervious area of ground surface in the river bank is gradually increasing.

The power to the neighborhood and its citizens

The human activities based on neighborhood

Urban development is both temporal and spatial. Sub-urban area can demonstrate the same characteristics with the urban core area in its early time. Using this theory, human activities along river in the sub-urban area has been observed aiming to making the comparisons with the current activities along Hai River after revitalization.

The power of landscape to the relationship with citizens

In the process of urbanization, economy is the fundamental force for development, which performs a special role in the evolution of urban landscape. On the contrary, the power of urban landscape not only leads to economic benefit, but also affects its relationship with citizens. Four attributes of the river landscape are selected to describe the transition between rivers and citizens.

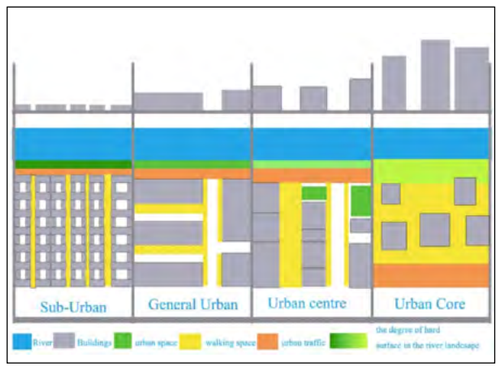

FIGURE 2. The transect of urbanization based on Hai River.

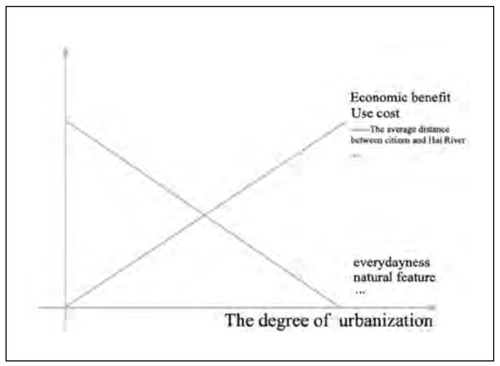

FIGURE 3. The changes between citizen and urban river landscape.

TABLE 1. The comparison of neighborhood and activity.

	Sub-urban area along river	Urban core area along river after revitalization
neighborhood	inhabitants know each other in community, everyone can easily visit the river	inhabitant hardly know each other, river is not so easily to visit
Observed Activities		
Everyday landscape for family	air the quilt /plant vegetable rest	
Everyday landscape for community	spontaneous market/wash clothes/exercise group/ talk with neighbors/walk and run/walk dog/ sing	
Landscape for city	cycling/view flowers/fish/fly kite/swim /camping	View the urban landscape/fly kite/fish/walk and run/ rest/swim

- **Economic benefit.** Urban core area locates along Hai River, commercial district develops in this region, and the river landscape is an important factor to attract economic development and investment. The higher the level of urbanization, the higher economic benefits can be attracted (Wu, Plantinga, 2003).

- **Use cost.** Following high degree of urbanization, commercial and economic land use gradually penetrate into the area along the river; residential areas are gradually away from Hai Rivers. The average distance between citizen and Hai River has been amplified. If citizens go to the riverfront, much more cost would be needed, such as money, time and energy.

- **Everydayness.** In areas with low levels of urbanization, the river is closely linked with the residential areas, citizens can reached the river by alley, and the river became an everyday landscape for the people living near it. After the revitalization, the service scope of river is no more the residential area along the river, the river and river banks as relatively private landscape for residents is disappeared.

- **Natural feature.** After the river revitalization, the riverfront becomes the landmark of the city, more and more people can enjoy the urban landscape of rivers, the tourism service has been improved. However, the natural feature of riverfront has been weakened.

DISCUSSION

Understanding how and why urban landscapes are sustainable, depends on urban form, component, and sub-structure. One point which used to be neglected is that humans' activities and social perceptions are also co-evolved with the spatial and temporal arrangements (structure) of the landscape. Landscape not only has the power in spatial, economy but also social. Our understanding of these interactions, however, is limited (Asakawa, Yoshida, Yabe, 2004).

In this study, river as a precious natural resource, many possibility for human activities are disappeared due to the transformation of land use. However, the comparisons and observations in this study only can indicate the visible transition. It still lacks criterion for evaluation of a living or sustainable landscape in the social aspect.

CONCLUSIONS

Urban river landscape, urban fabric and the citizens are integrated unity. Tianjin is a special case which has a close relationship with river. The urbanization' process of river revitalization also presents a series of evolution. The power of the river landscape affected the function of land use along the river, and different functional zones would generate different urban fabric and different neighbourhood and activities. The river' role of everyday landscape services has shifted into remote space for entertainment. Local residents also increasingly stay away from local public life and ignore existing opportunities to participate in (Buchecker, 2003; Gessenharter, 1996; Ladner, 1991).

The planner should discover some principles underlying what we observe and phenomena, and to justify them on theoretical ground (Salingaros, 2005).Analogous to ecological systems, based on the reflective phenomena, determining and describing the power of landscape from the social aspect can help to understand these kind interactions and optimize the urban design and sustainable development.

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The power of transformation: modern ways of preserving and constructing nature and leisure landscapes in post brown coal Lower Lusatia

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ABSTRACT

This presentation concerns the transformation of open cast brown coal sites discussing ideas and practice of re-cultivation in Germany between the 1930s and the 1970s. The focus is on re-cultivation activities within environmental planning and their cultural and political significance, using the ideas of the landscape architect Otto Rindt (1906-1994) as an example. In the 1960s/1970s he was responsible for designing the landscapes for former open cast brown coal mining sites in Lower Lusatia (East Germany), today one of the largest artificial lake districts of the world.

The roots for Rindts ideas stem from the Heimatschutz (homeland preservation) movement at the beginning of the 20th century and from the work of the so-called Landschaftsanwälte (landscape advocates) for the Reichsautobahn motorhighway during the National Socialist period. The political background is built by welfare-state ideas in former East Germany concerning the need for recreation areas for the working people.

Because open cast brown coal mining was an economic necessity for East Germany, an official policy of "no alternative" dominated. The only possible area of discussion was the question of ways of re-cultivation. This problem had to be solved within existing political and planning bureaucracy; it was not only a matter of design, but involved a variety of social, cultural, economical, ecological and last but not least political issues as well. The most extensively developed example of a post brown coal landscape in Lower Lusatia during the GDR period was the Senftenberg Lake District with an area of approximately 1100 hectares including the immediate area. Here, the landscape planners around Rindt were successful in their efforts to shape a social leisure landscape, despite political and economical difficulties.

I will discuss the following points:

– What are the origins of ideas and images for re-cultivating open cast mines?

– What can tell us the Senftenberg Lake Recreational District about the power of Green Modernism?

Keywords: Green Modernism, leisure landscape, re-cultivation, homeland preservation.

INTRODUCTION

During the East German period, the most developed example of the post-open pit mining landscape was the Senftenberg Lake District in Lower Lusatia, with an area of approximately 1100 hectares including the immediate area (Bernhard, 2002; Naturschutzbund Deutschland, 2003; Jochinke, Jacob 2004; Meyer, 2005; Meyer, Zutz, 2010).

The former open pit mine Niemtsch was started in 1938 and mined-out by 1966. Planning for the landscape restoration was based on initial post-war investigations in the early 1960's – that is while mining was still occurring – and the opening of the first recreational areas followed in the summer of 1973, with the last re-cultivation efforts being completed in 2000 (Schossig *et al.,* 2007; Steinhuber, 2006; Steinhuber, Hirsch, 1999)[1]. The lake was adjacent to the city of Senftenberg, which made the economic transition from open pit mining to local recreation and administration.

1 From 2000 to 2010 there was an International Building Exhibition in the area, the so called IBA Fürst-Pückler-Land. See: http://www.iba-see2010.de/.

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CONCEPTUAL HISTORY

The impetus for the concept of the re-cultivation of open pit mining areas in Germany came from the nature and homeland preservation (*Heimatschutz*) movements of the early twentieth century. From my viewpoint, these impulses are foremost social movements, which attempt to act as an aesthetically motivated critique of modernity (Rollins, 1997). At the same time these impulses also provided the basis for the formulation of early landscape conservation principles, which still underpin current landscape planning concepts.

One of the most important advocates of nature and homeland preservation was the painter, writer and architect Paul Schultze-Naumburg (1869-1949). As early as 1916, he described the "serious

FIGURE 1. Großkoschen Beach at Senftenberg Lake. (Unknown photographer, no date, Estate of Otto Rindt).

damage" caused by brown coal open pit mining in the landscape, which he placed in the context of the economic meaning of brown coal: "we must deal with these after effects." Further, he called for the setting of "limits": "The thoughtless greed of clueless and senseless speculators in connection with newly acquired technical processes should not be allowed to make our earth unliveable" (1928: 51). The ideas of Schultze-Naumburg belong to the period of intensive technological development between the World Wars. They were part of the cultural viewpoint of the educated middle class in Germany, among whom he found an enthusiastic reception.

HINRICH MEYER-JUNGCLAUSSEN

One of Schultze-Naumburg's supporters was the nature and homeland preservation-oriented garden architect Hinrich Meyer-Jungclaussen (1888-1963), along with other german garden architects of that time, such as Fritz Encke, Harry Maasz and Camillo Schneider. These men believed that the field of garden design should be extended from the scale of domestic gardens to larger scale agricultural and, extra urban' spaces, the so-called cultural landscape[2]. They argued for the inclusion of garden architects in the planning and construction of roads, water and utility infrastructure as well as industrial structures. So the impulse towards the totally designed landscape originated from garden design while drawing upon broader social debates.

Meyer-Jungclaussen was the editorial director of the so-called *Prince Pückler Society.* In the 1930's, the reference to the park designer Prince Pückler Muskau (1785-1871) signified a renaissance of landscape-oriented garden design as well as the desire to expand the professional field of garden architects into the area of suburban and ‚extra-urban' planning. In this context, Meyer-Jungclaussen was the author of a series of essays on *Native Landscape Design*, as he termed it (Meyer-Jungclaussen, 1931, 1933a, 1933b, 1933 and 1934; see also Zutz, 2006). His brochure No. 5 published in summer 1933, carried the title *Landscape Design Questions in Brown Coal Mining Areas. Thoughts on Woodland and Landscape Images*. To my knowledge, this is the first comprehensive attack on the open pit mining problem in Germany from the perspective of a landscape designer. His essay began with the premise that "each cultural landscape is entitled to native features and beauty" (1933: 1). For Meyer-Jungclaussen it was neither a matter of recreating the previous condition of forest or agriculture nor of restricting mining, but of creating a 'new' landscape.

2 'Cultural' as it is not a 'natural' but an agri- and silvi-culture landscape.

OTTO RINDT

Landscape architect Otto Rindt (1906-1994), commonly known as the 'Father of the Senftenberg Lake', was among the first generation of academically trained professionals, completing his studies in garden and landscape design in Berlin in 1936, at the University of Agricultural Siences (part of the Friedrich-Wilhelm-University). Already in 1934, he had held a position in the office of Meyer-Jungclaussen. Through his employer, he became a member of the so-called landscape advocates (*Landschaftsanwälte*) in 1936, a group of approximately thirty landscape planners. These men worked under the directorship of *Reichslandschaftsanwalt Alwin Seifert* (1890-1972) on the landscape design of the German *Reichsautobahn* for the National Socialist government (Nietfeld, 1985; Rollins, 1995; Zeller, 2002; Reitsam, 2002 and 2009). During the National Socialist period, one third of the landscape advocates were members or supporters of the National Socialist Party such as Seifert, Rindt and Meyer-Jungclaussen[3].

The system of landscape advocates was based on a set of spatially and thematically prescribed tasks. In this way the interdisciplinary connection of landscape designers guaranteed participation in planning and construction activities. In addition to the *Autobahn*, the spectrum of tasks was expanded to include water management (Zutz, 2009).

Chief landscape advocate Alwin Seifert also took up the problem of open pit mining. In his pamphlet *Warning to Miners* he asked how the "deadened native landscape" of "desert" and "wasteland" could again be made "homeland" ("*Heimat*"). He described the "ugliness and destruction" of the leftover open pit mines as "cultural suicide" ("*Völkischen*

3 See for the relation of landscape planing, nature conservation and National Socialism in general: Gröning and Wolschke-Bulmahn, 1987; Radkau and Uekötter, 2003.

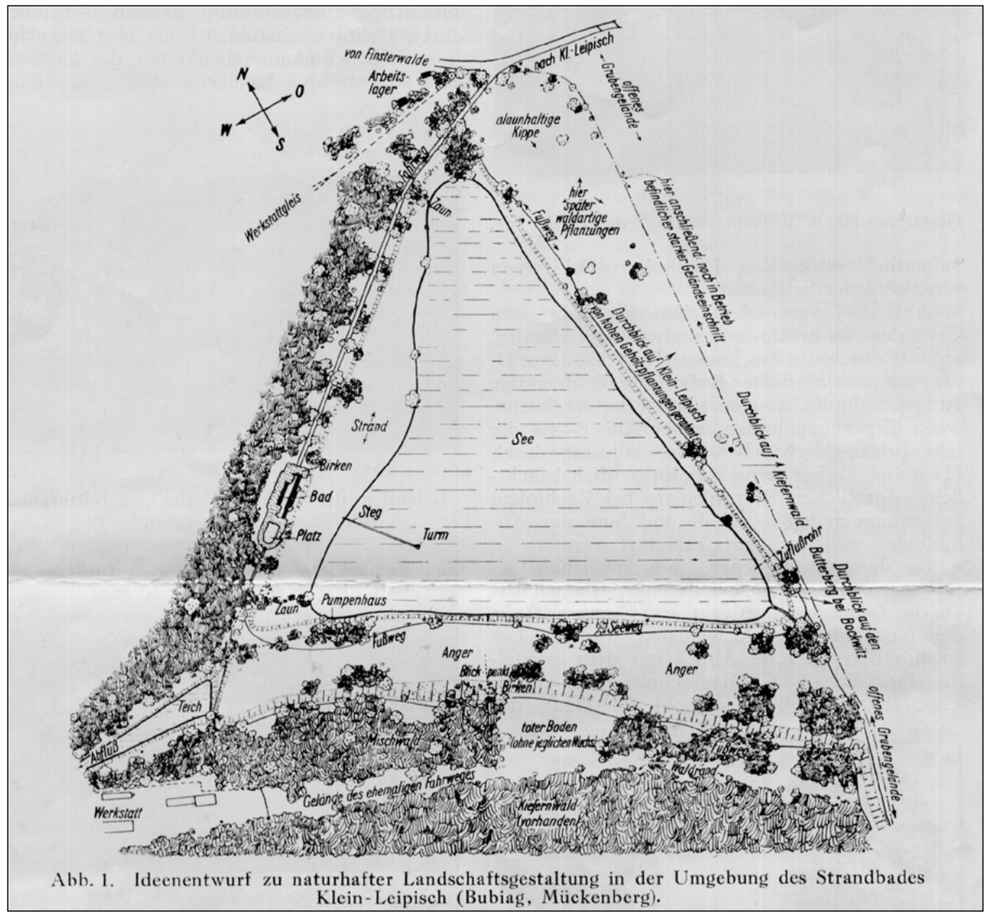

Abb. 1. Ideenentwurf zu naturhafter Landschaftsgestaltung in der Umgebung des Strandbades Klein-Leipisch (Bubiag, Mückenberg).

FIGURE 2. Conceptual design for a nature-like landscape design in the vicinity of Klein-Leipisch beach (Bubiac, Mückenberg) near Lauchammer, by Meyer-Jungclaussen. (From: Meyer-Jungclaussen, 1933: 7).

Selbstmord") and called for stricter requirements for soil protection, bank stabilisation and mixed wood planting (1941).

The common element in these approaches is the belief in a harmoniously designed cultural landscape. All interventions should be brought into harmony with idealized images, either through so-called *integration* in the case of the *Autobahn*, or through design-oriented landscape re-cultivation in the case of open pit mining. The beauty of the landscape should be increased within these processes by "means of nature". This should be an expression of a socially and ecologically well-balanced human-nature-relationship. To put this into practice, private capitalist mining companies should be forced to take over responsibility in terms of common welfare. So the idea of the harmonious landscape in the 1930's and 40's reflects the longing for an integrated productive and "healthy" ("*gesunde*") society covering the contradictions of class, city (industry) and land.

POST-OPEN PIT MINING LANDSCAPES AFTER WORLD WAR TWO IN EAST GERMANY

After the end of the War none of the thirty landscape advocates continued with their pre-war assignments. Sections of the Autobahn that had already begun, remained unfinished. However, a continuity of ideas and concepts persisted. Open pit mining came to a halt as a result of war and reparations. Destruction and erosion further intensified the negative character of the, dead hills', causing landscape designers to formulate large-scale treatments, in East Germany now in the context of socialist reconstruction. Here the reorganization of open pit mines took place under new social conditions: the exploitation of brown coal occurred under state control in citizen-owned companies. The lack of agricultural areas caused by "erosion endangered wasteland with toxic soils, the dangerous deep holes and dumps, high waste heaps with steep, eroded sides in an unplanned chaos – next to disordered settlements and industrial development", (Rindt, 1979: 127) and other factors should be relegated to the capitalist past[4].The new economic and social principles also demanded new perspectives on landscape design: In the years 1949-50 the most important landscape designers in East Germany, Georg Pniower (1896-1960), Humboldt University Berlin, and Reinhold Lingner (1902-1968), German Building Academy (*Deutsche Bauakademie*) initiated studies on the development of the post-open pit mine landscape in Lower Lusatia (Günther, 1949, 1950; Günther *et al.*, 1952; Lingner, Carl, 1957; Pniower, 1956, 1957a, 1957b, 1959; Knabe, 1957)[5].

Following the division of Germany and the loss of the coal-rich Ruhr Valley District to the West, great importance was placed on the use of brown coal as an energy source in East Germany. In 1957 the district of Cottbus was declared a "coal and energy center"[6]. In 1974 East Germany had reached the highest level of brown coal production, with 40% of the world's total (Rindt, Neumann, 1972).

Rindt was professionally active in Lower Lusatia for 25 years, from 1959 to 1984.[7] His ideas shaped the development of new landscapes from post-open pit mining areas in East Germany after World War Two. Along with his academic work in connection with the "Landscape Diagnoses of the GDR" (*Deutsche Bauakademie*, 1950/52) and other research projects at Humboldt University (by Pniower and Knabe) he could draw upon his own experience in the planning of the Geisel Valley, a brown coal district in Saxon-Anhalt near the city of Halle (Saale). Further he could draw upon a study of the Senftenberg Brown Coal District in Brandenburg that he was working on in the Central Design Office for City-, Regional- and Village Planning in Halle (1952-1958). In the Senftenberg study the necessity for landscape-oriented design in conjunction with industrial planning was emphasized, resulting in a comprehensive plan for the entire mining region. In this way, mining companies were required to plan for future open pit mine lakes *during* the mining process. A deeper level of knowledge resulted from Rindt's investigations he begun in 1960 while under a research contract from the Freiberg Mining Academy. Rindt's proposals were clearly based on experience drawn from the landscape re-cultivation projects of Meyer-Jungclaussen and Seifert during the 1930s and 1940s.

4 For the political meaning see: Rindt, Neumann, 1972; Rindt, 1975. For Rindt see: Gröning, Wolschke–Bulmahn, 1991; Zutz, 2000.

5 Concerning the Landscape Diagnosis of the GDR see: Hiller, 2002; Zutz, 2003. For Lingner see: Kirsten, 1989; Nowak, 1995; For Pniower see: Nied, 1992; Wolschke-Bulmahn, Fibich, 2004; Giese, Sommer, 2005. For landscape planning in GDR see Wübbe, 1995.

6 The alteration of the landscape by open pit mining concerned 41% of the territory of the Cottbus District, the relation of excavated soil mass to browncoal steadily increased from 2:1 to 7:1, see (Rindt, 1982: 686). 128 villages with 23,100 inhabitants were resettled to other places up to 1989 (Jochinke, Jacob, 2004: 91; Lotzmann, Viehrig, 1995; Unabhängiger Arbeitskreis Umwelt und Frieden Hoyerswerda, 1990).

7 Rindt was one year (1.10.1958 to 30.6.1959) at the *Entwurfsbüro für Hochbau Cottbus* in the department Gebiets-, *Stadt- und Dorfplanung* responsible for all questions of landscape development and recreation. After that he continued his work at the Entwurfsbüro für Gebiets-, *Stadt- und Dorfplanung Cottbus*, where he was responsible for the same tasks until the end of 1964. The successor organisation was the Büro für *Territorialplanung der Bezirksplankommission Cottbus,* where Rindt worked until September 1983 (until 1978 as a group leader) in the field of landscape planing and mining (personal documents, Estate of Otto Rindt, Kirsten, 1989, appendix 11).

THE PIONEER PROJECT AT SENFTENBERG LAKE

Concepts to develop the Senftenberg Lake District evolved during a tedious process lasting more than 40 years. In numerous articles from the 1960's to the 1980's Rindt took up this theme repeatedly in connection with his position as landscape planner in the Office for Territorial Planning in the District of Cottbus [Rindt, 1965, 1966, 1970, 1972 (with Neumann), 1972, 1973a, 1973b, 1974a, 1974b, 1975, 1976, 1979a, 1979b, 1982]. He regularly called upon responsible politicians and mining concerns to become more involved with the planning of the post-pit mining landscape during the mining process. Already in 1965 he had described the program for the Senftenberg Lake District in respect to open pit mining, water management, and re-cultivation techniques. The "great landscape destruction" resulting from the "mining of entire cultural landscapes" should be followed by the creation of a "new homeland", where old and new landscapes, high waste heaps and intermittent open pit lakes, settlements, and industry, would be integrally linked. Rindt openly criticized the "chaotic conditions" of the existing post-open pit mine sites, and the lack of responsibility in every respect for recreational concerns. He also called for greater efforts to maintain pure water and air conditions. Landscape protection areas within areas neighbouring the mining sites were to provide ecological and design reference points for the post-open pit mining sites (Rindt, 1965). During this time Rindt also presented his positions in public venues, such as the GDR *Cultural Organisation for the Masses (Kulturbund der DDR*).

Rindt's concepts for the reconstruction of the Senftenberg Lake Region as a recreational district are illustrated in his aerial perspectives of 1965, which show conditions in 1860, 1960 and development up to the year 2010 (see Rindt, 1993).

The timeline of political decisions cannot be presented here in detail. Almost ten years later the first stages of the development of the Senftenberg Lake had been advanced.

While the popular vacation area of the Baltic Sea Coast was often used as an example of the ideal leisure and recreational district, Rindt additionally based his planning concepts for the open pit mine lakesides on early nineteenth-century park landscapes. In his own words "Mining with its resulting landscape is the opportunity to build the royal parks of socialism."[8] He thus referred to the "great earth-mover of his time", Prince Hermann Pückler-Muskau (1785-1871) and the designer of the Potsdam lake landscape, Peter Josef Lenné (1789-1866) and to their enduring park creations (Rindt, 1986; 1989). Earth displacement caused by mining should be understood as a chance to create impressive spatial designs through the "fusion of the post-open pit mining landscape with the neighbouring landscape" (Rindt, 1974b). Intensively designed areas should be used to increase the range of experiences in the new cultural landscape.

8 Rindt on Septmber 1st 1978, during a tour through the open pit mine at Sedlitz (personal documents, Estate of Otto Rindt).

FIGURE 3. Perspective 2010, by Otto Rindt, 1965 (From: Rindt, 1993: 47).

In the case of Senftenberg Lake, it was possible to succeed in the planning of the post-mining landscape by integrating the operation and gradual closure of currently active mines. In this way the logic of excavation was reconceived, not to follow standard industry practice, but to preserve the greatest possible area of shoreline (LAUBAG, 1993: 4). Further, the technical capacities of mining machinery could be utilized for the design of post-mining landscapes, particularly in the grading of shoreline embankments.

Until 1969 land and forest re-cultivation had been the main priority. With Senftenberg Lake a planned recreational area was created from an active open pit mine for the first time. These goals for a leisure landscape were incorporated in the mining laws in 1969 and then in 1970 in the Nature Preservation Law (Landeskulturgesetz) of the GDR as well. With the realisation of the idea of the recreational district the provision of leisure and recreational facilities was transferred from an urban context, where the people's park (Volkspark) had been established since the end of the 19th century into the ‚extra-urban' landscape. By this state action the town-country--contrast was to be abolished. From the middle of the 1970's collaboration between mining and regional planning was carried out in regulated phases (Rindt, 1979a; 1979b). By this point in time 50 years had passed since the first experiments and discussion of re-cultivation regulations in Germany, 30 of which occurred in the GDR period.

FINAL RESULTS

A. The design of the post-mining landscape in Lower Lusatia during the 1970s and 1980s finally realised homeland preservation concepts dating from the beginning of the 20th century.

It was possible to make the GDR mining industry responsible for the leftover landscapes: In particular cases a positive influence on the mining-out process was achieved through the participation of landscape architects supported by laws requiring ecological and aesthetically responsible recultivation.

Furthermore the following principles were realised:
1. Planned design of a new landscape
2. New water management system
3. Orientation towards communal well-being (social as well as cultural aspects)
4. Guarantee of public accessibility
5. Intensification of aesthetic experiences
6. Creation of new areas for animal and plant communities (nature conservation)

FIGURE 4. Sketch of Senftenberg Lake by Otto Rindt 1978. (Estate of Otto Rindt).

B. In the design tradition of landscape architecture for post-open pit mining areas in Lusatia (by Rindt et.al.) there is at the same time an orientation towards the park landscapes of Lenné und Pückler from the romantic era of the early 19th century.

C. The experience of the landscape advocates of the National Socialist period informed later concepts, even under altered political conditions. There was a continuity of concepts and protagonists from the late 1920s to the 1970s.

D. With the realisation of the idea of the recreational area the provision of leisure and recreational facilities was transferred from an urban context into the 'extra-urban' landscape. This happened through state action in order to abolish the town-country--contrast and followed the social program of the 'people's park' (Volkspark) from the beginning of the 20th century.

To summarize, post-WWII histories cannot ignore personal and institutional paths as well as technological and design-related roots in pre--WWII societies. By doing so we can see that aspects of social content and aesthetic form need not remain in their historically formulated political-philosophical construction or pictorial language. What has to be shown is, that re-cultivation of brown coal areas was a modernist mode of preserving and constructing nature and cultural presence under different political conditions during the 20th century. In the case of the post-mining landscape of the 1930s to the 1980s, the historical image of the landscape park of the romantic era was followed about 100 years later by green homeland preservation modernists as a means of overcoming decades of short-sighted brown coal exploitation. At the same time it served as a symbol of reform and an utopian future. After 1945 in East Germany this image of a picturesque harmonious landscape was further combined with the creation of the new socialist society, even though this trope had already been used in the 1930s.

Today Rindt's visions have been carried to completion through the International Building Exhibition Fürst-Pückler-Land in Lower Lusatia. After the economic demise of brown coal open pit mining, the transformation of the landscape is historicised in exhibitions and publications (IBA Fürst--Pückler-Land, 2004; IBA, 2010; Sawall, 2003; Jacob, Jochinke, 2004; Jacob, 2010, Steinhuber, 2006).

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Multidimensional approach to landscape structure planning

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ABSTRACT

Landscape structure represents the spatial relationship amongst various landscape elements. These elements may vary, depending on the approach to the landscape essence (geographical – where landscape elements are based mainly on abiotic components, or ecological based on the patch – corridor – matrix model). Regardless from the way how the landscape structure is defined, spatial planning is being considered as a key instrument for its sustaining and development.

In planning process the landscape structure should be considered not only in terms of spatial relationship among various landscape elements, but also in terms of scale and changes in time. Scale determines the way of landscape structure identification, in particular: the size, shape and composition of landscape elements (TABLE 1). Temporal changes affect the function and interactions between landscape patterns.

TABLE 1. Problem of landscape structure elements identification at different planning scales.

Planning scales	Patches	Corridors	Systems
Regional scale 1:100 000-1:300 000	national parks, vast nature reserves, Natura 2000 sites	vast river valleys, linear linkages of patches – difficult to find out in landscape with mosaic of land use	green belt
Landscape scale 1:10 000-1:25 000	local patches with identified biological value by species or/and habitat, nature reserves, Natura 2000 sites	water courses – with biological buffer zone, linear linkages of natural or seminatural patches, in some cases just open spaces – not urbanized areas	ecosystem network, urban natural system,
Site scale 1:1000-1:5000	part of local patch, mostly not readable as a fragment of local landscape structure	water courses, trees alleys, not readable in some cases as a fragment of local landscape structure	mostly not readable

Implementation of landscape structure elements can be carried out in many different ways. At first, these elements can be understood as requirements and measures introduced to spatial planning documents, but also they might be established as areas of nature conservation. In both cases a question arises: how to control changes, and which instruments can implicate achievement of desired landscape structure condition?

Provisions of planning instruments, depending on scale, may refer to ecological network or to single land cover features. At regional and municipal scale landscape units should provide an ecologically based framework for land use development. At site scale they should assure proper course of natural processes.

At present, one of the main problem of landscape structure planning in Poland are dynamic changes of land use structure. These changes cause out-of-date planning documents provision due to its temporal horizon and legal force. Planning documents prepared at the regional and municipal level are of strategic character with a long term temporal horizon. These documents create spatial policy of given administrative unit, but are not legally binding for all stakeholders. At site scale provisions of regional and municipal documents are implemented by local plans, which are the acts of law. The striving problem in Poland is that new development can be implemented on the bases of a single administrative decision (planning permission). According to Spatial Planning and Spatial Management Act, the planning permission should be given exceptional, in case of lack of the plan, but at present it is a standard procedure. On the one hand, the situation is caused by complicated procedures and high costs of preparing of local plans, and on another, it is due to the fact that elaboration of plan is not obligatory. Furthermore, to make the things worse, the provisions of spatial policy are not binding for planning permissions. As a result, the effectiveness of implementation of landscape structure is questionable. The paradox of landscape structure implementation is that the only planning document that assures protection of landscape structure elements is local plan, which is not obligatory.

Keywords: spatial planning, sustainable development, land use changes.

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Development of Green Areas in Frankfurt and their Economic Benefit

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ABSTRACT

Since centuries, the city of Frankfurt is one of the most important and vital cities in Germany, at least in the economic sector. In relation to the number of inhabitants, Frankfurt has the highest number of jobs. From a German perspective, Frankfurt is the only large city in the country, which is characterized by a downtown shaped by skyscrapers and therefore resembles American or East Asian metropolises. In the 1970ies this development has often been criticized, especially with regard to missing life quality or identity of the city. During the last two or three decades, local government of Frankfurt has put a lot of efforts on the improvement of life quality by creating, expanding or connecting urban green areas, such as the Main riverbank or a new park at the European Central Bank.

In a research project, carried out on behalf of the city of Frankfurt, we followed the research question: "Are there measurable economic effects of urban green on the land value of surrounding plots"? On the basis of a multi-stratified sample we selected 150 investigation areas within the city area of Frankfurt, and further 78 investigation areas in the vicinity of the European Central Bank. Data analysis was done with methods of inferential statistics, such as regression analysis, ANOVA, and others. The results of multiple regression analyses reveal a significant impact of open space related variables on official land values. The most important open space related variables are amongst other things the occurrence of street trees and front gardens, habitat function, recreation function and quality of sojourn of green spaces. In the calculated multiple regression models the coefficient of determination is between 0.33 and 0.55. The value-increasing effect of green spaces mounts up to 67 – 200 € per sqm. That means the total value of a single plot of 1,000 sqm can increase up to 200,000 €. Hence, the improvement of urban green will not only contribute to well being and life quality in urban areas, it also significantly affects the value of real estates.

Keywords: urban gr een, value increasing effects, multiple regression analysis.

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Cultural landscapes protection of rural areas by economic activities

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ABSTRACT

In the article there was presented a study on the importance of pilot projects for the protection and preservation of the cultural landscapes of rural areas, where there weren't any activities undertaken so far to ensure this protection. In some rural communities of Malopolska province (southern Poland) there are many pilot activities conducted to show the links between actions for the protection and preservation of the cultural landscapes of rural areas and specific business enterprises at the local level.

The presence of cultural landscapes cannot hinder economic usage of land on which they appear.

According to empirical research, the protection and preservation of the cultural landscapes of rural areas were examined through pilot projects. In the beginning of a methodical approach to research the extensive data table on rural cultural landscapes of the region of Malopolska was created (wide approach). Based on this analysis, two characteristic municipalities in Małopolska were chosen for detailed research: Miechow and Wisniowa. After that, the characteristic landscapes were chosen from the other cultural landscapes for the municipality development within pilot projects (selective approach). This allowed to select pilot projects to test the most appropriate action for the conservation of cultural landscapes of these municipalities. In the municipality of Miechow there was a selected action on renewable energy, and agro-tourism actions in Wisniowa.

An example of the Miechow municipality showed the possibility of obtaining the renewable energy from the biomass, which is an important stimulator of the development of agriculture and simultaneously protects its agricultural landscape. In Wisniowa the investments were realized, such as lake reconstruction and restoration of the astronomical observatory, which increased the tourist attractiveness of the municipality. These activities are based on the assumption that the great potential for development of rural cultural landscapes in Malopolska is not used because of the lack of infrastructure.

Pilot activities made in these communes are to demonstrate the relationships between actions for the protection the cultural landscapes and business enterprises at the local level. Pilot projects in these two communes showed that it is possible to preserve the cultural landscape and obtain the economic benefits.

Keywords: cultural landscapes, rural areas, protection, preservation, renewable energy, tourism.

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Power of green areas in revitalization projects

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ABSTRACT
Urban revitalization projects started in early 60s' and quickly become a very important issue in the development policies of cities. There are many programs, projects and activities around the world associated to this concept. Streets, quarters, even the entire cities are revitalized. In Europe there are special funds that help local governments to develop new strategies. Revitalization, from the beginning was treated as an interdisciplinary process where urbanism, architecture, economy, sociology, psychology and more are involved. Landscape architecture is very important part of it.

There is no doubt that green areas and public spaces might have an impact on revitalization processes. They can be a subject of revitalization or its component, they can play a clue or supporting role in the revitalization projects. From the small, local squares and parks that help to bring life again to devastated quarters, to the huge green areas with metropolitan importance that can create an impact on the projects.

So, the question arises if green areas really play influential role in the quality and sustainability of revitalization projects? The authors compare projects from Europe, Asia and America.

Keywords: revitalization, green areas.

Influence of environmental impact assessments on the protection and development of landscapes in spatial planning in Poland

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ABSTRACT
Environmental Impact Assessment (EIA) is the name of the study which assesses the type and degree of potential transformations that can occur within landscapes after the implementation of the decisions in local plans. These studies mainly identify and suggest solutions used in the plan which may disrupt the landscape. However, the EIA may also have an impact on the quality of the solutions used in the plans, including landscape design within the areas of the plans. The influence of an EIA must therefore be seen in the fact that it can not only have an evaluating role, but also support the process of landscape design. This will result in better-functioning and sustainable landscapes in the future.

The purpose of this article is to show the theoretical and practical possibilities of strengthening the evaluating and supporting role of EIA.

Keywords: landscape planning, legal aspects of EIA, assessment of landscape transformation, evaluating role of EIA, supporting role of EIA.

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New challenges to the design process, a case study from the Netherlands

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ABSTRACT
Landscape architects play an increasingly important role in the challenges society faces today, in particular with planning for climate change adaptation and location of renewable energy. These complex problems challenge traditional spatial planning, by the scale, in-built uncertainty and conflicting interests.

It is made clear that complex problems can be solved when considered as a design process, taking a landscape architecture approach. Design thinking goes beyond current restrictions and requires imagination. By restructuring the problem, new alternatives – in terms of unknown possibilities – can be explored. This requires an understanding of landscape and processes that shape it at different scales.

By developing and visualizing a set of options, the decision making process can be facilitated. Both simple techniques such as 'design studios' with stakeholders and advanced visualization techniques like 3D modelling play an important role in communication and stakeholder involvement.

This presentation shows recent projects of landscape design on a regional scale in the Netherlands. The first case is a location study of wind farms in using advanced 3D modelling as a visualization technique. The second case is a coastal management plan with stakeholder involvement through design studios.

The results are a comparison of the design process and the different techniques used. Both projects have been carried out in the Netherlands, but the approach taken may be implemented in other countries.

Keywords: landscape architecture, design process, regional design, adaptation to climate change, renewable energy, wind farms, visualisation, stakeholder involvement, design studio.

Natural processes as a factor restoring the functionality of a degraded area. A case study of Świętochłowice, Poland

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ABSTRACT
This article discusses the following issue: which of the two factors – a human activity or processes of natural succession – is more important in bringing into cultivation a degraded area with green cover. Brownfields and degraded areas, generally regarded as unattractive, are mainly converted into industrial or commercial areas, with other forms of developing often rejected from the beginning. However, due to a spontaneous process of plant succession, those areas may sometimes become similar to wild nature and form an attractive neighborhood for residential areas, providing places of recreation. The present work is a case study assessing the attractiveness of the wastelands and brownfields in Świętochłowice, Poland. It also compares the natural values of that place with the cultural ones. The results of the analysis correspond with the present master plan for that town, where the areas of increasing attractiveness are those with a high level of natural succession.

Keywords: aesthetics, brownfields, succession, greenery.

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Nature and man as stimulators of village development

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ABSTRACT

The valley of the Oder, near Wroclaw, is a very beautiful area, full of a variety of riverine landscapes where nature and the element of water dominate. And all with the complicity of the cultural landscape, shaped in a clear and transparent manner by a man who used agriculturally from the beginning of time the best lands in this region. The shape of this space is a record of historical events, the rhythm of life and the way of managing of the previous generations, which should be respected while also introducing new elements related to satisfying the current needs of users in a way that maximum use.

In 2002 the Partnership of the Central Oder Valley was incorporated in, which now links 15 municipalities along the river. Due to the specific landscape occurring in this region, the main objective of the association is its protection and designation of possibility to use the existing potential for tourist development. Six towns situated on the Odra water route between Wrocław and Brzeg over the Odra, were included with the development within cooperation between the University of Environmental and Life Sciences in Wrocław and Partnership. This is an example of the villages, in which there is trying to use the existing resources and opportunities for their future, better development. A task to realize this is maintenance and restoring of the architectural, aesthetic and emotional values of the selected places, while transforming the surrounding space to keep-existing values while raising the standard of living and leading to further development of individual towns and villages. The formation of the new landscape, especially where the nature dominates, must be preceded by thorough analysis and understanding of this space and defining the limits of compromise between mind and matter. The presented studies include an idea of Eco-museums network, as the active protection of natural-cultural heritage. If possible, there was taken into account the role of the alone river Oder in creating of new projects for the selected localities.

Keywords: rural landscape, spatial development, village, cultural heritage, local society.

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Influence of green areas location on the market value of real properties located in their vicinities

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ABSTRACT

The role of green areas in the cities is evident. Numerous scientific studies have confirmed their positive impact on improving the living conditions of residents, and recognize their natural, social or cultural values. The urban green areas can be classified as environmental goods, which by providing recreational oportunities for citizens determine ecosystem services. However, in big cities like Warsaw, the threat of urban pressure on the open spaces is observed, which results in building-up of green areas and decreasing the surface of potential recreational spaces. Despite the fact that the benefits resulting from green areas location within urban fabric are well known and accepted, in the market economy conditions the so-called "hard arguments" providing the real market value of green areas could be used in the planning and decision making process. Determination of calculable value of urban green areas could be crucial in their mangement, and furthermore could be used in thei protection from development as built-up areas.

The literature review provides examples of research studies on estimating the market value of green spaces. Finnish study of Tyrvainen and Miettinen (2000) shows that the real market value of dwellings located in direct vicinity of forests is 6% higher than those located in further distance from recreational spaces. Also Spanish research of Morancho (2003) shows that even the proximity to small green areas (e.g. squares and "pocket parks") increases the dwellings' market prices.

Among the methods used in economic valuation of environmental assets should be mentioned: travel cost method (TCM), the transfer of benefits (BT), cost-benefit analysis (CBA) and the hedonic pricing method (HPM), which is best suited to the needs of the assessment of property value increase due to proximity to recreational areas. The main assumption of hedonic pricing method is that the price of real estate is the sum of the parameters, such as area house / flat, age, architectural features and a set of environmental features found in a particular place (Zandersen, 2010). These environmental features can include proximity to recreational areas, attractive view from the windows or the air quality in the area.

In the carried pilot study of influence assessment of green areas location on the market value of real properties located in their vicinities (Warsaw case study), the hedonic technique have been used. This method is based on multiple regression analysis (Sokal and Rohlf, 1995), which allows the simultaneous evaluation of multiple independent variables (including distance from appartment to green area) on the dependent variable (e.g. real estate prices). Statistical analyses were performed in Statistica 7 programme and were based on data for 108 properties located in Warsaw and sold between January and March 2012. The data set included the following features:

– independent (casual) variables: flat area (in sq metres), number of rooms, number of bathrooms, elevator, building material (e.g. brick, concrete elements), distance from the city centre (radius in km), distance to the nearest green area (calculted as "walking route"), type of the green area (park or forest), size of the nearest green areas (in ha);

– dependent variables: transaction price (in PLN) and price per sq metre (in PLN).

Among the independent variables associated with green areas, a statistically significant positive effect of "size of the nearest green areas (in ha)" ($p = 0.015$) was observed. The larger the surface of the nearest green area located in the dwelling vicinity, the higher transaction price per sq metre we can expect. Moreover, very close to statistically significant influence was the "type of green area" (p-value = 0.052, which is almost equal to the significance level of 0.05). Prices per sq metres for dwellings located in vicinities of forests were slightly higher than for dwellings located close to parks. Effect of "distance to the nearest green area" on the price per sq metre was negative, but very weak ($p = 0.563$).In total, all causal variables included in the regression analysis determined the price of sq metre in about 25% ($R2 = 0.261$). The further research is planned for a larger sample with enhanced selection of variables that affect the property price.

Keywords: hedonic price method, market value of green areas, recreational areas.

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‘Landscape thinking’ – identification and preservation of landscape character in spatial planning of rural areas

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ABSTRACT
‘Landscape thinking’ means a new research and practical approach, based on the assumption that landscape should be recognized as a value which integrates contemporary development of rural areas. Most recently, a significant change has come in a landscape research methodology and a planning concept of preservation policy as well. It is proposed to abandon simple protectionism, based on a sector approach, in favour of system landscape management, which involves managing both resources and processes of changes in spatial planning and management. Previously dominating preservation activities, which were a response to unfavourable spatial and landscape phenomena, are currently being replaced by plans and strategies for managing rural areas based on the recognition of landscape character. The role of landscape is changing – it is no longer only the subject of preservation, but the idea of spatial planning integration, the plane of interdisciplinary meetings that comprises various research perspectives. In practice, it results in the necessity of applying coherent and transparent methods of landscape identification and assessment, especially in the context of their connection with spatial planning and usefulness for rural areas development. The article presents selected methods of landscape identification and assessment, which are currently applied in European countries and the method worked out and promoted by the European Council for the Village and Small Town ECOVAST. The aim of the paper is also to indicate the meaning of landscape thinking at various levels of rural space planning and management. The author shows the results of her own projects carried out in the Wielkopolska region and shares her experience of cooperation with institutions, local governments and local communities in research and design work.

Keywords: spatial planning, landscape management, rural areas, landscape character, Wielkopolska.

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Human condition and landscape condition – contribution to landscape management policy

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ABSTRACT

Human condition depends on landscape condition, which in turn, on the basis of commonality of existence is dependent on human condition. Human condition is a set of determinants which define a man's situation in the world – one's mode of existence, which for example depicts one's attitude towards landscape. In that sense, e.g. obligations towards landscape are an integral part of human condition. Landscape is a forever changing phenomenon in the ongoing process of natural and anthropogenic evolution. It is a living creation of material culture with specific physical, chemical and biological features. Its condition is represented by its present state and by conditions that the landscape functions in. The measure of landscape condition is foremostly the level of biological life processes. A harmonious landscape favours development of culture, creates social bonds, protects from uprooting, is an environment offering therapeutic functions, bringing economic benefits and thereby strengthening political position of a country. Satisfaction with life in a harmonious environment could be an essential factor, creating positive relations between people, as well as the one motivating to work effectively and creatively. Landscape triggers emotions and feelings, is the source of admiration and the object of contemplation of nature. Türck (1910) calls it a slow, aesthetic impression. It is the source of our bliss (Spinoza). Recognition and experiencing of landscape, as well as its creation or emergent appearance of the ever new landscapes – when relating to Hartshorne's ideas – makes man happy. Landscape brings forth feelings of solemnity. In the aesthetics of grandeur, Hartmut Böhme (2001) noticed a challenge for contemporary man and sees it as a momentous influence describing the future place of man. Landscape triggers patriotic feelings. The might of Polish landscape was used during the period of the Partitions of Poland, to buoy the spirit of the Polish nation. In addition, landscape causes a reaction of putting down roots, of attachment to a place, town, village, region: this is what Germans call Heimat (Muir, 1999). A connection with a place may be perceived as a spiritual relation, or even a religious one. It is significant for the sense of identity, a vital touchstone of human condition. Staying in touch with our landscape, we first and foremost realise that human life is an element of life on Earth, is a biological process; that the biological quality of landscape – dependant on its physical and chemical features – forms the basis for biological human condition, which determines one's spiritual existence. Strengthening the consciousness of strong connection of man with landscape during the education and upbringing process – while paying special attention to biological dimension of humanity (Piątek, 2006) – should be the foundation upon which the landscape management policy is based. When we build human condition in this manner, through instilling consciousness about commonality of man's and landscape's existence, we improve landscape condition.

Keywords: landscape, landscape management, landscape condition.

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SESSION 4

TEACHING AND LEARNING ABOUT THE POWER OF LANDSCAPE

Constituting the work: The power of landscape architecture criticism

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ABSTRACT

This paper investigates if and how criticism, that is, written representation of landscape architecture, contributes to the constitution of landscape architecture as works. Criticism is considered as a focal point of the institution of landscape architecture, where the critic exerts the power to stage selected projects. In addition to producing *representations* of landscape architecture, criticism highlights the duality of sensory and abstract site aspects, which form the basis for two types of approaches found amongst the critiques that have been examined. The present article discusses how the articulations in critiques on built projects in the Danish/Nordic journal Havekunst ('Garden Art') in the period 1920 – 1980 indicate a particular foundation of experience, and what kind of works the verbal expressions subsequently imply. Both of the above defined types appear throughout the period, and these apparent opposites look as if they complement each other and inevitably act in parallel. I argue that these typical approaches to critique affect the recognition of the reviewed projects by referring to verbal articulations of the critiques.

Whether an apparently sensory approach really is based on an actual presence onsite, or if it is a constructed story derived from an abstract approach, is often not clear and raises the question of *authenticity*. Also, descriptions of actual sensorily experienced landscape architecture are somehow "manipulated", and may be reconstructions based on the memory of the experience. This process is described as layers of experience and articulation, filtering landscape architecture, from a sensory experience, through perception, to a recognition of the reviewed object; the work. The critique as a representation in itself is also the readers' source to the work.

Both works of fiction and pieces of criticism affect the reader's recognition of the physical environment, but only the latter convey a professional perspective. The articulation of a landscape architectural critique influences the reader's perception, and is consequently the base of the recognition and the constitution of the work. This implies the critic's significant impact on the prevailing perspectives of the institution of landscape architecture.

Keywords: representation; experience; writing; recognition; the journal "Havekunst" ('Garden Art').

INTRODUCTION

The institution of landscape architecture consists of a duality: The garden partakes in both the 'real world that is accessible to the senses' and in one that is 'only accessible' to the imagination (Hunt, 2004: 13). Landscape architecture, thus, consists of sensory aspects, for example the spatial and physical experience of a garden visit; and abstract descriptions of an imagined site, here referring to instructional illustrations such as plan drawings, sections, etc. Another crucial component is made up by representations of built landscape architecture, like photographs, sketches, drawings, and verbal narratives of the built project, amongst which I will position criticism.

Rhetoric is a bonding mechanism (Corner, 1991: 128), and I consider the genre of criticism as a focal point of the institution of landscape architecture: By combining language and sensory reality, theory and practice, critiques potentially embrace both of the aspects pointed out above; sensory and abstract, in relation to different parts of the institution; professional practice, academia and general use.

The terminology of criticism has a range of different denotations, but refers principally to the act of judgement and feedback (Blanchon, 2011; Andersson, 2004; Goodchild, 2004; Treib, 2004) or to critical thinking (Treib, 2004). However, in this paper I lay emphasis on the aspects of criticism that represent landscape architecture (Rendell, 2010; Dee, 2004; Grillner, 2000).

According to the French philosopher Jean-François Lyotard, the critique contributes to the constitution of the work (Lyotard, 1992: 5). This implies that the way a review is expressed, an argument is articulated, or even that the reviewed object is selected in the first place, affects the formation of a work within an institution. The critic consequently exerts the power to stage selected projects.

This paper aims to relate Lyotard's claim to the field of landscape architecture. I will investigate if and how criticism, as written representations of landscape architecture, contributes to the constitution of landscape architecture as works, briefly defined as recognized landscape architecture. I will do this by looking at how the articulations in critiques of landscape architecture in the Danish/Nordic journal Havekunst ('Garden Art') are indicate a sensory or an abstract foundation of the experience, and discuss what kind of works the verbal expressions subsequently imply.

I believe that writing and studying criticism is a significant resource to the development of landscape architectural theory, through "seeking, looking, finding, making and reflecting", as Catherine Dee asserts regarding drawing as a means for the same purpose (Dee, 2004: 65). Or, as Udo Weilacher declares, there is a need for books as landmarks in search of new solutions in landscape architecture (Weilacher, 2010).

There have been, and still are, ongoing research projects on the subject of criticism (e.g. Blanchon and Keravel, 2011; Rendell, 2010; Grillner, 2003; 2010), but none of these seem to take the constitutive role of critiques into consideration. However, the topic is well embedded within sections of the fields of philosophy, literature and the arts: For instance in Benjamin Whorf's view on our perception of the world and our ways of thinking about it as deeply influenced by the structure of language (Whorf, 1956). In other words, the power of criticism as a significant factor in constituting the work needs to be examined to create a consciousness on its relation to theory as well as ideas and values within the institution of landscape architecture.

Some existing research offers a required framework for this discussion: Bernadette Blanchon and Sonia Keravel are establishing categories of project analysis, distinguishing between four methods: descriptive; conceptual; monographic and comparative (Blanchon and Keravel, 2011); Hélène Jannière has done a survey on the terminology of criticism (Jannière, 2010), and a set of contributions in the Topos issue Landscape architecture and criticism (Schäfer (ed.), 2004), add various perspectives on the functions of criticism pointed out above; judgement and representation. Additionally, even though it is based within the fine arts, Jane Rendell's exploration of site-writing (Rendell, 2010) is pertinent for this landscape architectural study, because of her phenomenological approach and reflection on architecture as a social art. Another important piece of research is Katja Grillner's investigation of the narrative as a means to represent a garden and her composition of a dialogue in which she is participating actively (Grillner, 2000; 2003).

MATERIALS AND METHODS

Critiques on built projects in the journal Havekunst constitute the study's corpus. These have been selected through a survey of the period 1920–1980, from the start – up until the Nordic collaboration officially ended. The hermeneutics of reading and writing is the applied method. In the words of the Professor of factual prose Anders Johansen, text is regarded as a 'technology of thinking' (Johansen, 2009), and here, also as a result of the process of interpretation.

Distinguishing between the abstract and sensory point of departure, the approaches described initially constitute the basis of a typology of critiques consisting of two key types of landscape architecture criticism. This implies that by examining the verbal articulations of the critiques, the reader comprehends, consciously or unconsciously, the critic's emphasis on either an explanation, basically based on abstract descriptions, such as the designer's instructive drawings, or on the sensory experience of the same project.

RESULTS AND DISCUSSION

The survey shows that both of the defined types appear throughout the period investigated, and in the following I will discuss how they affect the recognition of the reviewed projects. For instance I have found the sensory approach in Gösta Reuterswärd's writing from 1920 about the park Adelsnäs, where he applies terms like wander; a wide, wonderful view, and the wind and the twittering of the birds as music. This vocabulary encourages a perception of the park as it is experienced by him, visiting the site. The plan does not appear important.

> From ***Adelsnäs***: "If one has wandered up to the rock, where no real road leads, stretches a wide, wonderful" view over the park [...] and scarcely could no better place exist than this, with the forest as a backdrop and the wind and the twittering of the birds as the music (Reuterswärd, 1920: 56-59) [own translation].

As Reuterswärd most likely was writing his critique based on one or more visits of the park, Jane Rendell is examining the kind of writing that emerges from acknowledging the specific and situated position of the critic (Rendell, 2010). Her consideration of the critic as a particular kind of user with an active and inherently spatial role to interpret and perform (Rendell, 2010: 3-4) has similarities to what I label a sensory approach.

I have also found abstract approaches in, for instance, C. Th. Sørensen's description of G. N. Brandts's garden in Svastika. When I read this critique, I get the idea of a project that is strongly identified by its plan drawing. Sørensen is pointing at the geometrical forms of the flowerbeds and the dimensions of the grass paths, but the text does not invoke sensory qualities, such as the scent of the flowers or the sensation of walking on the soft grass.

> From ***Junihaven ved Svastika og tre andre haver***: "[...] it consists of rectangular flower beds in uneven sizes carved into a grass base, so that they are separated by one meter wide pastures." (Sørensen, 1927: 104) [own translation].

By using phenomenological philosophy and Geertz' concept of "thick descriptions", Dee has been experimenting with approaches to drawing, and I find her distinction between thin and thick drawing comparable to critiques based on respectively abstract and sensory approach. According to Dee, thin description lacks "poetry", "does little more than represent superficial appearance" (Dee, 2004: 58) and

"fails to tell us of new or important dimensions of the landscape especially those connected to experience and process" (Ibid: 59).

The latter approach may be illustrated by Johannes Tholle's accurate description of the townhouse gardens dimensions found in the plan, or G. N. Brandt's referring to numbers on the plan in order to explain the organisation of the playground activities, thus an abstract approach.

> From ***Rækkehushavene faa Fuglebakken***: "The backyards were offset 12 m." (Tholle, 1930: 120) [own translation].
>
> From ***Nye Principper for Børnelegepladser***: "The numbers 1, 4, 5, 6, 7, 8, 9 and 10 on the plan show the localisation of [games], which for instance 1 is lawns for different ball plays and 4 a skittle alley" (Brandt, 1940: 2) [own translation].

On the other hand thick descriptive drawing "has the potential to crystallize time-based experimental and embodied ways of reading and conceiving landscape by paying attention to, among other things, the detailed, transient, complexity of landscape experience" (Dee, 2004: 59).

And, among others, I find E. Erstad-Jørgensen's sensory-based critique comparable to this. He expresses the relieving sensation it is to enter a garden, and the coolness and implicitly the temporality of the old alleyway's shadow and the reflective effect of canals.

> From ***En Have paa Fuglebakkevej***: "It is relieving to enter a garden […] in the cool shade of old alleys, between mirroring canals" (Erstad-Jørgensen,1923: 95) [own translation].

The introduced types of criticism correspond to different kinds of knowledge: The sensory approach highlights the subjective and often spatial experiences of sites and attempts to capture atmospheres, while critiques written with an abstract approach tend to aim at objectivity; the absolute and measurable. The latter, even if it here unenthusiastically is being correlated to a 'lack of poetry', represents a crucial aspect of the professional element of criticism. For instance, to write meaningful critiques about landscape architectural projects, Thorbjörn Andersson suggests the three aspects of concept, organization and design as a point of view (Andersson, 2004: 29). However, these are mainly connected to the abstract approach.

On my way searching for how criticism may contribute to the constitution of the work in the journal Havekunst, the sensory and abstract approaches have been the key types in describing criticism, and they consequently act as the two fundamental ways of perceiving landscape architecture. However, this notion is a schematization of criticism's state of the art. In fact, the majority of critiques in Havekunst appear to represent both sensory as well as abstract approaches to landscape architecture. These apparent dichotomies look as if they complement each other and inevitably act in parallel: Descriptions of sensory, spatial experiences and the information provided by plans and illustrations are often both present. Nevertheless, they are not equally emphasized. The critiques emphasize the approaches differently and consequently represent what I will name as different meanings or values.

An important issue raised in the study, however, is the question of authenticity: Whether an apparently sensory approach really is based on an actual presence onsite, or whether it is a constructed story, derived from an abstract approach, often is not clear.

This kind of uncertainty arises when reading Erstad's elegant writing on Brandt's garden in Ordrup krat. We get the feeling that he is describing an actual experience, unfolding the pretty road that is not leading straight towards the house, but letting the one who arrives experience the house from different positions. Most likely Erstad has visited the garden, but he may also have talked to Brandt and obtained information about the design intention. Erstad's professional and evident writing skills seem to have made him competent to read a plan and articulate an apparently sensory experience. But it will remain speculation whether this is the case here.

> From ***En have i Ordrup krat***: "The road is pretty, partly because of its alignment, not leading straight toward the house, but by its twists and turns letting the one who arrives experience the house from different positions, but most likely also because the profile is so pleasing" (Erstad, 1942: 133) [own translation].

If real gardens cannot mean anything in themselves, as fictional gardens must do because they have no other function (Gillette, 2005), then the "meaning" in landscape architecture has to be constructed by the way we talk or write about it, for instance in criticism. If not, landscape architects end up as pragmatic problem solvers. However, the options for the critic's approach in criticism lead to the question of whether texts that are informed by abstract descriptions of an imagined site, but describing sensory experiences, are critiques, or just creative writing? And can fiction be criticism?

As long as texts refer to theories and concepts within landscape architecture institution, I will argue that they are critiques, even if they are 'composed'. In fact, also descriptions of sensorily experienced landscape architecture are somehow "manipulated". Michel Conan argues that recognition, what he names aesthetic appreciation of a visitor's motion through a garden, derives form a reconstruction based on memory (Conan, 2003). Criticism is distinguished from fiction, though, in that it conveys a professional perspective. Nevertheless, both criticism and fiction possess abilities to create connotations that affect the reader's recognition of the garden or the landscape architecture as work.

Landscape is a phenomenon beyond immediate comprehension, which acquires meaning when we choose "a prospect and map what we see, marketing some aspects, ignoring others" (Corner, 1991: 129). Analogous to the understanding of landscape as one among an infinite number of landscapes perceived in an area (ELC, 2000), I would describe this process as layers of experience and articulation: A filtering of landscape architecture, starting as something sensuous, bringing it through the perception of writing, ending as a critique that unfolds one of many possible perceptions, and leading to one recognition of the reviewed object; the work. Regarding the critique as a representation in itself, it is also the readers' source to the work. For some readers it is the only source.

Consequently, over time, criticism will influence the understanding of landscape architecture as a profession, by implicitly pointing out what is considered as the institution's crucial characteristics, or ideas and values: here depicted as sensory or abstract aspects.

CONCLUSIONS

The articulation of a landscape architectural critique does have an impact on what the reader perceives as the essential features of the work, whether it is the sensory or the abstract aspects. The verbal expression is consequently the basis of its recognition. In other words, the written representation influences how landscape architecture is constituted as works.

The findings not only underline the power of the critic to contribute to the constitution of the work of landscape architecture, they also show the critic's significant impact on the prevailing perspectives of the institution of landscape architecture.

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How International Teaching adds to Intercultural Learning in Landscape Planning and Design: Experiences from the Culture Scape Project

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ABSTRACT
Defined as the result of human-nature interaction, cultural landscapes are a unique source of inspiration for landscape planning and design. The present study covers the experiences from an EU-funded project entitled Cultural Landscapes in Landscape Design (CultureScape). The project involved teaching staff and students from four partner universities in three countries. Among the objectives was to assess how international teaching adds to international and intercultural learning in landscape planning and design. The study area was the rural Adrasan district in Antalya, Turkey. Three sites with different characteristics were chosen and mixed student groups were asked to develop projects for their respective areas based on the cultural background of the district and the wider Antalya region. As a result, intercultural work brought out enrichments and distinctions in the projects, improved social interaction and cooperation, and provided a framework for students and teaching staff to broaden their knowledge on subjects, instrumental academic experience and generic competences in new and inspiring cultural realms. It was also experienced that there were different philosophies and orientations in planning and design by different partner universities and these differences had to be accommodated in international and intercultural teaching.

Keywords: International teaching, intercultural learning, landscape planning and design, cultural landscapes, Turkey.

INTRODUCTION

World-wide there is a fast growing awareness of the importance and value of international education. Educational institutions have long understood the importance of cross-cultural preparation to ensure intercultural effectiveness when living, travelling, or working abroad. Today, many other organizations are also learning this important lesson. Multinational corporations increasingly recognize that success in a global marketplace depends, to a large degree, on their employees' ability to deal in the international arena (Fantini, 2000).

Teaching is a process of providing knowledge and instruction on subjects and methods, while learning is a course of gaining knowledge, comprehension and skills through study and experience. Both are interrelated in an education process and require a deliberate transmission of factual and instrumental knowledge, but also depends upon cultural values and ways to communicate among staff and students. Analytical as well as conceptual processes in education require exchange of information, comparison of values, balanced scientific disciplines and instrumental approaches. In international and intercultural teaching practice, this applies equally to teams of students and teachers, especially in culturally related aspects.

International student mobility and international classroom strongly support learning experience which is regarded as of intercultural dimension of the teaching and learning so to bring an appreciation for different cultures and to improve ability to communicate and interact with people from different backgrounds (Teekens, 2000). Hereby cognitive objectives and objectives related to attitude in order to increase the student's international competence (foreign languages, broad mindedness, regional and local studies, humanities, understanding and respect for other people and their cultures) play an important role.

Recent studies revealed that intercultural teaching and learning have multiple benefits both for students and teachers and that even short-term experience is valuable and group work enhances the academic as well as generic learning outcomes. Leask (2004) argued that transnational education programs are an integral part of the internationalisation activity of higher education institutions and an opportunity for staff and students. Williams (2005) discussed intercultural adaptability and intercultural sensitivity and affirmed that students who participated in study abroad programs exhibited a greater change in a positive way in intercultural communication skills as oppose to those who remained at their home campus. Chieffo and Griffiths (2005) concluded that even short-term programs are worthwhile educational endeavours that have significant self-perceived impacts on students' intellectual and social lives. The study by Liu and Dall'Alba (2012) confirmed that active engagement in group work can enhance learning outcomes.

Landscape architecture education is a demanding activity and a foundation stone for all concerned (IFLA, 2008). Participants coming together in a multicultural and international learning environment would benefit from the knowledge discovered and shared and develop skills on new insights and understanding landscape with evaluation techniques from a multidisciplinary approach.

An international and intercultural teaching practice would empower learning experience in landscape architecture involving natural, social, physical and cultural aspects. With this in mind, the objectives of the academic educational programme from which this paper was produced were:

- to undertake an international intensive programme of study to enhance the international capacity in landscape planning and design,
- to respond to the need for better understanding of the value of European cultural landscapes,
- to provide the students with the necessary knowledge on how to appropriately integrate cultural landscapes into contemporary landscape design.

These objectives are in accordance with the IFLA Charter for Landscape Architectural Education which defines, among the ideals of the profession, the respect for our cultural heritage. The IFLA Charter states that the vision of the future world, cultivated in landscape architectural schools, should include the goals of an approach to landscape planning and design interventions which respects, among others, the cultural needs of people, and of a public realm landscape which is expressive of local culture (IFLA, 2005).

The CultureScape Programme allowed us to experience international and intercultural teaching and learning in the discipline of landscape architecture. Since there are very few researches, if not any, on intercultural teaching and learning in landscape architecture, the present paper intends to make a contribution to the literature.

MATERIALS AND METHODS

CultureScape is the acronym of the project "Identity-Diversity-Integrity: Cultural Landscapes in Landscape Design" which is funded by the European Commission through Erasmus Intensive Programmes. The project involved 9 teaching staff and 28 students at undergraduate and masters level from four partner universities in three countries (Turkey, Belgium and Germany). There has been a preparatory phase at home and the students were given some preparatory seminars and texts before the programme on understanding intercultural learning as process, cultural landscapes and their analysis, assessment and management. The teaching activity itself took place in Antalya, Turkey, in July 2011 and consisted of twelve consecutive days of intensive activities in the form of in-class, on-site and in-studio works. The participating students were divided into groups, and in order to provide a better intercultural learning experience, each group had at least one student from each partner institution.

The study area was the rural Adrasan district at west Antalya. Three sites with different characteristics (Old Adrasan, Coastal Adrasan and Adrasan Centrum) were chosen and mixed student groups were asked to analyse and describe potentials, develop landscape planning proposals and suggest design projects for their respective areas. Their considerations had to be based on the cultural background of the district and of the wider Antalya region. Teaching staff, invited speakers and local experts delivered presentations on aspects related to cultural landscapes; conservation and landscape design, and also supervised the groups during the development of student projects. Communicating with inhabitants and local decision-makers was an essential prerequisite to understanding present land use and the state of cultural as well as natural landscape elements. The teaching activity ended with the final presentations of planning and design projects by the students before the teaching staff, experts and local politicians.

The experience gained by all students participating in the programme was retrieved by a questionnaire implemented at the end of the programme. Students were asked to reflect their motivations for participating in the programme and their personal

and academic outcomes from the programme in a Likert scale of 1 to 5. Data collected were transferred into SPSS statistical program which allowed us to make various statistical analyses.

RESULTS

Motivation to participate in the programme

Students were asked about what were the factors which motivated them to participate in the programme. Academic and cultural motivations played important role for Turkish students as opposed to others. However gaining a European experience was a strong motivation for the students of partner schools amongst the students from Ankara University in particular. The language is very important in intercultural communication and accordingly practice of a foreign language was important motivation. English was the working language of the programme and not native language of any partners and eventually students wanted to improve their level of English on this occasion.

Future career plans and cultural motivations followed these first two motivations. Results showed that students' main motivation was career building with a European experience and a foreign language practice (TABLE 1).

Relations between academic and cultural motivations

Students were asked about their academic and personal outcomes from the programme. Results indicated that personal outcomes of students were higher than academic outcomes. Data related with the motivation to participate (academic and cultural) and with the outcomes (academic and personal) was cross-tabulated to see if the students' academic and cultural expectations were satisfied (TABLE 2). Results indicated that the students having higher cultural motivation yielded higher personal outcomes. This was true for those students who participated with higher academic motivation.

CONCLUSIONS

Encouraging efficient and multinational teaching, enabling students and teachers to work together in multinational groups, gaining new perspectives on the topic studied, allowing teaching staff to exchange views and testing teaching methods in an international classroom environment are the main objectives of Erasmus Intensive Programmes (European Commission Education and Training 2012). CultureScape project allowed us to experience international and intercultural teaching and learning in landscape architecture.

TABLE 1. Motivation to participate in the programme by partner schools.

Partner school	Academic Motivation (%)				
	1 Not at all	2	3	4	5 Very much
Akdeniz Universitesi	12,5	00,0	37,5	37,5	12,5
Ankara Universitesi	0	00,0	37,5	12,5	50,0
Erasmushogeschool Brussels	0	50,0	12,5	37,5	0
HTW Dresden	0	25,0	50,0	25,0	0
Cultural Motivation (%)					
Akdeniz Universitesi	0	0	50,0	37,5	12,5
Ankara Universitesi	0	12,5	12,5	25,0	50,0
Erasmushogeschool Brussels	0	12,5	50,0	37,5	0
HTW Dresden	0	25,0	25,0	50,0	0
Practice of Foreign Language (%)					
Akdeniz Universitesi	0	25,0	25,0	37,5	12,5
Ankara Universitesi	0	0	12,5	25,0	62,5
Erasmushogeschool Brussels	0	25,0	25,0	25,0	25,0
HTW Dresden	0	0	0	25,0	75,0
Friends Living abroad (%)					
Akdeniz Universitesi	0	62,5	25,0	0	12,5
Ankara Universitesi	0	0	12,5	50,0	37,5
Erasmushogeschool Brussels	62,5	12,5	25,0	0	0
HTW Dresden	50,0	0	0	50,0	0
Career Plans (%)					
Akdeniz Universitesi	0	25,0	0	50,0	25,0
Ankara Universitesi	0	0	37,5	25,0	37,5
Erasmushogeschool Brussels	0	25,0	12,5	37,5	25,0
HTW Dresden	0	25,0	50,0	0	25,0
European Experience (%)					
Akdeniz Universitesi	25,0	0	25,0	37,5	12,5
Ankara Universitesi	0	0	25,0	12,5	62,5
Erasmushogeschool Brussels	0	0	0	50,0	50,0
HTW Dresden	0	0	0	50,0	50,0

TABLE 2. Relations between academic and cultural motivations with academic and personal outcomes.

Cultural Motivation	Academic/Learning (%)					Personal Outcome (%)				
	1 not at all	2	3	4	5 very much	1 not at all	2	3	4	5 very much
1 not at all	0	0	0	0	0	0	0	0	0	0
2	25,0	0	25,0	50,0	0	0	25,0	75,0	0	0
3	0	33,3	33,3	0	33,3	0	33,3	33,3	0	33,3
4	0	9,1	54,5	36,4	0	0	0	45,5	54,5	0
5 very much	0	30,0	10,0	20,0	40,0	0	10,0	10,0	40,0	40,0
Academic Motivation										
1 not at all	0	33,3	,	66,7	0	0	0	66,7	33,3	0
2	0	0	100,0	0	0	0	0	0	100,0	0
3	25,0	0	50,0	25,0	0	0	25,0	75,0	0	0
4	0	27,3	27,3	36,4	9,1	0	9,1	36,4	45,5	9,1
5 very much	0	11,1	33,3	11,1	44,4	0	11,1	11,1	33,3	44,4

The partners believe that the aims and objectives of the IP have been fully achieved. The IP raised the awareness concerning the value of the European cultural landscapes in the case of Antalya, Turkey. Participating students learned how to integrate cultural landscape values into landscape designs in the example of three different areas in Adrasan region of Antalya. Because of its nature, the programme has also provided an intercultural teaching and learning opportunity to students and staff from different countries. Even it was a short-term programme we observed a positive contribution to the students' intercultural awareness as argued by Chieffo and Griffiths (2005).

Results of the questionnaire survey revealed that landscape architecture students in Europe seek European experience in a different landscape context together with students from other countries. Questionnaire results also indicated that students with higher cultural motivations yielded more generic outcomes. Regarding academic outcomes, intercultural work brought out enrichments and distinctions in the projects and provided a framework for students and teaching staff to broaden their knowledge on subjects, instrumental academic experience and generic competences in the Turkish Mediterranean cultural realm.

We experienced that the time needed for the completion of assignments when international collaboration is involved is longer in landscape planning and design. Because, the coordination of information in a different landscape context and of different views between the staff and students as well as the development of planning and design solutions take more time. We also experienced that certain language difficulties in these kinds of planning and design teaching programmes with students who are not native speakers may be overcome by using maps, sketches and exemplary pictures to illustrate specific typologies, details or concepts.

In conclusion, international and intercultural teaching and learning programmes in different cultural landscape realms help students and staffs understand the evolution of the cultural landscapes in different parts of Europe and the World and to develop sustainable planning and design solutions and strategies. These programmes also help landscape architecture students develop skills to compete in a global marketplace.

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The Power of Collaboration in Landscape Architecture Education: Shifting Our Pedagogy with Service Learning Practices

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ABSTRACT

This research will evaluate the outcomes of service-learning practice led by a local chamber of landscape architects, in which academicians and students from various universities are coming together in order to proceed sustainable solutions for different cases in Anatolia Region of Turkey.

Even though service-learning puts the academy at the centre of studio practice (Howard, 2003), there should be other actors standing around landscape architecture education process. In order to create a paradigm shift in our pedagogy, we should explore possible roles of these other centres through examining the experiences occurred at touching points of the frontiers of this multi-centred network of education.

Turkey's Chamber of Landscape Architects organizes short-termed but intensive summer studios with the participation of undergraduate students from all landscape architecture departments of Turkey. The summer studios, which are being held by the collaboration of chamber, academies and local authorities in a different region of Anatolia in every year, bring together all stakeholders with landscape architects around a common point: "preparing students for professional life and creating public awareness about sustainability and landscape architecture".

In order to determine the commons and gaps of pedagogical background of our profession, we compared and evaluated the outcomes of this action-based SL design studio with an academic studio. In doing so, the outcomes of the summer studios led by the chamber and academic SL studios from Okan University have been chosen for the evaluation. The studio outcomes will be evaluated in theory oriented-contextual framework approach with emphasis on contributions of service learning practice. The contextual texts and final project reports written by students, project proposals of each studio and project reports written by instructors have been analysed and compared with categorizing these materials under five main concepts: "idea, design, technique, ethic and community".

According to the initial assessments, the summer studio of the chamber focuses on community building, professional ethic and technical issues. Due to academic studio connected to academic course, it concentrates on particularly creative thinking. "Technique" is the common stepping stone of each studio which enables finding opportunity for students to use the knowledge coming from their academic experience. Our findings show that different outcomes of these two experiences will reveal unnoticed clues for shifting our design studio education with the contribution of all potential actors on the stage. Beyond that, learning in faculty and learning in community are complementary and we should find the synergistic relationships between the two. This study will illustrate the success of our education process by revealing that to what extend close we are to the professional awareness.

Keywords: service learning, education, landscape design, participatory community design.

INTRODUCTION

The nature of landscape architecture education has an open character to the actions of different disciplines and potentially very rich for developing working partnerships on the flow between the academic and local knowledge. Therefore, for the knowledge transfer from academies to the local authorities and community, the use of alternative methods in learning and research process has been gaining more importance (Bodorkos, Pataki, 2009). In this sense, as an extension of action research strategy, educational model of service learning (SL) has been creating wide-ranging opportunities in order to build a bridge between the professional science and the needs of society. Even though action research strategy considered as subjective, it allows the production of new knowledge with social practices because it is strategic rather than procedural (Deming, Swaffield, 2011).

Besides its design and planning aspects, landscape architecture education is directly related to policy and ethical issues such us sustainability and social awareness. This relation requires the interactive information flow between professional realm and actors in community. In order to provide flow of information between academia and society, action based strategic operations has to be needed during the learning process. Indeed, these strategies are very successful on site-specific fact-finding particularly from the experiences of local cases (Deming, Swaffield, 2011).

Service-learning is an educational philosophy and pedagogy that connects community service with intentional learning (Shumer, 2003, 1993; Stanton, 1990). Students meet real community needs, learn how formal learning connects with real world experiences, frequently reflect on the nature of the service and the learning, and document learning and change through evaluative processes (Shumer, 2003). Even though service-learning puts the academy at the centre of studio practice, there should be other actors standing around landscape architecture education process. In order to create a paradigm shift in our pedagogy, we should explore possible roles of these other centres through examining their experiences occurred at touching points of the frontiers of this multi-centred network of education.

This research will evaluate and compare of outcomes of two service-learning practices from academia and professional society. Turkey's Chamber of Landscape Architects organizes short-termed but intensive summer studios with the participation of undergraduate students from all landscape architecture departments of Turkey. In order to determine the commons and gaps of pedagogical background of our profession, we will compare and evaluate the outcomes of this action-based SL design studios with the university's academic studio. In doing so, the outcomes of two summer studios led by the chamber and two academic SL studios from Okan University have been chosen for the evaluation. The differences and similarities of two different experiences will show that to what extend close we are to the social and professional awareness in landscape architecture education.

MATERIALS AND METHODS

With the purpose of understanding potential benefits of engaged action research, especially the effects of service learning model on the knowledge transfer between science and public realm in Turkey, two different studio practices has been evaluated in this study.

The outcomes of the studio processes will be evaluated with theory oriented-contextual framework approach which is emphasized on contributions of service learning practice to the professional knowledge construction. The contextual texts and final project reports written by students, project proposals of each studio and project reports written by instructors have been analysed and compared with categorizing these materials under five main concepts: "*idea, design, technique, ethic and community*".

This part of the study will be divided into two parts. In the first part, each case study explained briefly with their contents, purposes and learning environments. The second part mostly focused on analysis and comparison of learning outcomes of the SL studios. At the conclusion part of the study, contextual interactions of each studio practices will be evaluated with a conceptual matrix.

CONTENTS OF CASE STUDIES

Case 1: The Summer Studios of Landscape Architecture Students organized by Turkey Chamber of Landscape Architects

Since 2007, The Summer Studios of Landscape Architecture Students has been organized by the Turkey Chamber of Landscape Architects, programmed with the contributions of academies and local authorities in a different region of Anatolia in every year. The summer studios bring together all public stakeholders with landscape architects around a common point: "**preparing students for professional life and creating public awareness about sustainability and landscape architecture**".

The main purpose of these summer studios defined as follows:
"In order to gain consciousness about practical work and collective living, the students should face with the practical field of the profession which must be different than the normative academic education. With this purpose, the chamber organizes the summer studios integrated with a summer camp. The participant students from several universities all over the country will prepare projects for a specific site with sharing of their knowledge and abilities and experience living collectively together in a place in the project site."

In this part of the study, contents of the first (2007) and the last (2011) summer studios will be introduced briefly.

Case 1.1: Learning from Great Architect Sinan's Hometown: Landscape Architecture Summer School in Agirnas

Besides its natural, cultural, archaeological richness and deep rooted architectural history as well as unique characteristics of its landscape, Agirnas is the birthplace of great architect of Turks, Mimar Sinan (1490-1588). Also, Agirnas has a significant importance due to Architect Sinan had obtained his first influences from there during his growing period. This unique settlement has been exposed to deterioration due to the lack of interests of governments and unconsciousness of society. After the 90s, the planning and restoration works has been developed with the underpinning of the collaborations among local government, NGOs and universities.

Because landscape architecture is a young profession in Turkey, the recognition of the discipline is the strongest issue that the local chamber has dealt with permanently in last decade. Due to this reason, the first summer school of the local chamber in Agirnas especially has been constructed in order to show and explore the role of landscape architects to the young candidates of profession and community. The studio process basically aimed to emphasize the importance of landscape architects in professional

arena and to introduce that cultural landscapes are the most important study fields of landscape architecture. Primary targets of the studio were first students and then community.

The scope of this national workshop consisted of preparation of planning projects and inventory of the landscape patterns for the area with the collaboration of The Chamber of Landscape Architects, academicians and students from 12 universities in the country. During the working process students and work-shop instructors had several meetings with government officials, civil society organizations and local people around Agirnas. Also, the students had a chance to explain their own ideas to a local municipality representatives from Germany which visited Agirnas Municipality for a special programme organized by the city council.

At the end of fifteen days living together, the students and instructors presented their projects to the public and accepted feedbacks for the future prospects of their landscape planning ideas. On the other hand, during the work-shop period, working process of the summer studio was introduced to the public by local TV channels and publications.

Case 1.2: Questioning the Expectations of Local Governments: Learning by Teaching to the Society in Erzincan

Landscape architecture education is directly related with design and creativity as well as politics and law (Brown, Jennings, 2003; Stokols, 2011) . But, most of the time, the political aspect of the profession has remained incomplete in landscape architecture undergraduate education. This brings the lack of knowledge transfer between science and public realm which causes irreversible loss especially in the neglected cities. The unplanned actions realized by the local governments in order to find financial resources for improvement of their city leave serious damages on natural and cultural landscapes.

With its mountainous geography, very rich groundwater resources, agricultural landscapes and historical values, Erzincan has a fragile character because of the unconscious intentions of the local governments especially about tourism development planning actions for the future of the city. Erzincan is a special example for this exception.

In the beginning of the workshop process, our students listened expectations and implementations of government officials of Erzincan. In addition to the site observations and analysis, in order to comprehend expectations of the local community they tried to talk with the citizens of Erzincan along site visits.

At the end of the studio, our students and instructors tried to explain how and why the local authorities achieve creating financial resources to their city while they conserve the cultural landscapes with overseeing the issue of sustainability. The most important outcomes of this summer school are that the students introduced the main principles of sustainable approach in landscape planning to local authorities and stakeholders and learn how they interact with the government officials in a professional way.

Case 2: Academic Studio on Urban Design and Landscape Architecture at Okan University

Because of the common vision of Okan University, every bachelor program should seek to find a relation with the practical world and responsible for preparing the students to professional life. In this sense, urban design studios are the best places for finding opportunities for realization of engaged actions with the society. For this reason, some of the urban design/landscape architecture studios have been programmed as based on service learning model, especially in cooperation with the municipalities and local governments. As the youngest department of Istanbul on urban design and landscape architecture, Okan University's (OU) academic studios has proceed a self-assessment process in order to improve its studio structure with the help of action research strategies. The primary goals of this self-assessment defined as follows:

FIGURE 1. The summer school experience of the landscape architecture students (left:2007, right: 2011; photo credit: UCTEA Chamber of Landscape Architects, Turkey).

1. Self analysis for helping the educational program to determine what works and what actions need improvement;
2. To set main goals for shifting and changing the pedagogy of the studio;
3. Defining the new ways for improving programmatic actions to fulfil the knowledge transfer to practical area of the profession.

In this aspect, the studio outcomes and experiences of the Department of Urban Design and Landscape Architecture in OU, has been collected and compared with the other alternative educational models. In short, urban design studio of OU has a continuous updating mechanism with the research examination based on comparing itself other studios and involving systematic surveys of student experiences.

In this part of the study, approaches and ideas of two SL studio practices from fifth semester and fourth semester will be introduced briefly.

Case 2.1: Design as an Action for Public Service: An Urban Square on a Historical Cityscape of Uskudar, Istanbul.

Uskudar town square is one of the oldest square and transportation node of Istanbul. In and around the square there are many historical buildings and several archaeological remains not only from the Ottoman period but also from the ancient human history. The archaeological character of the square was not known particularly until the underground railway system excavation started. Today, the subway system almost has been completed and the town square needs a large scaled urban design implementation which is able to solve complex problems while reflecting the respect of cultural heritage values in an urban public space.

Basic objectives of the landscape design studio were defined as "to inform students about the complexity of problems in urban public spaces such us meeting the needs and expectations of all stakeholders, achieving socially responsible design, respecting urban memory, solving the physical necessities in transportation or circulation, future foreseeing in urban design and planning".

The studio process began with a discussion meeting with the local municipality. During the class, students visited the project site and collected basic information about site users and environment. Official maps and documents about land use and building law of Uskudar region also investigated with the class discussions. After design process has been completed, our team met with the municipality again in order to demonstrate and present project proposals to the authorities. The projects will be published in a booklet by the municipality.

Case 2.2: Learning from Pressures of Urban Change: Immigration and Landscape Planning for an Abandoned Neighbourhood in the Historical Core of Bursa.

Reyhan Urban Site is situated in the central district of Bursa in which is the first capital of Ottomans. Besides being close to the traditional commercial centre and historical core of the city, the land uses consist of residential and commercial usages. Because of urban growth toward peri-urban areas and urban renovation implementations in the city centre, migration from the centre to the periphery brings the urban dereliction in the abandoned heritage sites of Bursa (Bagbanci, 2010). Reyhan Neighbourhood has been faced with this problem in last few years. Even though the area have been declared as "Urban, Archaeological and Natural Site" by the national authorities, the existing buildings has been used for commercial purposes incompatible with heritage character.

The main purpose of the studio was to inform the students about "the spatial and social effects of migration in urban environment and developing a socially responsive approach for the conservation and revitalization of urban heritage sites with respect to the local development policies".

The studio process began with an urban-walk in the project site. After our students collected the

FIGURE 2. The meeting with Bursa Municipality and studio works of landscape architecture students from Okan University (Baser, 2011).

visual information about their study area, the Urban Renovation and Planning Department of Bursa Metropolitan Municipality were visited. In addition to the discussions with the municipal officials about project site, they presented the future planning actions of local government for whole city. In the second stage of the site visit, students prepared interviews with the landowners and ordinary users of the district. During the studio process, the evaluation of the expectations of local government and local people revealed that there are some conflictions between two stakeholders.

In accordance with all these data, we asked to the students that "to find the most appropriate urban design solutions which might be solve all problems of a public space with respect to the community expectations and qualified urban environment".

LEARNING OUTCOMES OF SERVICE LEARNING STUDIOS

Since the need of academic knowledge is the common point for each case, the most important learning outcome of these studios is having an opportunity to create public arenas for communicative dialogues for public benefits. In other words, these studios have a mutual learning process because academia and social institution try to find a way to explain significance and role of landscape architecture to the public while providing learning environments for the students with service learning actions.

On the other hand, students have been faced with the professional environment for discussing with all stakeholders related to their profession. During the interim meetings and final presentations they encountered with the local people and government officials together. With the synergetic learning environment providing by SL action, students worked on their projects more enthusiastically because they had to deal with a real life experience.

Beyond that, the experience of service learning provides opportunities for shifting our traditional pedagogy currently carried out in the national academia. Also it promises that students have deeper professional knowledge, collaborative work skills, sense of social and civic responsibility and consciousness about the extended limits of their profession.

RESULTS AND DISCUSSIONS

With the purpose of understanding potential benefits of service learning model on both community building and educational practice in Turkey, we have analysed two different studio experiences from academia and social institution. The outcomes of these studio processes evaluated in theory oriented-contextual framework approach structured around five main concepts: "*idea, design, technique, ethic and community*". According to the analysis of learning outputs, each main concept consists of sub-themes representing the main purposes of the studio process (see FIGURE 3). In FIGURE 3 the structure of this conceptual approach is shown with a diagrammatic explanation.

According to initial assessments, summer studios of the chamber have focused and give importance on "community building", "professional ethic" and "technical issues" due to the studios held on project site (TABLE 1). Besides the contributions of mutual dialogues with the residents and local governments, during the summer school students become the residents of their working environment because they live in the project site at least for fifteen days. As a result of this real-life experience, the social aspects of the studio process outweighed if compared with creativity aspect. On the other hand, the instructors should have ignored the design and creativity issues in the studio progress because of the diverse background of participant students coming from several universities which have different academic approaches.

After the comparison between two cases of chamber's organisation and the first case from academia, the results of our analysis show that; due to academic studio connected to academic course, it

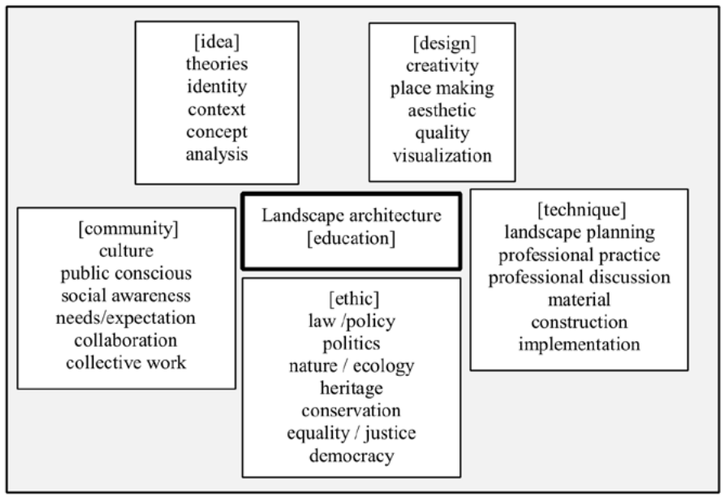

FIGURE 3. Conceptual structure of the evaluation matrix (Baser, 2012).

TABLE 1. Evaluation matrix of four SL Studios (Baser, 2012).

	Idea	Design	Ethic	Community	Technique
Case 1.1.	context, identity, analysis	place making, visualization	law / policynature / ecology heritage conservation	culture public conscious social awareness needs/expectation collaboration collective work	landscape planning, professional practice professional discussion
Case 1.2.	theories, analysis	place making, creativity, quality visualization	law /policy nature / ecology politics conservation	culturepublic consciousssocial awarenessneeds/ expectation collaboration collective work	landscape planning professional practice professional discussion material construction
Case 2.1.	theories identity context concept analysis	creativity place making aesthetic quality visualization	law /policy heritage conservation	culture public conscious social awareness needs/ expectation collaboration	landscape planning professional practice professional discussion material construction
Case 2.2.	theories identity context concept analysis	creativity place making aesthetic quality visualization	law /policy politics heritage conservation equality / justice democracy	culture public conscious social awareness needs/expectation collaboration	landscape planning professional practice professional discussion material construction

concentrates on particularly creative thinking. This result leads us to develop ethical side of our academic curriculum. Owing to this inference from the local chamber's experience, OU's urban design studio pedagogy has been updated with the experience of Case 2.2. (TABLE 1).

Moreover, it can be seen from the TABLE 1. "Technique" is the common stepping stone of each studio which enables finding opportunity for students to use their academic based knowledge. Our findings show that comparison between common and different outcomes of these two experiences will reveal unnoticed clues for shifting academic design studio education with the contribution of all potential actors on the stage. Beyond that, learning in faculty and learning in community are complementary and with this kind of collaborations we might use the synergistic interactions between the two.

CONCLUSIONS

Basically, a landscape architect works as a social engineer in the community (Baser, 2009). Therefore, the education process needs to gain social conscious to the candidates of landscape architecture profession. As a method of action research, service learning education model has a very rich potential for incorporating all related stakeholders in learning by doing process. The learning process operating with two ways, when landscape architects experience their practical field of study, community learn what and how they demand from the professionals.

In the next steps of this study, it will be investigated that with which ways we can improve the design and theory building aspects of summer studio programme's of The Chamber. On the other hand, the lack of ethical and political issues in academic education must be considered and evaluated again with the help of other related experiences like in our example case of chamber's summer studios.

In our case, the experience of the summer studio held by a non-academic social institution has affected the academic approach. Hereby, it has been revealed that the influencing potential of service learning actions to each other can be used in order to make changes in our pedagogical approaches with the help of scientific research and comparison. This research proves that service learning experiences enable production of new know-how in education and community service and it is a dynamic strategic action rather than formal. Consequently, while we combine the experiential learning with the power of landscapes the results surprisingly diverse and impressive especially in the context of students' reflections, synergetic relations among professional realm and society, and pedagogy in academic education.

ACKNOWLEDGEMENTS

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Functions and structure of the trees in "calligraphic" parks: application of Western European ideas to Polish designs

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ABSTRACT

The widespread fascination of nature forms, in urban and rural placement, were various forms of parks connected with residential buildings. Compositional solutions developed in the 19th-century Western Europe reflected the strife for perfection in imitating nature and exhibiting its beauty. Though these principles initially were mostly used for architectural planning of urban gardens, they shortly gained popularity in designing other forms of green amenities, playing a significant role in nature conservation and increasing environmental awareness.

On Polish territories, the rules for designing of tree patterns in parks were also created and written down; developed on the turn of 20th century, they were used for design and realization of almost a thousand manor parks. Although many of them already do not exist – only about a hundred of them have survived until today – their plans are still available, astonishing by exceptional similarity of the used elements and forms. Analysis of even several tens of them allowed for a precise determination of compositional principles. The trees played an important role and their structure was strictly connected with the localization and shape of other park elements: pathes, streams, ponds and lawns. Rules of tree stand design were inseparable from "view corridors" and path directions; these relationships created compositional basis for naturalistic parks.

Today, different state institutions or educational centers are set in polish manor parks. Independently of the ways the building is used, the composition of the park remains almost unchanged. On the other hand, the research can allow to reconstruct destroyed and forgotten parks, which composition is hard to be seen.

Keywords: art of garden design, polish garden art, park composition, landscape parks, calligraphic parks.

INTRODUCTION

Naturalistic parks had fascinated designers throughout the whole 19th century. The relationship between the trees and other park elements to create the most beautiful and fluid forms imitating the nature was searched. Space planned in all details was designed to make an impression of complete naturalness. This harmony, a specific balance between nature and human activity, became one of more important causes of exceptional popularity of these parks. Trees were one of their sparse components allowing for an actual division of the whole park's space, both in terms of functionality and panorama modeling. Hence, they were responsible for the shape and the appearance of individual separate park areas. By their location, the trees emphasized characteristic sites, while with their form and color they created a multi-plane space amazing with beauty. They attracted attention of a viewer to the most enchanting park elements and on the other hand, they screened undesired views. Due to compositional requirements, despite their apparent neutrality, tree selection and placement were more and more cautious (Jankowski, 1888; Jasiński, 1879; Strumiłło, 1850, 1883).

In spite of passage of time and unceasing transformations and development of European art of garden design, polish rules developed on the turn 20th century have lost none of their relevance. Indeed, the beauty of trees is everlasting.

RESULTS AND DISCUSSION

From among the most famous garden/park designers, Humphry Repton, Lancelot "Capability" Brown should be mentioned. Their ideas were then further developed in the 19th century by Jean Alphand, Jean Pierre Barillet-Deschamps and Édouard André. They were looking for means to expose beauty of parks by pursuing perfection in creating fluid, free forms and in their optimal exposition, but abundance or diversity were of lesser significance. While pursuing excellence in grasping and imitating beauty of nature, designers attempted to develop an ideal plan of a naturalistic park, a theoretical scheme with an innate compositional framework. Jean Alphand, Édouard André, and Polish designers: Adam Idźkowski and Józef Strumiłło presented original design solutions. They unequivocally proved the relationships between the location of the trees and – on the other hand – paths and their intersections, the view openings, the formation of multi-plane structure and depths of the admired space.

Jean Alphand illustrated graphically the relations between the location of residence and sightlines leading from it on the one hand, and the location of the trees, on the other. His scheme define perception of the whole park space (FIGURE 1). The location of a small group of trees in the middle part of the park, apparently perfectly natural or just randomly designed, in essence is determined by these sightlines. The figure also shows that those small

tree groups cannot be an obstacle for crosswise sightlines. These sightlines pervade the whole composition and then break through the gaps in dense tree walls along boundaries scheme focuses on the location of the residence, namely a viewer can observe from it park areas located further and further away and even the surrounding landscape.

The above compositional solutions were used in the Édouard André's designs. Layouts of this designer known in the whole continent undoubtedly had an indirect effect on development of the garden art in many European countries. He designed also several estates of the Polish aristocracy, including those in Waka, Landwarov and Zatrocze. In his treatise he depicted his ideas on the art of garden design and presented some examples of parks, which in terms of composition and layout were close to later Polish realizations (Andre, 1879).

An influence of Jean Alphand`s and Édouard André's ideas was visible in the theoretical compositional scheme by Adam Idźkowski. Polish designer took into consideration not only views along and across the whole park. He very precisely delimited also the so-called viewing directions, namely, views observable from several places in the park, where visitors the most often stopped for some rest and viewed fragments of the estate. These places were located near some small characteristic features, squares close to the paths or corners of the park. Different viewing directions overlapped leaving small empty spaces between them. Exactly those, only seemingly incidental spots are optimal locations for small groups of trees composed of several or a dozen or so plants in the middle of the park. Dense, larger tree groves or tree walls were localized exclusively along boundaries of the estate, creating perspective closures of the mentioned sightlines and viewing directions. Continuity of these trees was broken only in some specific places in order to open a scenic view to the landscape surrounding the park.

Józef Strumiłło`s scheme from 1883 is an ideal plan of the polish late naturalistic park (FIGURE 2). It confirms validity of all solutions resulting from the above-described schemes and embodies their ideas. It proved very popular on the turn of the 20th century, and it has been estimated that almost a thousand parks in Poland were created based on that general layout. Meandering paths are believed to be a hallmark of these late naturalistic parks. Their precisely planned, fluid shapes can be compared to a beautiful calligraphic handwriting, and for this reason, these park were called "calligraphic". The whole path network was the most conspicuous on wide lawns, constituting a natural background for their exposition whereas the role of the trees consisted in underlining the most important spots in that line patterns. Trees added the third dimension to the 2D figures visible on the ground.

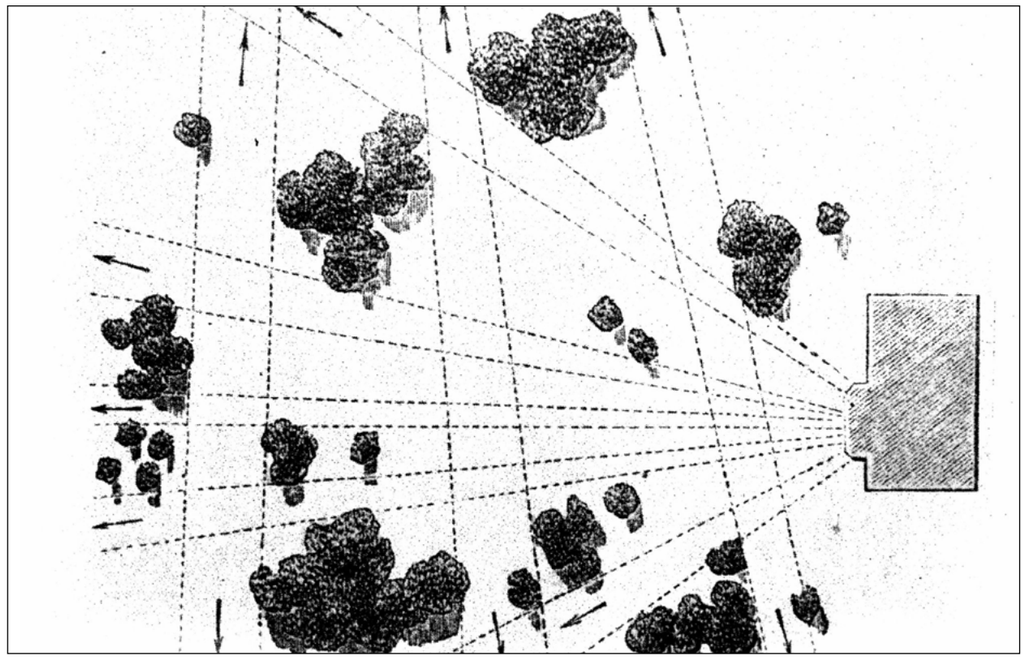

FIGURE 1. Jean Alphand's scheme. Projected views and the trees in the middle of the park from: Majdecki, L. (2009) Historia ogrodów, vol. 2, Od XVIII wieku do współczesności (3rd Edition) Warsaw: Wydawnictwo Naukowe PWN, p. 259, from: Alphand, A. (1885) L`art. des Jardines. Parcs, Jardins, Promenades, Paris.

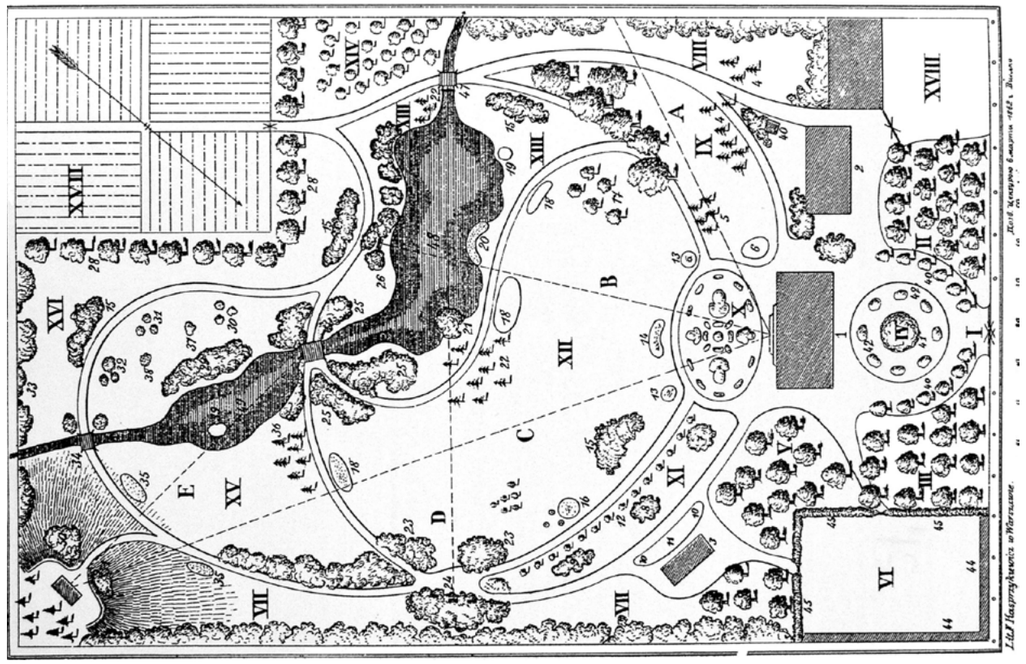

FIGURE 2. The theoretical layout of an ideal naturalistic, "calligraphic" park by Józef Strumiłło. from: Strumiłło, J. (1883) Ogrody północne, Vilnius: J. Zawadzki.

In Polish "calligraphic" parks trees occupy relatively small area, only one fourth of the whole area of the park. Observation of tree canopies, even assuming their only approximate shape due to unpredictability of nature, shows several rules. Dense, large tree groves are located only along the estate's borders since too many plantings would distort perception of the whole network of lines. In the middle of the park, isolated groups of trees are located around path intersections. In the most precisely planned parks (e.g. in Czesławice), from a birds eye view, no a single path intersection is visible, but only their fragments with a defined curvature (FIGURE 3). Such location of trees gives a precise idea how the network of paths look like, namely, their intersections are signaled by more noticeable trees, visible from far away, even from the other side of the estate. At the same time, the trees cover undesired acute angles at path intersections that blemish the sensation of fluidity. Accentuation of all path intersections with trees labels them on the surface, creating a much more readable picture. The structure is clearer also for an observer walking along the park paths. "If paths intersecting in different directions have some focus, they can never bore the viewer: openings, accurate use of views, concealment of the estate's border, easiness of viewing of some parts of the park – all of them can be called a magic" (Strumiłło, 1883: 37).

Diversity and uniqueness of views are the basic features of "calligraphic" parks that can be analyzed in many aspects: field of vision, angle of sight, type of greenness, colors, outlines. The main principles include: constant astonishment of an observer with new views, care for their uniqueness and – on the other hand – concealing undesired features (Strumiłło, 1883). Compositional principles are determined by the perceptive capabilities of a men and the wish to show him beauty of the park. On the one hand, the designer strives for exposing relatively the greatest number of views and elements, and on the other, wants to allow people to remember and contemplate them and not to overwhelm human perception (Kulus, 1990). An observer walking along the park paths has to keep up with perception of forms opening before his eyes, to remember those seen and to view next ones with interest. This is a perfect realization of the theoretical principle of "belt-walk" proposed by Humphry Repton and Lancelot Brown. There are a number of strategies to attain this goal (Jankowski, 1888; Jasiński, 1879; Strumiłło, 1883).

Firstly, designing of alternating paths situated in open space (to open views) and in tree-covered areas (to hide views) finds further justification. When an observer walks along a given path, the views open before his eyes. When he reaches trees at the path intersection, he has some time to remember open space since the trees shield momentarily undesired views (Kulus, 1990). Three basic types of views can

be distinguished, which are worth analyzing: during a walk in open space, when approaching the trees and leaving them.

In the first instance, we observe the space to the left and to the right of the path. In order to expose a sensation of depth, the designer attempts to create a three- or four-plane structure. In the first plane, we can see a solitary mass, the middle plane is occupied by a light tree stand, and the third plane is created by a green wall on the horizon, this is a tree grove in the border of the estate. Independently of viewing direction and location of an observer in the park, calligraphic character of plantings is unceasingly visible, and contributes to making of the park's space more attractive.

The situation changes when we reach the trees located at the path crossing. We stop to observe the above-described light landscape formations and we look straight ahead along our walking direction where we notice a dark "gate". Smooth shape of the path directs the observer towards its middle, leading his eyes in this direction thereby marking out a new viewing direction. Gate interior is a dark space between the trees restricting view.

The view is equally interesting when we leave the trees surrounding the path intersection. The observer experience an opposite situation: he is still among the trees, in a dark space, but he can already observe open space by tree branches hanging loosely above the path, just before his eyes. As a semitransparent form, it allows for observation of the surrounding space and constitutes the complete one plane, still in front of the abovementioned solitary forms.

Designing of tree patterns in "calligraphic" parks is connected not only with construction of sightlines or shaping of park paths but depends also on the size of the whole estate. When the area of a park is large, tree groves, can be wide and tree groups of different sizes and shapes can be designed together with solitary forms situated nearby. It contributes to creation of beauty of the park by using a multifarious palette of colors and exposition of a wide diversity of forms corresponding to a multitude of plant species. Solitary trees draw attention of an observer with beauty of their canopy, shape of branches or rarity of species (FIGURE 3).

The situation in the smallest estates is opposite since there is no room there to plant separate groups of trees and solitary plants in the middle of the park. Thus, they are absorbed by the trees growing along the estate border (FIGURE 4). In this way, a very clear pattern is designed where almost all tall plants belong to tree groves encircling the estate. Only at path intersections that tree belt widens towards the middle part of the park so that path intersections were hidden in the trees. A visitor has an impression that he walks from one group of trees to another, whereas in fact he crosses branches of the same group of trees. The most important shortcoming of this solution is small diversity in terms of color, since they were different groups of trees that were composed of trees differing in color.

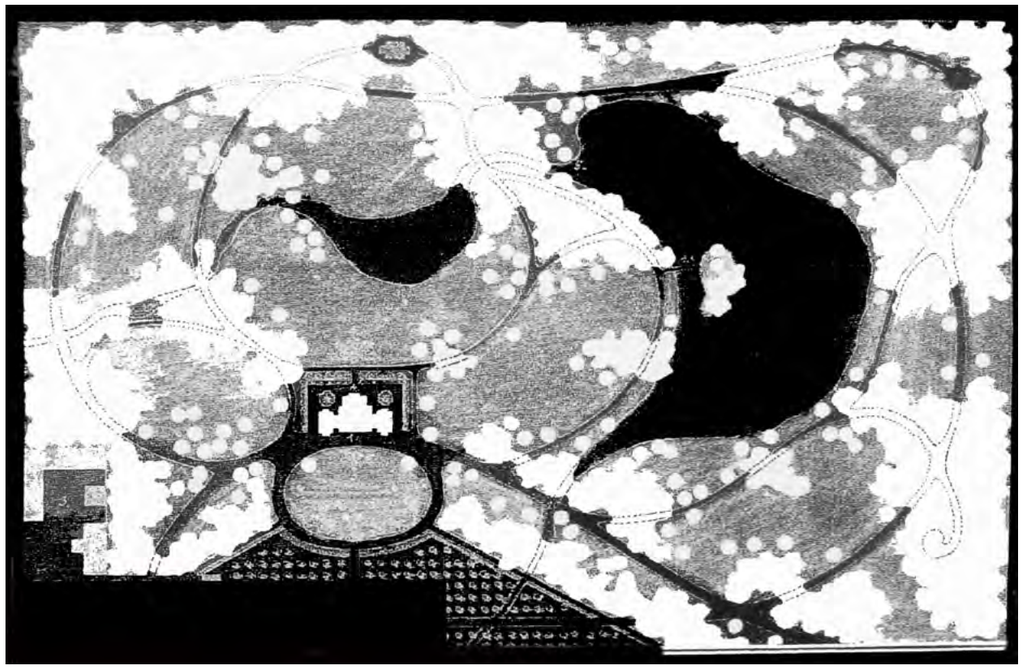

FIGURE 3. The layout of the "calligrafic" park in Czesławice.

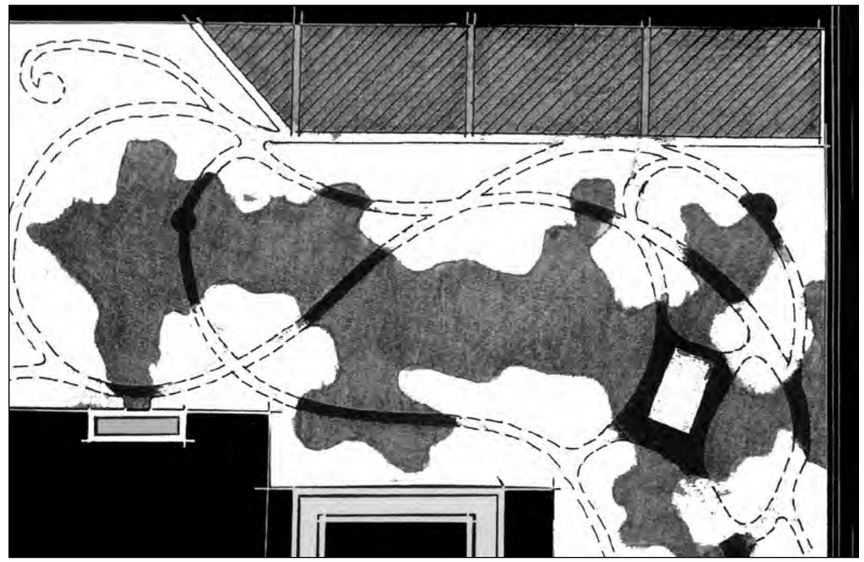

FIGURE 4. The layout of the "calligraphic" park in Zagórze.

CONCLUSIONS

1. Designing naturalistic parks, Polish planners have successfully tried to combine several of the major trends and they have largely patterned on the European garden art.
2. Polish "calligraphic" parks are recognized as the most subtle forms of the naturalistic style, presenting great unity of forms and compositional similarity. It is a big number group of realizations, almost unknown in the Polish garden art history.
3. The characteristis shape of curve pathes, streams and lakesides were exposed on the background of big lawns. This system of lines – moving association with Polish calligraphic writing, considered to be even a canon of the beauty – was distinctive for this group of realizations.
4. Trees added the third dimension to the 2D figures and lines visible on the ground.
5. Tree stands mostly marked crossings and borders of the parks, simultaneously creating their multifarious space and the whole system of views.

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The power of landscape as revealed through the sublime: is it time for a rediscovery?

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ABSTRACT

Since the 18th century and the work of a number of philosophers, especially Edmund Burke (1958), Immanuel Kant (2003) and Alfred Schopenhauer (1969), the idea of the sublime has been powerful in landscape discussions (along with its counterpoint, beauty). Some philosophers such as Jean François Lyotard (1994) argued that the sublime was the basis of modernism and that the modernists attempted to replace the beautiful with the release of the perceiver from the constraints of the human condition. The massive scale of urban structures, ever taller buildings and dense assemblages of tall buildings together with the constant demolition and redevelopment of urban areas and enormous wastelands as well as the mega-scale of industrial structures and relics are also able to engender the sublime. For Mario Costa (1990), new technologies are creating conditions for a new kind of sublime: the technological sublime. Given the persistent and continuing power of the sublime it seems to be a good time for landscape architecture to rediscover it, to celebrate it, to recognise it more fully in our analysis and appraisal of landscapes of all types and to build it consciously into our work where we can. As we use more and more computer graphics and create whole virtual landscapes, so too we should recognise the technological sublime and make use of it.

Keywords: sublime, philosophy, beautiful, modernism, technological sublime.

INTRODUCTION

Most landscape architects will undoubtedly be familiar with the concept of the sublime and its counterpart, beauty, in some shape or form. In the history of landscape architecture and the rise of the art of landscape gardening the sublime became a major ideal, especially in the romantic period. The main theories of the sublime were developed by Edmund Burke(2003) and also discussed by Immanuel Kant(1958) and Alfred Schopenhauer(1969). More recently the sublime – an arguably the role of beauty and for that matter aesthetics as a whole – seemed to fall out of favour in some fields, such as architecture, with the advent of modernism and the rule of "form follows function". An esoteric debate over the distinction between the beautiful and the sublime and the role of aesthetics might also seem irrelevant nowadays, with other environmental issues at the forefront of many people's concerns. However, it is worth reappraising the factors from which these concepts are derived, for it is here that psychological indices of landscape preferences, philosophical considerations and designers' guiding principles intersect. This intersection will help our understanding of what people prefer, why they prefer it, and how designers can create everyday landscapes that give pleasure and how, in the context of this paper, we can understand and incorporate the power of the sublime in an updated context. This paper makes an attempt to re-evaluate the role of the sublime as experienced by people in contemporary landscapes where most of us – and since some 5 years ago a majority of the global population – live, namely urban-industrial landscapes. Since the landscape is also moving from the real to the virtual and in cinema whole worlds have been created and are now presented in 3-D, this is also providing a different kind of experience where we can also feel the same emotions as were aroused by the romantic poets in the Lake District or the Alps two centuries ago.

A CLASSICAL DEFINTION OF THE SUBLIME

A sublime experience occurs when our senses are swamped by the magnitude of a landscape that is difficult to comprehend and which suggests limitlessness (Bell, 2012). The imagination and capacity for judgement are also overwhelmed by this impression, in a similar way to trying to comprehend the notion of the infinity of the universe. Our reason can conceive totality, whilst our imagination finds great difficulty in doing so. This is usually the initial feeling experienced by many people on first visiting the Himalayan mountains in Nepal, the Grand Canyon in the USA, Niagara Falls in Canada, seeing a view over an apparently limitless desert or forest or standing on a cliff while a storm surges in the sea beneath us. We tend to feel very small, humble and helpless in the face of the scale of these scenes or the awesome power of processes such as volcanoes, glaciers or hurricanes. The feeling of potential, but not actual, danger gives the experience an extra sharpness, such as might be felt when looking over the parapet into the depths of the Grand Canyon.

In order to clarify the concept of the feeling of the sublime, Schopenhauer listed examples of its transition from the beautiful to the most sublime. For him, the feeling of the beautiful is pleasure in simply seeing a benign object. The feeling of the sublime, however, is pleasure in seeing an overpowering or vast malignant object of great magnitude, one that could destroy the observer.

Feeling of Beauty – Light is reflected off a flower (Pleasure from a mere perception of an object that cannot hurt observer).

Weakest Feeling of Sublime – Light reflected off stones (Pleasure from beholding objects that pose no threat, yet themselves are devoid of life).

Weaker Feeling of Sublime – Endless desert with no movement (Pleasure from seeing objects that could not sustain the life of the observer).

Sublime – Turbulent Nature (Pleasure from perceiving objects that threaten to hurt or destroy observer).

Full Feeling of Sublime – Overpowering turbulent Nature (Pleasure from beholding very violent, destructive objects).

Fullest Feeling of Sublime – Immensity of Universe's extent or duration (Pleasure from knowledge of observer's nothingness and oneness with Nature).

The differences between beauty and the sublime are, based on Kant and as summarised by Foster (1992):

- The completeness and unity of the form of the scene produces beauty, whereas formlessness, or a form with the appearance of formlessness due to its complexity and incomprehensibility, is a hallmark of the sublime.
- In both we are presented with indeterminate concepts, but that for beauty is one of understanding, whilst for the sublime it is of reason.
- Beauty is more concerned with quality, the sublime with quantity.
- In beauty our emotions tend to be directed to the furtherance of life, whereas with the sublime, after the initial sense of pleasure, our energies are checked as a more powerful emotion surges through us, one that is intensely sensuous and not wanting to be given delight by the scene.

The most important distinction between the two is that in beauty we can comprehend the entire scene and find it pleasurable; hence we are prepared to cherish it. With the sublime, because we fail to comprehend it entirely, we respect it when we try to do so. The stimulation it provides can be due to a sense of fear, but not the presence of it. This response may not be pleasurable – it may be awe-inspiring or frightening.

The sublime therefore occurs when we are more emotionally engaged with large scale complex scenes, when we feel small in relation to them and experience a degree of fear. We may find this emotion too powerful to encounter every day, but it remains an important and valuable one to restore our sense of perspective (literally) and to free us from awareness of ourselves and the insistence of the will (as defined by Schopenhauer). Natural landscapes are more consistently able to yield sublime experiences, because of the complexity of patterns and processes. However, large scale human created scenes, such as the view over a city from the top of a skyscraper or the atmosphere within a massive gothic cathedral, may also evoke it, as will be discussed later on.

FIGURE 1. Looking over the Grand Canyon in Arizona: the scale and complexity of this landscape coupled with the forces that made it and our precarious position on the edge of a cliff trigger a sublime response.

The sublime experience is thus one which may also provide a route to aesthetic appreciation that takes account of the human size in relation to the natural and in some cases the cultural or designed landscape, especially when large buildings and structures are concerned.

NEW FORMS OF THE SUBLIME

In recent years the experience of the sublime has not been discussed at great length nor treated as a serious subject except in some branches of aesthetic philosophy (Bell, 2012). The modern movement and its emphasis on form and function, as we have seen, led to "old-fashioned" and potentially elitist notions of scenic values to be pushed to one side. However, quite recently there has been a resurgence of interest and a number of new approaches to the subject. These can be summarised as: the post modern "mathematically sublime", the modern "dynamical sublime" and the "technologically sublime. Each has its own proponents.

The post-modern "mathematically sublime"

If in the early manifestation of the subject the sublime was associated with natural landscapes, especially those which dwarfed us by their scale, in the 19th and especially the 20th and now the 21st centuries, the metropolitan-industrial landscape has also overpowered us and many people live in this world of the mega-city which is vast and difficult to comprehend. This brings us to Jean François Lyotard (1994) who argued that the sublime was the basis of modernism and that the modernists attempted to replace the beautiful with the release of the perceiver from the constraints of the human condition. The sublime has been rediscovered following the post-modern revolution, he claims. The massive scale of urban structures, ever taller buildings and dense assemblages of tall buildings together with the constant demolition and redevelopment of urban areas and enormous wastelands as well as the mega-scale of industrial structures and relics are also able to engender the sublime. To take a few examples, the sprawling scale, complex layout and massive size of its buildings makes the modern city, whether it be Manhattan or Shanghai conform to Kant's "mathematical sublime" which Lyotard "rediscovered". In the "mathematically" sublime, according the Kant, an object strikes the mind in such a way that we find ourselves unable to take it in as a whole. More precisely, we experience a clash between our reason (which tells us that all objects are finite) and the imagination (the aspect of the mind that organises what we see, and which sees an object incalculably larger than ourselves, and feels infinite).

Lyotard was fascinated by this fact that the mind cannot always organise the world rationally. Some objects (and, for us, landscapes) are simply incapable of being brought under single concepts. For Lyotard, as argued in his "Lessons on the Analytic of the Sublime" in "The Differend", this is a good thing. Such generalities as "concepts" fail to pay proper attention to the particularity of things. What happens in the sublime is a crisis where we realise the inadequacy of the imagination and reason to resolve themselves together. What we are witnessing, said Lyotard, is actually the *differend*; the straining

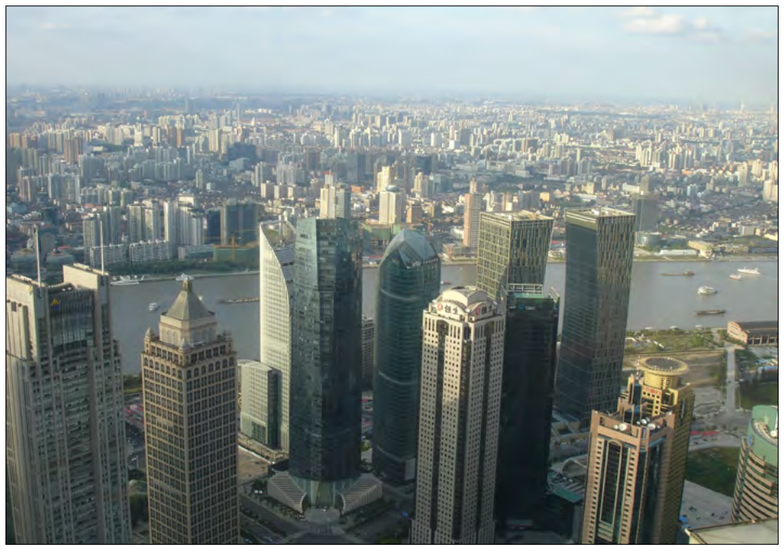

FIGURE 2. The view from a tall building over Shanghai, where our senses are swamped by the sheer scale of the city – an example of the mathematical sublime in a modern or contemporary mode.

of the mind at the edges of itself and at the edges of its conceptuality.

Thus, when we are presented with a massive industrial plant such as an oil refinery which has no clear form or structure or when we are faced with the stupendous scale of a city such as Shanghai when seen from a high viewpoint and whose form and layout are incomprehensible we can be swamped, we cannot comprehend the whole even though we know it is there and our mind strains at its edge.

The "(post) modern dynamically sublime"

The discovery of the sublime was also associated with the development of mountaineering and eventually with the protection of high mountain landscapes such as Yosemite. While adventurous people seek the thrills of rock climbing, mountaineering and other activities which place us in the landscape, facing the forces which are bigger than us – the dynamically sublime – most of us lead lives well away from danger. In the "dynamically" sublime, the mind recoils at an object so immeasurably more powerful than we, whose weight, force and scale could crush us without the remotest hope of our being able to resist it. (Kant stresses that if we are in actual danger, our feeling of anxiety is very different from that of a sublime feeling. The sublime is an aesthetic experience, not a practical feeling of personal danger). We overcome the anxiety by literally sublimating our fearful emotion into a pleasurable thrill, possibly accompanied by an "adrenaline high".

We live in an increasingly risk-averse modern society and the urban realm is dominated by planning and design of risk-free environments which, by their very nature, provide little if any opportunities for excitement or thrills. There are few places where it is possible to experience the sensation of danger and to get the adrenalin flowing in most modern western urban environments. This has led to a number of "adrenalin sports" or activities which allow a person to come face to face with their fears and to confront danger in a controlled way. Thus activities such as free climbing of skyscrapers or parachuting from them makes use of the "grand canyons" of high-rise cities such as Manhattan, which themselves, in the views from high above the street also offer a possible sublime experience, for example. "Parkour" is a physical discipline which focuses on efficient movement around obstacles. Developed in France by David Belle, its main purpose is to teach participants how to move through their environment by vaulting, rolling, running, climbing, and jumping. A newer convention of parkour philosophy has been the idea of "human reclamation". Andy (Animus of Parkour North America) clarifies it as „a means of reclaiming what it means to be a human being. It teaches us to move using the natural methods that we should have learned from infancy. It teaches us to touch the world and interact with it, instead of being sheltered by it." "It is as much as a part of truly learning the physical art as well as being able to master the movements, it gives you the ability to overcome your fears and pains and reapply this to life as you must be able to control your mind in order to master the art of parkour."

The technological sublime

Finally, as well as the real landscape we increasingly come fact to face with digital or virtual landscapes – experienced through film or computer games as well as within architecture and design with the digital landscape and fantasy worlds. For Mario Costa (1990), new technologies are creating conditions for a new kind of sublime: the technological sublime. He argued that the excess from which any manifestation of the sublime comes from is now represented by all the new electro-electronic and digital technology of image, sound, writing, communication, and "spaceness". According to Costa, new technologies – which are developing as a rich, self-operating technological system – imply on the one hand the weakening of the subject and the disappearance of the

FIGURE 3. A proponent of parkour leaps across a space between buildings.

art and of all related categories (beauty, style, artistic personality, expression, etc.). Conversely, new technologies are at the beginning of a new aesthetic dimension, the technological sublime, which is defined by new categories: the de-subjectivation of aesthetic production, the hyper-subject, and the suppression of the symbolic and the meaning.

Given the persistent and continuing power of the sublime it seems to be a good time for landscape architecture to rediscover it, to celebrate it, to recognise it more fully in our analysis and appraisal of landscapes of all types and to build it consciously into our work where we can. One of the most incredible examples of a technologically sublime "landscape" is the planet created for the film Avatar (Directed by James Cameron) where the eponymous hero learns to overcome his fears in a sublime landscape. This is perhaps the more literal end of the technological sublime: the internet in its way also contains aspects of the sublime – its scale is incomprehensible, its power far more than we can understand and we feel dwarfed by the immensity of what it contains.

CONCLUSIONS

This short paper only allows the idea of the "modern" sublime to be introduced. Each aspect can – and should – be developed further as they have great potential as means of understanding our relationship to and for obtaining a special experience within urban areas. Instead of the sublime being a rather old-fashioned scenic idea suited to the romantic period and elitist in tone – experienced by the young gentleman on the Grand Tour – it can now be understood and accessible to anyone in an urban landscape where instead of feeling isolated and powerless in the mega-city this scale and complexity can give us a powerful sensory and aesthetic experience, especially when we engage with it – physically, emotionally or digitally. It is there – all we have to do is to use it!

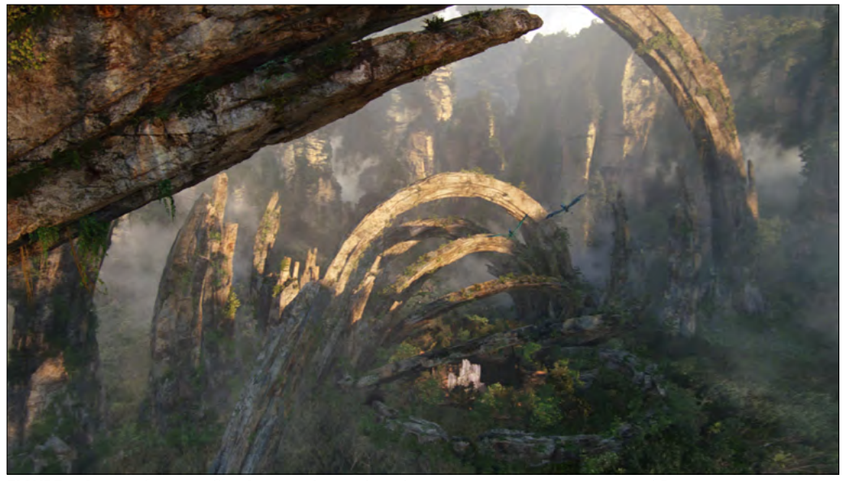

FIGURE 4. A scene from the film Avatar, with the imaginary yet spectacular landscape of Pandora.

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Evaluation of landscape quality on the basis of differentiation of energy amounts and biological diversity in space on the example of the educational object "Krzywda" (Poland)

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ABSTRACT

The educational object "Krzywda" consists of more than 300 ha composed of various environments, mainly farmland, abandoned land, forest and marshes. For more than 20 years on the open areas of this object the process of succession is differentiated by human activities like regular mowing of fallows with biomass removal, mowing of fallows without biomass removal, complete abandoning of fallows, etc. In the same time inventories of mushrooms, plants, mammals, birds, amphibians, reptiles and insects like butterflies, bumble bees and beetles, related to the spatial differentiation of organic carbon (energy amounts), were carried out. The methods of creation of landscape for occurrence of predicted animal species and methods of landscape evaluation are presented.

Keywords: landscape, sustainable development, carbon, biological diversity, succession.

INTRODUCTION

The term landscape has been defined in several different ways, e.g. by Andrzejewski (1992), who defines a landscape as the „set of interdependent ecosystems creating the ecological system of the highest order". FIGURE 1a shows a model landscape according to this definition, consisting of five exemplary ecosystems – a natural forest (top left), an arable field (top right), a peat bog (middle), a clear-cut (bottom left) and a timber stand (bottom right). Each of them represents a different habitat type and stage of succession respectively. According to succession models (e.g. Odum, 1977) different successional stages are characterised by specific energetic features as energy amounts. The energy amount of a given ecosystem is expressed by its carbon contents, which differ between the landscape elements (FIGURE 1b).

The carbon contents have an important influence on the flora and fauna of the ecosystems, e.g. the biomass of the macrofauna and parameters of the carabid fauna (Szyszko 1986). Therefore, each landscape element hosts a specific set of species, as indicated in FIGURE 1b by selected species of carabid beetles (top left – *Carabus coriaceus*, top right – *Cicindela campestris*, middle – *Panagaeus bipustulatus*, bottom left – *Harpalus rufitarsis*, bottom right – *Carabus nemoralis*). Furthermore, attention has to be paid to species with a need for more than one habitat type or successional stage (so-called „landscape species"). Many bird species have such demands, as shown in FIGURE 1c. The Lesser Spotted Eagle (*Aquila pomarina*, top) breeds in old forests but hunts in open areas, the Kestrel (*Falco tinnunculus*, left) nests in old trees in natural and cultivated fo-

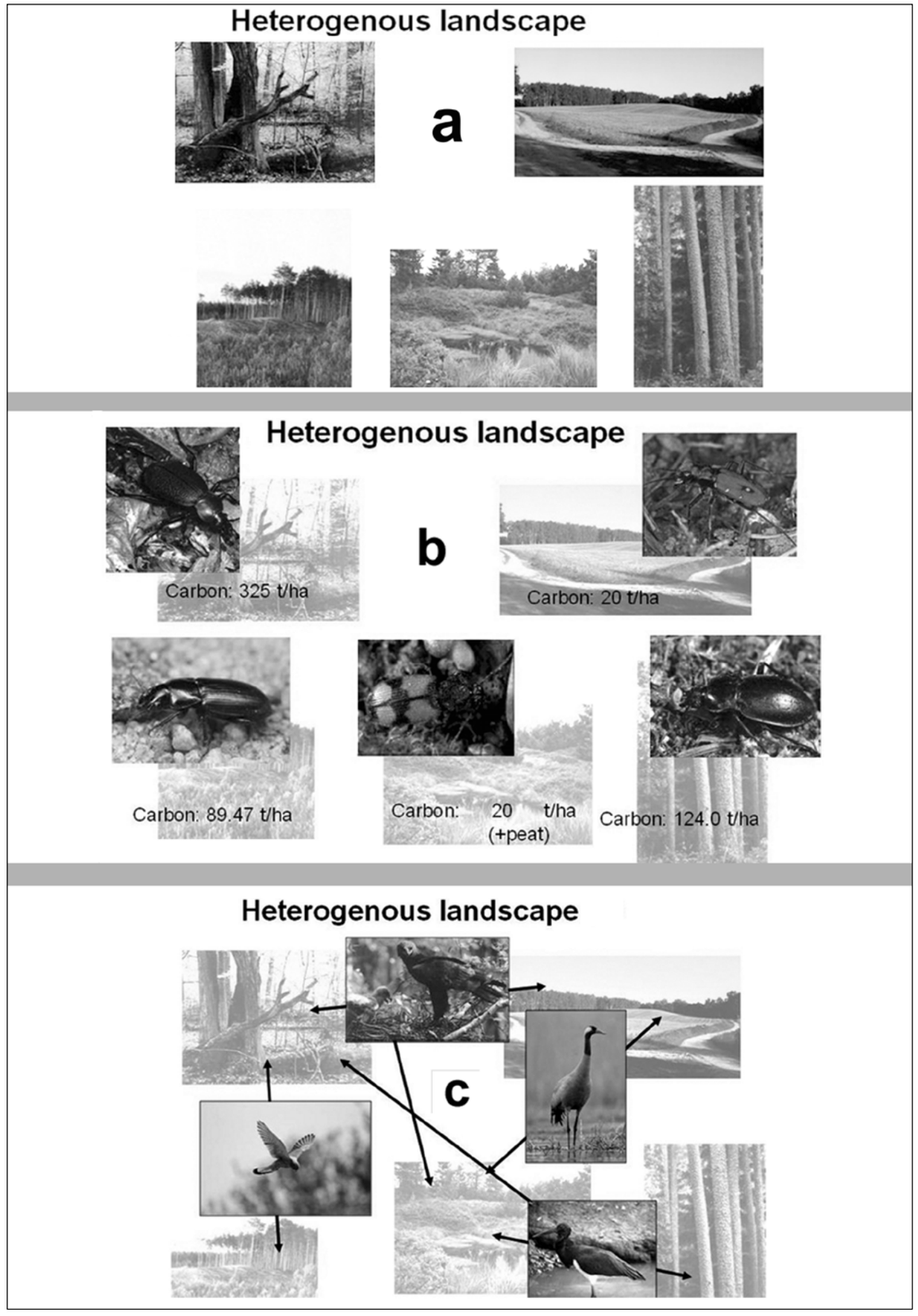

FIGURE 1. Landscape model (after Szyszko 2007, Szyszko *et al*., 2011); exemplary landscape (a), characteristic carbon contents and carabid species (b) and characteristic bird species (c). Full explanation in the text.

rests and hunts in clear-cut areas, the Crane (*Grus grus*, top right) nests in peat bogs and hunts in open areas and the Black Stork (*Ciconia nigra*, bottom right) breeds in old trees in natural and cultivated forests and hunts in peat bogs (Szyszko 2007; Szyszko *et al*., 2011).

The European Landscape Convention (Council of Europe 2000) defines landscape management as "…action, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes". Hence, measures should be directed towards the principles of sustainable development (Adams, 2006). This means, besides protecting the economical and social functions of landscapes, to conserve their ecological values. An important indicator of the ecological values of a landscape is its biological diversity, which includes both species diversity and ecosystem diversity (Secretariat of the Convention on Biological Diversity, 1992). Species diversity can be measured by the amount of native species over a landscape. Ecosystem diversity is expressed by heterogeneity of the landscape with respect to ecosystems, including its diversification concerning successional stages and carbon contents (i.e. energy amounts).

The aim of this paper is to present the evaluation of a landscape based on energy amounts, successional stages and species diversity according to the model presented above. As landscape serves the educational research object "Krzywda", on which several different taxonomic groups and relevant soil parameters as carbon contents have been studied (e.g. Rylke & Szyszko, 2002; Pilch, 2003; Skrok, 2003; Schwerk, 2008).

We assume that carbon contents will increase with progress of succession of the ecosystems and that the diversification in energy amounts and successional stages over the landscape will be expressed by species diversity.

MATERIAL AND METHODS

Research object "Krzywda"

The educational research object "Krzywda" (FIGURE 2) is located in the town and commune of Tuczno in the west of Poland. It serves with forests, agricultural and post-agricultural areas of different stages of succession as well as about 68 ha of swamps (Rylke & Szyszko 2002). Parts of the landscape are even subject to active manipulations since several years (see FIGURE 2). Additional studies are carried out in circumjacent areas, thus the results elaborated at the research object can be evaluated in the context of the surrounding landscape.

Assessment of energy amounts

Carbon in the wood was calculated by estimating the wood volume based on the tables of Szymkiewicz (2001) (pine, soil class I, weaker nursery) and transforming it into carbon masses according to Rylke & Szyszko (2002).

Carbon in the reed vegetation was calculated by estimating the carbon masses based on literature data regarding this vegetation type (Maddison, 2009; Burke, 2011).

Carbon in the litter was calculated based on the relationship between age of the forest (reference year 2004, Schwerk, 2008) in years (x) and litter thickness in cm (y) (eq. 1) and the relationship between litter thickness in cm (x) and carbon in g/m² (y) (eq. 2) (Szyszko *et al.,* 2003):

$$y = 0.077\,x + 2.1036 \qquad \text{(eq. 1)}$$

$$y = 222.73\,x + 271.05 \qquad \text{(eq. 2)}$$

Carbon in the mineral soil was calculated by transforming percentage values elaborated in 2004 into carbon masses, based on the assumption that 1% of carbon in the mineral soil equals 24 t of carbon on 1 ha in a layer of 10 cm depth (Rylke & Szyszko, 2002).

The carbon masses were transformed into energy amounts, based on the gross calorific value of carbon (8.080 kcal/kg). One cal equals 4.1868 J.

Evaluation of successional stages

Successional stages of the respective landscape elements were assessed by calculation of the Mean Individual Biomass of Carabidae (MIB) (Szyszko, 1990). The method is based on the observation that the MIB increases as the succession progresses. Biomass values were fixed for species recorded in 2004 (Schwerk, 2008) using values from Szyszko (1990) or using the formula by Szyszko (1983) that describes the relationship between the body length of a single individual (x) and its biomass (y) (eq. 3):

$$\ln y = -8.92804283 + 2.55549621 \cdot \ln x \qquad \text{(eq. 3)}$$

Biological diversity and landscape

An evaluation of the species diversity potential of the single landscape elements and the overall landscape was done by calculating alpha-, beta- and gamma-diversity (Whittaker, 1972) for butterflies and carabid beetles:

Butterfly diversity patters were analysed based on data elaborated in the time 2002-2004 on 17 sampling plots located within the area of "Krzywda" (Szyszko, 2006). With respect to carabid fauna, data elaborated in 2004 on 8 study sites located on the research object were analyzed (Schwerk, 2008).

Moreover, based on an inventory carried out in 2005 (Schwerk, unpublished data) bird species with a value as landscape indicators according to Szyszko (2004) were fitted into the landscape of "Krzywda".

RESULTS AND DISCUSSION

Energy values and stages of succession for the studied landscape elements (FIGURE 2) are significantly correlated (Spearman rank correlation coefficient $r = 0.813$, $p < 0.05$). Generally, the open areas are characterized by lower MIB values and energy amounts than the forest habitats, with exception of the swampy habitat, which is characterised by both high MIB and energy values.

Species numbers range from 8 to 32 species (butterflies) and 16 to 48 species (carabid beetles) respectively. Very similar mean values of beta-diversity were calculated (27.5 for butterflies, 27.75 for carabid beetles). In both cases the total number of species (gamma-diversity) exceeds by far the highest alpha-diversity value.

The results are supported by several bird species with demands for a heterogeneous landscape (FIGURE 2). Since "Krzywda" is partly surrounded by forests, from spatial viewpoint it is interesting that the advanced stages of succession are located in the centre.

As our data show, carbon contents are correlated with the successional stages of ecosystems and their distribution over a landscape has significant impact on the species diversity. This has been shown for other study areas as well (e.g. Schwerk & Szyszko, 2008). However, the energetic potential of ecosystems is not only an important factor with respect to species diversity, but also a development driver on the regional and supraregional level. Studying the energetic potential of the Natura 2000 area "Lasy Puszczy nad Drawą" Michalski & Szweda-Lewandowski (2011) concluded that besides ecological values the use of biomass has economical values (e.g. improving the local job market) and non-economical values (e.g. regional energetic independence).

TABLE 1. Alpha-, beta- and gamma-diversity for butterflies and carabid beetles based on selected elements of the research object "Krzywda".

Butterflies			
Measure	Min	Max	Mean, St.D.
Alpha-diversity (n=17)	8	32	27.5±5.46
Beta-diversity (n=136)	3	24	11.9±4.24
Gamma-diversity		46	
Carabid beetles			
	Min	Max	Mean, St.D.
Alpha-diversity (n=8)	16	48	27.75±10.36
Beta-diversity (n=28)	12	56	30.61±9.60
Gamma-diversity		79	

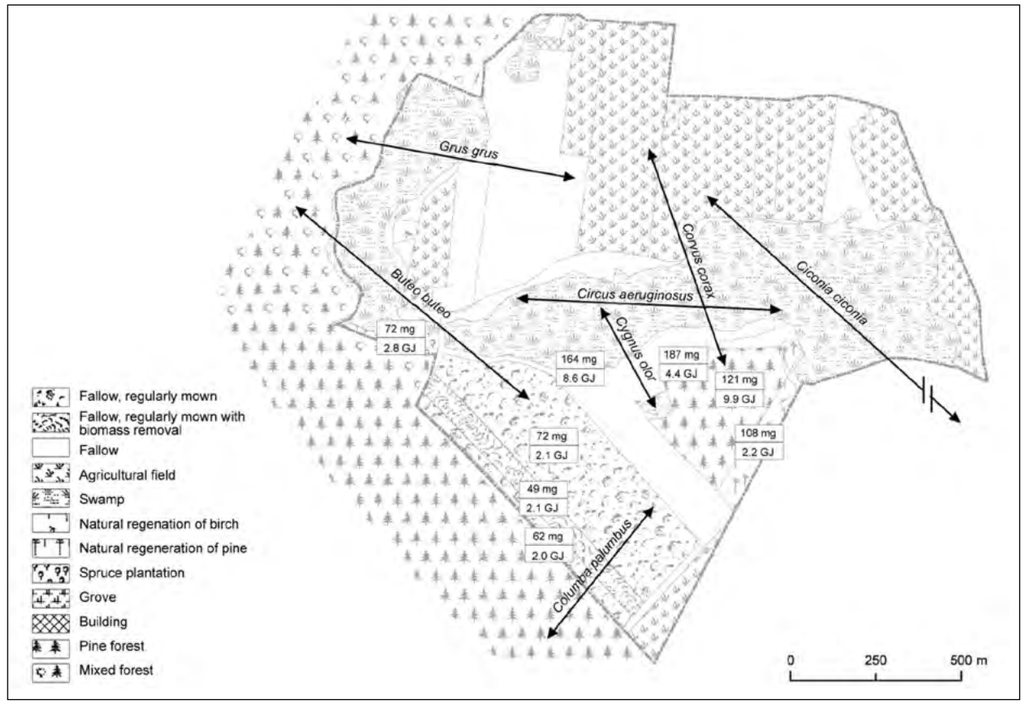

FIGURE 2. Scheme of the research object "Krzywda" with results for MIB values (mg), energy values per ha (GJ) and characteristic bird species ("landscape species") drawn in.

Profound knowledge of the demands of defined species may give the opportunity to create landscapes in order to facilitate them. Here is a special task for landscape architecture as a scientific discipline. For example, Lindenmayer *et al.* (2006) describe principles of landscape-level conservation strategies for forests. Since the maintaining of specific successional stages is important in this context, the methods applied on "Krzywda" can be helpful tools to realize these targets (Schwerk & Szyszko, 2009).

MIB is a solid indicator of successional stages and a high degree of diversification over a landscape points to increased species diversity. Such landscapes are characterized by "landscape species", too. Thus, these species are particularly suitable as indicators of ecological landscape quality. However, there is a need to apply additional indicators for addressing the full set of targets of sustainable development (e.g. Szyszko, 2004). This may also include measures of aesthetic values of landscapes (Dymitryszyn & Schwerk, 2009).

CONCLUSIONS

- Energy amounts measured by carbon contents in ecosystems are correlated with stages of succession.
- A high degree of diversification of carbon contents (energy amounts) in a landscape influences positively the species diversity.
- Since many species react very sensitive on changes in successional stages, man can predict the occurrence of specific species or even create landscapes for desired species by his own activity.
- Management of landscapes should be directed towards aspects of sustainability.

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'Pays' – 'Land' – 'Yuan Lin'. The power of landscape (architecture) terms

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ABSTRACT

In order to continue building a common body of knowledge, landscape architecture researchers and practitioners must refer to the same fundamental concepts – particularly in those instances where different words are used to describe them. This paper puts the focus on 'landscape', probably the most important and, at the same time, most ambiguous of landscape architecture's concepts. The emergence and implementation of the European Landscape Convention, ELC, has given rise to new discourses on 'landscape'. Customarily, such discussions employ only one word, landscape, thus assuming a predominantly 'Western View'. But there exist, even within Europe, several different connotations of 'landscape' and also different words to express these. How great the variety of such connotations might possibly be, and how many words are in use, world-wide, to describe 'landscape concepts' we have only just begun to grasp. This paper aspires to remind landscape architects of the richness that exists in the many different cultural concepts that relate to what we simply call 'landscape', suggesting that there is much work to be done for landscape architects to learn from each other and to 'come to terms' about their terms. In doing so, this paper suggests for landscape architecture to go beyond approaches that emphasise the physical and especially those that reduces landscape to measurable things. Landscape is also part of political, economic, social, cultural concepts, and it would be important to make use of their notions of landscape. Such notions help placing the emphasis on what people perceive and give value to in their surroundings, and how such perception might relate to common interest, to collective identity, and other concepts. By including the public's views into the landscape discourse, there might be richness much greater even than is assumed by scholarly wisdom. The suggestion is to introduce this wealth into international communication, first within the field of landscape architecture, but also in the wider fields of landscape study and policy, including those considering preparations for an 'International Landscape Convention'.

Keywords: landscape concept, landscape architecture terms, constructivist theory.

INTRODUCTION

By unreflectingly using a singular landscape definition, and by not taking into consideration the idiosyncrasies of the world's many cultural contexts and languages, a real danger exists of losing the variety of the world's landscape meanings in a continuous flow of global mono-cultural colonisation. On the other hand, while landscape is becoming a loan word in some languages, such as is currently happening in, to name a few, the Middle East, China and South East Asia, its introduction might also extend or only partly replace existing landscape ideas. In Turkey, for example, the word '*Peyzaj*" (introduced from the French *paysage*) gradually superseded several existing 'landscape' words (some from Arabic). Initially, during the time of its introduction in the 1920s, '*Peyzaj*" was just a term referring to "scenery" and only later people began to also connect it with "garden" and "the land". Today the extending of the scope of new meanings is still in process while, simultaneously, some of the variety of previously existing words expressing a number of different aesthetic and territorial concepts is gradually lost. Similar processes may currently be observed elsewhere and, while inquiries into 'landscape' should closely be referring to the historical and socio-cultural context of individual regions, landscape concepts must not be transferred to such regions from a single Western perspective (Makhzoumi, 2002: 218; Noparatnaraporn, 2003). This paper aims to provide ideas for strategies that landscape architecture might adopt for the purpose of recovering, not only the "Substantive Meaning of Landscape" (Olwig, 1996), but the great wealth of the 'World's Concepts of Landscape'. Strategies to build specific landscape architectural 'landscape theory' include, among others, international 'landscape concept' conferences and doctoral level research that is collaboratively supported by research institutions from several different parts of the world.

'LANDSCAPE CONCEPTS' OF THE WORLD

Ironically it is at least partly due to the success of the ELC that the term 'landscape' is in the process of being adapted almost everywhere around the world. Fortunately, in this process new light was shed, mainly with the purpose of informing landscape architecture as an academic and professional field, on the richness of different European landscape words and their use (Drexler, 2010; Ueda, 2010; Bruns *et al*., 2012). At the same time, however, much of the abundance in their meaning remained unreflected. The cultural wealth these words harbour may ultimately be reduced – as can occasionally be witnessed during some academic and political discussions on 'visual quality'. Originally a Western

phenomenon (Mitchell, 1994), landscape was, and still is, not only understood as territory ('a piece of land') or scenery (the appearance of a land; cf. Hard, 1969). Landscape "can also be conceived as a nexus of community, justice, nature and environmental equity, a contested territory…" (Olwig, 1996: 631).

Such concepts are also to be found in cultures that do not posses a singular landscape word while, at the same time, such cultures might possess landscape concepts that are missing in Western ones. In Thai cultures, for instance, the words '*baan*' and '*munag*' are used in people's daily life when referring to areas where strong links exist between community and place, and to areas that are conceptually defined by their common customs and social law, and by their cultural identity (Noparatnaraporn, 2003). These usages are reminiscent of the 'substantive meanings' that some European landscape words would also express. However, such meanings are not part of the semantic field of the term 'landscape' that Thai landscape architects have begun to adopt, mainly for the sake of convenience. On the other hand, the Western concept of landscape as a geographically defined area with clear limitations differs from South East Asian concepts that include, among others, undetermined entities without visible borders. In fact, until recently, the idea of drawing a border around a 'land' would have been unthinkable in these parts of the world (Winichakul, 1994: 75). If Chinese landscape architects refer to the Western term 'landscape' they might chose one of several connotations, one of them being '*Yuan Lin*', a combination of '(beautiful) enclosed garden/area' and 'trees/forest' (Zhu, 1985). This and a multitude of other meanings are completely missing in '*jing guan*', a neologism that also is employed to translate 'landscape' into Chinese (Zhang *et al*., 2012). In China, with a culture that connects to special forms of environmental awareness, several specific terms exist to express different cultural and symbolic meanings that also reach beyond the Western ideas of 'landscape'. For example, the concept of 'shui tu' refers to people and their adaptation to specific (natural) local environments.

The Western way of looking at a landscape from a geographically fixed point (a 'view point', such as often indicated at roadsides) in order to have a 'perfect view' (such as of 'the countryside') is not found in Asian and Arabian cultures. In China, even if appreciating a landscape painting, we are not looking at the landscape but immersing ourselves into a world that exists or is depicted as landscape. We may feel at liberty to move about and indulge in the nature and beauty of this world and, hence, there is no need for a one-point perspective. The world is our environment, we are inside of it and it is all around us. There is also no need for a pre-conceived reference for nature and beauty (such as the romantic, the sublime, etc.), and we are not attempting to 'de-code' a certain set of iconographic 'text' or 'scripture' (Cosgrove & Daniels, 1988). We are, however, looking for 'potentials'. We are interested what the landscape 'affords' (cf. Jullien, 1997). An Arabian experience of 'landscape' is also not simply a distant viewing experience: "It is appreciated bit by bit, through movement in space and time and an engagement of all the senses" (Makhzoumi, 2002: 222). In Arabian cultures the words equivalent to some of the Western landscape ideas may refer to a physical entity and, at the same time, also be conceived as a social and cultural construction, "signifying the way in which people engage with their world in a specific time and place". For example, the word '*jenna*' is, in Arabic, used for paradise, and it is also a word used for garden. "It is at once a physical place … and a conceptual space, a state of peace and contentment" (Makhzoumi, 2002: 218-220).

CONCLUSIONS AND RECOMMENDATIONS

It is through understanding the world's multitude of landscape concepts that landscape architects may best start and learn how much more exists, out there, beyond physical space: things that can only be learned if we start to make use of constructivist notions of landscape (Burr, 1995; Ermischer, 2004.). The examples above suggest that, for the purpose of securing a cultural base that is both rich and inspirational, it would be prudent for landscape architecture to contribute recovering not only the "substantive meaning" (Olwig, 1996) of the term 'landscape', but also the great wealth of the world's landscape (related) concepts at large. For striving to implement this aim we conclude that academic and professional exchange is needed on the subject of international 'landscape concepts'. A mixture of four types of strategies might be adopted (disciplinary and trans-disciplinary). Two parts of this mixture can be characterised as thematic and as network activities; the third and fourth parts connect to building suitable support systems.

The thematic parts would specify the different 'landscape concepts' and their relevance to different realms of planning and design. Theory and methodological foundations would be the subject of fundamental research. To implement this strategy, conferences, doctoral colloquia and seminars on methodology would be organised to help researchers develop their own disciplinary language. These activities would be collaboratively supported by research institutions from several different partners around the world. Thematic groups might be established that connect existing doctoral and other research programmes. This second strategy should seek to enhance the ability of landscape architecture schools to develop network activities in research and doctoral studies.

To facilitate and maintain discourse activities, existing networks might be used and extended. As a third strategic component this would need to include links with research communities outside landscape architecture. One aim would be to engage in transdisciplinary research, another would be to benefit from mature research cultures (Bruns, 2012). Since there is no justification for believing that the expert view might be representative of landscape perceptions, the fourth strategic component would establish links with the civil society at large; it would be participatory in nature aiming at including the public's views into the landscape discourse. When implementing these strategies it is important to be specific not only about 'landscape' and 'landscape concepts', but also about what contributes to the landscape architecture theory and methodology.

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Precedent analysis and the analysis of plans at the Master's level; in search of design knowledge

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ABSTRACT
Design knowledge is the core of any design discipline. For landscape architecture the content of design knowledge has to take into account the dynamics of landscape form and of the design process. One of the ways to develop design knowledge is to learn from earlier experiences; to analyse realised projecs in an explicit way, what nowadays is referred to as‚precedent analysis'. To make the results of the analysis of different plans comparable, an explicit analytical framework is needed.

The research question for this paper is how precedent analysis can be used in design education as a research tool at the Master's level. In the first part we will give a short overview of the state of the art in the analysis of plans, precedent analysis and how the results of such an analysis can be used in practice, theory and teaching at the Master's level. The role of an analytical framework will be touched upon shortly. The main part of the paper will pay attention to content and approach of precedent analysis in research. The didactic aspects of how to teach and how to integrate this type of research in Master's education in landscape architecture will be elaborated further in the last part. Throughout we will use examples and case-studies from our experience of the last years in teaching this seminar at the Master TDPP at the National school of Landscape architecture at Versailles (ENSP).

One of the conclusions is that precedent analysis can be an interesting component of education at the Master's level but that it should be taught in close relation with fieldwork, theory and history of landscape architecture. For the students the key role of drawing as a research tool can be stimulating and a first start into their own evolution in thinking about what design in landscape architecture stands for.

Keywords: theory, design & research, design education.

INTRODUCTION
Design knowledge is the core of design disciplines as Cross (1982; 2006) has made clear. One of the ways to develop design knowledge is precedent analysis (Toorn, Guney, 2011). Goal of a precedent analysis is the search for explicit design knowledge by learning from earlier experiences. Eventually it will lead to generic and explicit design knowledge, which forms a basis for both practice and theory. Precedent analysis is also used in other disciplines like law, medical sciences, business administration.

Since 2006 a new Master was set up at the National School of Landscape Architecture at Versailles; the Master 'Théorie et Démarches du Projet de Paysage' (TDPP) [Theory and approaches of landscape architectural projects]. Students in this Master have mixed backgrounds and come from both design and planning schools, moreover a large number are foreign students. So altogether a rich mix — both for students and teaching staff — of backgrounds, competences and viewpoints.

The curriculum comprises nine 'modules' in which different subjects are taught. In the Module 2, the subject is the relation between theory and practice. It comprises a series of lectures on theory and methodology and simultaneously a study and analysis of realised projects. The module is taught as a seminar; in the lectures students are introduced into the analysis of plans, precedent analysis while in fieldtrips they learn how to distinguish design means, design principles in the daily environment. All this is an introduction for the assignment they get; to make a precedent analysis of a realised project by a contemporary landscape architect, themselves. They can choose any project but for pragmatic reasons projects should be in traveling distance from Versailles in order to ensure that they can visit the projects more than once. Since Versailles is close to Paris, students can choose from a great variety of plans in the vicinity.

In this paper we will pay attention to the approach of analysis of precedents and the teaching this subject at the level of the Master's. Precedent analysis is in fact learning from earlier experiences, not only by trial and error but in a more explicit and systematic way, by analysing plans. Eventually it should lead to a situation in design disciplines where we could speak of a 'reflective practice' as Schön (2009) has referred to earlier.

PLAN ANALYSIS AND PRECEDENT ANALYSIS IN LANDSCAPE ARCHITECTURE
Plan analysis has been done already for some time (Rowe, 1987; Goossens *et al.*, 1995; Leupen *et al.*, 1997; Meyer, 2002). All programs in landscape architecture both at the Bachelor's and Master's level make use of examples from projects in their teaching both in lectures and in studios (Motloch, 2001). A limited number of schools pays attention specifically to the analysis of plans but mostly based on a personal and implicit approach.

In this case we have developed an explicit analytical framework, both as background for the analysis and as format for the analysis. In this way the analysis of different projects and different students gets comparable and can give also insight in the more generic and theoretical aspects of the design process and its approaches. The key difference between plan analysis and precedent analysis is that latter is based on an explicit analytical framework whereas in plan analysis it is not (Toorn, Guney, 2011).

• *Precedent analysis in architecture*
In the last decade Guney (2008) developed the concept of precedent analysis for architecture students in the Faculty of Architecture at Delft. What is new in precedent analysis is the basis for the analysis what we call 'an analytical framework'.

Guney (2008) uses three architectural references: Ching (1996), Steadman (1989) and Clark and Pause (1979) as a basis for his analytical framework. In fact he uses all three studies as analytical framework. In integrating the results of these three different types of analysis, he builds forth on the work of Tzonis (1992), creating what he calls 'a semantic network'. In fact the approach of Guney also presupposes the 'mirroring principle'. This ‚mirroring principle' stands for the premise that you can learn to design by analysing plans (Unwin, 2009).

• *Analytical framework for landscape architecture*
In landscape architecture the situation is different from architecture in two ways. First of all, there are relatively few examples of systematic plan analysis like the examples we mentioned in architecture, so there is less experience. Secondly, the differences between architectural and landscape architectural design are such that you cannot simply copy and adapt the method in architecture to make it fit for application in landscape architecture. That's why we have developed a specific analytical framework for landscape architecture (Toorn, Guney, 2011). The core problem in landscape architecture is how to deal with the dynamics of landscape form and design. Another key issue in landscape architecture is to take into account the different levels of intervention and their specific design means at each level.

The content of an analytical framework for landscape architecture consists of three main aspects: the analysis of the site (the existing landscape); the analysis of the plan and its interventions (design means); the analysis of the interaction between design means in the realised plan and use / performance (evaluation in relation to design means).

So, the headlines of this analytical framework reflect the subsequent steps in the design process and the different levels of intervention; element, structure and process.

• *In the working out of a precedent analysis, we distinguish three steps (Figure1):*
– Defining levels of intervention

Contour of the plan area	-> context, the level of strategy for landscape development
Plan area	-> internal structure, the level of structure
Elements that define the structure	-> elements, the level of materialisation of form

– Analysing design means at each level

Design means comprise design principles, types and design materials. At each level these design means do play a role albeit differently. For instance in a regional plan, say, a plan for afforestation can be distinguished at three levels of intervention. At the level of strategy for landscape development the problem is where you are going to plant forest in relation to conditions of the site and climate. At the level of structure, access (road & path system), water management, mass and space in relation to timber production, maintenance, leisure use are at stake. In mountainous areas the problem of erosion can play a role. At the level of materialisation of form choice of specific species, the cross-sections of paths, roads and water courses, entrances have to be dealt with. A similar approach could be applied for a garden, resulting in the same design means at each level but worked out differently.

– Analysing use, performance and meaning in relation to methodology and design means

Use, performance and meaning of design interventions do give information how the plan functions after realisation. For designers it is interesting to analyse specifically how certain design means at distinct levels of intervention, influence the functioning of a plan or not.

Each step in the analysis is worked out in different research modes with different types of information:

	defining levels of intervention	design means at each level	use / performance in relation to design m.
ANALYTICAL FRAMEWORK **0**	Define contour and context; this leads to the level of process (defined by context) and structure. Next define what elements define the structure; the level of element.	–	–
ANALYTICAL FRAMEWORK **1**	Define contour and context; this leads to the level of process (defined by context) and structure. Next define what elements define the structure; the level of element.	Analysing what design means (design principles, types and design materials) are used at each level	–
ANALYTICAL FRAMEWORK **2**	Define contour and context; this leads to the level of process (defined by context) and structure. Next define what elements define the structure; the level of element.	Analysing what design means (design principles, types and design materials) are used at each level	Analysing how the design means at each level do influence use and performance

FIGURE 1. Overview of content, use and working out of an analytical framework in this study.

1. Description of facts; empirical information, facts.
2. Analysis on the basis of an analytical framework.
3. Interpretation; on the basis of 1 and 2.

The analytical framework functions like a concept in design; as guiding principle that is elaborated and reworked during the process of analysis. It can be seen as a vehicle for thought that organises the process and leaves room for new inventions, interpretations.

A major role of the analytical framework is to make the results comparable, also between different plan types. As research methods and techniques we use; analysis of texts on site, plans, use, performance; fieldwork; map analysis.

THREE EXAMPLES FROM LAST YEAR'S MASTER TDPP IN VERSAILLES (FIGURES 2, 3, 4)

Last year, for the first time, we have decided to let students choose from the projects of one office. In this case the office of 'Latitude Nord' (Vigny, 1998) was chosen. The students could have a direct contact with the principals Gilles Vexlard and Laurence Vacherot. Gilles Vexlard is professor of practice of landscape architecture at the ENSP and teaches mainly design studios. Since there is limited time for this module, students got a list of projects in and around Paris to choose from and a series of references.

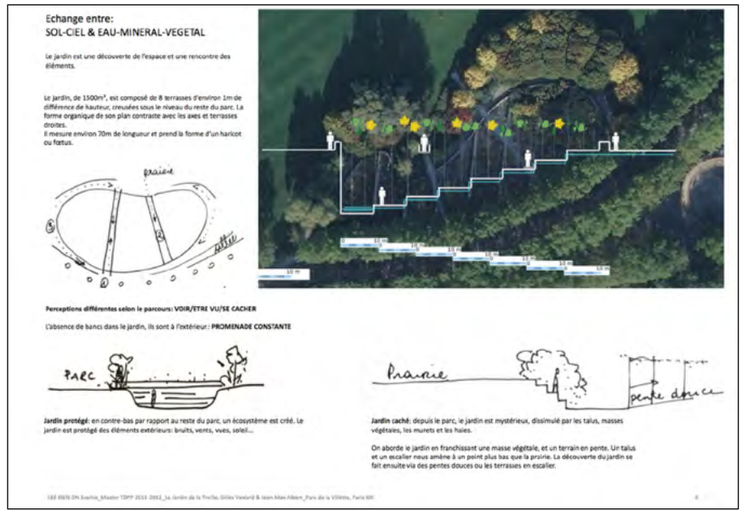

FIGURE 2.
Analysis of the garden 'Jardin de Treilles' in Parc de la Villete
A garden is created by 'digging a hole' thus creating a place by enclosure; at the level of strategy. At the level of structure a slope is created. The asymmetrical composition enhances the experience. At the level of element, by making use of three design materials; ground (the making of the hole and the sloping of the space), water at the bottom and plantation of vines that are planted at the terraces. These three design materials create a unity in the composition by making a place in the large space of the Parc de la Villette. Finally, the plan offers also the possibility for others to look at from the edges above.

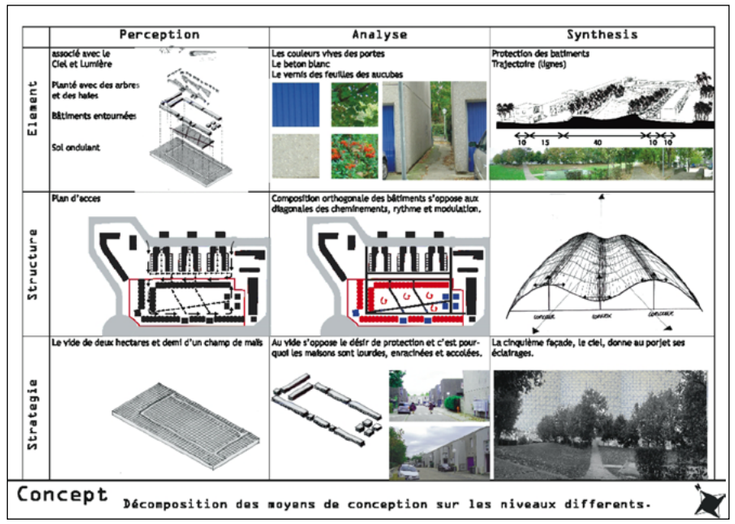

FIGURE 3.
Analysis of housing development 'Les Garennes' in Guyoncourt
At the level of strategy interventions are geared at the creation of differences between front (side of the street) and back side (the space enclosed by the block). At the structural level these differences are worked out in the form of system of paths that not only give access to the space but also create different places. At the level of element, the materialisation of form is realised in the form of an undulating topography, plantation that enhances enclosure and the entrances. In this case the social use of the space has been analysed; in what way the different connecting paths created special places for social interaction. Observation studies showed that especially the entrances became places for meeting and social contacts. For children there was plenty of choice but for elderly people less. Parents with prams also did not have an easy access.

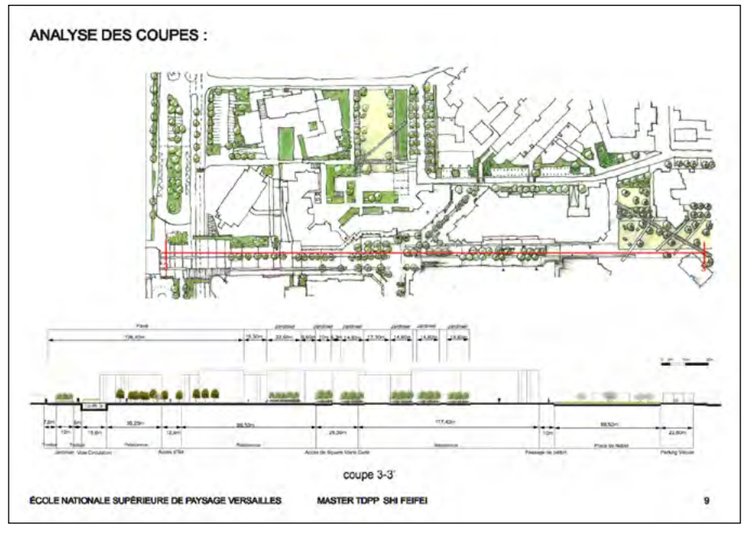

FIGURE 4.
Analysis of a housing development and shopping centre 'Les Courtilleraies' in Le Mée sur Seine
Here an analysis of the main shopping mall with relations to the system of green spaces around. In the longitudinal-section the relation between public and private space is analysed. Plantation provided a sense of spatial continuity between different areas in the linear space. In the fieldwork the student had remarked that use during the week and during the weekend were very different. The use was mainly focussed on shopping, on sundays the space did not provide other types of use despite large numbers of pasers-by.

THE ROLE OF RESEARCH IN TEACHING AT THE MASTER'S LEVEL

One of the consequences of the newly introduced 'BAMA system' in Europe is that research should explicitly be part of the Master's program. In the Master's there is more attention to 'how and why' of design than in the Bachelor's.

What the content and role of research in a Master in a design discipline is or should be is still discussed (Milburn, Brown, 2003). In our view, precedent analysis is an excellent example as a form of research for design disciplines at the Master's level. Precedent analysis bridges the gap between theory and practice, gives students insight into the design process in an explicit way and the results of precedent analysis can lead to explicit and generic design knowledge (Toorn, Guney, 2011).

Looking back to the results so far, we have seen a keen interest from students for this type of course. First of all students get direct insight into the relation between the design process, making and use of projects in practice. Design interventions and design means become more explicit and understandable since they are explicit and comparable. On the basis of such an analysis you can compare the design means as applied in a garden, an urban plaza or a regional plan. In this way students get some insight into the core of the discipline; explicit design knowledge.

CONCLUSIONS AND DISCUSSION

• *Precedent analysis at the Master's level*

First and foremost goal is learning to abstract. Abstraction is a means to get to the heart of the matter. Thus enabling to compare plans, principles at a certain distance. In design knowledge, design principles, types and the use of typology, the use of design materials are a way of abstracting the generic knowledge that is hidden in realised projects (Murphy, 2005).

A second goal is learning to reflect, to see different viewpoints and their effects on approach and methodology. Reflection is intricately related to design and design knowledge as Schön (2009) has made clear in his research.

Finally it is important to learn to communicate results of such an analysis both visually and verbally (Toorn, Have, 2010). At the Master's level students should be able to communicate at an academic level with other disciplines on their work and results of research.

• *Design knowledge*

The core of every design discipline is design knowledge that is generic and explicit (Rowe, 1987). For landscape architecture a major task ahead both for teaching and for daily practice. Cross (1982; 2006) has already put forward what he calls 'designerly ways of knowing' as distinct from other disciplines like natural sciences, psychology, history, social sciences, philosophy. In the last decades landscape architects both in and outside Europe have made major achievements in realising a large number of projects. The theory that underpins this practice is needs to be made explicit into design knowledge. Precedent analysis is one of the ways of to make such design knowledge explicit.

• *Didactic approach*

Learning to see by fieldwork and drawing is one of the most important ways to learn in landscape architecture (Toorn, Have, 2010). No school, no program in landscape architecture can survive without extensive amount of time and energy spent outside the building and the studio. Didactically students like the direct relation between theory and practice.

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LIVING GREEN: Interactive Landscape Teaching Techniques

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ABSTRACT

The art of landscape is one of taking the natural elements of the Earth and merging them with the modern creations of man to form a picturesque scene that'll glow beneath the illuminating rays of the sun, and to make this happen we need more than just a piece of land and a tree. It requires a top quality group of educated landscapers that understand the theories and connect emotionally to the art. Unfortunately, Architecture and Urban Design students in Egypt are used to being educated inside lecture rooms for theory and Landscape application followed by studios for drawing skills and project generation. This traditional learning scheme tends to be boring and slightly unsuccessful for these new generations due to their rapid technological era which causes them to forget the original essence of the art itself. A few years ago, I experimented with teaching methods on my disinclined students and came up with the accidental conclusion of *Interactive Lectures*. This paper is a research in a *testing approach*[1] for testing the reliability and validity of my conclusion by teaching Landscape to undergraduate students in a mixture with previous trials. The paper is an applied research on a sample of sixty students in the third grade of the Urban Design department. The test duration was three months long and was repeated for three consecutive years till 2012. During the first year of trying the interaction, it was applied for two sessions only, and in the years following the trial was generalised for all sessions. This paper looks over theories, histories and projects but in an interactive point of view. It stimulates the students to share, interfere, innovate and invent in an educational field depending on their own skills not the tutor's. The interactive study included lectures, visiting landscaping sites, open air classes, multimedia applications, applying their ideas in studios and self evaluation. By the end of the test, final grades showed impressive improvement in students for both theoretical and practical skills, and proved that Interactive lectures are efficient in other more serious subjects in our Egyptian Universities as well.

Keywords: interactive lectures, cone of learning, soundscape, actiscape, landscape teaching portfolio.

1 Testing approach: Is the staring of the conceptual-abstract level and deductive reasoning in research. Merriam, S. (1998) Qualitative Research and Case Study Application in Education (2nd edition), San Francisco

INTRODUCTION

A good teacher cannot be only a technical communicator, but teaching should be rooted in his identity and integrity. Good teachers share one trait: they possess *a capacity for connectedness* and are able to build a skeleton of connections, a web of threads of relations between themselves, their students, and their subjects, helping their students weave a special world for themselves. Connections made by good teachers are held not in their methods but in their hearts where intellect, spirit, emotion, and will converge in the human self (Palmer, 2007).

Landscape education is one of the most attractive and innovated challenges that an academic teacher can face. As it is one subject that deals with inner souls, it manages living creatures and dynamics elements of greenery, animals, birds, fish and water. Landscape deserves to be one of the most intellectual subjects a good teacher's creativity can be showed off.

Two years ago, I experienced a sudden disk injury that put me in bed rest for 18 months before returning back to teaching, with the fear of reinstating the injury and facing serious depression. When searching the internet for a solution to my question of how to teach landscape architecture and searching for new teaching techniques to get over my situation, I read about a previous trial of *Professor Terry J. Brown* of Landscape Architecture in the University of Michigan, USA who taught Landscape for thirty years and was diagnosed with multiple sclerosis in 1981. He previously used a black board but when confined to his wheelchair, he began evolving his teaching methods by learning more about the art of effective teaching. He got a small grant titled *Traditional vs. Automated Teaching Methods* (Brown, 2002) that gave him the opportunity for discussions that were my main inspiration for this research that I will discuss with depth and passion.

In this research I tried to combine the techniques revised by Professor Terry with my own previous personal research on disinclined students and came up with the accidental conclusion of *Interactive Lectures*; Explaining techniques that can be added to involve University students in communication sessions, inspite of the tutor's health conditions. New ideas can be installed to both models such as drama, computer and videogames which were tested on Landscape University students for the aim of creating my *Personal Landscape Teaching Portfolio*, (Edgerton, Hutchings, Quinlan, 1991) that I call "ActiScape"; a teaching technique and a combination of '*Action + Landscape*'.

MATERIALS AND METHODS

According to Burns[2], research is an investigation

2 **Burns**: Robert Bruce Burns a teacher in the Faculty of Education at the University of Brunei. http://books.google.com.eg/books/about/Introduction_to_research_methods.html?id=aP3tAAAAMAAJ&redir_esc=y

to answer a question (Burns, 1990). From the view point of application this paper is *A Pure Research*. Taking the previous teaching techniques made by others and the author to assess the validity of creative methods in landscape courses in order to add new installation to the methods (Kumar, 1999: 8-9). This outcome came from regular questionnaire for students (See Annex I) after each assignment to collect qualitative data and final grading for quantitative data by manipulating active data collected.

Dale's Cone of experience was theoretical foundation for the research, as different audio and visual learning materials were applied to sessions such as drama, music, a technological devices and outdoor activities.

As a college teacher I tried to experience a deep engagement with students by intersection of active learning with motivation (Barkley, 2010) by mixing previous tested methods with some proposed creative techniques.

ELEMENTS OF A GOOD TEACHER: The elements integrated in the making of a good teacher are: learning, ethics, authority, order, compassion, patience, imagination, character, and pleasure. (Banner, Cannon, 1999) Targeting this aim helped me in mixing teaching techniques to create new one in landscape.

TERRY'S TECHNIQUES: Terry[3] had used short active learning sessions, hands out complete notes printed out from his Powerpoint lectures for classroom discussions. (Brown, 2002) He regularly used 'The Muddiest Question', which is an exercise to write the most confusing topic by the end of the lecture to focus on explaining it in the studio (Angelo, Cross, 1993).

INTERACTIVE LECTURE: The best part in the teaching process is the teacher and student relationship (Stanford University, 2012). Previous research concluded with the Interactive lecture, which includes some new *interactive activities* such as double action lectures and using musical background as shown in FIGURE 1.

Double Action + Musical Background + Self Evaluation ⇨ INTERACTIVE LECTURE

FIGURE 1. The Interacted lecture. (El-Gohary, 2012).

ACTISCAPE LECTURE: Interactive lectures in landscape cannot be applied to all topics; it is still mandatory to review some theories and formal information to students. Using creative action activities to transmit theories and help students to live the theory, not just receive it. A close look to Edgar Dale's[4] *Cone of Learning or Cone of Experience*, it gives us a lot of learning indicators from FIGURE 2 as it is the best way to generate retention. It discusses inter-relations of several audio-visual learning materials and their position in the educational process (Dale, 1946). Focusing on theatrical activities, taking *Belle Branscom's* point of view; theatre in education is a concept in education, looking at reality through fantasy and its elements can be primary teaching and learning tools to educate all levels of intelligence (Branscom, 2007).

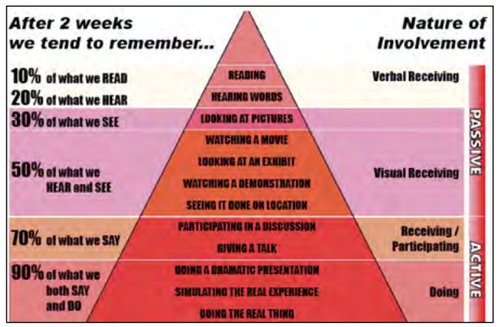

FIGURE 2. Cone of Learning. Source: (Dale, 1946).

DRAMA GAMES: "*Teachers empl.oy found artefacts; music, news items, poems, songs, themes in drama teaching to stimulate; but their best resource could be themselves*" by James Bonillas (Bonillas, 2010).

Drama has an intellectual and emotional impact on both actors and audience (Basom, 2005). After analysing the cone of experience, it is discovered that after 2 weeks, we remember 90% of what we do. Drama shows a lasting impact, practical, economical, portable, adaptable, repeatable and enjoyable (Basom, 2011). The tutor participated as much as possible with students for socialization and encouraging purposing as shown in FIGURE 3.

1. **Colour theme**: Colour themes matched the session to give the impression of the element, stimulate and excite students to start their acting scene and leave them anticipating the next class. Coloured themes played the role of decorations in class as "*Education is an art form and teaching is a theatre*", coated by Steven Kellogg[5] (Branscom, 2007).
2. **Being Green:** Students were divided into groups while dressed in green outfits to act out scenes as a bunch of trees and imagine what a tree or a space user would say or feel to distinguish between different architectural spaces formed with greenery.
3. **Fun Poems**: The teacher used humorous poems in the greenery class to explain the shapes and forms of trees as if the tree itself was explaining itself to them. The students rhymed back on more than one occasion, signifying their interest and attention, for example the teacher once said: "*I am the weeping Willow tree, I bend over in woe and stare at my knee, overlooking the waters is where I'll be, with people....*" A student replied: "*passing and relaxing underneath me*" (Research work March 2012).
4. **Mime:** Miming can be used to reinforce learning (Murphy, 2007). In landform class students used Pantomime art to express the different experience in levels and stairs by body movement, demonstrating how we use different land levels for functional and aesthetic uses with their actions.
5. **Puppet Show:** Puppets have the power to unlock doors to the mind and heart (Bernier, O'Hare, 2005). A good educational message was the core of the puppet play. Puppets were the teacher in the element water session, explaining theories of using water in landscape in the form of poems and props (small water fountain), creating a comic and hands on education scene. "*Creating a very delightful media for puppets have more freedom than human and exaggerate reality, they are immediate metaphor*" (Bass, 1992).
6. **Storytelling**: Storytelling is a cornerstone of the teaching profession (Zabel, 1991). The tutor recited the history of landscape in a way that one would tell a fiction story, to liven the supposedly dull topic and install the knowledge in their memories in a light-hearted fashion, in response students shared in acting resembling historical characters. For researchers have noted the significance of storytelling in oral cultures (Koki, November 1998).
7. **Folklore chants:** Traditional folk music has been passed on from one person to another, or handed down from one generation to another. The tutor used the tune of a well known folklore chant, replacing the lyrics with landscape theories for students to help them keep the information stuck in their heads, as folk songs are delightful and closes to all hearts. In return, the students used the idea to chant other facts they wished to remember and made them into songs.

Acuostic Analysis:

Sounds that emanate from landscapes are produces by *Biophony*[6], *Geophony*[7] and *Anthrophony*[8]. (Farina, 2006). Meaning that humans have a role in soundscape ecology[9] and even can imitate the rest. The term "soundscape" has been used by a variety of disciplines to describe the relationship between a landscape and the composition of its sound (Pijanowski, Villanueva-Rivera, Dumyahn, Farina, Krause, Napoletano, Gage, Pieretti, 2011). Students formed an choir of nature and imitated the sounds of wind, water, birds, animals and even children to compose a musical experience of real live soundscape.

Animated Analysis:

Animated films are a rich teaching resource that can bring variety and vitality to the classroom (Champox, 2001). They are also, fortunately, a film genre that greatly features various landscape scenes. A selection of animated films, which were linked to behaviour concepts, were introduced to students such; *Tangled, Bee Movie, Alice in Wonder Land (Tim Burton), Enchanted, FairyTopia and Rio*. Students worked in groups and analysed the animated films, interpreting the concept of using landscape surroundings in the films, for the purpose of understanding keywords and concepts to apply in their project designs.

Outdoor Activities:

1. **Open Classes:** Greenery and vegetation class were taken in the open air to refresh students' minds and give them hands on experience, consulting experts on the subject and broadening their understanding of it.
2. **Field Trips:** Site visits were introduced to students for site analysis implementation and receiving visual involvement (Dale, 1946). Students were introduced to multiple local landscapes and ecosystems in their contexts, from scientific to experiential to tactile.

Multimedia Devices:

1. **Computer games:** Computer games had significant educational value in simulation and adventure games such as SIMS, where players build societies, parks and houses, developing strategic thinking and planning skills (BBC News, 2002). The classroom had turned into a game centre for each cellular group of students creating a garden design with *SIMS 3* or with Garden Heist Bonus from *the Lord of the Rings* (http://playerslife.com/games/features/31).
2. **Wii:** Wii[10] games target broader demographics than other competing consoles as they are controlled by motion sensors and a remote control that is wielded like a wand. Wii was used to engage the students in the action experience in games that include landscape elements such; Bee Movie and Sport Island, that contain garden pollinating games and water sports.

Practical Activities:

1. **Lighting experience:** Living a lighting experience live in class required many external spot lights of

3 Terry Brown: Professor of Landscape Architecture in the University of Michigan, USA

4 Edgar Dale: he was an American educationist who developed the Cone of Experience. He made several contributions to audio and visual instruction, including a methodology for analyzing the content of motion pictures.

5 Steven Kellogg: Steven Kellogg (Born October 26, 1941) is an author & illustrator who has contributed over 90 books for children. He is best known for writing books about animals. http://www.amazon.com/Steven-Kellogg/e/B000APTR7W [31/3/2012]

6 Biophony: biological sounds.

7 Geophony: geophysical sounds

8 Anthrophony: Sounds produced by humans

9 Soundscape ecology: The science of sound in landscape.

10 Wii: Wii game is a console from the Nintendo and it succeeded the Nintendo Game Cube and was called the fifth home video game console.

FIGURE 3. Students trying different drama games techniques. February, March & April 2012.

assorted colours and potted plants to try the different plant lighting techniques themselves and observe their effects.

2. **3D Models:** Students learnt to build models with materials such as cork, clay and play-dough in class to represent different landscape elements. They started with learning how to build a model landform and ended with learning to insert vegetation and hardscape elements on the model for realistic and proportional awareness.
3. **Flower Arrangement**: Arranging flowers was a practical one day project for students to learn the eight basic shapes of flower arrangement[11] designs (Save-on-crafts, 2009). Students were asked to design any shape they pleased, arrange it themselves and exhibit by the end of the class.

RESULTS AND DISCUSSION

The research for this paper was accompanied by a weekly students' feedback for each techniques they tried; some sessions were finished but others are still pending. These feedbacks were requested to keep track of which technique has the majority's approval as the numbers would affect final results of the research.

From the feedback of students (see ANNEX I); I calculated the percentage of the maximum satisfied students with level (5) in the feed back in the way of teaching, understanding and motivation for more landscape learning in FIGURE 4. This calculation gave me a motive of the weight of teaching each technique in the course of landscape. For example we find that the most high satisfaction percentage of students in all fields of understanding, teaching and motivation goes to the acting in the trees class, even one of the students comments; "*I will never forget how to create spaces by trees in*

11 The 8 basis flower arrangement designs: Horizontal, vertical, triangular, Crescent, oval, Minimal, The lazy „S" or „Hogarth's Curve" & Free Standing arrangements.http://www.save-on-crafts.com/eigbasflowar.html [4/4/2012].

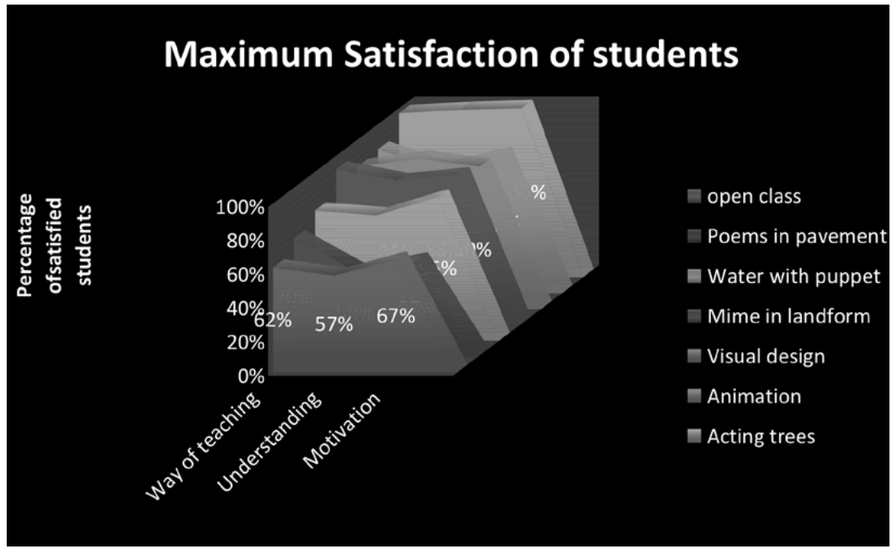

FIGURE 4. Maximum Satisfaction of students for teaching techniques.

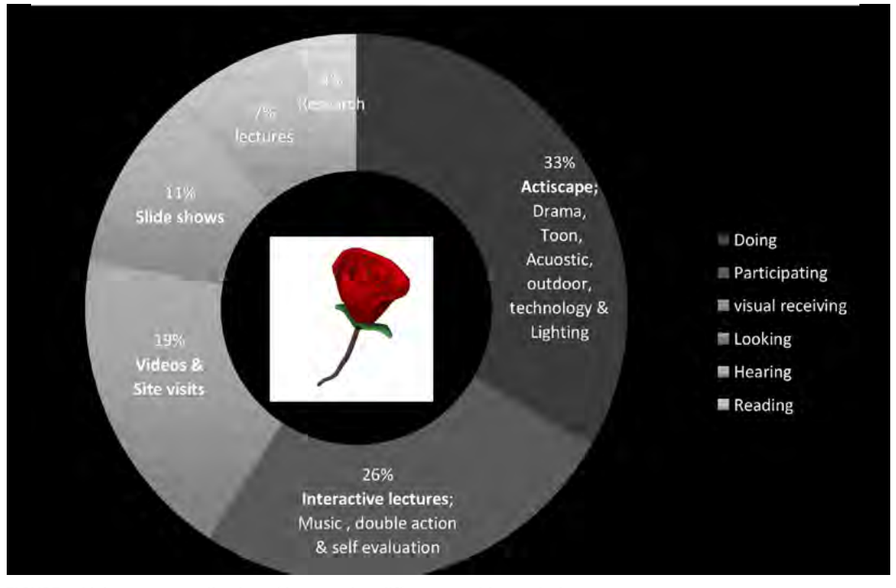

FIGURE 5. Living green application of intersecting different teaching techniques.

FIGURE 6. Living Green application.

my life". According to these percentage showed in FIGURE 4, I chose the kind of techniques to be inserted in dale's cone of learning.

After deeply analysing Dale's Cone of learning, I put the percentage Dale's made of doing 90%, participating 70% and so on (see FIGURE 1), in a comparison to each other to considering the learning technique is a whole one (See FIGURE 5).

A new relation came out from this comparison I can call Living Green Application technique, with a suggestion of the course as shown giving for example 33% of (Doing involvement) techniques for the new Actiscape technique that was emphasized by the feedback of students. Repeating this step will give us the distribution of techniques in relation to each other according to Dale's principle of Learning and matching the feedback of students. Giving 26% for the Interactive lecture (Participation involvement), 19% for watching videos and site visits to match the (visual receiving involvement), 11% for slide shows to match the (looking at pictures visual receiving involvement), 7% for normal lecturing to match the (hearing words verbal receiving involvement) and finally giving 4% for research work to match the (reading involvement).

CONCLUSIONS

This paper was aimed to clarify and create a new, more effective way of teaching landscape design. It discussed previous trials of new contemporary techniques of creative teachers and added my touch of research work and trials. Teaching landscape could be an action mostly done by students themselves and at the same time satisfies any tutor of the teaching techniques used regardless his health condition.

Successfully, it ended with a personal characteristic portfolio I call Actiscape technique, as it is a combination of Action and landscape and controls the weight of using each technique in the educational process, whether they are old or new see FIGURE 6.

Fulfilling all of these techniques would exhaust any teacher and they are best to be applied with a percent, or as much as the tutor could manage given to his/her time and available equipments. While experimenting the proposed techniques on students for the research work, they responded with contentment and acceptance to the techniques and were more eager to attend the landscape class than ever before, some even requested the techniques to be used in their other classes!

ACKNOWLEDGMENTS

I would like to acknowledge this paper to my dearest students and teacher assistants of landscape class for year 2011-2012, for being very helpful, interactive, and intellectual in co-operating with the research work, anxious on doing the research tasks and feeding me back step by step.

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ANNEX I: SAMPLES FOR STUDENTS' FEEDBACK:

Lecture Name	Way of Teaching	Understanding	Motivation	Additional Comments
Land form	5	5	5	
concept	5	4	3	
	5	4	4	Lecture before section
	5	5	5	
Concept	5	5	5	Way of teaching exceeding my experience ……I wish I could have the video " around the world in 80 gardeens"
	5	5	5	
	5	5	5	Slowering the lecture to take notes
Landform	5	5	5	
	5	5	5	Every lecture is with a new way of teaching with really motivates me
	5	5	5	
	5	5	5	
	5	5	5	
	5	5	5	
	5	5	5	
land form	5	5	5	
	5	5	5	
	5	5	5	
Landform	5	5	5	The lecture finishes late
	5	5	5	
Landform	5	5	5	
	5	5	5	the slide show is fast
Landform	5	4	5	cant write notes because slides is fast
landscape	5	5	5	
landform	4	5	5	cant write notes because slides is fast
	5	5	4.5	cant read the font
conceptual zoning	5	4	5	
	92%	85%	88.50%	

Lecture Name	Way of Teaching	Perception of the Lecture	Degree of Motivation	Additional Comments
Mashtal	4	5	5	Need to be more organized - Some of the student cant hear
Mashtal	5	4	3	Not well organized but its nice practically
mashtal		5	5	
Mashtal	5	5	5	
Mashtal	5	4	5	
Mashtal	4	4	5	
Mashtal	5	5	4	
Mashtal	4	3	2	
Mashtal	5	5	5	
Mashtal	5	5	5	
Mashtal	5	5	5	
Mashtal	5	4	5	
Mashtal	5	5	5	Excellent
	5	5	5	
Mashtal	4	3	4	The timing wasn't enough
Mashtal	3	4	3	
	4	4	3	
	5	5	5	
	5	3	4	
Mashtal	4	5	5	
mashtal	5	5	5	
Max Satisfaction	62%	57%	67%	

Greenery areas revitalisation by students studio works in landscape architecture

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ABSTRACT

Greenery areas represent an organic component of the rural space. For urban needs we base on the survey of their condition. This condition was in 5 studied rural communities in Nitra Region of Slovakia not satisfactory. Within the revitalisation of public green spaces in central parts of these communities we work on their qualitative conversion to an attractive public space using principles of contemporary trends in rural space design.

The main attributes of the proposals are: return to the traditions, application of domestic tree species and stands, use of natural materials as well as characteristic rural compositional principles.

Our activities herewith provide for rural municipalities´ governments some concrete proposals to improve the quality of local peoples´ lives by tools of landscape architecture.

In this paper for ECLAS conference we present the issues of public spaces in following rural communities: Oponice, Žirany, Kolíňany, Štitáre, Nitrianske Hrnčiarovce.

Keywords: central green spaces, rural villages, rural compositional principles.

INTRODUCTION

The Slovak countryside with its diverse settlement structures in combination with variability of natural conditions represents one of the greatest cultural values of our country. But the truth is that the level of care for its further development doesn´t match its value and importance. The negative impact of large-scale farming in conditions of our countryside and particularly its subsequent recession caused that many of the buildings and areas decay and disrupt the former picturesque character of the countryside.

For a significant part of rural communities a great amount of public spaces is characteristic, but these are not used for public needs. Their original, mostly economic and operating functions ended up and new functions have not been determined. These spaces are abandoned community gardens, orchards or broad streetscapes. Conversion of these areas is due to the increased participation of citizens in cultural and social activities of the village a very welcome initiative (Feriancová, 2005).

MATERIALS AND METHODS

In the 5 solved municipalities in Nitra Region we can note, that the current state of the greenery has been and is being influenced by economic and social changes in the lives of these communities. By exclusion of agricultural production from the built-up area the sanitary conditions have been improved and assumptions for a new use of public spaces in the built-up area have been created. By gradual decline of agricultural active population the close linkage between village inhabitants and the surrounding landscape has been weakened. The increase in non-agricultural working population and users of recreational used houses on countryside significantly changed the opinion on the content, form and further development of residential greenery. The results of this fact are functionally wrong solutions with a wrong assortment of woody vegetation or the absence of any conceptual design of greenery areas. Dealing with the theory and perspectives of rural greenery design is an urgent task mainly because the new village identity and within it the presence of qualitative greenery is one of the social assumptions of an optimal life on the countryside. A characteristic feature of the new concepts for urban greenery areas in rural settlements will be the fact that it will deal not only with a spatial extension but first of all with new and strictly functional use of its surfaces. This means that it will deal mainly with a qualitative reconstruction of the urban greenery (Mareček, 2005).

In the 5 model villages which were our research subject and a target for proposed changes of public spaces we observed a critical condition in amount

of mostly non-fruit tree species. A typical species--poorness occurred there which causes on the one hand an aesthetic uniformity and on the other hand – from the ecological point of view – a low biodiversity.

A limited number of species is being worsened by atypical and for a rural settlement foreign species, especially conifers. A negative feature of this state is the high age of the trees and the absence of their timely replacement by new young plantings. We also observed the lack of treatment of old and damaged trees.

This negative condition is caused by the fact that in the observed rural settlements there is an absence of specialized gardening services, which would provide a systematic treatment of cultured greenery areas.

RESULTS AND DISCUSSION

The common marks at soluted study localities are functionless public spaces in central part od settlement. In the framework of investigation were carried out appropriate analyses, assessed dendrological teritory potential and consequently elaborated proposals for optimal function solution of public green areas.

FIGURE 2. Landscape architecture study of the design area in village Štitáre proposed by students.

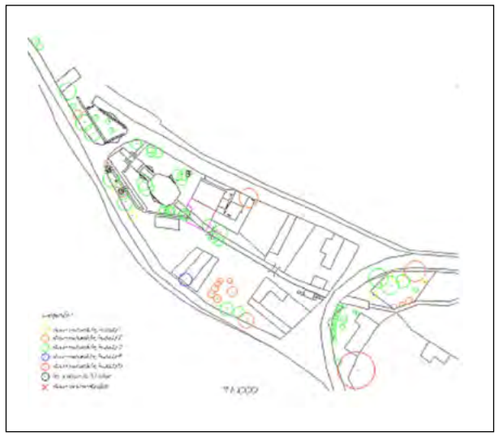

FIGURE 1. Current state of the design area in central part of village Štitáre.

CONCLUSION

At present, a principal solution for greenery in rural settlements is an actual issue in terms of its functional, assortment and cultivation role. In terms of its meaning this is a much broader problem than just the well-intentioned, honest and selfless applied protection.

The rural areas represent a crucial part of our country. There are being formed the main values of our common environment and therefore a complex solution is needed. Within these solutions the greenery of rural settlements has to be perceived as a spatial, economic, social, cultural and ecological very important phenomenon.

Our goal is that the described understanding of the rural greenery issue will be reflected and adapted in the student works and afterwards in the realisation projects of our graduates. This paper is an illustrative example of how the future landscape and garden architects under supervision perceive this phenomenon.

ACKNOWLEDGMENTS

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FIGURE 3. Current state of the design area in central part of village Kolíňany.

FIGURE 4. Landscape architecture study of the design area in village Kolíňany proposed by students.

Assessing Everyday Landscapes
An Online Seminar about Landscape Awareness and Communication Concepts

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ABSTRACT

This paper reflects upon an online seminar titled 'Assessing Everyday Landscapes'. The course was held between October 2011 and January 2012 with 50 participants from three continents. The seminar aimed to combine three learning objectives: firstly, to understand and apply different landscape assessment approaches. Secondly, to discuss and reflect upon the concept of 'Everyday Landscapes' and thirdly, to design communication activities that would enhance the awareness of these landscapes among the general public.

Background, theory, purpose and application of different landscape assessment methods were presented by taking a variety of international perspectives. For their assessment students selected 'everyday landscapes' that were located in an environment they use 'every day'. Small international groups compared assessment findings and reflected on the different approaches taken. All students developed awareness-raising concepts for the areas they had analysed.

The focus on 'Everyday Landscapes' responds to core principles of both the European Landscape Convention (in particular Article 6, A) and the current activities related to the establishment of an International (UNESCO) Landscape Convention. Both call for a new understanding and validation of people's everyday environment. '*Fragmented into various components that are green, grey or blue, agricultural, historical or ecological, landscapes are often undervalued and neglected, seemingly belonging to everyone, but actually to no one.*' (IFLA, 2011)

The author claims that consciousness for everyday landscapes has to be taken into account in landscape architecture education. But furthermore, raising awareness for the values of these landscapes has the potential to become an emerging field of activity for the profession. In this role the landscape architect would go beyond the classical methods and tools applied in the profession. He or she would help translating the values, potential and threats of our everyday landscapes into formats that are understandable for the general public. The seminar participants discussed this potential role in intercultural groups across three continents.

As already pointed out in previous papers, student-centred learning methods have been applied in the virtual learning environment in order to assure a strong engagement of the participants with the subject. Through this learning mode it was possible to include an international group of landscape architecture students.

Keywords: computer-supported collaborative learning, e-learning, European Landscape Convention, landscape assessment, awareness-raising, instructional design.

BACKGROUND AND MOTIVATION

This seminar is part of a series of online teaching events in which the potential of computer-supported collaborative learning for landscape architecture is explored[1]. The delivery of these seminars started already in 2007. The core organisational team is formed by members of the IMLA Programme[2] and Kassel University[3] who initiate online seminars once or twice a year involving various LE:NOTRE[4] member schools from Europe and beyond. Within a framework of pedagogical action research (Norton, 2009) this innovative teaching mode has been continuously analysed, evaluated and improved. While the technical and pedagogical framework has remained quite constant through the years the teaching subjects have always changed taking up topical landscape architecture issues such as public participation in 2009 (Fetzer/Kaiser, 2011) and landscape concepts in 2010. The theme, Assessing Everyday Landscapes' has been chosen as the 2011 seminar topic because the European Landscape Convention (ELC) mentions explicitly, everyday or degraded landscapes' as part of the concept of landscape. Moreover, the ELC calls for awareness-raising in article 6 where it says: "Each Party undertakes to **increase awareness** among the civil society, private organisations, and public authorities of the **value of landscapes, their role and changes to them**."[5] Regarding the increasing relevance of the ELC in various European countries and the growing worldwide interest for this document the question was raised on how landscape architecture can contribute to a better understanding and awareness of everyday landscapes.

The seminar thus aimed at introducing methods and tools for assessing everyday landscapes. Students were asked to transfer and apply these to their personal environment and to design a communication concept on this basis. These activities intended to prepare students for an emerging working field. With help of the online delivery mode the seminar could be opened to a worldwide group of students from three continents. In this context students were able to get insights into very different everyday landscapes across the world and to develop a sense of global citizenship. In addition to the subject-specific themes the seminar aimed at fostering a set of generic competences such as digital literacy, intercultural communication, writing, presentation and project management. The seminar was attended by more than 50 graduate students of which 44 responded to the seminar evaluation. The majority of the participants (72%) had a background in landscape architecture. The participants were studying at the following universities: Kassel University, IMLA Programme of HfWU Nürtingen-Geislingen and HSWT Weihenstephan-Triesdorf (all Germany), University of Dammam, (KSA), University of Buenos Aires (Argentina), University of Belgrade (Serbia) and University of Ankara (Turkey).

SEMINAR PROCESS AND STUDENT ACTIVITIES

The seminar process developed along two lines of activities. Firstly, weekly synchronous online sessions of 90 minutes duration were taking place in a virtual classroom. These meetings were used for organisational information, invited lectures, student presentations and parallel sessions in breakout rooms. Secondly, the students completed four assignments iteratively in the form of a case study that was published in the form of a wiki page. The seminar wiki[6] enabled for direct availability of the students' artefacts. Feedback could be given immediately and mutual information was provided within the thematic small groups.

In order to enhance the students' involvement and their intrinsic motivation they were asked at the beginning to select an everyday landscape of their personal environment. This landscape would serve as their personal investigation area throughout the seminar. Between the first and the second session a wiki page was given to the students where the proposed areas were compiled. Nine groups [7]were then formed according to the typology of these areas. Each location was then turned into an active link leading to a new page were the iterative assessment exercises were documented. All pages had the same template structure. The seminar started with a presentation of the IFLA initiative for a UNESCO/ World Landscape Convention by Kathryn Moore. The IFLA document explicitly mentions the global need for more concern for people's everyday environment., Fragmented into various components that are green, grey or blue, agricultural, historical or ecological, landscapes are often undervalued and neglected, seemingly belonging to everyone, but actually to no one.' [8]An introduction to the history and background of landscape assessment was provided by Kati Susi-Wolf from Aalto University, Finland.[9]

Assignment 1 – Analytical Drawing

During the first exercise the students were asked to observe their investigation area and to produce drawings in which aspects of their analysis would also be expressed. Drawings are a very flexible tool in this first analysis phase and provided a good means for approaching the area, capturing atmospheres and communicating the principal characteristics.

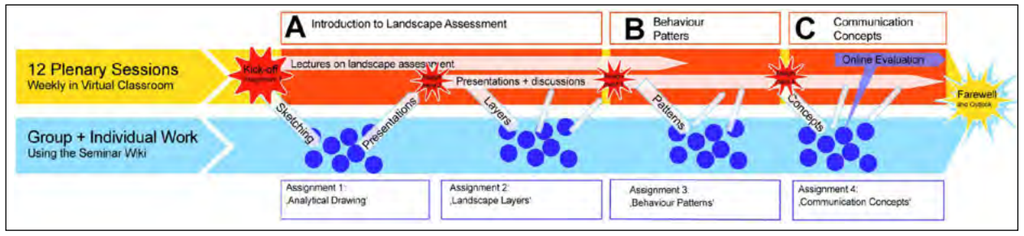


FIGURE 1. Seminar process 'Assessing Everyday Landscapes'.

1 Previous seminars have been published on this wiki: http://fluswikien.hfwu.de/index.php [14.06.2012]

2 International Master of Landscape Architecture, a programme offered jointly by the Universities of Nürtingen-Geislingen and Weihenstephan-Triesdorf, both Germany. http://www.imla-campus.eu [14.06.2012]

3 Kassel University, Landscape Planning Unit, Prof. Dr. Diedrich Bruns

4 LE:NOTRE is the European Thematic Network in Landscape Architecture, an EU-funded network including the majority of European landscape architecture schools http://www.le-notre.org [14.06.2012]

5 http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm, Article 6 / A [14.06.2012]

6 Link to the seminar wiki: http://fluswikien.hfwu.de/index.php/Assessing_Everyday_Landscapes_2011 [14.06.2012]

7 The groups were: Parks and Gardens, Transportation Landscapes, Residential Areas, Urban River Areas, Urban Streets, Urban Squares, Rural Environments and two groups with areas of Mixed Use.

8 http://www.iflaonline.org/images/PDF/INTLANDSCAPECONVENTION/final_landscape_convention-flyer-english.pdf [14.06.2012]

9 The recording is available under this link: https://webconf.vc.dfn.de/p2dfe45nat8 [14.06.2012]

Interestingly, most results included a representation of people's behaviour in addition to the dominant spatial elements. A theoretical input on this was given by the artist Reinhard Doubrawa[10] who emphasised the potential of drawing for understanding the everyday environment. In addition, an introduction into analytical drawing in a landscape context was provided.[11] Given the great variety of cultural contexts and backgrounds the outcome of this exercise was rich and multifaceted. Presenting the drawings to each other in parallel small groups had a very positive effect on mutual learning, understanding the other's cultural context and the overall group--building process. The small-groups discussed their drawings on the basis of two questions: What is essential about each drawing? Did you discover new ways of expression?

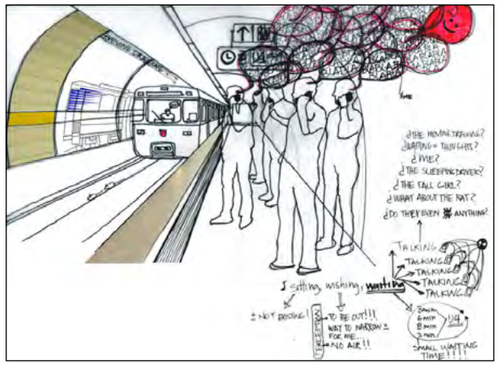


FIGURE 2. Student works on assignment 1 'Analytical Drawing'. Author: Natalia Vergara with Milkana Mladenova, Location: Karlsplatz Metro Station, Munich, Germany.

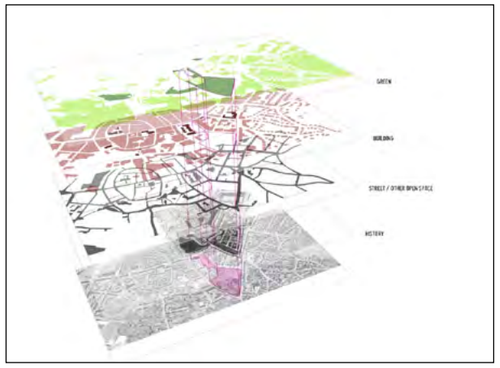


FIGURE 3. Student works on assignment 2 'Landscape Layers'. Author: Kanako Tada, Location: Castle Garden Durlach, Karlsruhe, Germany.

Assignment 2 – Landscape Layers

The second analysis step followed the classical method of layering and landscape character identification which forced the students to leave the human perspective and to take a birds' view on their investigation area. Introductions to the methodical background were given by Diedrich Bruns[12] and Simon Bell[13]. Since most students did not have a GIS database for their randomly chosen everyday landscapes most information was derived from the analysis of observations, maps, areal views, readings and historical photos. Again, a great variety of outputs was produced. But apparently the students had also different conceptions of what they thought to be relevant for the site which was possibly influenced by their different cultural and educational backgrounds. It would have been useful if these conceptions had been identified and discussed prior to the actual exercise. Again, the findings were presented in parallel small groups and the students were asked to explain why they had decided to concentrate on some specific layers and to show what they had derived from this analysis. Once more, the parallel groups offered much room for mutual learning as the differences in approaching the exercise came to the fore and new knowledge about the sites was shared and discussed.

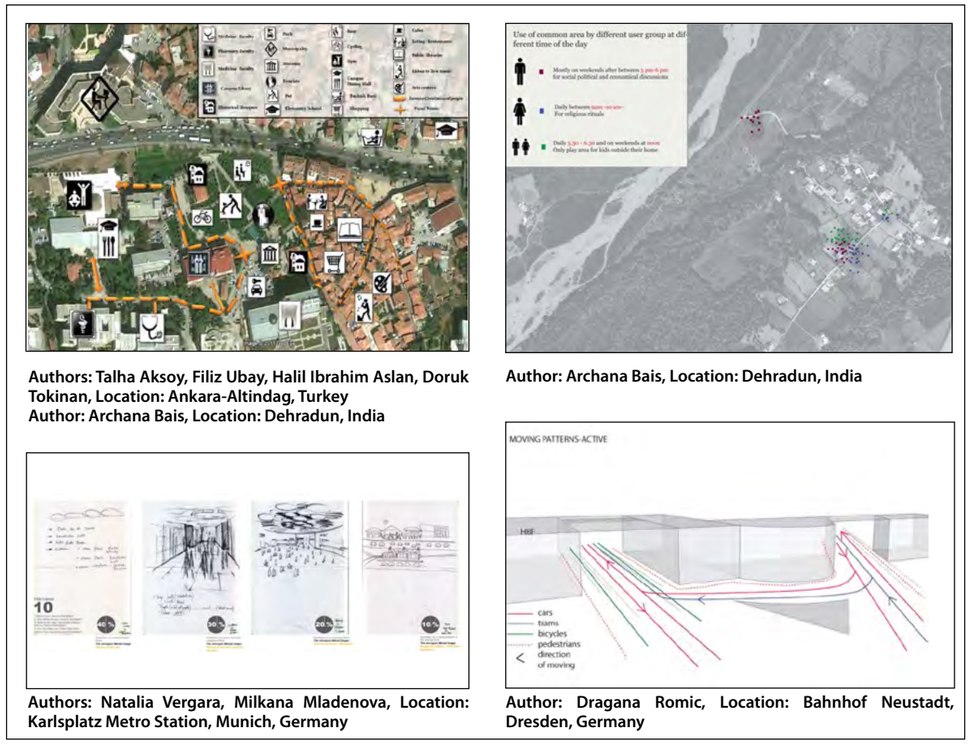
Assignment 3 – Behaviour Patterns

The second part of the seminar was dedicated to the important issue of behaviour patterns. People's daily circuits, habits and activities are essential characteristics of 'everyday' landscapes. Bertram Weisshaar[14] introduced the concept of Promenadology[15]' to the students by showing the example of a visual documentation of bus stations across Europe. Damian Perez Beverinotti[16] presented a visual study of street vendors in Buenos Aires. The inputs were rounded up by a presentation given by Prof. Mohammed Masoud[17] who presented a study on behaviour patterns in contemporary parks in Saudi Arabia. Given the short time provided within the seminar and the difficulties in observing people because of the season (most participants were located in a European winter area) the findings of this exercise remained mostly on an introductory level. However, the students trained their skills in observing people's behaviour and made first attempts to activity mapping. The group discussions were conducted along the following questions: Which behaviour patterns are characteristic? Did you find any surprising behaviour patterns? Do space and behaviour correspond? How does people's behaviour change the place? Concerning the overall design of the seminar it would have been useful to provide a lot more time and theoretical foundation for this analytical step.

Assignment 4 – Awareness-Rising

The last part aimed at turning the information gained from the preceding analysis into a communication concept with reference to article 6 of the European Landscape Convention. The underlying objective was to make the students think about their contribution as landscape architects to this specific goal of the ELC. The assumption was that landscape assessment methods – as they are commonly used in the landscape architecture profession and also in this seminar – can provide a good foundation for the development of communication concepts that „increase awareness among the civil society, private organisations, and public authorities of the value of landscapes, their role and changes to them[18]."

The task was to propose a concept that would make use of any kind of media. These could be visual media like signs, posters, websites, videos but also radio broadcasts, activities like guided walks or artistic interventions and installations. It was made clear that any professional approach in this direction would require the cooperation with other experts such screenwriters, graphic designers or artists. However, the results were again colourful and varied. This time, the presentation of the student's ideas was done in the plenary only. In general, most students applied spatial approaches making use of installations which is not too far from common landscape architecture practice. Only a few moved towards a pure media-based approach.



Authors: Talha Aksoy, Filiz Ubay, Halil Ibrahim Aslan, Doruk Tokinan, Location: Ankara-Altindag, Turkey
Author: Archana Bais, Location: Dehradun, India

Author: Archana Bais, Location: Dehradun, India

Authors: Natalia Vergara, Milkana Mladenova, Location: Karlsplatz Metro Station, Munich, Germany

Author: Dragana Romic, Location: Bahnhof Neustadt, Dresden, Germany

FIGURE 4. Student works on assignment 3 'Behaviour Patterns'.

10 The recording is available under this link: https://webconf.vc.dfn.de/p71g2pnnnf5 [14.06.2012]

11 This presentation was provided by Simon Bell, EMU Estonia, the slides are available as a public resource on the LE:NOTRE project webpage under this link:http://le-notre.org/uploads/documents/Sketching_techniques_2011.pdf [14.06.2012]

12 The recording is available under this link: https://webconf.vc.dfn.de/p9rmurgc3nv [14.06.2012]

13 The recording is available under this link: https://webconf.vc.dfn.de/p2usof1kzsq [14.06.2012]

14 The recording of Bertram Weisshaar: https://webconf.vc.dfn.de/p7hebft7r8e [14.06.2012]

15 The concept of 'promenadology' (Spaziergangswissenschaft) was coined by Lucius Burckhardt in the 1980's. More information in German is available under this link: http://www.lucius-burckhardt.org/ [14.06.2012]

16 The recording of Damian Perez: https://webconf.vc.dfn.de/p5vz1o150hr [14.06.2012]

17 The recording of Prof. Masoud: https://webconf.vc.dfn.de/p7iglmjo3xd [14.06.2012]

18 http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm, Article 6 / A [14.06.2012]

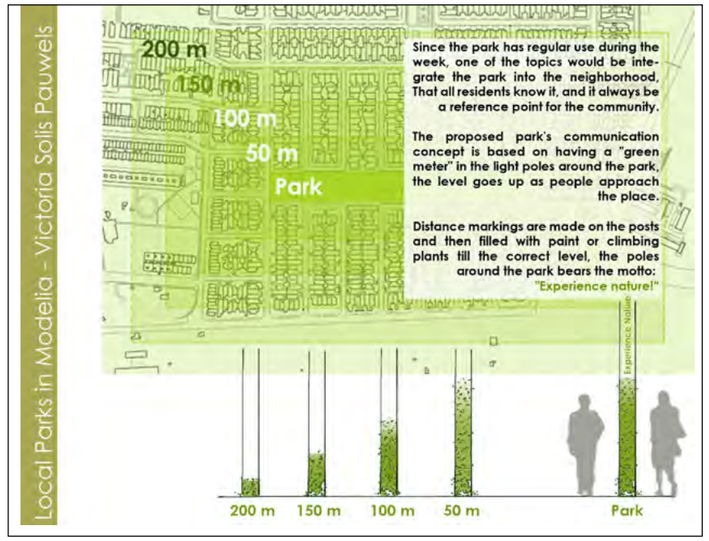


FIGURE 5. Student works on assignment 4 'Communication Concepts'. Author: Victoria Solis Pauwels, Location: Local Park in Modelina, Bogota, Colombia.

Integrating Generic and Subject-specific Competences

Can students gain a rich learning experience in an online seminar? And what does 'rich' mean in this respect and specifically for landscape architecture? Since this seminar was offered to students of the third year bachelor or master's level knowledge transmission was clearly not the primary learning objective. However, getting some theoretical inputs from invited speakers had a positive impact on balancing potential deficits and misconceptions. The lectures were also well received by the participants. However, the students' activities aimed at fostering many generic and process-oriented competences in addition to the subject-specific theme following the recommendations of the tuning document for landscape architecture (Bruns *et al.*, 2010).

The seminar was designed along an activity path including a variety of actions. While the lectures aimed at fostering subject-specific knowledge, the completion of the different assignments was mainly supporting process-oriented skills like analysis, project management, representation, presentation and IT. In addition, intercultural competences and communication in English as a foreign language were trained while interacting in the small groups. If such a variety of activities is given it is very likely that students will perceive an online seminar as an enriching learning activity. This assumption is well supported by the students' feedback given in the evaluation.

The outputs documented on the seminar WIKI did not differ in quality from those produced in thematically comparable face-to-face seminars. However, this still does not say much about what has happened within the learners. It is difficult to assess if the learning objectives related to generic competences have been reached. Abilities in the fields of project management and intercultural communication are hard to measure, in particular if their formation is so closely intertwined with the actual subject. An interesting aspect becomes obvious when we look at what students have said in the evaluation about what they think to have learned:

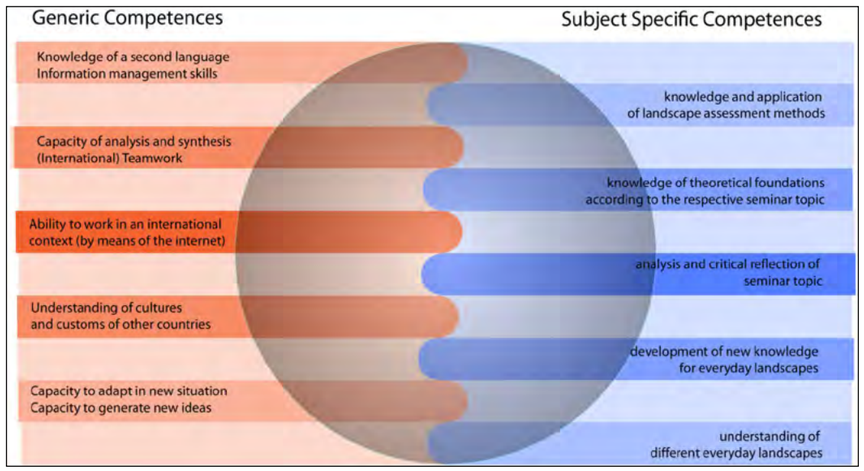


FIGURE 6. The learning objectives of the seminar integrate generic and subject-specific competences.

SOME THOUGHTS ON THE SEMINAR EVALUATION

TABLE 1. Evaluation Results Online Seminar 'Assessing Everyday Landscapes', total responses: 44 out of 50 participants.

Answer	Number	Percentage
What is your educational background?		
Landscape Architecture	32	72.73%
Architecture	7	15.91%
Urban Design/Planning	7	15.91%
Environmental Planning	1	2.27%
Landscape Research (PhD)	4	9.09%
Others	4	9.09%
Will you receive ECTS for attending this seminar?		
Yes	28	63.64%
No	16	36.36%
How often could you attend the VITERO plenary sessions?		
Regularly	37	84.09%
3-5 times	6	13.64%
Only once	1	2.27%
Never	0	0.00%
Did you have technical problems with the classroom system?		
Answer	Number	Percentage
I had severe problems	6	13.64%
I had some small problems	24	54.55%
The system was running without problems	14	31.82%
After entering the virtual classroom: Did you find it easy to understand and use the tools?		
Yes, everything was intuitive and I did not need help	29	65.91%
The system is intuitive, but we should have had a separate introduction to it.	12	27.27%
It took me a while to understand the system.	5	11.36%
I did not understand all the tools	0	0.00%
What prevented you from participating fully in the sessions?		
Timing (late night / early mornings)	4	9.09%
Work commitments	11	25.00%
Technical difficulties	7	15.91%
Other study commitments	10	22.73%
Holidays	6	13.64%
Other	5	11.36%
This does not apply to me	14	31.82%
Was it easy for you to concentrate during the sessions?		
Yes, always	15	34.09%
Mostly	22	50.00%
No, sometimes it was difficult	6	13.64%
No, it was always difficult	1	2.27%
I never attended a session	2	4.55%
The content of the lectures was interesting and I gained new knowledge. Do you agree?		
Yes, absolutely	18	40.91%
This was mostly the case	20	45.45%
The contents were of average interest for me	5	11.360%
Most contents were not interesting for me	1	2.27%
I never attended a session	2	4.55%

Comments on the evaluation results:

The group had a homogenous academic background. As multiple answers were possible here, some noted additional qualifications in architecture and urban planning.

Curricular integration was not possible for all participants, but this did not necessarily have a negative effect on the results. Partly the results of those, who did not receive ECTS, were much better.
The majority was very committed to the course even if it meant additional workload to the normal curriculum.
Most problems could be solved after a couple of sessions. A small number of students was not able to attend without technical problems. Interestingly, this distribution has remained quite stable compared to previous seminars.
In this seminar Adobe Connect was used for the first time while VITERO was used in the previous courses. The opinions about the usability were slightly better with VITERO.

Different educational schedules are always difficult to harmonise. It happened that some students were occupied with exams while others had much more time for the assignments. Study and work commitments are the most important factors. However, almost a third was not affected by preventing factors.

Online seminars require even more active involvement of the participants than face-to-face seminars. A vast majority could concentrate well during the online sessions.

Over 85% if the participants state that they were absolutely/mostly interested in the seminar contents. This is a very important precondition for fruitful and self-conducted group work.

TABLE 1. *cont.* **Evaluation Results Online Seminar 'Assessing Everyday Landscapes', total responses: 44 out of 50 participants.**

The seminar structure and objectives were clear to you?		
Always	23	52.27%
Mostly	20	45.45%
Sometimes	1	2.27%
Never	1	2.27%
Did you find it easy to express your thoughts in the virtual classroom?		
Yes, absolutely	16	36.36%
Mostly	20	45.45%
Sometimes	6	13.64%
Never	1	2.27%
Was it easy for you to publish on the WIKI?		
I was able to publish without further instructions	18	40.91%
I could do it after reading the „help" pages	19	43.18%
I could do it with help of the seminar tutor	3	6.82%
I still had difficulties, even with external help	5	11.36%
How often have you published on the WIKI?		
Daily	2	4.55%
Weekly	28	63.64%
Monthly	14	31.82%
Only once	3	6.82%
Never	0	0.00%
Would you say that the WIKI was useful for you?		
Yes	41	93.18%
No	3	6.82%
Would you say that you have succeeded in developing a case study on the WIKI?		
Yes, absolutely	20	45.45%
I think I achieved an average result	20	45.45%
No, I did not achieve this	4	9.09%
Would you say that your working group has met the objectives of the seminar?		
Yes, absolutely	14	31.82%
Mostly	24	54.55%
We met the minimum requirements	5	11.36%
No, we did not	1	2.27%
Have you been satisfied with the group collaboration?		
Yes	25	83.33%
No	5	16.67%
Your pages were pre-structured with different templates. Did you find this useful?		
Yes	39	88.64%
No	5	11.36%
Would you recommend the seminar?		
Yes	37	84.09%
No	0	0.00%
No answer	7	25.91%

The seminar structure was communicated clearly and repeatedly by the coordinator. Otherwise, it is very likely that students loose track of the seminar.

The majority claims that expressing themselves worked always or mostly well. Of course, there are also many personal factors that are determining this condition.
In general students understood the editing technique of the WIKI very fast even if most of them had not edited a WIKI before. Another supporting factor was given by the fact that most pages were prepared with a template.

As for the frequency of WIKI visits it seems that students mostly dealt with the seminar assignment once a week. It was noticeable that most students intensified their efforts one or two days before the next seminar session. Publishing on the WIKI was preceded by some research, analysis and discussion of drafts, accompanied by e-mail conversion within the working groups. In general, the students did not publish draft texts for further development, even if a WIKI is a very suitable tool for collaborative text production.

There have been some very successful results. However, some groups had problems with managing their work process – in particular with publishing in time – which had a negative effect on the group discussions. In general, this online seminar expected much less group collaboration compared to previous ones as most of the work was concentrated on the individual analysis of the investigation areas.

THIS SEMINAR HAS IMPROVED MY:

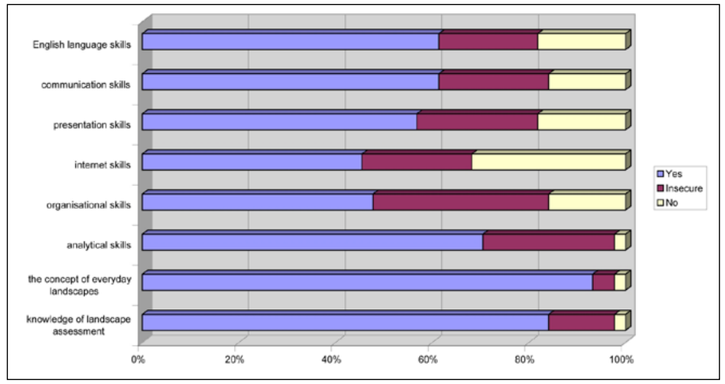


FIGURE 7. Self-evaluation of students at the end of the seminar (44 answers out of 50 participants).

While some participants seem to be quite confident with their learning outcomes a significant number of students has remained unsure about the acquisition of generic competences though this seminar. In contrast, there is a positive consent concerning the acquisition of subject-specific competences (like "knowledge about landscape assessment"). Naturally, generic competences need much longer time and practise for being formed. This fact has presumably played a role in the self-evaluation of the students. In the future, methods for assessing generic competences might be required for achieving a better insight into this question. This may include a more precise definition of the activities students are expected to do. However, too much predefinition may contradict with the overall aim of triggering creative and innovative approaches. Much of this seminars' dynamic and enthusiasm was caused by the variety of sites and the different approaches to analysing them.

CONCLUSIONS AND OUTLOOK

Even if the institutional implications of ‚landscape architecture education without frontiers have not been solved (i.e. lacking curricular integration, missing external incentives to enhance cooperation etc.) it can be said that at least the technical and pedagogical framework has reached a certain level of stability. In fact, the technology itself is not the actual question. Much more attention needs to be paid on how technology can enhance a learning process that is not only on the surface but deep and manifold. If deep-level and not surface-level processing of information is expected (Marton and Säljö, 1976), how can this be enhanced in a virtual environment? New technology needs to be combined creatively with a learning model that supports student-centred active participation. Collaborative wiki publishing (Cress and Kimmerle, 2008) and small group work in parallel virtual classroom sessions are adequate means of enhancing active involvement and innovative knowledge construction, but still not all options have been explored. More observation is needed in order to assess the individual development of the students. As the learning objectives of a teaching event as it is described here are not aiming at acquiring factual knowledge more holistic assessment methods are crucial. Therefore, the next seminar will include an attempt to assess student's prior knowledge by means of concept mapping (Novak, 1998; 2010). Ideally, it will then even be possible to adapt the seminar contents and activities to these findings. A second concept mapping at the end of the seminar can then eventually provide information on the individual learning process. Another focus will be on implementing a supporting framework for small groups while they are working synchronously in the virtual classroom. Also, the collaborative work will take the form of a joint project so that the emphasis of the work process will be on the joint product instead of comparing and analysing individual products.

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Are study trips a leisure time for students and teachers?

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ABSTRACT

Few curricular programmes recognize officially the study trips and only occasionally some schools make efforts to realize some particular ones. Even so, they aren't considered as a basic educational strategy, fundamental to seduce students about the landscape architecture and to explore the power of the landscape.

The study trips can no more be seen as leisure time for students and teachers. As real opportunity of experiment the space – the object of work of the landscape architect – they are a basilar educational strategy in landscape architecture.

The study trips are fundamental for students become familiar with the landscape, comprehend it, reflect about and be critical (as students and as future professionals). More than that, they are the opportunity to include and make in evidence a wide range of specific issues concerning landscape (humanistic, artistic and scientific principles, together with a comprehensive and inclusive view), at the same time, they introduce the students in the diversity and the complexity of processes, domains and actors involved in the landscape transformation.

For all reasons it is fundamental 'to put students in the landscape'. So, study trips should be created in all curricular programmes, establishing the connection between academic, curricular and disciplinary issues. This educational strategy has to be accompanied with others (group reflection, graphic diaries, meta-cognitive scripts, portfolios, documentaries, and reports, between others). Only this way we can expect students to learn 'how to see', 'how to do' and 'how to be' – ideas conceptually engaged in the process of landscape architecture.

Keywords: landscape architecture, educational strategy, study trips, landscape experience, curricular programmes.

INTRODUCTION

Landscape architecture education is characterized by a strong inter-dependence and articulation of knowledge and practices – an intricate educational process, explained by landscape complexity and by landscape architect role. These conditions determine different teaching strategies, translated into multiple activities, opportunities and situations to confront the student (Freire, 2011). As supported by Peter Rowe (2002) the construction of this complex knowledge and learning are not limited to the traditional studio. On the contrary, several strategies play a central role in the teaching of landscape architecture – study trips, internships, multiplicity of researches and practices, group discussion. This is possible to confirm in the most part of curricula and teaching strategies applied in several landscape architecture schools of Europe and America. All those strategies are fundamental to the acquisition of knowledge, experience and critical reflection – which enrich the visual, cultural, theoretical and practical repertoire of students – a result of inclusive and humanistic dimension, intrinsic to landscape architecture (Freire, 2011).

In the universe of the most notice European and North American schools of landscape architecture, its possible to confirm the mentioned complexity of teaching and learning, which includes various classes with field studies and also tours, named as study trips. The first ones are short visits, fundamental to support some practical exercises or particular issues. Not so often, it's possible to observe some integrated 'study trips' along the course of studies (degree or master), although they are not always concept as an important educational strategy. Our research is center in study trips in European landscape architecture schools [1].

The aim of our research is to support the meaning, importance and significance of study trips as a key teaching practice in the education of landscape architecture. It is sustained in:

- First, the study trips are the real opportunity of experiment the space – the object of work of the landscape architect. An idea confirmed by the philosopher Merleau-Ponty (1999) when he defended the corporal experience as the source of all things. Only in the landscape students can be aware of how various domains intricate in the landscape architecture view;
- Second, the study trips as a true landscape experience, are a remarkable occasion for the drawing development and observation skills – explicitly how to see and record, through training in observation, drawing, select and doing things;
- Third, the study trips are the occasion for students to become familiar with some particular landscapes (in an unlimited context of them), carefully selected in the perspective of the students group, sequence of curricula and most salient subjects of the moment. Simultaneously it can be the moment to introduce students in some special domains (urban, rural, natural, industrial, garden art, ore others) or particular themes;

1 North America Kansas State University, Cornell University and Ohio State University are some examples of universities where study trips are part of course studies.

- Fourth, the study trips involve an authentic occasion to see the sights of the complexity of landscape, to read and comprehend its natural and cultural influences, to reflect and to be critical. They are an opportunity to declare the multi-disciplinary domains associated with the landscape transformation and also an occasion to show the essential integration of all actors in this process (inhabitants, professionals, academics, and politics);
- And fifth, the study trips when realized abroad are an important help to establishment the international perspective on landscape architecture and garden art. They represent an opportunity to enrich the individual references, with consequences in future design projects.

As such, study trips are fundamental to seduce the students for the landscape architecture, to explore skills, to integrate knowledge, to discover the power of the landscape and to experiment the experiential learning. They are the special moment for support and make evident a wide range of specific knowledge concerning landscape – humanistic, artistic and scientific principles, together with a comprehensive and inclusive view, with the chance to introduce the students in the diversity and the complexity of processes, domains and actors, involved in the landscape transformation.

STUDY TRIPS FEATURES, OFFERINGS AND OBJECTIVES

Named as *study trips, field studies, tours* or even *excursions*, this educational strategy is only explored in few landscape architecture undergraduate courses or master.

The study trips plan includes mostly the own country – some regions, course relevant landscapes, sites or gardens – and, very occasionally, abroad.

In the most significant cases, the incidence of study trips along the curricula can express one, two or three study trips each semester.

The study trips time programme can varied between a short tour (typically a half-day or a day-long) and a longer tour (some few days or a week, and very exceptionally two-weeks).

The costs can be subsidized by schools or support by students, conditions that establish the categories compulsory study trips or optional study trips and personal study trips.

The study trips are usually programmed as single educational strategy, nevertheless they could be organized with others educational strategies, for instances, it may be complemented by guest lectures (from politics, profession and academia).

Thinking as an experiential learning the study trips are conceptual programmed related with the core course content – the tri-dimensional space and the complexity and power of landscape. Thus, they respond to many objectives, namely knowledge, skills and experiences. For sure, all together form a powerful combination and exploration of academic and cultural domains and experiences. In this context, they include unquestionably the positive socializing and fun between students and teachers, more often emphasized by academy in general.

Along the several decades of higher education in landscape architecture, the study trips occurrence, programmes and objectives have changed; for the most part it was a consequence of the school dynamic and didactic. In the present the study trips offerings are linked with various objectives:

- To introduce the students to the thematic of the landscape in the perspective of landscape architecture;
- To reflect on contents taught in lectures, mostly on landscape architecture;
- To integrate knowledge's and skills;
- To learn how to read the landscape historical, cultural, ecologic and aesthetic influences;
- To focus on a singular theme;
- To see some particular case studies;
- To gain insight in objectives and realization of landscape architecture projects and/or landscape planning projects;
- To develop observation and drawing skills;
- To establish an international perspective on landscape architecture and garden design.

As we will see, schools emphasized the opportunity for the first experience of landscape, the whole occasion to come close to some particular real landscapes and the opportunity to address a theme.

In addition to the mentioned educational, pedagogic and cultural components there are the social ones. The study trips are always an important occasion to help everyone to get to know each other. It is a consequence of students and teachers living during some days together – an intensive time of not only working but also of leisure. The study trips are also the opportunity to mix students from different levels of course, teachers, experts, practitioners of landscape architecture, local agents or others stakeholders.

Unfortunately great part of the schools doesn't have the resources to support the expenses associated with the study trips. It is common that students themselves cover the coasts of study trips (partial or total), which include travel, food and accommodation. Consequently great part of them are not compulsory but schools implicated recommend students to take part (in this sense they are seen as an essential part of courses).

SOME CASE STUDIES

The information available in *web site* of European universities (the universe of our research) is very limited and unequal (curricula, annual programs,

teaching strategies)[2]. A limitation in our research, so that we didn't made the qualitative approach. Looking at some of those undergraduate courses or master, it is possible to give an idea about the present situation:

■ In United Kingdom, the study trips in Leeds Metropolitan University are considered an essential part the courses – they support understandings of the context for design projects and help stimulate the designer's inspiration. Most project work involves daylong field visits to sites in the region, often with their designers and experts. Each level of the undergraduate courses has a residential field trip[3];

■ In France, the Ecole National Supérieur du Paysage (Versailles) is also supported by study trips. The first academic year start with 'inaugural trip' (7-10 days), considered an opening in the filed of landscape. It is the opportunity to reveal the multiplicity and complexity of processes and actors who transform or build the landscapes and a way to develop the curiosity and look at various landscapes scales and integrate different perspectives[4]. In the second year they realize a 'pluri-disciplinary trip' in Europe, to explore some thematic (depend on the country selected and disciplines involved). In the third year another particular study trip focused in the site specificities. The location and itineraries carefully select, involve teachers from various disciplinary areas as well as actors of those landscapes. Students are asked to research, describe and understand the singularity of some places;

■ In Norway, the School of Architecture and Design (Oslo), in the master programme has also the tradition to arrange an study trip each semester with the average duration of 1-2 weeks;

■ In Denmark, the Danish Institute for Study Abroad (Copenhagen) articulates some study trips categories: study tours as compulsory visits to course relevant sites; field studies connecting the course with organizations, sites, and/or persons relevant; study trips as optional visits, (subsidized by the university by an average of 25% of the cost); and personal travel, concept as free travel on weekends, organized as a rigorous academy program (complemented with previous research in library or at home, to complete or exploring the subject matter)[5] ;

■ In Portugal, the University of Évora (Évora) has also the tradition of study trips. Since begin (in the 70'), the course organize study trips as an opportunity to illustrate the interdisciplinary domains associated with landscape. In the last years field trips programmes (3-5 days of bus circuits) include itineraries in some reference landscape design projects, landscape unities and most significant regions of Portugal (FIGURE 1). In this way the enormous variety of Portuguese landscapes is explored, and also from time to time the school add visits or itineraries in Europe (FIGURE 2).

The contemporary study trips succeed the traditional annual week filed trips, by some riversides and villages, made during almost twenty years – a journey always on foot and with a backpack (with tent, food and work material). This was an experience more lived (therefore more experienced); more than to see the landscape, students were living in that landscape for many days, usually a week. While living there, the students had some tasks accomplish, such as drawing and writing, according to the requests of the trip diary. In a sensitive way, they could explore the several dimensions of the site (aesthetics, ecological and cultural) through the understanding of their specific characteristics (Freire, 2009).

2 Our research was based in the information available considering the universe of European landscape architecture schools already recognized or awaiting recognition by EFLA http://europe.iflaonline.org/index.php?option=com_content&view=article&id=73&Itemid=85 [March 2012].

3 http://www.leedsmet.ac.uk/as/ald/landscape-study-trips.htm [March 2012]

4 'Programme pédagogique 2010-2011 - Formation Paysagiste DPLG Versailles' in http://www.ecole-paysage.fr/ensp/media/ecole_fr/UPL626962580315962941_programme_p__dagogique2010_2011.pdf [March 2012].

5 http://www.dis.dk/faculty-advisors/academics/study-tours/ [March 2012]

FIGURE 1. Study trip in Gulbenkian garden (Lisbon). In the second image, Professor Gonçalo Ribeiro Telles (one of the authors Gulbenkian garden), describing the main ideas of original project and is recent requalification.

FIGURE 2. Study trip in National Park Peneda-Gerês (region north of Portugal) and the second image another study trip, abroad, in Copenhagen (Denmark).

At present, we are trying to strength the study trips with others educational strategies – daily graphics, portfolios, posters, reports and documentaries. All of them accomplish with some particular frameworks: meta-cognitive script, provided in advance, very structured and detailed (what do I see? What it feels like? What I read? What is the singularity of the site? How can I record the evidence and justify such selection? what did I learn? It serves for what? How was my performance? How affect it?...); discussion sessions between students and with teachers; and a planned observation from different perspectives (aesthetic, ecological and cultural) and their combination, using a variety of instruments (video, travel diaries, drawing and diagrammed sketch, photographs, between others).

CONCLUSIONS

Despite such educational importance and some tradition linked with study trips courses of landscape architecture, few curricular programmes recognize officially the study trips and mostly occasionally some schools make efforts to realize some particular ones. In the most part of the European schools they aren't part of school dynamic neither considered as a basic education strategy.

In general 'to put students in the landscape' it is not considered a basic education strategy, crucial to seduce the students about the landscape architecture or as a mean to explore the power of the landscape. As we defend this opportunity is a vital part in the education of landscape architecture. Hence we must fight against the idea of mere leisure time (for students and teachers), often verbalized, and make the incorporation of the field trips and study trips in the curricular programmes as a way to strength it. They are the real experience of the landscape, as so an incomparable strategy able to make the connection between academic, curricular and disciplinary issues.

Although this educational strategy has to be accompanied with others: group reflection (between students and with teachers), graphic diaries, portfolios, documentaries, and reports, between others. Only that way we can expect that students learn 'how to see', 'how to do' and 'how to be' – ideas conceptually engaged in the process of landscape architecture.

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Sharing knowledge through multi-disciplinary design-build projects

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ABSTRACT

Outside of a few progressive enclaves in the United States, few citizens are aware of Landscape Architecture's role in protecting water resources. The first part of meeting this challenge is designing creative and exciting landscapes that people can experience. However, even if the landscape exists, visitors may not know what they are looking at. Additionally, landscape architects are not typically trained to explain complex concepts with visual media.

Over the past two years, landscape architecture students in Starkville, Mississippi have been designing and building examples of sustainable landscape elements at a local heritage museum. The long-term intent for the site is to become a regional demonstration of sustainable stormwater management solutions. However, the site has lacked any explanation for why the solutions exist and how they work.

A solution to this problem was created in the form of a multi-disciplinary design-build project which included three separate classes. The process started with a graduate level seminar researching and developing content for nine critical topics that the group felt were important to convey to visitors to the museum. The content was then given to a graphic design class which synthesized the content into text and graphics that could be easily conveyed to a wide audience.

A third landscape architecture materials class then worked with the graphic design students to design and build informational panels that were placed on the site along with booklets that are available in the museum.

Through this process, which reflected a real-world working scenario, several key conclusions were reached. First, the installed panels were more visually appealing because of the input and expertise of the graphic design students than could have been developed by landscape architecture students alone. Second, all the students involved gained an appreciation for the talents and perspectives others can bring to a project. Lastly, the community gained a greater appreciation for the work of landscape architects and sees the site more holistically for what it is trying to achieve in terms of sustainable site design.

Keywords: design-build, sustainable, pedagogy, graphic design, implementation.

INTRODUCTION

The Heritage Museum Information Panels & Booklet is a unique collaborative project merging undergraduate and graduate landscape architecture students with undergraduate students in graphic design. The Heritage Museum's site improvements strive to achieve many of the goals defined by the concept of Artful Rainwater Design, including providing information systems to increase public awareness (Echols, 2007). Educating the public on the importance of sustainable stormwater systems allows citizens to gain a better understanding of the necessity of protecting watershed health (Tunney, 2000; Echols, 2007).

The museum's site-specific informational panels and booklets were developed across three classes with specific and appropriate roles assigned to each class. Beckett (2008) notes that a site design can be greatly enhanced by creating a cross-disciplinary approach which utilizes the expertise of various groups including architects and graphic designers to interact with community, clients and other experts within the field. While the design of public space requires multi-disciplinary teams including landscape architects and other allied disciplines, the role of the graphic designer is typographic, where language is brought to the site design (Beckett, 2008). This cross-disciplinary collaboration allowed the disciplines to experience the expertise which both groups inherently bring to a project in the public realm. This was accomplished with a real client in the environment of academia with a supportive instructional framework in place. The final solution was a combined result of landscape architecture and graphic design transforming public space which follows from Beckett's notes on collaborative case studies (Beckett, 2008).

The information panels were developed to convey the importance of sustainable approaches to site design while visitors tour the site, while the booklet was developed as a portable means to take what has been learned on sustainable stormwater solutions and implement change in their own communities. The challenge this project faced was how to relay information about the environment to the visitor in a meaningful and easily relatable way. The goals the students used to define the information panels and booklet design are supported by Calori (2007) in establishing hierarchy of content, environmental typography and illustrating concepts concisely through meaningful graphics of complex systems. The students also referred to Berger (2005) on museum and exhibition design recommendations, collaboration strategies and exterior signage strategies and material investigations. The success of the installation and booklet has raised awareness of the landscape architecture initiatives and the graphic design language to benefit the museum and the public as a community.

MATERIALS AND METHODS

Museum Master Plan

The effort described in this paper is part of an overall master plan to develop the Oktibbeha County Heritage Museum's landscape as a demonstration for sustainable site design. Specifically, the site demonstrates several unique technologies to manage urban runoff. Each of the site improvements have been student design-build projects. The following list describes the specific past and future phases of the master plan. The efforts described in this paper were completed as part of Phase 4.

Phase 1: South garden including rain garden and landscape improvements.
Phase 2: North garden including sand filter planter box, landscape improvements, and outdoor amphitheatre.
Phase 3: Entry porch including seating and landscape improvements.
Phase 4: Element installation including a 1,000 gallon cistern, monument sign, seating and information panels.
Phase 5: Future phase to include a green roof pavilion, pervious parking lot and the completion of the south garden landscape improvements.

Project Roles

Like many collaborations, this process began with a discussion. In this case a landscape architecture faculty member reached out to a graphic design faculty member to explore how the two disciplines could collaborate to make informational panels and booklets for the museum's sustainable site improvements. The instructors determined that there were three separate roles that could be assigned to three separate classes. The first class, a graduate level seminar on watershed management taught by the landscape architecture faculty, would be assigned the role of content developer. This role was a perfect fit for the course description where they would need to research specific topics related to watershed management. The second class, an undergraduate level graphic design studio focused on marketing media taught by the graphic design faculty member, would be assigned the role of designing and building the information panels and booklets based on the content developed by the graduate students. This role appropriately fit into the intent of the graphic design studio where the students could bring language to the environment with information graphics providing clarity and hierarchy to the message in both the panels and the booklet. The third class, an undergraduate landscape architecture materials class taught by the landscape architecture faculty member, would be assigned the role of designing and building frames to support the information panels. This role was also a perfect fit for the course which explored landscape architecture materials and construction practices.

Project Goals

At the outset of the project the instructors concluded that the final information panels and booklets should meet the following goals:

1. Provide visitors of the museum with a sense of why managing urban run-off is important and how they can help.
2. Explain the specific technologies on display at the museum at a level which engages children and adults.
3. Be visually appealing and tactile to encourage engagement by all ages.

These goals worked as a basic structure for each class to understand what their final product would need to accomplish.

Project Process

There were two difficult challenges for the instructors to work through to ensure the project's success. The first was engaging relatively large classes so that each student participated, but still allowing for a single design to be implemented. This was overcome by two separate design competitions for the graphic design class and the materials class. The two classes, working in small groups, developed individual proposals and a winning team from each class moved the preferred solution to implementation.

The second challenge was coordinating the exchange of ideas with the three classes so they were able to interact with the other groups at the appropriate time. This was overcome by developing a work plan which had each group interact with the others over the course of the semester. Besides their role as content developers, the graduate seminar was assigned to be the client group which the other two groups reported back to. This allowed the seminar to stay involved after the content development role was completed and provide peer reviews for the other groups during the entire process. FIGURE 1 illustrates the work plan with the four project phases and three primary feedback/coordination points throughout the process. After the refinement phase individual teams were selected to move the winning designs to implementation.

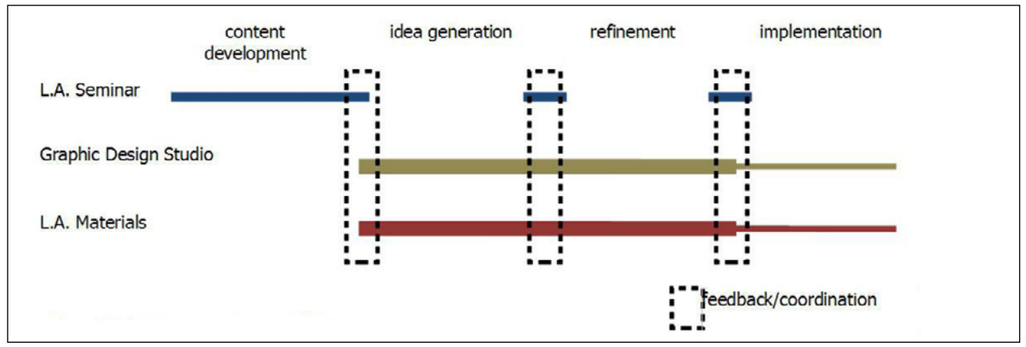

FIGURE 1. Diagram of Work Plan.

RESULTS AND DISCUSSION

Description of Products

The unique collaboration resulted in two products for the museum. The first was a set of four information panels which described nine different topics developed by the watershed seminar. The second was a booklet which used the same nine topics as an outline, but provided a much greater level of information due to the media format. The nine topics were: About the Project, The Watershed and You, Urban Forests, Rain Gardens, Rainwater Harvesting, Urban Pollutants, Plant Selection, Green Roofs, and Pervious Pavements.

The final information panels were made of white washed Poplar with laser cut and/or extruded text with hand painted accents and were sealed to protect them from weathering. The illustrations use the same colour palette as the hand painted type to provide a consistent brand for the graphics. The four supporting structures consisted of concrete footings, galvanized posts and panel brackets, and a weather hood with a solar powered light. FIGURE 2 illustrates a typical completed panel.

The final booklet was made with a diecut cover, laser cut out of a natural recycled paper and the interior pages were printed on natural paper with two colours to tie in with the information panels. The illustrations were adjusted for the booklets wider. The booklets were saddle stitched 24 page booklets to be distributed as informational pieces which connect the physical work done at the museum to the public and present the scope of the projects in a concise, meaningful way to educate on water management and landscape design.

Discussion of Collaboration

By assigning each class a separate and clear role and having a well defined work plan, each group was able to see how their efforts overlapped with the other groups without excessive and cumbersome meetings. This was important because each class had a separate meeting time which limited the ability for them to work together. With a few key meeting points, the process reflected a real world situation where they had a limited amount of time to present their ideas and gain feedback for the next phase.

FIGURE 2. Typical Information Panel.

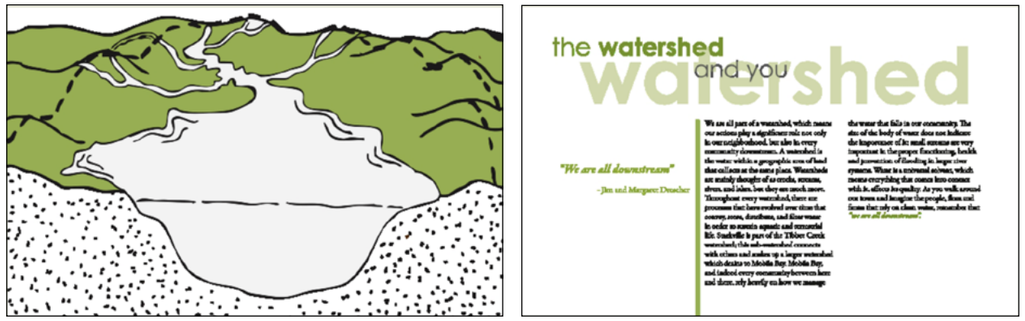

FIGURE 3. Typical Page Spread of Booklet.

Through the process each group gained an appreciation for the other's unique and different perspectives. The graphic design students were exposed to landscape architects' role as site designers beyond their predominately limited view of the profession as garden designers. The landscape architecture undergraduate students were able to see the level of rigor expected of graduate students in the field and gain an appreciation for the technical aspects of graphic design which they have never before been exposed. The graduate students were able to see how their research and content had to change and be flexible to accommodate the various design concepts presented by the other groups.

Through informal discussions with the student groups it was clear that both disciplines gained a great deal from the collaboration. However, because of the nature of the products which required only four students to produce, fewer of the graphic design students felt a sense of ownership of the final product. Conversely, all of the landscape architecture students contributed to the implementation process in some way and felt an overall greater level of ownership of the final product. This highlights the importance of ensuring that all students are able to contribute to each phase of the process from design to implementation even if their concept is not moved forward.

CONCLUSIONS

Through the course of this interdisciplinary design effort, there were several lessons learned that can be shared. First, with respect to collaboration, the involvement of three separate classes is difficult but possible over the course of a semester. Second, the most difficult part of the process was the fact that a majority of two classes were not able to implement a final design. This is to an extent the nature of a design-build based effort, but in the end it excludes students from the valuable experience of taking an idea from paper to physical form. Third and perhaps most important, is the appreciation and perspective each group of students learned for the other's knowledge, skills and abilities.

ACKNOWLEDGMENTS

The authors would like to thank the many students who participated in the courses discussed in this paper. They are the reason this wonderful work has been created. The authors would also like to thank the Oktibbeha County Heritage Museum and the Friends of the Oktibbeha County Heritage Museum whose time and financial support allowed this project to happen.

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Teaching participation to landscape students: giving power to the people

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ABSTRACT

Participation of the public in the Netherlands is a crucial issue because the public is becoming more aware of their right to influence policies, design, management and maintenance. Furthermore the national and local governments have a policy to stimulate public participation to enhance maintenance and development of urban open space. Teaching students how to organise participation processes is not easy. Making designs, construction plans, planting- and management plans really can relate to the professional context because the competences are focussed to the products. It is a challenge to create learning environments similar to situations in practice, because of the complexity of the participation process and the various factors and actors influencing the situation. The landscape department at Van Hall Larenstein (VHL) carried out assignments within the context of various Interreg projects and is currently involved in the Lively Cities Interreg III project. The Interreg projects created a platform for students to get involved in practical situations, learning how to organize participation processes, along with the complexities of the current reality in practice, and to apply these methods to involve the public in design and management of public open space. Students learn to understand and define the expected effects of participation and current trends in society. They become aware of the overall objectives of the government to involve the public, to enhance social cohesion, to make the public more responsible for the quality of urban open space and to improve the relationship between government and citizens. They learn to build upon the motivation of residents and make use of different toolkits for participation. The education programme is focussed on organising the creative process, and developing imagination and structuring and presenting the outcomes within a given framework. Various approaches are used, such as spatial arts, mindscaping, debating, working together in a practical way, development of educational routes, guerrilla gardening and using video and multimedia techniques to invite young people to participate This paper focuses on how the landscape architecture course organizes teaching in participation processes and how we create, within the context of external projects, a powerful and inspiring learning environment for students to acquire the necessary skills and knowledge. The paper discusses learning outcomes and evaluation of study experience.

Keywords: participation, learning process, planning process, management of public space.

INTRODUCTION

Public participation in the Netherlands is a crucial issue because the public is becoming more aware of their right to influence policies, design, management and maintenance. Furthermore the national and local governments have a policy to stimulate public participation to enhance maintenance and development of urban open space. In the aftermath of the credit crunch many projects for urban renewal are stopped, because financing is more difficult. Local authorities still want to improve outdoor space and are now more depending on the initiative of local stakeholders.

Teaching students how to organise participation is not easy. Making products like designs, construction plans, planting plans and management plans really can relate to the profession because the central competence is mainly focussed on the product. It is a challenge to create learning possibilities for students to let them practice with the planning process of design and management. These processes are quite complex, involve a lot of stakeholders and the timelines are often not in line with the teaching schedules.

The landscape department at Van Hall Larenstein (VHL) carried out assignments within the context of various Interreg projects and is currently involved in the Lively Cities Interreg III project. The Interreg projects created a platform for students to get involved in practical situations, learning how to organize participation processes, along with the complexities of the current reality in practice, and to apply these methods to involve the public in design and management of public open space.

TEACHING PARTICIPATION

One of the core competencies of the landscape programme at VHL is "Management of outdoor spaces", relating to defining goals of participation and target groups for participation.

From the beginning of the course students learn to apply principles of public participation in concrete study tasks. In this first and second study year simulated tasks are given to students, based on a context that is given by the teachers, thus theoretically orientated.

In the first year students select their own study area. One of the main questions to address is why a park attracts people. Students draw conclusions on the basis of a comparative study and one of the main goals is acquire awareness of the social aspect. The teacher gives a lecture on place making methods, along with a further study task to organise a participation process for this park. Students can interact and discuss ideas and proposals.

In the second year the focus is on the methods to conduct a survey in order to analyse how people experience a site. Students prepare a survey based on the theoretical background and conduct the survey in practice, linking the theoretical information to practical situations.

From the third year students who opt for the major "Management of outdoor space", focus on the role of external advisor in practical cases, by means of place-making. Place-making is the process by which people transform the locations they inhabit into the places they live. The activities of the students involve a stakeholder analysis, the organization of a place evaluation workshop and a place making workshop with a consultation of the public.

Students make use of different techniques (methods) that are part of a "toolkit" for involving the public in planning processes. The place making--methods used to structure, organise and carry out participation processes (PPS, 2011 & 2012) include: spatial arts, mindscaping, debating, working together in a practical way, development of educational routes, guerrilla gardening and the concept of „meet my street".

In year four, the final year of the programme, students can add a personal profile for participation during the minor semester and the final project.

The approach of the VHL course enable students understand and define the expected effects of participation and current trends in society. They are aware of the overall objectives of the government to involve the public, to enhance social cohesion, to make the public more responsible for the quality of urban open space and to improve the relationship between government and citizens. They can also build upon the motivation of residents and make use of different tool kits for participation. Parts of the education programme are: organising the creative process, developing imagination and structuring and presenting the outcomes within a given framework.

FIGURE 1. Third year landscape students assist pupils of vocational training in developing ideas for a green area that is commissioned by a building corporation.

TABLE 1. Examples of the toolkit of Lively Cities.

Tool	**Guerrilla Gardening**
Theme	Community: Awareness Capture: Information from the community and youth
Use	Provide citizens with a tree or plants and invite them to plant it somewhere they prefer within the park or green structure.
Effect	• Contact with community and youth enhanced.• • Creative approach• • Point of interest to engage in further conversation, analyse interests and needs• • Kick off of public participation process • • Instant intervention• • Community have direct influence on the park• • Social capital building
Tool	**Meet my Street**
Theme	Community: AwarenessCapture: get information from young people
Use	Artists work with citizens in their own neighbourhood. They give citizens a short course in film making in order to be able to make their own video. Website: http://www.meetmystreet.nl/framesets/indexfotofilm.aspx
Effect	• Contact with young people• • Point of interaction• • Capture values through various perspectives• • Connect spaces to new social media• • Kick off to public campaign

RESULTS AND DISCUSSION

The landscape programme creates, within the context of external projects, a powerful and inspiring learning environment for students to acquire the necessary skills and knowledge.

Students and staff are satisfied by the learning approach of the course, linked to the Interreg projects and practical situations . It is not feasible for students to learn from a "real" case study in the first year because at that stage they lack basic knowledge of landscape architecture and place-making processes. The introduction of the participation toolkit in the second year works quite well, but it seems that it is really difficult to define an effective and efficient set of questions for a survey. There is not enough time in the programme for really mastering professional competences for surveying. We want to make sure that in the second year students really master the toolkit with methods for participation and are able to transfer this knowledge to new situations and cases. This will help them in the third year to organise the participation process.

TABLE 2. Teaching goals of the 4-year bachelor programme for the theme of public participation.

Year 1	- Students have knowledge of methods for socio-spatial analysis and development of spaces (model for park analysis of TU-Delft, place making Project for public spaces). - Students have knowledge of key concepts of participation of the public. - Students are able to carry out a socio-spatial analysis of a pre-defined project area. - Students are able to draw up a plan for participation for a limited project area on the basis of their own vision
Year 2	- Students are able to carry out a socio-spatial analysis for an urban park within the context of broader analysis of the area. - Students are able to prepare, carry out and interpret a survey/set of interviews among stakeholders for a socio-spatial issue.
Year 3	- Students are able to act as an external advisor in concrete professional situations in order to develop, organise and carry out participation processes making use of the place making method.

In the third year one of the points of attention is students tend to get carried away by the enthusiasm and energy of the practical environmental, complexities and different participants. It is difficult for them to keep their professional standards and to set a clear framework and concept for the ideas, wishes and proposals of stakeholders. Often the commissioners lack knowledge of design, implementation and management of urban open spaces. This means that students have to tackle two aspects at the same time: the participation process and the professional content of the plan. For the third year we want to develop a stronger network with external consultants and commissioners in order to lay a more sustainable basis for collaboration in projects. This will help to minimise undesirable surprises.

The programme will strengthen the coaching of students in this respect and focus on their role as consultant.

The teachers work on the basis of a social-constructive approach of education. During the learning process the teachers have a role as senior coach for the students. One of the difficult steps in teaching is when the teachers shift from coach to assessor. In order to make a good distinction between the teaching process and the assessment, always one of the assessors is an external expert (e.g. a staff member of a municipality or a consultant). They assess students on the minimum competences for stakeholder analysis, organizing participation processes and making sure that there is an explicit and transparent report of the project. In addition to this the personal development of the student is evaluated.

One of the difficult things is to attune the timing of real projects to the educational process that is fixed in semesters. Therefore the landscape programme takes an option on more commissions than it actually will take on. Depending on the time line of projects the final agreements for involvement of students are made. The projects are commissioned by municipalities, building societies, associations of residents or consultancies.

FIGURE 2. Stroll garden: residents celebrate the completion of a natural garden that was realised with the advice of a landscape student of the final year.

CONCLUSION

The bachelor landscape programme will continue to develop the teaching for participation in collaboration with external partners. Further research questions are:

a. How to strengthen collaborative learning for students and teaching staff?
b. How to make sure that student is really able to apply formerly acquired methods?
c. How to help students to combine their role as a landscape professional with the organisation of participation processes?

Students are highly motivated to develop their skills by working together with stakeholders and teachers. Participation processes with external parties and stakeholders is exiting, creative, instructive and relevant to society.

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EU-Teach – implementation of relevant European teaching contents in the studies of landscape architecture. Results and perspectives.

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ABSTRACT

The article presents results of a yearlong international research project that was focused on obtaining knowledge about teaching programs in universities around Europe in regard to European policies, strategies and regulations. The presented project also aims to create stronger bonds between professional practice, employment market and landscape architecture education in European context. "EU-teach – Implementation of Relevant European Teaching Contents in the Studies of Landscape Architecture" (EU-teach) was running between 11.2010 and 10.2011. It was supported by the Lifelong Learning Programme of the European Union and led by the University of Applied Sciences Weihenstephan-Triesdorf. One of the main goals of the EU-teach project was to develop a comprehensive list of European teaching contents relevant to landscape architecture education. This list was disseminated and consulted within professional landscape architecture organizations. The list is based on the structure provided by the ECLAS education guidance "Tuning Landscape Architecture Education in Europe" but was enhanced with a focus on European contents. A list of 118 different aspects in nine areas was elaborated. The project was also designed to get knowledge about the state of teaching European contents that are currently offered at European universities. All aspects of the list developed in the first step were assessed by EU-teach partner universities, and then by practicing landscape architects (EFLA). Results of the survey indicated which contents of European relevance are currently part of landscape architecture education, and showed the existing gaps in the teaching programs. Based on the analysis of the "List of Relevant European Teaching Contents", the EU-teach project made recommendations for future action. One of the recommendations is to establish European-wide teaching clusters. With such clusters, universities could focus on their core competences and, at the same time, offer students courses with relevant European contents at a high professional level all over Europe. This strategy would ensure that students at participating universities are able to become experts in areas of their special interest in a European context.

Keywords: education, teaching programs, european cooperation, european policies.

INTRODUCTION

The work of landscape architects is increasingly influenced by the specifications of the European Union. Therefore it is essential for the European Universities to expand their teaching offers with European relevant teaching contents. This is critical for enabling better chances for the graduates to be prepared for and active on the European employment market. These "European relevant teaching contents" are directives, guidance or the standards that may, for example refer to the rules of competitions and tenders.

The project entitled "Implementation of Relevant European Teaching Contents in the Studies of Landscape Architecture" (EU-teach) aims to contribute to an improvement of the academic education in the field of landscape architecture. It also aspires to support the development of a pan-European teaching network of landscape architecture build through creating teaching clusters.

The yearlong project was inaugurated on the 1st of November. It was funded through the "ERASMUS-Life Long Learning" programme of the European Union and was run by a consortium made of European universities and landscape architecture associations. These partners were: the Corvinus University of Budapest, the University of Kassel, the University of Sheffield, the University of Applied Sciences Weihenstephan-Triesdorf (lead-partner), the European Council of Landscape Architecture Schools (ECLAS) and the European Federation of Landscape Architecture (EFLA). Target groups of this project were primarily the European schools of higher education in landscape architecture and closely connected with them the students of landscape architecture which could profit from an enhanced education.

MATERIALS AND METHODS

The aim of te project was to anchor knowledge about European ideas, strategies and regulations more firmly in the higher education of landscape architects. In order to achieve these goals the project was broken down into several steps:

1. Definition: What are the "relevant European teaching contents" a landscape architect should know?
2. Actual condition-analysis: which of these contents are actually taught in the higher education of landscape architects?
3. Conclusions: what is going well/what not and what improvements must be made?

Within step 1 (definition) a "List of Relevant European Teaching Contents in the Studies of Landscape Architecture" was developed. Its structure (fields of work) is oriented towards the definitions of the International Labour Office (ILO, 2009) and "The Tuning Project ECLAS – LE:NOTRE" (2010) – both were specified according to the project´s issues. Each field of work was defined. Relevant European topics (e.g. biodiversity, sustainable urban planning) and the most substantial laws and strategies concerning this field of work were collected by the project partners. Each partner involved the specific chair holders at her/his university to fill the list. To gain further hints ECLAS involved their members in a survey. An additional survey by EFLA ensured that the assessments of practicing landscape architects could be incorporated into the list, as well. Finally, a comprehensive list with 118 topics was developed as a recommendation for the higher education of landscape architects (see in detail "Results").

To find out if and to what extent the contents of the "List of Relevant European Teaching Contents" are actually taught the involved four universities analysed their current study offers by means of the list. For this purpose the list was modified into a matrix and independently evaluated by the project partners.

In a following step the four single analyses were summarized and EFLA consulted their members to contribute experience from the practicing and professional point of view.
Aims of the analyses were:

- The listed relevant European teaching contents should be classified according to their importance within the study offers (column "important for bachelor" respectively "less important for bachelor").
- The participants of the survey should give their opinion whether the content is "important for bachelor level" or "for master level".
- Finally the survey should indicate which contents are already taught, taught in part or not taught yet (EFLA filled in a matrix without this column).

All universities consulted several professors of different subjects; each university gave a short description of its analysis. EFLA received responses from 16 members out of 6 European countries. Therefore there was a sufficient number of classifications/responses for a summary. Nevertheless the results, especially in the column "taught in this university" can only turn out a tendency of opinions (what importance have single relevant European contents?) and a brief insight into the current situation (which and to what extent relevant European teaching contents are already taught?).

Based on the steps 1 and 2 the project partners were able to draw conclusions as to improve the higher education for landscape architects concerning relevant European teaching contents. These conclusions flew into the "Draft paper for the installation of an exemplary European Teaching Cluster" (see below).

RESULTS AND DISCUSSION

In accordance to the approach described above EU-teach had 3 essentials results:

- The "List of Relevant European Teaching Contents in the Studies of Landscape Architecture"
- An evaluation of the current study courses of the involved universities
- Recommendations for the development of teaching clusters

1. List of Relevant European Teaching Contents in the Studies of Landscape Architecture

Landscapes are the result of natural and/or human factors. Landscape architecture is concerned with all types of landscapes: rural, peri-urban and urban as well as cultural landscapes and their aesthetic, environmental, social, functional and


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Knowledge Network [EUKN], The New Charter of Athens 2003)

3.3 Conservation, development and management of historical parks and gardens

3.3.1 common understanding (including contents which are important for the discipline of LA but without a strong EU-context)	This field considers historical parks, gardens and open spaces as a work of art within the broader context (politics, philosophy, art, architecture, design etc.) that shaped them. The conservation and restoration of historic landscapes, parks, gardens and open spaces serves to maintain the living archives of landscape architecture philosophy and paradigms. "Cultural landscapes" are dealt with in point 3.1 (strategic landscape planning and design). Apart from the relevant European contents, teaching contents should also cover • historic plant material/vegetation • landscape history • garden archaeology, conservation of archaeological values • Conservation of historical parks and gardens • maintenance of historic parks/gardens • monument protection • urban landscapes as public history • inventory of historic parks/gardens • methods of preservation historic parks/gardens • methods and approaches of reconstruction, e.g. digital methods, virtual monuments • problems with the ephemeral character of plants
3.3.2 relevant European contents	• eras of garden art/design/landscape epochs over the centuries (Europe in comparison to other countries) • history of art and architecture (social, intellectual, cultural context) in Europe
3.3.3 European aims/strategies (examples)	For each aspect below maximum three documents are mentioned as the aim is to give an impression about structure and contents of the European (or international) documents defining aims and strategies. It is impossible to give a complete overview about all documents. • knowledge about European aims/strategies which are directly related to landscape architecture; e.g. European

FIGURE 1. Extract from the "List of Relevant European Teaching Contents in the Studies of Landscape Architecture", field of work 3.3 "Conservation, development and management of historical parks and gardens".

economical aspects. Landscape architects develop solutions in this broad field for all scales: national, regional, local and sites to shape future landscapes in accordance to the latest scientific knowledge in these fields.

According to the varying tasks, the "List of Relevant European Teaching Contents" considered the work of landscape architects in 9 individual fields.

- *Theories and methodologies* are needed for the understanding of the complexity of "landscape".
- Planning, design and management of landscapes are the core competences of landscape architects. They can be further differentiated into the following fields of work: *Strategic landscape planning, design and management* are processes to find solutions for the conservation, development and management of landscapes, e.g. concepts/alternatives for landscapes, contributions for local and regional plans. Impacts of infrastructure projects and the management of cultural landscapes are also included. *Open space planning and design* deals, for instance, with the planning and design of open space systems and nature development of parks, public areas and gardens. Close relations exist with town and spatial planning. *Conservation, development and management of historical parks and gardens* include the treatment of gardens and parks in context of the historical and cultural circumstances that shaped them.
- *Landscape construction* prepares and implements technical planning documents that are needed in order to realize designed projects. Materials and construction techniques are included.
- Competences in *Information technologies* and *Participatory planning* support the work in planning, design and management of landscapes.

Furthermore, due to the focus of the project "*EU-teach*", the discussion of "*European basics*" (e.g. legislation, funding) and the *Professional practice of landscape architecture in Europe* are incorporated.

Fields of work which are important for landscape architecture but which especially refer to national conditions (e.g. plant materials) are not considered in the list. Furthermore, according to the project's orientation, only subject-specific, not generic competences are listed. The list is extendible and can be enriched by further contents or can be used in excerpts.

It should be emphasised that the list was not meant to be a binding document in any case. The list regards itself as a practical framework and a recommendation for teachers and students of landscape architecture. Its aim is to improve the dissemination of knowledge about landscape architecture in and for Europe. But "working in/for Europe" also means to respect the specialities of each country in Europe. The "List of Relevant European Teaching Contents" does not intend to start "egalitarianism" between the curricula in European universities. To the contrary, the list gives the chance to review teaching contents and to enhance own main points.

2. Analyses and Evaluation of the current study offers

All partners involved agreed that time-intensive basic knowledge which is connected with practical skills and the realisation of plans should be taught at the bachelor-level. However the scale of "basic knowledge" differs between EFLA and the universities in some points. Deepened knowledge, e.g. in spatial planning, sectorial planning, topics with international focus and the field of funding are important for the master-level. There were still uncertainty about fields in which a lot of new regulations were released lately (e.g. environmental information, transfer of staff).

These outcomes were rather predictable. Much more interesting was a list of about thirty topics which were classified as "very important" but which were not taught at the moment. These topics could be building stones in the development of teaching clusters for all landscape architecture students in Europe (see below).

Concerning the involved universities, with the evaluation of their current study offers they could get an impression of possible gaps but also of special strengths in their education.

3. Recommendations for the development of teaching clusters

During the project the idea of Europe-wide teaching clusters in landscape architecture was developed. Teaching clusters are meant as additional study offers (e.g. lectures, seminars, study trips, project tasks) to specific European relevant topics which are offered jointly by several universities (see "Conclusions"). The project ended with first recommendations and questions for the establishment of teaching clusters e.g. formal requirements for participation, didactic agreements or quality assurance.

CONCLUSIONS

As the analyses of the "List of relevant European teaching contents" showed, European topics are not sufficiently taught yet (even if the results of EU-teach are not completely representative for Europe). However, gaps were exposed even in large schools like Sheffield, Kassel, Budapest or Weihenstephan. This result leads to the conclusion that small universities might have an even harder role to play in future challenges to find the balance between local, regional, national and European topics within their curricula.

Therefore the idea of a teaching cluster network was discussed at the EU-teach closing event in October 2011. Participants of the event agreed on the idea to form a consortium to establish a much broader, European-wide consortium to realise the idea of a European cluster network for landscape architecture. To do so the University of Applied Sciences Weihenstephan-Triesdorf, also lead partner of EU-teach, began to acquire partners for the second phase of EU-teach to apply for funding at the "academic networks" program of the EACEA.

Right now the project bid for a second phase "startEUteach – Start Up an European Network of Teaching Clusters in Landscape Architecture" is reviewed by the Education, Audiovisual and Culture Executive Agency. Within two months the consortium increased from six partners of EU-teach to a strong consortium of now 34 partners from 26 countries. Aim of the project is to develop course material for teaching clusters in five different fields. These fields will be "Strategic Landscape Management" led by the University of Applied Sciences Weihenstephan-Triesdorf, "Professional Practice in Europe" led by EFLA, "European Open Space Design Approaches" led by Warsaw University of Life Sciences, "Participatory Planning in Europe" led by Kassel University and "Digital Landscapes" led by the University of Sheffield. The Clusters themself will be formed by groups varying between five to eight partners. In a three year project, starting October 2012, the consortium plans to define Guidelines, develop modules and implement the modules in a test run in winter semester of 2014.

The consortium of "startEUteach" is a strong community of 29 universities, EFLA, ECLAS, LE:NOTRE and other associations ensuring the combination of sophisticated national knowledge from almost all European countries. StartEUteach can help to prepare the studies of landscape architecture for challenges of future developments. With a development of five modules open to students from all participating institutions the project will help Europe to come closer and give students the opportunity to become specialists in the field of their interest.

A close cooperation with the LE:NOTRE Network is planned in order to support each other's ideas. For further information stay tuned at: www.eu-teach.eu

ACKNOWLEDGEMENTS

EU-teach was and will be a consortium project. Therefore the authors would like to thank all project partners of EU-teach for their diligent work. In addition we want to thank the entire startEUteach consortium for joining the idea of a European cluster network. Special thanks go to Prof. Dr. Diedrich Bruns and Prof. Fritz Auweck (on behalf of ECLAS and EFLA) for their strong commitment during the project bid development as well as Prof. Richard Stiles on behalf of LE:NOTRE for his experienced input.

FIGURE 2. Group photo with partners and guests at the closing event of EU-teach in Freising, October 2011.

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ANNEX

The following list shows an analysis of the evaluation of the "list of relevant European teaching contents, developed during the EU-teach project. Aspects below were rated as "very important" for bachelor or master programs by either participating universities or EFLA members, but are underrepresented in the current curricula at the universities involved.

Legend:

●	rated as very important by Universities, but not teached at an appropriate level
■	rated as very important by EFLA members, but not teached at an appropriate level
❒	rated as very important by both evaluaters, but not teached at an appropriate level
1.2	**European basics**/relevant European contents
❒	history of European societies/cultural development
2.2	**Theory and methodology in landscape architecture**/relevant European contents
■	landscape narratives, diversified meanings of landscape (i.e. the language of landscape) and/or its multi-layered meanings in Europe
2.4	**Theory and methodology in landscape architecture**/implementation details
❒	need-based assessments (socio-geographical)
❒	scenario approach
●	scenario prognosis
❒	SWOT-analysis
❒	DPSIR model (Driving forces, Pressures, States, Impacts and Responses)
3.1.2	**Different fields of landscape architecture**/Strategic landscape planning, design and mgmt./relevant European contents
❒	Different design approaches (artistic, rational, strategic,.) pursued in different European countries and schools
3.1.4.3	**Different fields of landscape architecture**/Strategic landscape planning, design and mgmt./information/networks
❒	International and world-wide networks in the field of landscape planning and environmental protection which are related to the discipline landscape architecture (e.g. IALE [International Association of Landscape Ecologists], European Biodiversity Clearing house mechanism of the UN), IUCN [International Union for Conservation of Nature]
❒	European networks in the field of landscape planning and environmental protection which are related to the discipline LA (e.g. Pan European Ecological Network (PEEN), European Environment Agency (EEA), EUROPARC Federation
3.2.2	**Different fields of landscape architecture**/Open space planning and design/relevant European contents
■	basic European and exemplarily national standards for building regulations/building codes
3.2.3	**Different fields of landscape architecture**/Open space planning and design/European aims/ strategies (examples)
■	Protection of cultural heritage and historic towns/villages and settlement areas (e. g. Charter for the Conservation of Historic towns and urban areas (Washington Charter - 1987)
3.2.4.1	**Different fields of landscape architecture/Open space planning and design**/funding
●	examples for detailed funding programmes to clarify the structure and demands of funding proposals (e.g. examples out of European states to get funding out of URBACT II, JESSICA (Joint European Support for Sustainable Investment in City Areas
3.3.4.2	**Different fields of landscape architecture**/Conservation, development and management for historical parks and gardens/ funding
●	European Cultural Contact Point

3.4.2	**Different fields of landscape architecture/Landscape construction and materials**/relevant european contents
❒	technical requirements, e.g. European codes/standards for materials and best practice in construction
3.4.4.1	**Different fields of landscape architecture/Landscape construction and materials**/laws/binding documents (examples)
●	directives focusing on environmental protection: e.g. directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, directive on classification, packaging and labelling of dangerous substances (Council Directive 67/548/EEC)

3.4.4.3	**Different fields of landscape architecture**/Landscape construction and materials/information/network
■	information/networks focusing on traditional construction methods like dry stone walling, rammed earth technology etc., e.g. the International Scientific Society for Drystone Interdisciplinary Study S.P.S
4.2	**Participatory planning**/relevant European contents
❒	differences in participation in Europe/other countries e.g. developing countries
❒	different participation cultures in different European regions e.g. Mediterranean and Scandinavia
4.3	**Participatory planning/European aims**/strategies
●	Towards a reinforced culture of consultation and dialogue - General principles and minimum standards for consultation of interested parties by the Commission, COM(2002) 704 final, Brussels, 11.12.2002 GREEN PAPER on a European Citizens' Initiative, COM(2009) 622 final, Brussels, 11.11.2009
●	Rio Declaration of Environment and Development, 1992 (Section III); Chapters 25-32 of Agenda 21
5.2	**Information techniques in landscape architecture**/relevant European contents
❒	available European data: e.g. European soil database, CORINE land cover database, GMES urban atlas, IMAGE 2000, soil atlas of Europe, NATURA 2000 sites, CITES data base, IUCN standards on endangered species (Red data book, European spatial data, E
❒	software, used all over Europe: e.g. 3 d visualisation (e.g. ISPRS, including LIDAR, Ikonos …), Remote Sensoring, GIS and Space Syntax (e.g. GIS Forum Danube), UROSTAT
5.3	**Information techniques in landscape architecture**/European aims/strategies
●	exchange of data: e.g. International Commission for the Protection of the Elbe River
5.4	**Information techniques in landscape architecture**/implementation details
■	European data protection rules: e.g. Data Protection Directive 95/46/EC)
6.2	**Professional practice of landscape architecture in Europe**/relevant European contents
■	conditions of the European labour market
■	European competition rules/designs
6.3	**Professional practice of landscape architecture in Europe**/European aims/strategies
●	funding e.g. ESF
6.4	**Professional practice of landscape architecture in Europe**/implementation details
■	networks: e.g. EFLA (European Federation of Landscape Architects), IFLA (International Federation of Landscape Architects) European Landscape Contractors Association (ELCA), European Council of Landscape Architecture Schools (ECLAS)
■	directives focusing on the protection of ideas/intellectual rights: e.g. legal protection of designs (98/71/EC), enforcement of intellectual property rights (CIVIL) (2004/48/EC)

The strong composition as a basis for creating powerful landscapes

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ABSTRACT

The landscape brings various and sometimes disparate benefits. It could be examined as a system, whose components have quantitative and qualitative aspects. The landscape should sustain balance between these aspects. Balanced environment means healthy environment. In this sense, there are two approaches, concerning the landscape study and its public benefit – outer one, which makes the context clear, creates the border and composes the content; and inner one, which organizes and arranges all these aspects into a whole. **The aim** of the current paper is to explore the hidden strength of the landscape architectural composition, in order to be created powerful landscapes. Being part of the second approach, the research adds value to the landscape quality by revealing that the strong composition is its main and inner property. **The used methodology** is based on graphic analysis of main landscape structures. The functional, communicational and spatial structures are replaced by particular graphic elements and explored in abstract context. The interactions between these elements and the drawing field are studied. It's revealed how the composition activates the contents: which characteristics of compositional elements are of primary and secondary significance, what is the composition influence, according to the chosen degree of interaction, which degree of interaction has to be used, etc. **The conclusion** – when the composition is active and its elements create something more than their sum – a vivid structure with its own character arises. Thus a balance between quantity and quality is achieved. A landscape with added power is created, which is able to bring social benefits. When a landscape architectural project has a composition with a visual quality and inner balance, it could be a driver for improving the quality of life.

Keywords: landscape elements, hidden strength, compositional principles.

INTRODUCTION

The paper concerns a research of a contemporary method for composing landscapes and defining some new ***compositional principles***. The aim is achieving a strong composition. The cause for this particular research is that the composition, as a qualitative aspect and main inner property of the landscape, is a strong tool for creating powerful landscapes. Its significance consists in creating of sustainable and healthy environment with visual quality. The artistic approach in used methodology supposed to bring individuality and authenticity to the research.

The visual quality should be understood not only in formal aspect, but as an inner balance and richness of contents. So, of primary importance is to be explored and understood the inner matter of forms and their interaction. This could be achieved by an intuitive approach. Developing intuition and exploration of this hidden world is actual, especially now, when technical and economical dimensions lead to crisis.

The ***hidden strength*** does not have a direct effect, because things are not clear to full extend. It activates the imagination, so that the composition can 'continue' due to the object's perception, FIGURE 1 (Shahanov, 2011). Therefore hidden strength means a store of energy. The more emotional intensity is added to composition, the more potential the composed landscape has.

In their book 'Opening spaces' (2003) Hans Loidl and Stefan Bernard discuss the idea of hidden strength of ***landscape elements***. The authors explain many design principles associated with visual forces. According to their characteristics, the elements have strong or weak interrelationships. The arranging of composition elements and the raised relation between them, Steenbergen (2008) called landscape architectonic composition.

To explore deeper the interrelationship between the compositional elements, first is necessarily to put them in abstract context. A landscape element within the open space, as being a focal point (architectural structure, a sculpture or a plant), is actually a point within a drawing field with a particular position. A path or an alley passing through the space is a linear shape with a particular orientation. A space formed by trees or buildings is an area with a particular shape. Thus the functional, communicational and spatial structures, placed in abstract context, could be analysed as graphic elements with different characteristics. Visual arts and especially paining and graphic design theory could enrich the landscape composition study and make its theory more appropriate, convinced, understandable and generalized.

Gestalt theory concerns the relationship between the parts and the whole of the composition (Saw, 2000). In classic gestalt theory there are some grouping concepts. Two of them are similarity and proximity which refer to the elements type and position, respectively. According to the author, when it comes to similarity, the element size is of primary importance for grouping, even if the elements have different shape. The element value or its colour is the second grouping concept. At last, when the elements have similar size and colour the shape like

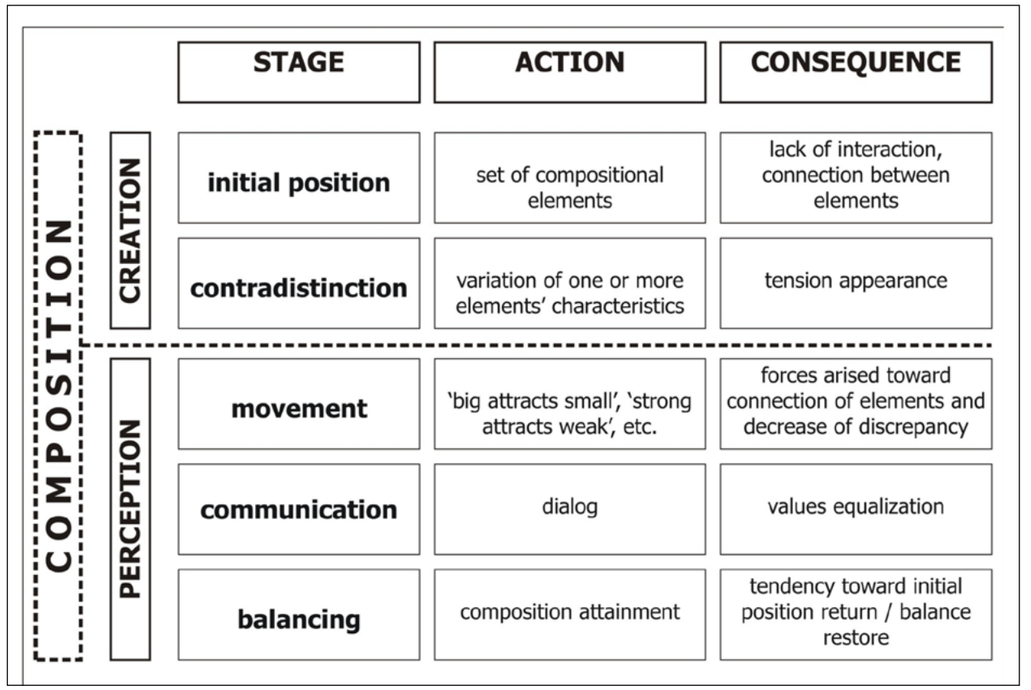

FIGURE 1. Composition process (by Shahanov, 2011).

elements form a group. Proximity considers 'close edge', 'touch' and 'overlap' position.

These grouping concepts concern the relationship between parts and as such it could be described as 'horizontal'. The interrelations between the compositional elements and the drawing field are less explored in design and particularly in landscape architecture. This connection, revealing the subordination within the composition, could be called 'vertical'.

MATERIALS AND METHODS

As a general the paper represent experimental design analysis (Steenbergen, 2008: 20) and its methodology is based on composition theory in the abstract painting. In that field there are two approaches in exploring a particular phenomenon according to Kandinsky (1979): research based on phenomena comparison; and isolated research of phenomena. The landscape architectonic composition is compared to abstract painting composition, then is researched isolated in set of compositional tasks.

In a particular moment of art history the painting serve as a method for exploring and reproducing the natural landscape. As man begins to create himself landscapes, the subject of painting moved aside. It becomes more abstract and conceptual. Thus, the art theory and especially the painting composition principles are widely used in the field of landscape architecture, not only for visualizing, but as a method for composing landscapes.

In the beginning of the XX century the abstract painting is developed. Wassily Kandinsky is one of the pioneers in the field. His practical and theoretical studies reveal the potential of abstract composition. According to his work the strength of composition is not the formal connection between elements, but the use of the hidden energy they have. To do that an artist need to have a spiritual approach. Thus, one becomes a leader who shows to people a higher level of life understanding. His work then influence life quality and brings any social benefits.

In order to explore the hidden potential of the abstraction, the experiment reveals the interactions between compositional elements and drawing field. As already pointed, the element/ground interrelations are vertical and depend on diverse qualities such as position, size, form, orientation, texture and colour. Each interaction type is analysed as a drawing, with construction scheme and short explanation. The interrelation level is evaluated visually and by some calculations as strong, average and weak.

Interaction between graphic element and drawing field according to element's position and orientation is shown on FIGURE 2. A drawing field with rectangular shape has **primary constructive axes** – diagonals, horizontal and vertical central lines, which divide the field in equal parts. The **secondary constructive axes** are those, which divide the field in two or more parts in good proportions (golden section axes, the rule of thirds, etc.).

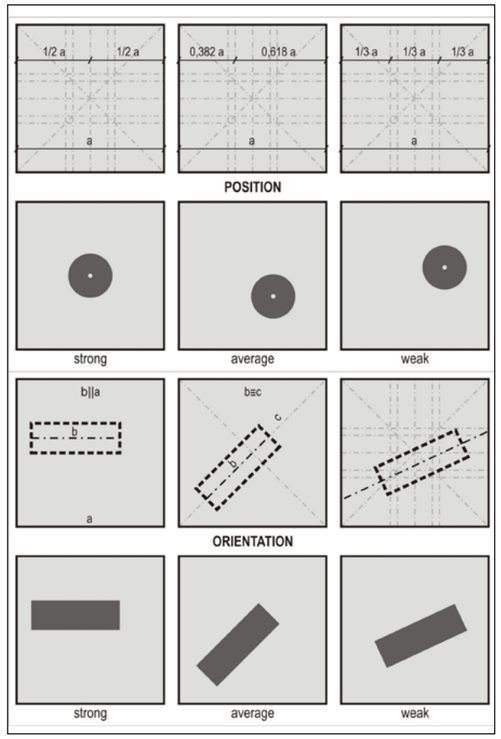

FIGURE 2. Interaction between graphic element and drawing field according to element's position and orientation.

An element has orientation when its form is linear. Linear is the form of which the ratio between its sides is 1:0.618 to 1:0 (on condition). If the orientation is toward the drawing field sides, **the element underlines the field orientation**. If the orientation is according to some field characteristics of secondary importance – the construction axes for instance, **the element underlines the field form**.

Interaction between graphic element and drawing field according to element's size and shape is shown on FIGURE 3. There are two border values concerning elements size – **lower** and **upper**. The upper one can be determined mathematically on the base of Golden section. The area of the free space S1 is equal to the area of the element S2 multiplied by 1,618. The lower value is defined visually, depending on position, shape and other visual characteristics of the element. The condition is the element to be that much big so that other one with same size can not be added to the field.

An element can have a **shape similar to the form of the drawing field**. The similarity could be absolute – a square field and a square element for instance, or partial – rectangular field and element, without a precise proportion between the sides of the two forms. The element **shape can underline some field characteristics** – construction axis such as its diagonals for instance, according to the element position and orientation.

Interaction between graphic element and drawing field according to element's texture and colour is shown on FIGURE 4. The texture is an artistic property derived from the inner structure of the form. It has highly varied character – from soft, homogeneous mass to pronounced lines. Both, the compositional elements and the drawing field can have texture. It can be achieved by same or different elements, with or without orientation, with a particular size and distance in-between. Getting in consideration all this, the texture of an element could **underline its form** or its **relation to the field.**

The observed real colours can be achromatic and chromatic. The second ones have three psychophysical quantities – hue, saturation and lightness. In a colour wheel consist of three basic and three additional colours, the observed types of contrasts according to colours placement, are as following: **nuance contrast** – the colours are one to another at 60° angle; **related contrast** – the colours are one after the other at 120° angle; **direct contrast** – the colours are opposite at 180° angle. When it comes to colour, the relation between element and drawing field is more obvious when their colours are similar.

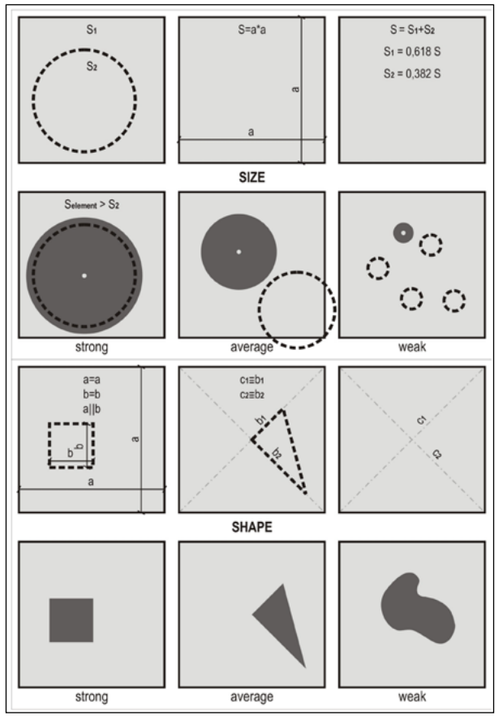

FIGURE 3. Interaction between graphic element and drawing field according to element's size and shape.

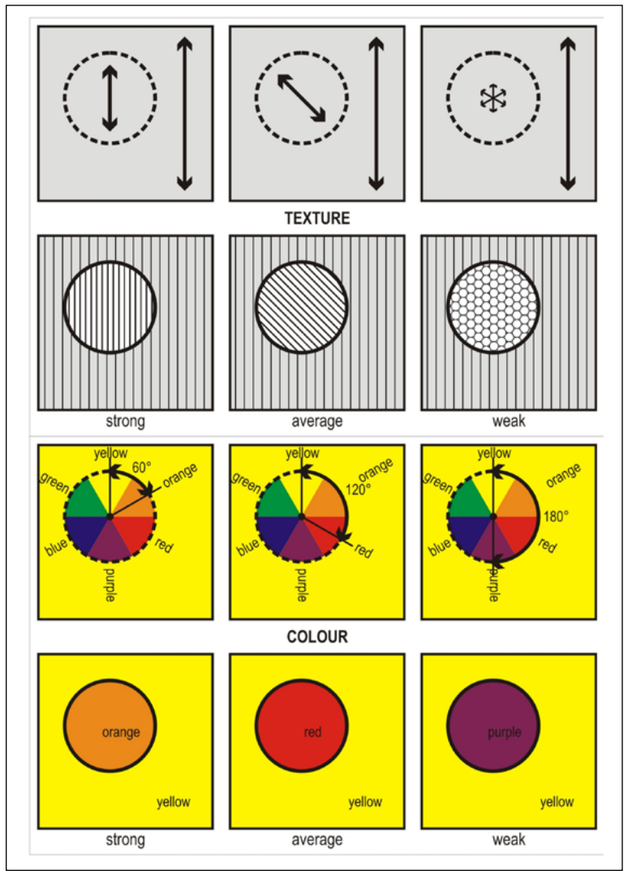

FIGURE 4. Interaction between graphic element and drawing field according to element's texture and colour.

RESULTS AND DISCUSSION

Situating an element on the crossing point of primary axes creates a strong relation between him and the field. An element on the crossing point of secondary axes has an average relation with the field. A weak relation arises when the element does not relate to main feature of the field. In this case the element may coincides with other axes which have low significance.

When the element orientation is toward the field sides, it receives a strong relation to the field. An element with a symmetry axis coincided with one of the field diagonals, gives an average relation with the field. A weak relation arises when the element orientation does not coincide with any field construction axis.

When the element size exceeded the upper value, it does not react independently and receives a strong relation to the field. An element size between the two values, gives an average relation with the field. A harmonious interaction is created. A weak relation arises when the element became smaller than the lower border. In this case multitude of elements with similar size can be situated within the field.

When the element has a form identical to the field form, it receives a strong relation to the field. An element with a different form, but situated and oriented in a way so that some of his sides coincide with field construction lines, gives an average relation with the field. A weak relation arises when the element form does not correspond to the field form or does not underline any of his construction axes.

When the texture of an element is similar to the field texture, it receives a strong relation to the field. An element with texture oriented toward the field construction axes – diagonals for instance, gives an average relation with the field. A weak relation arises when the element texture does not correspond to the field texture.

The three colour combinations presented on the picture are harmonious, but a different level of relation can be observed. The nuance contrast makes a strong relation between element and field. The related contrast gives an average relation. A weak relation arises when is used direct contrast.

The results confirm the concept explained by other researchers (Loidl, Bernard, 2003; Shahanov, 2011) according to which, clear and far connections lead to fast loss of interest. The tension achieved by destroying the formal connections can be defined as strength of composition.

CONCLUSIONS

The conducted experiment and obtained results showed how contents could be activated by the composition. The following conclusions have been made:

- There is always an interrelation between the compositional elements and the ground in visual aspect. By regulating the interrelations elements/ground can be achieved balance between uniformity and variety. This fact doesn't have to be underestimated and should be taken in consideration. Such relation need to be used in proper way concerning the respective landscape concept. The visual resource should be carefully studied, because it is unlimited, can be used by everybody and for every occasion, in any scale, no matter where is the landscape project. It has a universal application.

- The visual quality should be based on a border between two opposite poles. The composition hidden strength lies in-between the strong and weak elements/ground relationship. Strong composition does not derived from strong connection element/ground of which the compositional elements lose their identity. It is due to an interaction in which the elements keep their meaning and individuality. Such interrelation brings powerful influence. Therefore, of primary importance is not the obvious connection, but the one in which the elements are connected to constructional axis or lines dividing the ground of two, three or golden ratio parts.

- According to the conducted experiment he average degree of interaction has to be used. It was found out that between the strength of relation and the strong composition there is no a linear dependence. Therefore the concepts 'strong', 'average' and 'weak' relation are not clear enough. More appropriate words are formal (outer, one-sided connection), deep (inner, hidden, many-sided connection) and absent (lack of connection or inessential) relation respectively. When in rectangular field a square element is placed, nothing more then a formal connection arises, concerning their shapes and no matter of other element's qualities. If within a rectangular field is placed a triangular element, to deeper the connection is necessary to use the element orientation and position in particular way. So more hidden connections bring more qualities.

- The main benefit of landscape architectonic composition is the ability to be developed by visitors mind and imagination. This is possible when the composition is not a completed image but a vivid meaningful structure. Thus, the landscape would be developed in sustainable aspect, it could have educational and social benefits and therefore it may affect life quality. As an interesting, symbolic and emotional phenomenon, it would increase the open spaces attendance and therefore it may positively affect the human health.

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Site analysis, landscape analysis; in search of an explicit methodology

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ABSTRACT

In this paper we want to make clear that site analysis in landscape architecture is a crucial step in the start of any landscape architectural project but that it lacks a theoretical basis. Geographical knowledge could offer insights for such theoretical basis.

We start with a short analysis of some texts and projects specifically on site analysis; on the relation between goal, approach, method and role in the design process. In the second part we will pay attention to some backgrounds for methods and techniques in site analysis; the relation between conceptual steps, empirical fieldwork and map analysis. The theoretical background can for a large part be found in geography as the science that studies the relation between man and the earth. Even well established approaches in geography (regional geography, rural geography) can be interesting for landscape analysis today. Other important aspects in the methodology is the role of representation, the concepts of space and place, and the contemporary discussion about territoriality. Since site analysis is mostly not presented in the final presentation of the project, the role of representation is ill understood.

On the basis of the results of the study and our own experiences in research and teaching, we will elaborate on a more explicit approach and methodology in which goals, means and results are explicit. One of the results of this research is a methodology based on an explicit relation between horizontal and vertical relations in the landscape that puts into context, space & time vs. generic & specific form of the landscape.

For both we can make use of results geographical research.

Keywords: theory, visualisation, design knowledge, landscape as object of planning and design, design process.

INTRODUCTION

In the start of any landscape architectural project, three issues have to be dealt with. First the program, for this in most cases a program analysis is done. Secondly the site where interventions will take place, has to be analysed. Last but not least, a design idea has to be developed; how is the design problem going to be tackled? These three, program, site and design idea, form the basis for the first concept that is a strategic concept. In this paper we will focus on the site, the site or landscape analysis.

Site analysis is the best known and oldest type of research in landscape architecture. We use both 'site analysis' and 'landscape analysis'; 'site analysis' is used in small scale situations whereas in the larger scales 'landscape analysis' is used. Apart from scale, the approach and methodology is identical (Laurie, 1976).

Site analysis is also being done in geography, in a descriptive and textual manner like in the study of the landscape of the Loire river (Bonin, 2003). This type of site analysis is based on geographical research and can be of great interest for landscape architects. A well known example of using geographic material as a basis for planning and design, is the study for the Vosges (Pays, 1977) which was used in the making of a landscape plan for that area by the French landscape architect Sgard (1976). Roughly thirty years later Brossier *et al.* (2008) look back and reflect on the intervention. In 2006, Deffontaines *et al.* published a very short introduction on 'observation of landscapes' in which the relation between image and form is touched upon for hilly areas. Nowadays French geographers no longer are interested in this type of landscape analysis, although landscape architects still are. The three examples show relations between geography and landscape architecture but not on a theoretical level.

McHarg did pay attention on the importance and role of the site at the regional scale (McHarg, 1971). In his studies he used cartographic methods for his landscape analysis by making use of the overlay technique. Norberg-Schulz (1980) studied extensively the role of the site and interventions from a phenomenological and historical point of view. His approach is not a design method but an approach to also pay attention to the sensorial qualities of a place which he refers to as the 'genius loci'.

The outline of the paper is built up along three lines; first some basic principles that underpin site analysis from the viewpoint of design, secondly a closer look at three aspects and finally an approach resulting in basic principles for a methodology.

SITE ANALYSIS AND DESIGN IN LANDSCAPE ARCHITECTURE

The start of any project in landscape architecture is site analysis or landscape analysis. As such it has a strong influence on the approach and eventually on the final plan. Turner (2000) quotes Vitruvius as the

'first history of landscape architecture'; for putting great emphasis on the choice and character of a site for building, settling and cultivation.

The quality and character of many plans are often based on a careful selection or elaboration of the site, like in the examples of the Villa d'Este, the plan for St. Germain-en-Laye and the Mont-Saint-Michel to name a few. Also Le Nôtre spent much attention to the careful analysis of the site to make optimal use of its potentials and limitations like for instance in the case of Sceaux where the location of the cascade and the Grand Canal make use of the natural hydrology of the site.

Apart from some studies on the technique of site analysis or landscape analysis like for instance Landphair & Motloch (1985) very few attention is paid to the backgrounds and theory of site analysis. In textbooks like Lynch (1974) and Simonds (1961; 1997), site analysis is treated rather shortly and in more or less standardised terms of map analysis.

In this paper we will study some of the backgrounds of site analysis in the context of the design process in landscape architecture. On the basis of these backgrounds we will elaborate an outline for an explicit methodology.

Goals of a site analysis are threefold; first of all to get to know the potential and limitations of a site for a given program and secondly to understand the landscape as a system. Finally, a site analysis is giving insight into trying to match the program with the given location as a basis for design.

To be able to intervene in a landscape you first have to understand how it works; it means analysing the forces and interactions between these forces behind the form.

Note that a site analysis in landscape architecture is not a goal in itself; it is a necessary step in the start of the design process.

THREE THEORETICAL ASPECTS OF SITE ANALYSIS

Content & context

In landscape architecture there is no 'tabula rasa'; you have to take into account the context. Even in the design of a garden you have to find out how the water system, that is largely outside the boundaries of the garden, influences the design of the garden. The same goes for climate and for projects at larger scales, where also the social aspects play an important role as part of the context (Gutman, 1966; Lefebvre, 2000).

A site analysis starts out with the basic question; what is the object of planning and design in this project?

The formal boundaries are usually defined by administrative boundaries that define the plan area. The plan area is almost never also the study area. The study area includes the context and is nearly always larger; often it includes the watershed. It is important to distinguish the context of the plan area; since this context also influences the design intervention, think of water system, cultural aspects and climate. Since around 1970 in French landscape studies, 'landscape units' are distinguished that have a certain identity. These units can also be used in landscape architectural projects (Luginbühl, 1994) and are also used in legal context for instance in 'La Loi Paysage du 8 janvier 1993' and in the European Landscape Convention of 2000.

Space & time

One of the characteristics of landscape architecture is the dominant and universal presence and role of the dynamics of landscape form and design. The form of the landscape changes, even without intervention of man. These dynamics are caused by three different types of forces; natural forces, socio-economic forces and cultural forces. Note that these three forces are partly independent but on the other hand are intertwined and do influence the landscape as a whole.

In landscape architecture we look at the landscape from the viewpoint of time/space relationships. Process refers to time. Process, change, development are the most universal characteristics of landscape anywhere (Imbert, 1995; Motloch, 2001). That's why in landscape architecture, design is dominantly process-oriented.

Visible & invisible

In the start of the site analysis, we start with the visible form of the landscape; the landscape we see, the everyday environment. Perception and systematic observation are necessary competences to really get to the 'heart of the matter' of site and its potential and limitations for design interventions. The visible is often associated with a phenomonological point of view, in the invisible the viewpoint of the landscape as a system underpins the approach. The invisible not only plays a role in the horizontal plane where parts of the view are hidden because something else is in front but also in the vertical layers, think for instance of the groundwater and the water table. Note that the landscape as social space is for a large part invisible (Lefebvre, 2000).

The metaphor of the layered landscape

The above principles can be partly represented in the metaphor of the 'layered landscape'. In this metaphor, a mental construct, the landscape consists of a series of layers with different phases and different relations to each other (FIGURE 1). Each intervention in time can be related to the different layers and thus to the form and the forces behind that form.

The relations between the two give a basis for a site analysis or landscape analysis. On the basis of these results a further investigation can be made towards the social aspects and the meaning of a site (Norberg-Schulz, 1980).

The metaphor of the layered landscape forms the basis for an analytical framework that can be used for site analysis. The metaphor forms the basis for two main research approaches in site analysis; the vertical relations and the horizontal relations in a given site. The vertical relations are analysed by means of map analysis and overlays. The horizontal relations by means of cross-sections, sequences and panorama's.

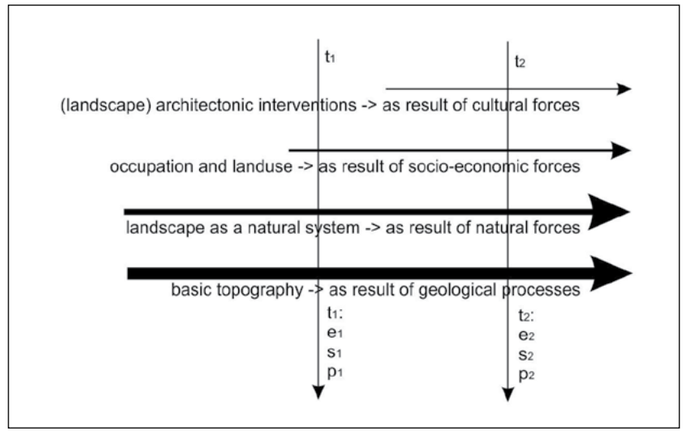

FIGURE 1.The metaphor of the 'layered landscape' as conceptual model for interventions in the landscape.

APPROACH AND METHODOLOGY

In the approach we distinguish first between two major different viewpoints; finding the right site for a program or making the site fit for that program. Simonds (1961) says: 'For every site there is an ideal use. For every use there is an ideal site'. The principle is clear but we should also take into account that for some projects you not always have this choice. In some projects the site is a given fact as part of the program. Lynch (1974) uses the term 'fitness' for purpose, which is similar but more specificly referring to use and performance. Lynch takes a broad view on the content of site analysis; both physical and social and with a vast array of techniques. He implicitly considers site analysis as a basis for all design, not only in landscape architecture.

Laurie (1976) starts out with the basic sequence of steps in site analysis on the basis of a student example; 'what are the site conditions?', 'what are the program requirements?' and finally the site plan. He notes that the site (small scale) and the larger, regional scale are related and cover the same issues only different in scale.

Methodology and techniques

For the site analysis we make use of an analytical framework that is based on the different phases in the design process (perception, analysis, synthesis) and the different levels of intervention (process: strategy for the landscape development, structure and element: materialisation of form).

A method for site analysis was worked out in subsequent steps.

In the first part of a site analysis we pay attention to two aspects of form that play a role in the landscape as object of planning and design.

Form and image: You always start with the image because that is what we perceive in daily life. If you take a photograph you have an image of a site, an object; image is perceived form. At the same time the image is not identical to the form; think of front and back sides of objects but also of the difference between the 2D representation (e.g. maps, plans) and the 3D form after realisation.

Formation: form and process or forces behind the form. In a second step you analyse the forces behind the form by doing a map analysis and searching for vertical relations. The design process continues with 'applying' the program to the existing situation and 'translating' that into form at different levels of intervention. Geography can offer a rich source of information and inspiration in this domain, see for instance De Sede-Marceau *et al.* (2011) and Masson *et al.* (2011).

Form and representation

Form can be represented in different ways. Say, you would like to represent a difference in elevation. You could do that by drawing a simple scaleless diagram or you could make a cross-section with the precise measures. You could also make a photograph of the situation that explains this information.

The representation of processes, change, developments, flow and movement needs special attention (Lynch, 1974; Motloch, 2001; Toorn & Have, 2010). The relations between vertical and horizontal relations can be represented in block diagrams (Lobeck, 1958).

Another aspect in this context is the role of hierarchy and chronology. These different ways of representation are dependent on the message you want to communicate, the media and time you have, and the audience. For landscape architecture sequences, block diagrams, map comparisons are important techniques used for representation of processes.

CONCLUSION AND DISCUSSION

Nowadays in most landscape architectural projects we consider the landscape as a system. Phenomenology and systems approach are both implicit viewpoints that are frequently used in site analysis.

- Site analysis, landscape analysis is for a large part based on principles in geography (Besse, 2000; Cauquelin, 2002; Holloway et al., 2003). This geographical base is fundamental and needs more attention in practice, theory and research. Geographical references used in landscape architecture are relatively scarce; Sauer (US), Deffontaines (F), Hoskins (UK) to name a few. Also for the analysis of processes we could learn more from geography.
- The relation between social space and physical space as, for instance addressed by Lefebre (2000), Soja (2004), needs more attention in the context of site analysis. How can we analyse a site from the viewpoint of social use and relate that to the physical form or to design interventions?
- The use of web-mapping like GoogleEarth in site analysis needs further investigation and practice. Also in combination with the program 'SketchUp' there seems to be a wealth of possibilities that can further explored and used in site analysis.
- To do research on site analysis is not easy since in most cases in the final project presentations only the results and conclusions are represented, not the working process. In literature there are relatively few references on site analysis and even less that pay attention to approach and methodology as such.

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Acquiring composition through the students' own emotional experience in landscape

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ABSTRACT

Understanding the use of composition in the designing process is the basis for a good quality landscape architectural project. This paper deals with the teaching approach based on acquiring composition through the experience of physical processes and emotions in a realistic landscape. The concepts and theories of several scientists in landscape architecture combined with the classical theory of composition were used as the basis for developing the approach. Thus the aim of the teaching approach was to promote cognition of physical, ecological and social processes in a real landscape in correlation with the classical theory of composition. The teaching approach was approbated within the framework of the study course Basics of Composition with the first year landscape architecture students. Within the approach three projects were elaborated. The first and second projects were dynamics of colours and dynamics of shapes in landscape. From a large number of coloured pieces of paper and different shapes, thematic performances were created and reflected in short films. This helped the students understand the changeability of different landscape elements in a temporal and spatial context. The third project included developing Land Art elements in nature. The students created 'drawings' on a sandy beach to investigate the actual scale of a definite landscape and qualities of natural elements, and to discover how landscape works as a participatory place. The main conclusion of this teaching approach was: the ways of acquiring composition through the students' own emotional experience are more effective than studying in the traditional way, therefore, this knowledge will be more useful in their landscape designs and plans.

Keywords: composition studies, landscape architecture, teaching approach.

INTRODUCTION

In the professional or academic programmes of landscape architecture composition studies have been introduced with the purpose of establishing a background for a further study process and developing good quality landscape designs. Composition studies are specific due to their integrative character that involves theoretical and practical knowledge. Thus the traditional teaching approach, which is based on a lecture format, or case study approach (Chinowsky, Brown, Szajnman, Realph, 2006), are appropriate for composition studies only as an integrated approach. One of the examples of this kind of integrated approach is project-based learning. Its main concept involves an idea that students should be active recipients of knowledge. Traditional lectures provide basic knowledge, but project-based learning gives an opportunity to gain basic concepts through real problems. This creates an association between theory and practice, better retention in memory, and better retrieval of the pertinent theoretical knowledge when faced with real problems (Amstrong, 1999; Chinowsky, Brown, Szajnman, Realph, 2006).

Within the traditional composition studies students achieve knowledge of the main composition techniques (colours, shapes, textures, balance, symmetry etc.) through the classical theory of composition and practical course projects. Classical theory of composition is based on aesthetics phenomenon that historically developed from ancient scientists' researches and experience in nature (Thompson, 2000; Hemenway, 2008; Jormakka, 2012). They invoked universal principles to show why definite scenery is more beautiful than other landscapes (Lowenthal, 2007). Within the framework of the theory of composition the physical elements of landscape, e.g.: forms of relief, bodies of water, trees, etc. are simplified, perceived and analysed as geometric objects having form, lines, texture, colours and other properties.

Nowadays landscape architecture is becoming more multidisciplinary and teaching approaches are changing. Design principles that are based primarily on aesthetic, financial, theoretical and political concerns move to concepts based on social responsibility, sustainability, environmental integrity and human health (Thompson, 2000; Milburn, Brown, 2003; Strelow, 2004). Thus it is necessary to improve the existing teaching methods by adding new approaches which provide more creativity, better link to realistic landscape, understanding of landscape dynamics, ecological processes and emotional experience that arises from being present in it and feeling a landscape (Bunkše, 2007).

A real landscape serves more than a body of forms, colors, textures and their mutual interactions. Climate conditions, seasonal changes, pre-

sence of birds and animals in landscape, as well as changes that are affected by human political and economic activities, trends and life style make landscape dynamic (Wood, Handley, 2001; Lowenthal, 2007). Thus the concept of landscape dynamics should be integrated into the teaching of composition to gain better connectivity with realistic landscape in design projects. Landscape dynamics relates to a process of landscape evolution, arising from the relationship between human and nature. Landscape can thus be seen as continuously changing, making and remaking itself through processes of continuous and discontinuous change (Wood, Handley, 2001; Strelow, 2004).

The social aspect of landscape is as important as aesthetical and ecological aspects and should be taken into account in the teaching process. The concept of participatory landscapes involves this social aspect. According to this approach the individual develops himself/herself (identity, values, needs) in exchange with the physical and social environment. This dynamic exchange process offers the individuals an opportunity to fulfill their needs, but at the same time the individual changes the character of the landscape by acting in it (Buchecker, Hunziker, Kienast, 2002). This promotes the individual's responsibility for his/her actions and builds a new aesthetic experience (Thompson, 2000; Åsdam, 2012) which subconsciously will influence the individual's next activities in the landscape. Thus a good design should not only focus on the composition of physical elements, but also include participation possibilities to promote social quality of the definite landscape and to develop a positive experience.

The next level of participation in landscape is the individual's identification with a definite place (Bunkše, 2007) or a `sense of place`. That means a specific interaction between the landscape's physical qualities and the special meaning that a place may have to a person (sense of self-in-place) (Palmer, 2003). The relationship with a place creates a personal identity, a sense of belonging and awareness of regional diversity, all crucial factors in the education of a person in a social context (Strelow, 2004). Art elements most recently have been used to express an individual's attitude and a sense of the place. In landscape architecture this concept has been mostly reflected in environmental art works to represent landscape as an occurrence and a person as a participant in it. Land Art is one of the environmental art works that presents the idea of nature and wilderness, and also a response to culture, history and cultivated space. Land Art works involve a close relationship with the surrounding landscape. In some cases landscape becomes as a framework (Åsdam, 2012) or a scene for an exhibition of art work.

The article presents an integrated teaching approach which is based on the classical composition theory, concepts of landscape dynamics and participatory landscape, described before. The aim of the teaching approach is, along with the acquisition of the classical composition theory, to promote cognition of: 1. landscape as a continuously changing, not static phenomenon; 2. the actual scale of landscape; 3. landscape as a participatory place.

MATERIALS AND METHODS

The teaching approach has been approbated within the framework of the study course Basics of Composition with sixty one first year landscape architecture students from Latvia University of Agriculture in the spring of 2010 and 2011. In the autumn semester the students had already studied the classical theory of composition and individually elaborated course projects reflecting the main composition techniques – colour transition, forms, proportion and scale, etc. These projects are good for understanding the basics of composition theory, but they are static and not much related to realistic landscape. Thus this part of the studies works as a background for new integrated knowledge of composition.

Composition studies with an integrated teaching approach are offered in the spring semester as an intensive course. Students in groups of three to five participated in workshops in an auditorium or in a real landscape. Within this course three projects were elaborated. Each project had two days of workshops which consisted of a theoretical, experience and design stages (FIGURE 3).

The *theoretical stage* involves lectures and study material that describes relations between the composition theory and the concept of landscape dynamics and the concept of participatory landscape.

The experience stage is more focused on cognition of realistic landscape in correlation with composition theory. Each course project requires different experiences to be found. Students can go outside or search on the internet to find landscape processes or expression forms that they would like to integrate in their course projects. The first project *Dynamics of Colours* could be presented through the ideas of seasonality, changing climate conditions or other processes in landscape. The second project *Dynamics of Shapes* requires characterisation of spatial changes of landscape (e.g.,deforestation or development of building areas) in a symbolic way by using common forms – cubes, pyramids, cones etc. The final results of those course projects are short and dynamic films. The third project is *Land Art* work, where students should find their own expression of composition by using natural materials. Thus at the end of the first day's workshop the concept of the course project should be clearly expressed as a scenario with visually illustrated sequential slides (sketches, schemes etc.).

The second day's workshop is the *design part*. The scenario of the first course project *Dynamics of Colours* is created from a large number of coloured pieces of paper. The technique of splitting pieces of paper – cutting, tearing, squeezing according to a certain shape – is a free option. Coloured pieces of paper are glued on to a black or white panel. Each slide of the scenario is sequentially photographed (FIGURE 1) from a definite view point in artificial light. Thus great differences in the quality of photographs are avoided and equal conditions are maintained. The total number of photographs depends on the chosen scenario, but usually varies from thirty to a hundred. The photographs are selected basing on their quality and the necessary frequency of changes presented in the photos.

The selected photographs are compiled in sequence in short films according to the scenario. Music and sound are added to the film to show the emotional attitude of the authors. The same principle is used in developing the second course project *Dynamics of Shapes*. Instead of coloured pieces of paper, different shapes – cubes, pyramids, cones etc. are placed sequentially and changed on a black or white panel according to the elaborated scenario. The next steps are the same as in the first project.

The third project includes developing *Land Art* work and it takes place in a real landscape. The students create 'drawings' or dimensional elements on a sandy beach according to their previously elaborated concepts (FIGURE 2).

The first step is to fit the art work into the surrounding landscape – to choose an appropriate place and scale of the art work. Then step by step students develop their ideas till the Land Art work obtains its final appearance.

RESULTS AND DISCUSSIONS

Each of the teaching stages provides certain results (FIGURE 3), which are summed up and give deeper knowledge of the composition theory and its practical value.

The main results that were achieved during composition studies using the integrated teaching approach were:

- after completing the composition studies the students have a deeper understanding of the relationship between composition theory and real landscape – its changeability and dynamics. They also acquire the skill to interpret landscape elements and their mutual interactions through the terms of composition;
- by participating in landscape students investigated the actual scale of a definite landscape and qualities of natural elements, and discovered how landscape works as a participatory place;
- creation of Land Art involved active participation of not only students but also of local people – they showed interest in the process and made their own evaluation of the developed art works;
- most of the students involved concluded that these kinds of studies were a valuable experience for them, especially in the first study year, because for the first time they really got "a taste" of their future profession – landscape architecture.

The role of the integrated teaching in enhancing learning for the students is proved by further study period projects elaborated by the students involved in the project. In the progress evaluation of the

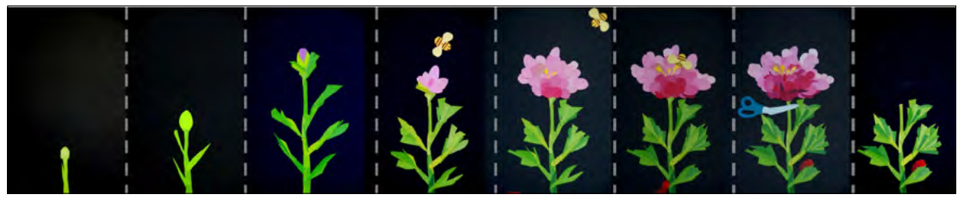

FIGURE 1. Example of scenario and some of the slides of the course project Dynamics of Colours.

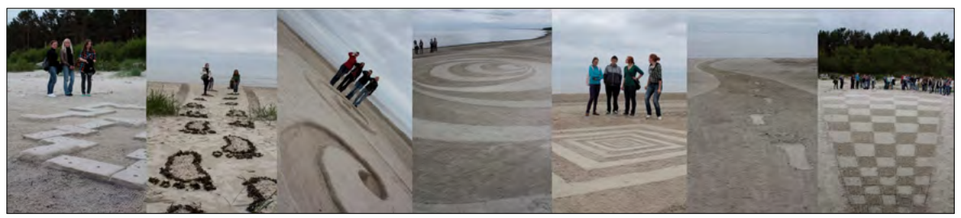

FIGURE 2. Examples of Land Art works.

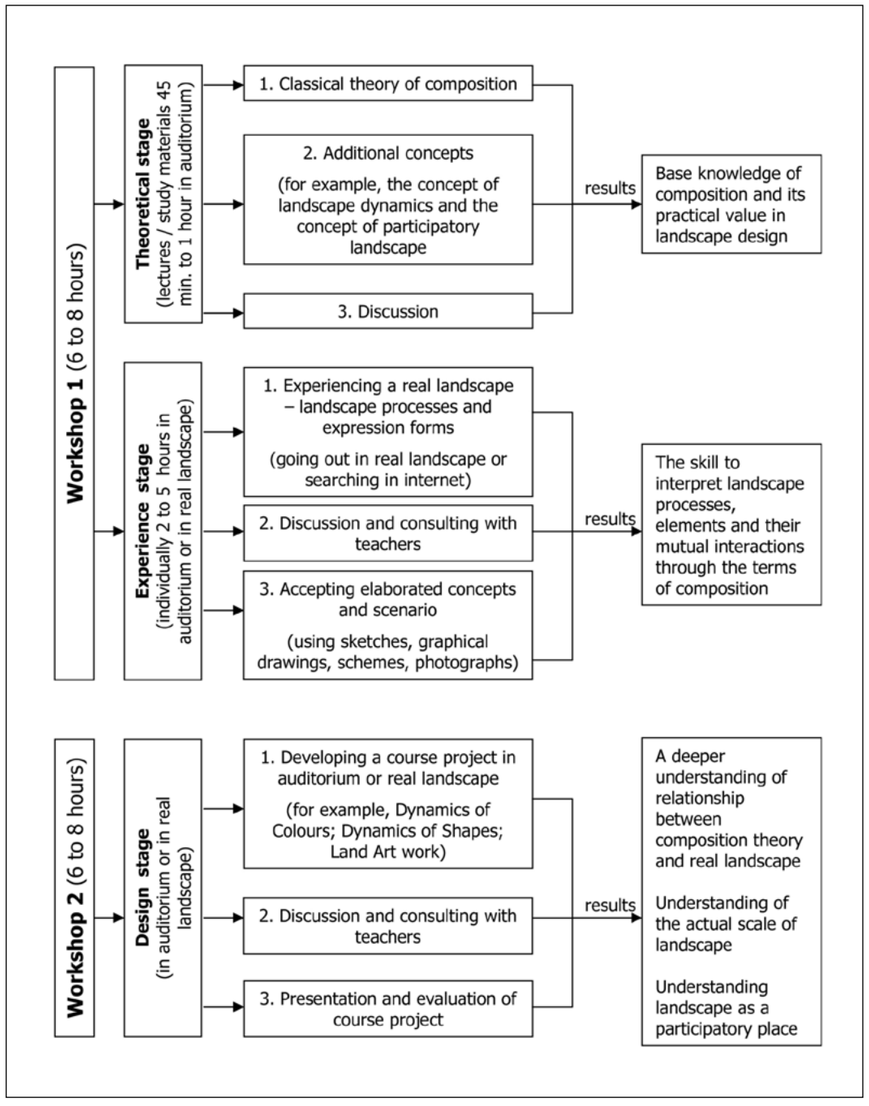

FIGURE 3. Stages and results of the integrated teaching approach.

students' landscape architectural designs more creative ideas could be distinguished in the projects of the involved students – a deeper understanding of real landscape was observed in their projects comparing to the projects of students who were not involved in the integrated teaching approach. The annual students' surveys on the quality of the study course also emphasized the importance of the integrated teaching approach in enhancing the understanding of the practical application of composition in landscape design. Previously the study course Basics of Composition was evaluated as good, but from the practical point of view it was evaluated as satisfactory. After the introduction of the integrated teaching approach, 80% out of involved students gave the highest evaluation of both – the way the theory was taught and its practical usefulness.

CONCLUSIONS

The main conclusion of this teaching approach was that the ways of acquiring composition through the students' own emotional experience are more effective than studying in the traditional way, because the theory is stored in the memory deeper and is better retrieved when faced with real landscape design projects. That was proved by the students' further landscape architectural designs and projects, which were elaborated with a deeper understanding of the processes in real landscape. The integrated teaching approach, which is based on the classical theory combined with additional concepts, allows to extend the existing knowledge in specific scientific or practical directions. This is of high importance in multidisciplinary professions, such as landscape architecture. Thus this approach could be used also in related professions.

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Understanding the power of landscape and the architecture of the physical landscape, is inevitably correlated to the understanding of Landscape Engineering

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ABSTRACT

Thoughts about landscapes and about the role of the landscape architect are changing constantly and faster than ever before. This can be party explained by the increasing concerns for sustainability embedded in the context of a globalizing world. Proposals forthcoming of key challenges such as adaptation to climate change are leading to misfits in the traditional approach towards landscape by landscape architects. Landscape architecture in the traditional sense is not enough in order to give answers to these challenges through all different scales.

Confusion about what is landscape architecture or what part of the physical environment can be count as landscape arises, due to the fact that different forces and different kind of knowledge are present on different levels or scales. To understand the power of landscape and to know which position a landscape architect can take, it is important to understand the differences in power, knowledge and scales, so this information can be used in a proper way to influence the realization of sustainable designs in the landscape.

During the course 'Landscape Engineering' at the Wageningen University, students had to learn to work and think on three different scales: Macro– , meso– and micro– scale. The macro– scale concerns both rural and urban landscape on the regional scale. The meso– scale concerns for example an urban district and the micro– scale concerns for example the reorganization of a square.

Students conducted a set of exercises in order to learn how to deal with the different powerscapes (e.g. authorities), as well as how to accommodate the varying layers and networks in the physical landscape – preconditions that need to be addressed to develop sustainable landscapes..

One remarkable finding was that the students were able to work in a good and productive way both on the macro-scale as well as on the microscale. On the macroscale, they tended to think as planners and on the micro-scale they were thinking as landscape architects. On the mesoscale, however – the scale where one has to integrate the perspective of a spatial planner with that of a landscape architect – students were somewhat confused. A similar confusion that we also noticed by many professional colleagues over the course of past years. Questions like what is a 'real' landscape architect, what is his/her role in the development of the physical environment as well as in the decision-making processes arise and remain unanswered for many.

Teaching Landscape Engineering will students learn to see the powers of landscape and work with beautiful and complex landscapes. It will also give them insight in the mechanisms and powers they will have to use to realize beautiful and sustainable landscapes in the future.

Keywords: landscape engineering, landscape architecture, teaching.

Landscape architecture design teaching method in the light of the thesis by Christopher James Lidy entitled "A Study of Landscape Architecture Design Methods"

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ABSTRACT

A sudden and epoch-making development observed in numerous areas in the 21st century gave rise to new landscape architecture and, consequently, the need to seek new teaching methods. Naturally, the search is rooted in experiences derived from the fields of architecture and urban planning.

The authors juxtapose their own experiences with the aforesaid study which constitutes an unquestionable repository of methodology. The proposed method congruent with experiences in the area of science and didactics deems as an indispensable condition suitability with respect to sustainable development.

The first stage consists in a standard compilation of complete reference materials, the second stage – establishing a radical, clear and fixed thesis. The third, and the most significant, stage is confronting the idea with a wider context comprising landscape architecture along with related disciplines. The last phase – the most complex, the most interesting one, requiring qualifications, imagination, and ability to adopt a far-sighted approach – brings life into the project (e.g. cultural heritage, architecture, hydrology, environment protection, botany, systemic design, eco-materials, etc.). With didactic purpose in mind, several elements are selected from this thematic wealth to be implemented in the course of the design process, in line with clearly defined competencies of the landscape designer.

On the one hand, such a strategy renders it possible to make the project as reliable as possible, and on the other hand – it teaches team work, required in this profession, expressly emphasising professional capabilities.

The design of the former orthodox church area and development of the rural common space in Godkowo was deemed as a model design. This is an ideal model as due to the complexity of the topic and its conditionings it makes it possible to carry out and present the entire process and outcomes.

The authors would like to note that it is one of numerous alternative ways of attaining optimum results.

Keywords: landscape architecture, sustainable development, teaching method, interdisciplinarity, idea.

Simple Models Empower Programming

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ABSTRACT

In design studios, landscape architecture students are often disoriented. One of the problems is misinterpretation of architectural references, hindering the design process. In recent years we have introduced simple modelling into the course curriculum, to improve both the programming process and the final design. "Landscape Planning 2011" is a 15 ETCS course on the landscape architecture master program at the University of Copenhagen. The focus is on the programming phase of landscape design. Recent research identifies the model's upcoming importance (Moon, 2005: 6), though the definition of a model is very broad (Moon, 2005: 11; Healy, 2008: 7). We utilise simple models, created from a model box containing few elements; or build models on a printed map.

This paper follows modelling in the programmatic stage of the design, and identifies key situations in both project plans and models. The focus is on where models can contribute to the programming stages. The objective of this paper is to share the experience of design work from a studio in 2011. It discusses the significance of models in three design process situations regularly experienced by students; and the final result of the course.

Models from an informed and visually documented design process are evaluated in relation to the design stage – from program to final project. 60 students attended the course of 2011. The work of one group is used as an example. The evaluation includes individual models of the project area prior to creation of groups; the first group model prior to visiting the project site; preliminary model in the first design stage; group model after site visit; and a project plan and model pictures from the student hand-in.

The discussion addresses the quality of concept building in general and in group work; the common understanding of references, space and components in refereed project and group work.

Modelling clearly improves the quality of the design in general. The evaluation of student work shows that simple models influence the end product, and especially the quality of the programming skills. Simple models allow a considerable leap in understanding and solving of complicated spatial issues.

Keywords: landscape architecture, design, references, group work.

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The Power of Archaeo-Park, dating back 8500 Years: Yenikapı-İstanbul

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ABSTRACT

Istanbul is an important resource of cultural heritage. The Historic Peninsula of Istanbul contains the city's principal historical, architectural and archaeological sites. The sustainability of these heritage sites is not only a local but also a national and international responsibility. During the implementation of transportation projects, new archaeological remains regarding the history of Istanbul has been found in the excavations in 2004. The most important excavations take place in the Yenikapi zone where an archaeopark will represent the cultural power of Istanbul's landscape. Yenikapı, the gate to one of the most magnificent cities of the world, is stand in time; between the daily movements and the valuable historical past. Its history goes back through the Ottoman Era, the Late, Middle and Early Byzantine Eras, the Iron Age and even to the First Neolithic Era. In the excavations, the most valuable findings include the greatest shipwrecks of the world, 34 boats from the Byzantine and an 8000-year-old house. Under the Theodosius Port, remains from the Neolithic Era were found in 6.30 meters below sea level. This Neolithic settlement, dating back 8500 years, now marks the settlement date of the Historic Peninsula. Now Yenikapı is a transfer point standing as the focal point of transportation network of Istanbul. Nearly 1.7 million people are projected to pass through the Yenikapı Transfer Point every day. It must accommodate all central forces, to disperse and attract the visitors and passers-by. Likewise, the Archaeo Park, a new landscape power, will be considered in relationship to other green spaces in the city, especially those along the Marmara, and ways to link these spaces physically and conceptually. Besides the found archaeology, the new landscape can be formed to produce a new archaeology of the present, one that uniquely links the history and culture of Istanbul with a global vision. In order to preserve these remains, Greater Istanbul Municipality opened an international competition, where our international group is shortlisted in seven architecture groups. As the competitions results will be announced in April 2012, our project will be explained.

Keywords: Yenikapı, İstanbul, Theodosian Port, shipwrecks, archaeopark.

INTRODUCTION

Istanbul has always been a focal point for the world with its strategic location on Bosphorus peninsula between Europe and Anatolia, the Black Sea and Mediterranean. It has been hosting many historical, political and religious events for thousands of years. Furthermore, Istanbul is also a great metropolitan with its nature, culture, history, population, architecture and so many characteristics. As le Corbusier defines, Istanbul is heaven on earth (1924). Being the capital city of three magnificent empires, the city has large cultural accumulations. Especially the Historical Peninsula, which is the oldest settlement in Istanbul, contains the city's principal historical, architectural and archaeological sites. With hosting multiple cultures through thousands of years, the city connects east to west by land, but also connects north to south by Bosphorus. The Historical Peninsula has been under the conservation of UNESCO since 1985. It is believed that below the ground, hundreds of years are still buried in every part of the peninsula. Yenikapı stands as a proof for this thesis; this is why Marmaray Project, which is the reason of excavations, is very the important.

As it is known, Istanbul was the capital of three empires which controlled the world in their era; Roman, Byzantine and Ottoman. Due to its strategic and natural features, the city is chosen as the head of the empires and is honored by many aesthetic elements. The ancient city and the capital of the Eastern Roman Empire are mostly symbolized by the hippodrome of Constantine constructed in 324 and by the aqueduct of Valens made in 378. The Byzantine Empire is mostly represented by the Archaeological Park with the churches of St Sophia and St Irene, and the city walls. Ottoman Empire is mostly highlighted by Topkapı Palace, Blue Mosque and Süleymaniye Mosque which is located in the west part of the peninsula. The universally value of the city resides in this peninsula, especially formed by Byzantine and Ottoman culture. Nevertheless, after Yenikapı excavation the familiar history has changed; as now history of Istanbul dates back before 8500 years.

MARMARAY-METRO PROJECT

As Istanbul is dealing with the uncontrolled urbanization and population growth, the Historical Peninsula and the cultural elements are all under threat from population pressure. Due to İstanbul has 16 million people on a 5500 kilometersquare land, transportation density stands as an important problem in the city. Because of locating in Historical Peninsula, Istanbul's heavy traffic passes through Yenikapı. Marmaray and Metro Projects are designed to solve this transportation problem, to provide a healthier urban life quality and to preserve natural and cultural characteristics. With the Mar-

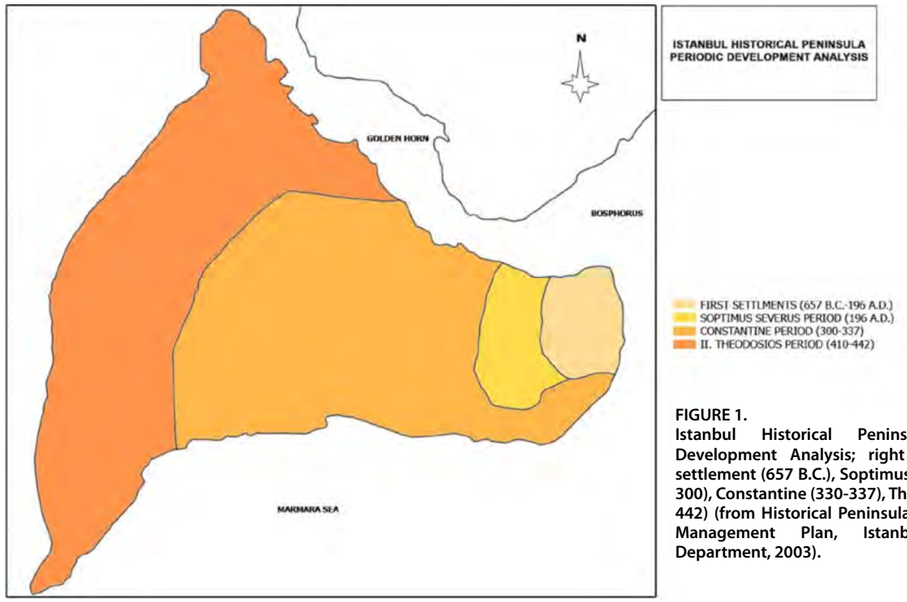

FIGURE 1.
Istanbul Historical Peninsula Periodic Development Analysis; right to left First settlement (657 B.C.), Soptimus Severus (190-300), Constantine (330-337), Theodosius (410-442) (from Historical Peninsula Conservation Management Plan, Istanbul Planning Department, 2003).

maray Project, the rail system network will be about 600 km in total. This network will be the main backbone of the whole system. The Project is designed to ensure the integration of the existing railway network in Europe and Anatolian parts of the country and connecting Europe and Asia continents uninterruptedly through İstanbul. In addition to bringing a solution to the transportation problem of the city, the project will also enable nonstop railway connection in the east-west direction. Yenikapı will be the intersection point of this two transportation system; and will host approximately 1,7 millions of users every day. Before the implementation of Marmaray and Metro Project, Istanbul Archeological Museum Directorate started a rescue excavation in Yenikapı, Sirkeci and Üsküdar; as three station locates above the historical layer, as suggested by Kızıltan (2008). For the Yenikapı Station, excavations began in 2004. By the time the excavation began, more important findings than ever began to emerge. In these excavations, cultural, artistic and geological changes of the city over 8500 years were unrolled into consideration; 25 thousands of well-preserved findings are found from the Neolithic Period, Iron, Classical, Roman, Byzantine and Ottoman periods.

YENİKAPI EXCAVATION

Yenikapı is situated on the south coast of İstanbul Historical Peninsula. Presently, Yenikapı is used as southern port of the city in the European part. With the metro project, the aim is to generate a transfer point to connect different type of transportation; marine, railway, roads and most importantly the airport. Prior to the implementation phase, Yenikapı rescue excavation began in 2004. In these excavations, still continuing today, many movable and immovable cultural heritages are found and documented which will light the history of Istanbul, as suggested by Kızıltan (2008). These studies provide many information for 8500 years of cultural history of İstanbul and the geological changes in Marmara Sea.

Archeological findings at the bottom of the sequence among the boulders belong to the Neolithic period Fikirtepe culture known to have existed in the region in 6000-4000 B.C.

As the settlements were 6 m below the presents sea level; it can be understood that sea level were lower

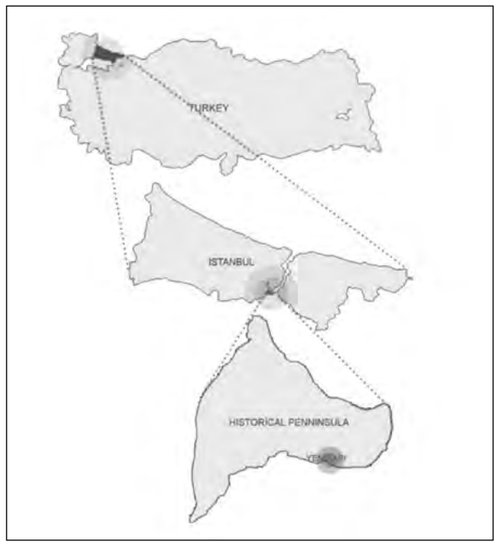

FIGURE 2. Location of Yenikapı in İstanbul Historical Peninsula, Turkey.

than today 6000-8000 years before. As the cultural findings are covered with sea sand, it can be said that this settlement was abandoned because of a sea flooding. But in the Iron Age about 1000 B.C., new cultural findings from this age show a re-established settlement in the same area after the flood. This second settlement was also flooded again, and in the 4th century the area began to be used as Theodosian Harbor. Around 12th century to the present, the area turned land, as suggested by Algan (2008).

nology, as suggested by Kızıltan (2008).

In the west part of the Yenikapı excavations, called Lot nr. 100, weaving settlement remains belonging to different periods dating back to 4-13th century are uncovered. The most important finding is a 51m long and 4,20 m wide wall made of ashlars. These remains are in a fragile condition; as the excavation and scientific works are not over yet. Furthermore, the walls of II. Theodosius Period is found. This area is announced as "a protected archeological park", and the archeological work in this area must continue.

FIGURE 3. Yenikapı Excavation Area from the west part, Theodosian Harbour.

The excavation has become one of the largest investigations in Europe. The work covers 58,000 m^2, and currently is the most comprehensive archeological excavation in Istanbul history. This site was used as "vlanga", vegetable and fruit gardens in Ottoman Period for hundreds of years. In the site, where the station would be built on, the Port of Theodosius, the largest port in Byzantine Period is found. This port was built in the south side of the Lycos Stream by I. Theodosius (AD 379-395) in 4th century in order to provide the need of commercial port of Roman Empire. After becoming the new capital of Constantinople and because of the population increase, a new harbor was needed to provide trade activities. The period between 4-7th century represents the most active years of Theodosian Harbor. Theodosian Harbor was the most intense activated area of the city. In the 8th century, the use of the harbor was decreased as the trade routes began to take place in North. In the 9th century, the city became more important strategically. Another evidence of increasing sea trade is the shipwrecks uncovered are dated to 9th-11th century. Istanbul has always been an important harbor city since its foundation. Especially in Byzantine Era, this characteristic became even more important.

In the excavations carried out in Harbour area, the architectural ruins of the Ottoman period and daily use articles were found. Other than this, the presence of thick pieces of rope and processed wood in -1,10 m below caused the expansion of the excavations. Eventually, different sized of 34 boats, dating back to 5-11th century, are discovered. These 34 shipwrecks constitute the largest ancient medieval shipwreck collection of the world, and provide very important information about Byzantine marine, trade and technological

During the excavation under the Theodosian Port base filler, simple stone woven branches architectural remains from the Neolithic period are found under the -6,30 m below the sea level. Yenikapı Neolithic settlement period should be evaluated with the changes of Marmara Sea in time; as it is believed that settlement is founded in the place not far from the present shore, in the period that Marmara Sea had not been salty, and is remained under water as a result of rising global sea levels.

YENİKAPI ARCHAEO-PARK PROJECT

General Concept

In order to preserve the remains, Yenikapı Urban Design Competition was announced in 2011 to create a transfer point with a museum and an archaeopark, to display the artifacts uncovered in the area. Our international group of Eisenman-Aytac Group is qualified in the first seven teams in this urban design competition. Our group displays sensitivity to standing archaeological and historic remains, as well as to the unexcavated archaeological deposits. Therefore, the goal of our project is to add a new organizational approach to the city of different urban matrixes from the existing elements; history, archaeology and diversity. The main concept of the archaeopark is to show these findings to the users while forming a transfer point. This archaeopark will represent the cultural power of Istanbul's landscape.

In the planning approach in 1/100.000 scale of The Environmental Master Plan of Istanbul, the productive areas in Historical Peninsula are discussed as a

FIGURE 4. Eisenman-Aytaç Group Project, Analysis of Yenikapı in İstanbul Historical Peninsula.

potential area for primarily education, cultural industries and the service sector. As the vision in 1/100.000 scale of The Environmental Master Plan of Istanbul guides, through the archive-museum, "Yenikapı Archaeo-Park Area" becomes a center point for education and cultural industries, as well as being a center for service sector development through being one of Istanbul's most important transportation points. Constantine Coastal Line from 4th period was taken as the most powerful reference to define the urban regeneration areas. The 14,60 ha area between the project site and the Constantine Coastal line is considered as the primer urban regeneration area which is thought to be implemented at the first phase. Other urban regeneration areas start from the main north axes lying east-west down to the coastal park; our project proposes to lessen the density level by level. As a programmatic approach, the regeneration zones include education-research, health tourism, trade and service-weighed area.

The principal parts of the landscape project are the Archaeopark and Coastal Park. Through these two parks, the aim is to integrate the inner parts of the projected area to the Coastal Park. The area of the archaeopark, excavated and is thought to be excavated in the future. In our project, it is foreseen the excavations will continue and the ongoing excavations can be seen by the visitors from the platforms that overpasses the archaeopark. The Archaeopark is overlaid with the 30-by-30-meter scientific grid of archaeological excavations. This creates a series of circulation paths through what will be the site of ongoing archaeological explorations. As work in each 30-by-30 section is completed, it is restored to grade level, landscaped, and added to the park program.

CONCLUSION

Following the discovery of archeological findings in the initial process of Yenikapı metro station, the excavations have been carried out 8 years now. Yenikapı excavations uncovered a continuous historical series of 8500 years of Istanbul, from the Neolithic Period to the present, revealing archaeological cultures. The importance of Marmaray-Metro Project is to be the initiator of the excavations in Yenikapı. It is believed that below the ground, hundreds of years are still buried in every part of the peninsula. Yenikapı stands as the concrete evidence for this phenomenon.

The most important purpose of Yenikapı Archaeopark Project is to show all passengers the 8500 years history of Istanbul even though for 1 min. while they are traveling. It will exhibit these historical findings to public with no admission fee while forming also a transfer point. The station and the museum will be on the same platform, to educate and encourage the public. This project will strengthen Istanbul's existing landscape, representing the urban complex, the archaeology and imaginary future.

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Conflicts Of Various Developments In Protected Areas: Kapisuyu Basin

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ABSTRACT

Protected areas are important assets for any part of the world; however, they may face unsustainable resource use. In this study, the conflicts between "ecology" and "economy" are examined in the Kapısuyu Basin of Turkey, which consists Kastamonu-Bartın Küre Mountains National Park and its periphery planning area. The connectedness of the forest ecosystem in the national park and the periphery area is determined at landscape level. Based on the results obtained, the effects of economy and tourism developments on the Kapısuyu Basin, and the recommendations for protection and restoration of landscape values are presented.

Keywords: protected areas, forest landscape, Kastamonu-Bartın Küre Mountains National Park, Kapısuyu Basin, Bartın.

The abstract added by Authors after printing the book.

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Warsaw University of Life Sciences – SGGW (WULS – SGGW)

is a modern agricultural school. WULS-SGGW has been declared number 1 in the rankings of agricultural schools in Poland and has always been in the top ten of Polish universities. The University is the oldest agrarian High School in Poland and fourth in Europe. Its origins dates from 1816.

At present, there are 27 000 students enrolled, 1200 scholars employed, 60 specialties are taught at 13 Faculties.

Faculty of Horticulture and Landscape Architecture

The history of today's Faculty of Horticulture and Landscape Architecture at Warsaw University of Life Sciences – SGGW dates back to 1913, when the Faculty of Horticulture of the Society for Scientific Courses was established.
The tradition of teaching landscape architecture started in 1930 when the Unit of Landscape Architecture and Parks' Expertise, headed by prof. Franciszek Krzywda-Polkowski, was set up.
Nowadays, the so-called 'Ursynów' School of Landscape Architecture consists of four individual units:

- Department of Landscape Architecture,
- Department of Landscape Art,
- Department of Environmental Protection,
- Laboratory of Assessment and Evaluation of Natural Resources.

The study programmes related to landscape architecture education taught at the Faculty of Horticulture and Landscape Architecture are: Bachalor of Landscape Architecture (Engineer), Master in Landscape Architecture and PhD studies. Each year around 120 new landscape architecture students start their education at the oldest and the same the biggest Landscape Architecture School in Poland, Warsaw University of Life Sciences – SGGW.

ECLAS

The European Council of Landscape Architecture Schools exists to foster and develop scholarship in landscape architecture throughout Europe by strengthening contacts and enriching the dialogue between members of Europe's landscape academic community and by representing the interests of this community within the wider European social and institutional context. In pursuit of this goal the European Council of Landscape Architecture Schools seeks to build upon the Continent's rich landscape heritage and intellectual traditions to:

- Further and facilitate the exchange of information, experience and ideas within the discipline of landscape architecture at the European level, stimulating discussion and encouraging co-operation between Europe's landscape architecture schools through, amongst other means, the promotion of regular international meetings, in particular an annual conference;

- Foster and develop the highest standards of landscape architecture education in Europe by, amongst other things, providing advice and acting as a forum for sharing experience on course and curriculum development, and supporting collaborative developments in teaching;

- Promote interaction between academics and researchers within the discipline of landscape architecture, thereby furthering the development of a Europe-wide landscape academic community, through, amongst other things, the development of common research agendas and the establishment of collaborative research projects;

- Represent the interests of scholarship in landscape architecture within Europe's higher education system, encourage interdisciplinary awareness and enhance public understanding of the discipline;

- Stimulate dialogue with European landscape architectural practice and with other international organisations furthering landscape scholarship.

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