

# THE HISTORIC GARDEN HERITAGE OF CENTRAL AND EASTERN EUROPE AND NEW CHALLENGES FOR LANDSCAPE ARCHITECTURE, PART 2

## A KÖZÉP-EURÓPAI TÖRTÉNETI KERTEK ÖRÖKSÉGE ÉS ÚJ KIHÍVÁSOK A TÁJÉPÍTÉS SZÁMÁRA, 2. RÉSZ

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### ABSTRACT

In this paper I will put forward some aspects of the position Central and Eastern Europe in the European history of landscape architecture, with a special focus on Hungary (this time especially on the historical Hungary). The key question is how this position influences the contemporary planning and design of landscapes where heritage plays a role.

The first part of the paper has paid attention to the historical development of the garden as a landscape element in the history of landscape architecture in general and how it affected thinking and practice. It has been further elaborated on the position of Central and Eastern Europe in the context of European landscape architecture and the special position of Hungary.

The second part deals with the design approaches related to heritage and contemporary planning and design of landscapes. These design approaches will be placed in the frame of the

new challenges for landscape architecture for the future; water conservation, energy transition and the creation of comfort and healthy environments for people. It will be worked out in a case study in Romania; the landscape of the Maros river valley.

In the conclusions the concept of 'readability' is put forward in the context of heritage in landscape architecture as an alternative for conservation.

### Keywords

historicism, readability, design approach, design experiment, design knowledge

### 3. DESIGN APPROACHES TO HERITAGE AND CONTEMPORARY LANDSCAPE DEVELOPMENT

#### Landscape heritage in the context of landscape architecture

Terms and definitions that are used in landscape heritage; historiography, history, historicism (fig. 12).

1  
aspects of historical development of gardens

from food production -> pleasure

from private -> public

from extension of building -> element in the landscape

2  
position of Central and Eastern Europe

the multi-cultural historical background

the physical landscape and climate; the Carpathians

the role of history in contemporary culture

3  
design approaches in heritage

- restoration  
- reconstruction  
- renovation

4  
new challenges for landscape architecture

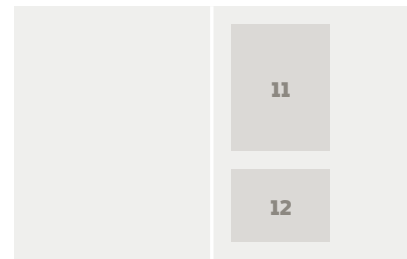
- water conservation and management  
- energy transition  
- creating comfort and healthy environments for people

application of design approaches to contemporary projects in Central and Eastern Europe; the case of the Maros river in Romania

**PART 2**

**CONCLUSIONS**

- New challenges for landscape architecture - The local qualities are always the point of departure - The search for an integrative approach; heritage needs more than rules, fences and managers

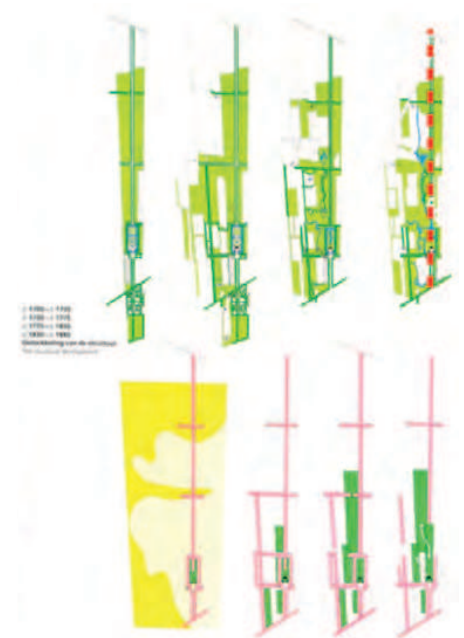


**Fig. 11.:** Comparative overview of terms and definitions; historiography, history, historicism. The diagram gives an overview and comparison of terms and definitions that play a role as background concepts and viewpoints in

heritage in the context of landscape architecture' In contemporary culture there is a strong tendency to historicism, also in design

Historiography	History	Historicism
<p>Historiography can be described as the history of and reflection on history. In headlines a distinction between two aspects can be made:</p> <ul style="list-style-type: none"> <li>- The study of history as a discipline; theory, methodology. The history of writing in history, the methods used for analysing and interpreting historical events. The critical examination of sources, describing, analysing and interpreting these historical events.</li> <li>- The body of historical knowledge on a subject, a topic. The study of a defined subject, a topic or case; for instance: the 'historiography of the industrial revolution'. The historiography of landscape architecture in Europe is still based on a limited amount of sources such as Gothein (1914), Jellicoe &amp; Jellicoe (2006), Mosser &amp; Teyssot (1991). These studies are based on original research by the authors and add new information to the body of design knowledge. There are also studies that make use of these sources and add only new illustrations.</li> </ul>	<p>History is the study of the past and the description and interpretation of what happened in the course of time. Interpretation, reconstruction and narration are all part of the work of historians in general. Because history is based on the study of written texts, the use for landscape architecture is limited because of the lack of social and cultural context found in artefacts, objects and other interventions. Historical information needs to be complemented by information from cultural anthropology, archeology, cultural geography like Braudel introduced in the 20th century for instance in his 'Grammaire des civilisations' (Braudel, 2008). Chouquer (2000) has worked out an approach for research of landscapes in which he analyses the agricultural patterns, parcelling and the structure of agricultural settlements. The study of parcelling could also be of great use for the analysis of the form of the landscape as object of planning and design and to gain insight into the development of human intervention.</p>	<p>The term 'historicism' originates from the architecture in the 19th century that made use of historical styles like for instance the Houses of Parliament in London. Classicism is a form of historicism in the sense that it refers uniquely to the classics and not to historical styles in general. In landscape architecture we also see a use of historical styles especially in the 19th century. Jellicoe &amp; Jellicoe (2006) mention for instance Tsarskoe Selo (St. Petersburg, 18th c.) as example of eclecticism in landscape architecture. Colquhoun (1983) distinguishes three kinds of historicism based on definitions from the dictionary.</p> <ul style="list-style-type: none"> <li>- The theory that all sociocultural phenomena are historically determined and that all truths are relative; this can be seen as a theory of history.</li> <li>- A concern for the institutions and traditions of the past; this is a viewpoint.</li> <li>- The use of historical forms; a practice in art and design.</li> </ul> <p>There is no guarantee that the three have anything in common. (...)</p>

*i Toorn, M. van den & C. Szántó (2014): History and historicism in landscape architecture, in: Sørensen & Liedtke, 2014, p 86-91*



Note that history focusses on texts, archaeology on objects in their physical and cultural context and cultural anthropology on human behaviour and societies with their norms and values. All three can be used by landscape architects in the study of design history and design approaches in the past.

### Three design approaches in landscape heritage

Design approaches are based on viewpoints and relate directly to design methods. So the sequence of viewpoint, approach, and method is basic to all landscape architectural interventions. The core viewpoint that plays a role in heritage is the relation between development & conservation in which I distinguish three design approaches,

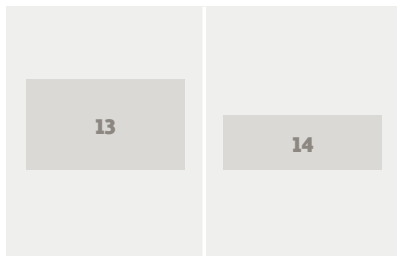
restoration, renovation and reconstruction. All three will be elaborated further with case studies as illustrations.

#### Restoration

It stands for a design approach of bringing back to an exact copy of a historical one, and the new program will be in most cases in the category of museum, or cultural landscapes Case studies and examples: comparing Het Loo (Apeldoorn, The Netherlands) – Groeneveld (Baarn, The Netherlands)

The palace and gardens of 'Het Loo' in Apeldoorn date from the end of the 17th century. The first plan was inspired by the gardens of Versailles, though it is much smaller. It was considered as an example of the French baroque in Holland (fig. 13). Originally it was





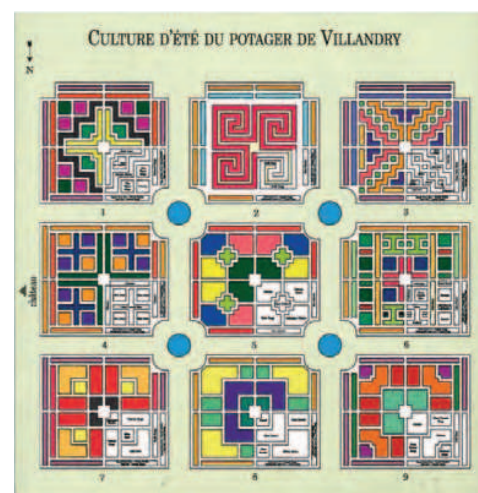
**Fig. 13.:** Design approaches of 'Het Loo' (restoration) and 'Groeneveld' (renovation) compared. On the upper left topographic map of Apeldoorn, the central axis that extends into the forest in the north and the settlement in the south. On the lower left the axis of 'Het Loo' in the restored garden. In the lower image at the centre, the broderie parts of the park that have been carefully restored. In the centre top image, the axis at 'Groeneveld' on the

topographic map. On the right the analysis Michael van Gessel made of the design history of the park which he has used as a basis for his plans for 'Groeneveld' (topographic maps: Map room TUDelft). Both ensembles have baroque origin in their original plans clearly visible in the central axis. The way this axis plays a role in the contemporary plan is worked out differently. In the plan for 'Het Loo' the entire axis has been restored and preserved. In the plan for 'Groeneveld' the

axis has been partly preserved but remains 'readable' in the context of other styles.<sup>i</sup> **Fig. 14.:** Design approach of Villandry. On the left the redesigned plan by Carvallo for the ensemble which replaced the landscape style.<sup>ii</sup> In the centre a photograph of the house garden with lettuce in the foreground and in the background the castle. On the right the plantation scheme for the house garden in summer. All plants are vegetables

and fruits in various species and colours. The plan is a remarkable example of applied planting design; it uses the concept and material of a house garden to create patterns of a seasonal colour palette giving a special visual experience. At the same time it draws attention to contemporary forms of growing and cultivating plants for visitors who are interested in house gardens for themselves. So at the strategic level the design approach is

renovation that is inspired by the old renaissance plans. Note that it is not a restoration of the original plan but it is redesigned according to the ideas and taste of Carvallo. At the structural level probably the same structure has been maintained. At the level of materialisation of form the colour schemes of the plantation for the house garden is a new concept



a summer residence for King William and Queen Mary, and the surrounding forests were used for hunting.

The country estate 'Groeneveld' in Baarn was designed in the beginning of the 18th century. The original plan was also based on baroque design principles with a long axis as structural component of the ensemble. Later on modifications to this plan were made based on the design principles of the landscape style (fig. 13).

#### Renovation

It refers to a design approach of partly restoring, partly reconstruction based on a new program. Case study: Villandry

The contemporary situation in Villandry is based on a reconstruction of the

original plan by the owner J. Carvallo, made on the basis of original renaissance plans he found in the archives.<sup>1</sup> When Carvallo bought the property, the garden and park were redesigned into the landscape style, which he did not like. Finding the original renaissance plans from before, gave him inspiration for the renovation of the garden and park. One of the elements of the park is the house garden ('potager'), located next to the castle; it consists of nine squares that are planted in different patterns depending on the season (fig. 14).

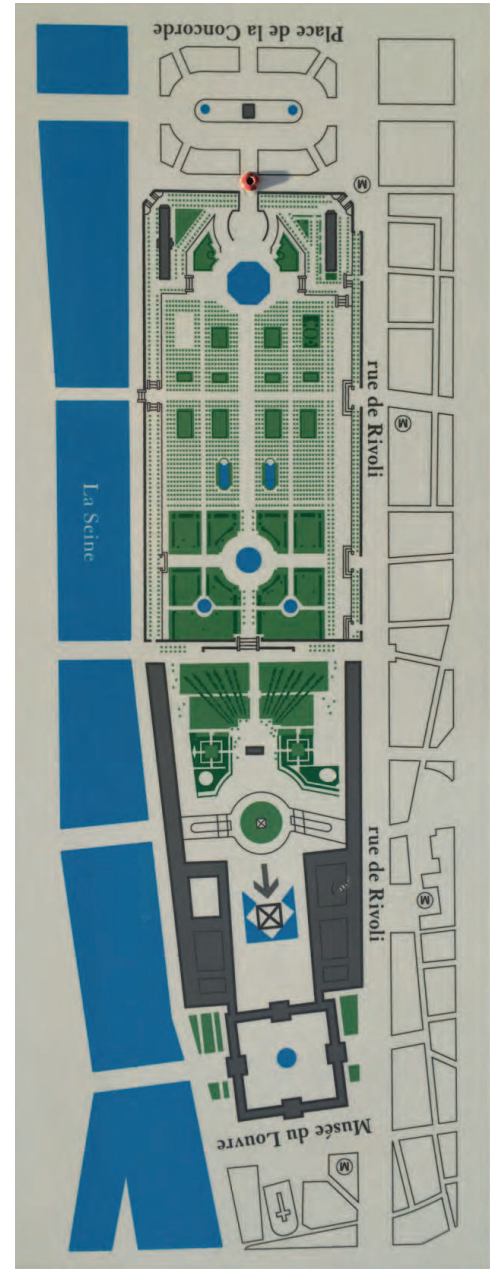
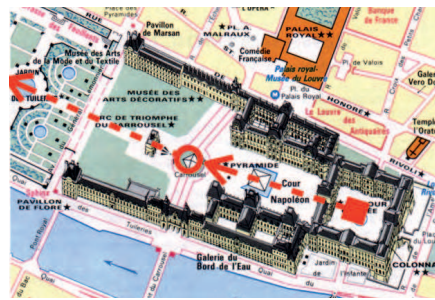
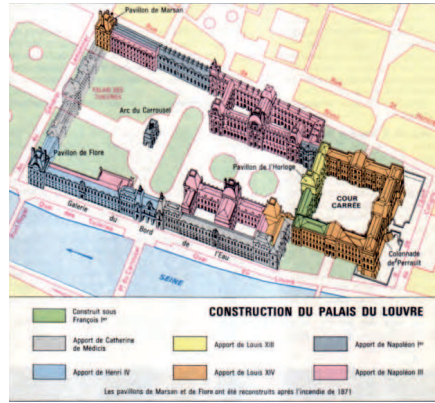
The garden now functions for visitors who both can enjoy the idea of a renaissance garden but also can see what can be grown in a house garden. There is also an information centre on house gardens for people who need advice

<sup>1</sup> Nourry, L.-M. (2002): *Les jardins de Villandry – La nature mise en ordre*, Paris, Belin-Herscher

<sup>ii</sup> Vroom, M.J. (red./ed.) (1992): *Buitenruimten – ontwerpen van Nederlandse tuin- en landschapsarchitecten in de periode na 1945 – Outdoor space – Environments designed by Dutch Landscape Architects since 1945*, Amsterdam, Thoth, 1992

<sup>iii</sup> Racine, M. (dir.) (2002): *Créateurs de jardins et de paysages – en France de la Renaissance au XXIe siècle – Tome II – du XIXe siècle au XXIe siècle*, Arles/Ver-sailles, Actes Sud/Vienne, A. de (2008): *Joachim Carvallo et al création des jardins de Villandry, Tours, Colloque L'esprit des jardins: entre tradition et création*, 13 p





what to do with their own garden. Seeds and products from the house garden are also sold at the information centre.

#### Reconstruction

The design approach comprises the introduction of a new program in a new form on the site of a historical setting. Case study and example 1: Louvre → La Défense

The axis of the Louvre, Tuileries Gardens, Champs Élysées, La Défense, is an interesting example of an original garden / park structure that over time has been extended and transformed into a major urban structure in the contemporary urban landscape of Paris (fig. 15). Three stages in the development can be distinguished; first the Louvre, with

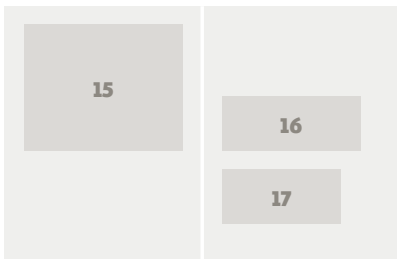
Tuileries gardens, secondly an extension into the Champs Élysées and the Arc de Triomphe, and finally in the 20th century, the extension towards La Défense outside the Péripherique (fig. 15). Here heritage is part of the daily environment of the Parisian urban landscape; buildings are conserved but historical structures are part of the daily functions and life of the city.

Reconstruction in case study and example 2: Walcheren. Before WWII, Walcheren was called the 'garden of Zeeland' because of its distinct landscape. Due to war damage, it had to be completely reconstructed.

History and evolution of the landscape of Walcheren over time is

**iv** Bacon, E.N. (1974): *Design of cities*, London, Thames and Hudson, rev. ed.  
**v** Bos, K. & J.W. Bosch (2008): *Landschap-satlas Walcheren: inspirerende sporen van tijd*, Koudekerke, Bos & Böttcher  
**vi** Nieuwe (1946): *Het nieuwe Walcheren – Rapport omtrent het herstel van Walcheren uitgebracht door de Snelcommissie Walcheren – Met het reconstructieplan voor het geïnundeerde deel van het eiland en de duingebieden*, Middelburg, SnelcommissieBoekhorst, J. te & P. Deroose & H. Harsema & V. Illés & N. de Jonge (1996): *Het fenomeen delta – landschap van Nico de Jonge / the phenomenon delta – a Nico de Jonge landscape*, Wageningen, Uitg. Blauwdruk





**Fig. 15.:** The Louvre and its axis; structure in the urban landscape. The Louvre in Paris; the axis as an extension of the castle into the Tuileries. Location and position of Louvre follows the river Seine, and the same goes for the Tuileries gardens; castle, garden and park are on one side related to the right bank of the river Seine. The rue de Rivoli has been created later which is visible in the alignment of the later extensions of the castle in the Louvre. The Place du Caroussel

is the 'hinge' between the axis of the Louvre and the axis of the Tuileries gardens. The axial system is further elaborated by the bridges over the river that are in perpendicular position to the axis thus connecting both the river and the city. The axis of the Tuileries and the Champs Élysées become gradually part of the urban structure of the city. On the lower left extension of the axis of the Tuileries towards the Champs Élysées and later to La Défense.<sup>iv</sup> This historical structure

not only refers to the past but at the same time enables new developments while keeping its 'readability' of the historical development, thus adding new meaning to the urban landscape

**Fig. 16.:** Walcheren in the Middle Ages and now. In the Middle Ages Walcheren was still an island; map from 1300 on the left. In the 19th century it was connected by a dam to Zuid Beveland which was needed for the construction of the railway. After the

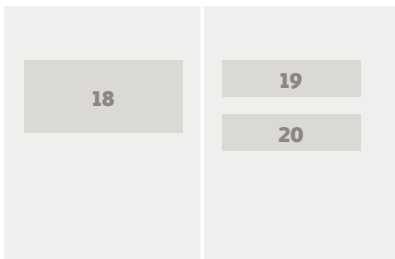
National Disaster in 1953, Walcheren was connected to Noord Beveland by a dam because of the Deltaplan, thus creating the Veerse Meer (MAP ROOM, TUDELFT)

**Fig. 17.:** Walcheren after WWII; a new landscape plan based on the geomorphology. On the left: Walcheren was inundated during WWII for almost a year.<sup>v</sup> On the right: due to the heavy damage to the landscape, a completely new landscape plan was developed as a basis

for the reconstruction of farms, buildings, roads, bridges and settlements.<sup>vi</sup> The geomorphological structure of ridges ('kreekruggen') and basins ('poelen') forms the basis for the landscape structure since the Roman times and has again been used in the design of the landscape plan right after WWII. The four places where dikes and dunes were bombed have been redesigned and integrated into the landscape plan as new elements







**Fig. 18.:** Walcheren after the Deltaplan; landscape structure plan 1984. In the context of the Deltaplan, Walcheren was connected to Noord Beveland (1961) and Schouwen Duiveland (1986) by dams because of the Deltaplan, thus

providing access over land from the north (Map room, TUDelft). A second landscape plan was made by the office of Bosch & Slabbers in 1984 and did make use of the same geomorphological structure of ridges and basins and

developed new leisure sites mainly along the coast  
**Fig. 19.:** Walcheren and its landscape structure based on the geomorphology. The geomorphological map (Map room TUDelft) of ridges ('kreekkruggen') and basins ('poelen') forms

the basis for the landscape structure since the Roman times (map on the left, overlay on the right). The Walcheren landscape is dominated by marine geological forces of tidal movement and wind (dunes). The ridges are slighter

higher in elevation and traditionally have been the places where roads and settlements were located map overlay on the right). In the landscape plan also the agriculture was completely modernised and reorganised; the basins were better



characterised by three changes that had a major influence on the landscape of Walcheren as a (former) island.

a. In the Middle Ages, Walcheren was an island which changed in the 19th century when it was connected to Zuid Beveland by a dam, the first connection to main land (fig. 16).

b. The second change (fig. 17) came during WWII in 1944 when the Royal Air Force bombed the dikes and dunes to inundate the land as a first step in the liberation of Zeeland and regaining access for the Allied Forces to reach the port of Antwerp by ship. Walcheren was inundated for almost a year; all plantations were dead and there was enormous damage – due to the tidal movement of the sea – to buildings, roads, bridges and waterways.

c. A third change occurred after the National Disaster in 1953 when the dikes broke due to an extreme high tide and heavy storms. Large parts of Zeeland were taken over by the sea and almost 2000 people died. The newly developed Deltaplan proposed a series of dams between the islands to shorten the sea line and to improve the security (fig. 18).

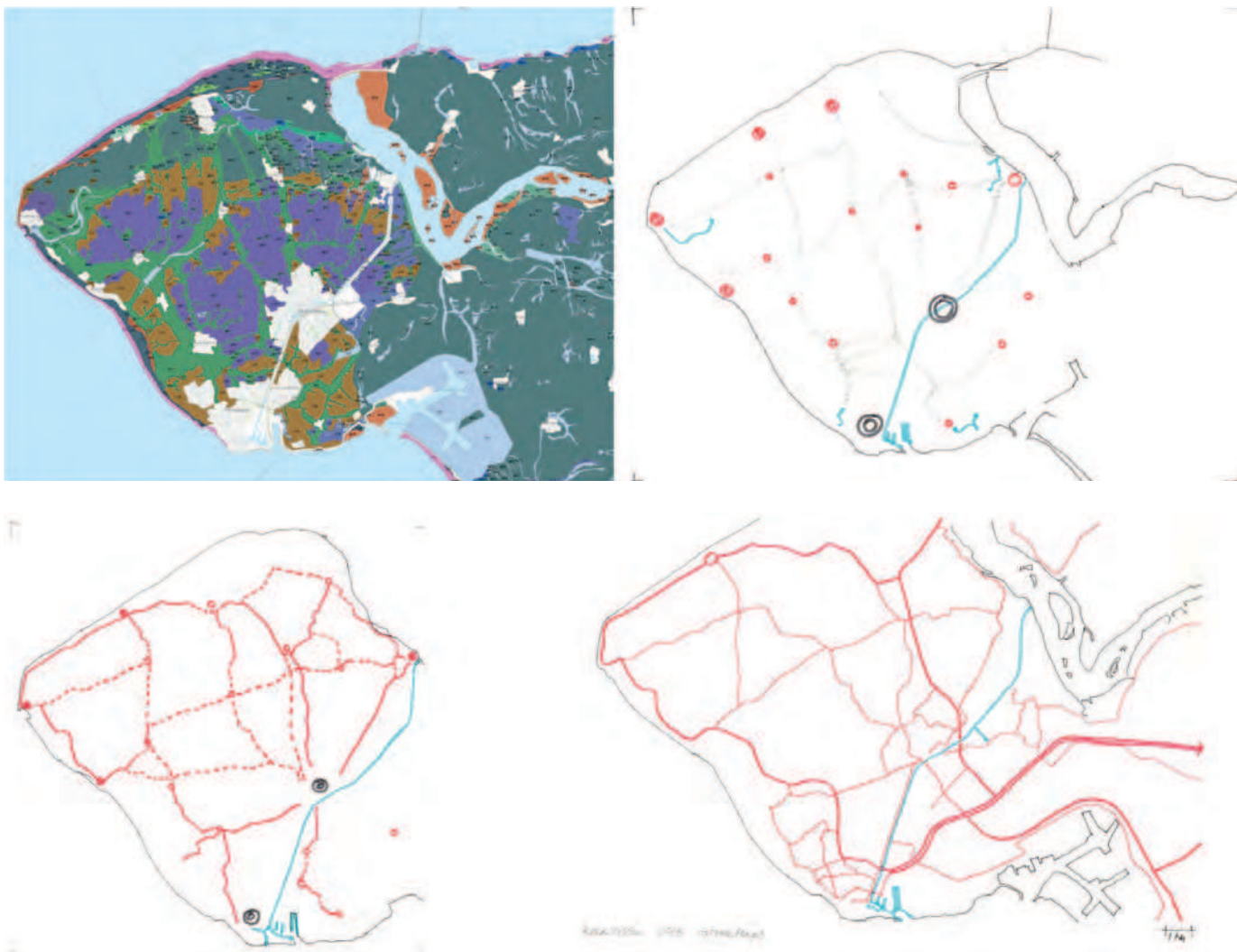
The landscape structure of Walcheren is based on the geomorphology (fig. 19); ridges (former creeks) and basins.

In the 20th century the landscape structure came under influence of the construction of the new motorway A58 which runs more or less parallel to the railway. The motorway made access to Walcheren by car much easier.

drained thus enabling new farms. Farmsteads were displaced from the settlements into the basins. In the landscape plan roads and settlements remained on the ridges thus continuing to make use of this structure

and again defining the new landscape structure  
**Fig. 20.:** Walcheren comparing the road system from the landscape plan of 1946 to the contemporary situation. Compare the road structure in the landscape plan

of 1946 (on the left) and the road structure in the contemporary situation (overlay on the right) to see the striking similarity in structure (NIEUWE, 1946; OVERLAY ON THE RIGHT GOOGLEMAPS)



Note that the inundation at the end of WWII did not influence the landscape structure; it created 4 new landscape elements where dikes and dunes were bombed. The landscape plan made use of the existing landscape structure and even reinforced it (fig. 20).

We can learn from the design history of Walcheren how the geomorphological structure has functioned for hundreds of years as a basis for the landscape structure. This is a concept of heritage that is specific for landscape architecture;

making use of a dynamic structure that refers to the past but still enables new developments. Note that nowadays the new road structure is determining the new landscape structure (fig. 20).

#### History and precedent

From a methodological viewpoint the study of precedents implies a tendency to historicism and sticking to only historical forms.

Design experiments study effects of 'what if?' - type of interventions at different levels. These 'what if?' type of





interventions are not necessarily measures that would have been taken anyway but are meant to see what the effects could be both in the short run and in the long run. Thus, design experiments enable to open new perspectives on future development by simulating different contexts, programs and change of elements, structures and processes. The outcomes of design experiments show what the potentials of the landscape are and which future directions of development could take place as opposed to only historical continuity.

The design history of 19th century public parks in Central and Eastern Europe; contemporary use and future development (HYPPE)  
The Faculty of Landscape architecture and Urbanism in Budapest has – together with departments of landscape architecture in other countries – initiated a new research project on the study of 19th century public parks in Central and Eastern Europe; Belgrade, Bratislava, Brno, Budapest, Cluj Napoca,

Cracow, Ljubljana, Vienna, Zagreb (fig. 21). These parks now need to be renovated and reconstructed because of the new urban context and of lack of maintenance. The issue of heritage is explicitly part of the research since all these parks are from the 19th century and are characteristic for that period.

The focus of the research is on the design history and use of 19th century urban public parks; planning, design and management of the parks over time in relation to use, users and densities of use in a contemporary urban context.

This year a number of papers were published on the start of the project for different conferences in Ljubljana, Rome, Gent,<sup>2</sup> and more are to forthcome)

#### 4. APPLICATION OF DESIGN APPROACHES TO THE MAROS RIVER IN ROMANIA

With its rich and long cultural history, the Maros river is an interesting choice

<sup>2</sup> Rechner Dika, I. & M. van den Toorn (2018): *The design history of Maksimir park: plan evolution and contemporary use as basis for future plan development*, in: Delarue & Dufour, 2018, p 472-479  
Szi-lágyi, K. & A. Kučan & R. Stiles (2016): *Design history of 19th century urban public parks; guidelines for contemporary urban landscape architecture, (forthcoming)*; Tóth, A. & M. van den Toorn (2018): *Sad Janka Kral'a park, Bratislava – An approach to planning, design and management of 19th century public parks*, in: Delarue & Dufour, 2018, p 747-752; Toorn, M. van den & I. Rechner Dika (2018): *The future of Maksimir park: historical urban parks in a new local and global context*, in: Delarue & Dufour, 2018, p 431-440



**Fig. 21.:** Locations of the 19th century public parks in Central and Eastern Europe in the HYPPE study. The locations (Belgrade, Brno, Budapest, Cluj Napoca, Cracow, Vienna, Zagreb) in the HYPPE project in their physical context of the Carpathians and the Danube Basin. Only the park in Cracow is located outside the Danubian Basin. The overall goal of the research is to investigate, analyse a series of examples of 19th century public parks in Central and Eastern Europe to give an overview and insight into the design history and how that influences the contemporary use

of those parks. The focus on historic urban public parks, reflects a substantiated claim that these green spaces play significant roles in the city's public life and urban development, respectively to their design and planning point of view. A second goal is to position them in their European context and getting a more balanced view of the European development of such parks at large. A third goal is to develop design proposals — on the basis of the results of this research — for future development and use as part of the further

plan development of the urban landscape at large  
**Fig. 22.:** The Maros river flowing westbound from the eastern Carpathian mountains towards the Tisza river. The Maros (Mureş) river is almost 800 km long; it originates in the eastern Carpathian Mountains in Romania and merges with the Tisza River in Szeged in Hungary.<sup>vi</sup> In the Roman times, a Roman road gave access to the area, while they used the river as a waterway also for transport. In the Middle Ages the river was used as a waterway for the transport of salt.<sup>viii</sup> In the 19th century an

extensive network of railways was constructed connecting Budapest to the Carpathian Mountains in the south. This railway network enabled new mining, small industry, gave access to spas and generally opened up the area to the region. Note that during the Roman Empire, the Danube was the border of the empire and the region of the Maros River was north of it; located outside the empire. Still the Romans did occupy and cultivate the region by making roads and castelli, all related to the river.

to work out as an example in the context of heritage (fig. 22). The Maros river as part of the southern Carpathians is — like the rest of the Carpathians — well-known for its particular historical, biogeographical and ecological features.<sup>3</sup> Earlier I made a study on a design approach for the Maros river with Albert Fekete,<sup>4</sup> where heritage was also part of the design approach but not in the form of conservation of elements but making use of existing structure of the landscape as a basis for new developments (fig. 23; 24).

### New challenges for landscape architecture

The concept of 'sustainability' has over the last decades gradually been replaced by a more comprehensive general goal for landscape architecture in general in the form of three new challenges for the future that are facing us as landscape architects (fig. 25).

### How can these new challenges be applied to the landscape development of the Maros River?

The confrontation of the three design approaches related to heritage with the new challenges for landscape architecture has to be worked out at different

levels of intervention; strategy for landscape development in the long run, structuring the use and the materialisation of form (fig. 26). An important local agent in the landscape development was the mansion, not only as a place for work and leisure of the owners but also a socio-economic phenomenon that formed the basis for the cultivation of the landscape at a regional level.

This historical situation has been used as a source of inspiration and — where possible — of transformation to the contemporary situation. A big change compared to the historical situation is the role of the road system and road traffic; in fact the road system has taken over completely all transportation of people and goods while the traditional use of waterways for transport and traffic has been neglected.

As a starting point for the study of the river valley on a regional scale the distinction of the different watersheds forms the basis (fig. 27); Hamar & Sárkány-Kiss (1995)<sup>5</sup> give an overview of all and pays attention to their ecosystems. Watersheds are the first units to be taken into account for any intervention in the landscape in order to understand and make use of the natural drainage.

**3** Bálint, M. & L. Ujvárosi & K. Theissinger & S. Lehrian & N. Mészáros & S.U. Pauls (2011): *The Carpathians as a major diversity hotspot in Europe*, in: Zachos & Habel, 2011, *Biodiversity hotspots — Distribution and protection of conservation priority areas*, Heidelberg, Springer, p 189-205  
 Turnock, D. (2006): *Settlement history and sustainability in the Carpathians in the eighteenth and nineteenth centuries*, *Review of Historical Geography and Toponomastics 1 - 1*, p 31-60  
**4** Fekete, A. & M. van den Toorn (2016): *The Maros river and its potential for landscape development*, in: Valánszki et al., 2016 [1], p 333-341  
**5** Hamar, J. & A. Sárkány-Kiss (eds.) (1995): *The Maros/Mureş river valley — A study of the geography, hydrobiology and ecology of the river and its environment*, Szolnok, Tisza Klub  
**vi** Tockner, K. & Chr.T. Robinson & U. Uerlinger (eds.) (2009): *Rivers of Europe*, London, Academic Press  
 Brilly, M. (ed.) (2010): *Hydrological processes of the Danube river basin — Perspectives from the Danubian countries*, Heidelberg, Springer  
**viii** Mihăilescu, S. & G. Praporgescu (2011): *About Mures-Tisa-Danube waterway*, *Annals of the University of Petroşani, Mechanical Engineering 13*, p 89-96.



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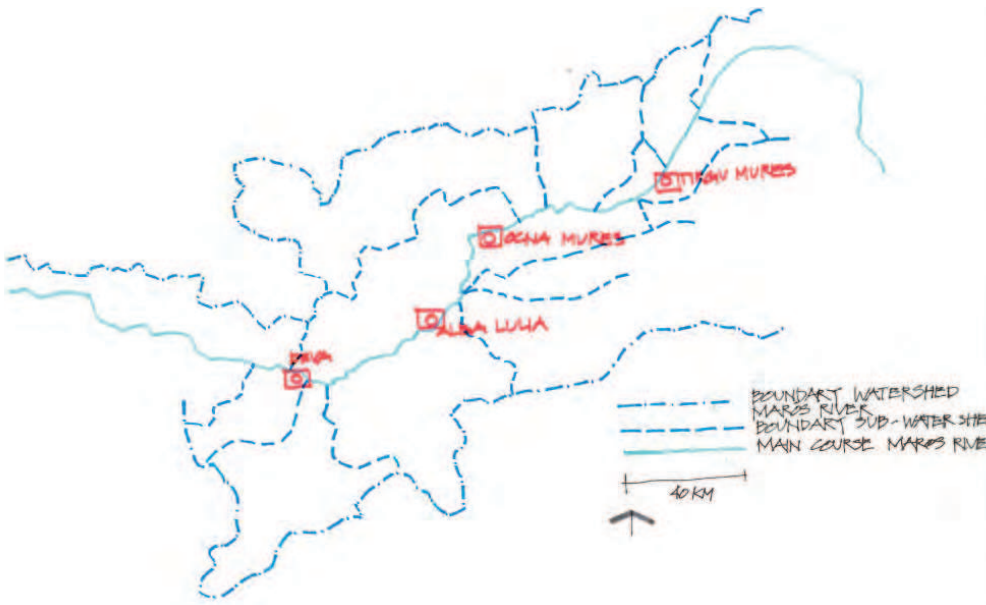
**Fig. 23.:** The Maros River in its regional context of the Carpathians. The Maros River, flowing westbound, is the only river that finds its origin in the Eastern Carpathians and breaks through the Western Carpathians towards the Tisza River. Starting in the Eastern Carpathians it follows its course through the Transylvanian plane towards Deva where it breaks through the Western Carpathians and flows into the Hungarian plane.

Altogether the course of the river passes through four major geological formations. The early finding of gold and salt in its surroundings already in the Roman times formed the basis for early occupation and settlement along the river. Roman roads, settlements and use of the river as a waterway gave the Maros River already since historical times a distinct cultural dimension. In this study the landscape of the Maros River as a natural system, as a socio-economic and

cultural system form a point of departure for contemporary plan development. Fig. 24.: The watershed of the Maros River and its sub-watersheds. The four geological formations also have an impact on the contours and locations of the watersheds. We see between Tirgu Mures and Deva a number of sub-watersheds along the river with different contour and structure; for instance between Ocna Mures and Deva the sub-watershed is located basically

parallel to the river. The four urban areas are distinguished as usual as separate watersheds. Combining the four different geological formations with the different sub-watersheds, gives already a firm base for a design approach at the regional level (OVERLAY AND MAP ANALYSIS BASED ON MIHĂILESCU & PRAPORGESCU, 2011). **Fig. 25.:** Comparative diagram of new challenges for landscape architecture. Note that all three are

global issues that need to be translated and implemented to the local conditions of land and landscape. Looking at the history of the landscape of the Maros river, it is remarkable to see that a number of these challenges mentioned above were already known and applied in the 18th and 19th century (TURNOCK 2006). **Fig. 26.:** Design approaches in the context of heritage



*Different approaches on different levels of intervention*

Design proposals as part of design experiments and research are based on the general goal for future socio-economic development to develop the river and its surroundings both for agricultural and forestry use and tourism. The plan assumes no increase in population, so new urban extensions are not taken into account.

- Strategy for landscape development in the long run; developing the river landscape, settlements

and connections on the basis of the distinction of watersheds.<sup>6</sup>

In this part of the river, four concentrations of settlements have been distinguished all related to the river; Tirgu Mures, Ocna Mures, Alba Julia, Deva (fig. 27). These concentrations of settlements are areas that function as hubs connected by the river, by train and by roads both for cars and slow traffic (bicycles).

A first design principle on the regional level is the historical continuity. In the past the mansions, gardens and estates formed the economic framework of

<sup>6</sup> Motloch, J.L. (2001): *Introduction to Landscape Design*, New York, 2001, 2nd ed.

Energy transition	Water conservation and management	Creating comfort and healthy environments for people
<p>Energy transition towards renewable sources of energy            First two research questions have to be investigated:            - What is the demand for energy on the scale of the project?            - What is the potential for alternative forms of energy can be found in the study area?            Without further study in this region a combination of solar on the south slopes, hydropower by making use of the difference in elevation between mountains and river valley but also of the river itself, wind in the higher elevations, geothermal sources seems the most optimal. The generic design principle for energy systems of renewable energy will be decentralised generation by different local sources to ensure reliability of energy supply. Note that advanced water management and hydropower are not new to the area; Turnock, (2006) mentions examples already from the 19th century in the vicinity of Sibiu and elsewhere.</p>	<p>Improving water management            The shortage of fresh water will increase in the long run (Mekonnen &amp; Hoekstra, 2016). On the basis of the hydrological cycle, how can water be conserved in order to prevent peak discharges that cause inundations and let rainwater infiltrate? All water management has to be framed in the watershed system approach and the specific hydrological cycle determined largely by climate, location and topography. The European Water Framework Directive (Directive, 2000; Chave, 2002) offers a European framework for water and water systems that fits well in the landscape architectural approach of watersheds (Marsh, 1983; Motloch, 2001). Applications of the European Water Framework Directive can be found in an earlier study of Billen et al., (2007) for the Seine river in France and the Waterplan for the city of Rotterdam (Jacobs et al., 2007). Kaika (2003) puts the Water Framework Directive in a wider perspective of politics, economy and planning.</p>	<p>Improving the daily living environment is first of all conditioned by the local situation and culture. Health and comfort have different dimensions; health is a first condition for comfort. Comfort is an issue that plays a major role in the design of public spaces; the relation between public and private space, metalling and pavement, and the use of plantation and green space. Health can be quantified on the basis of criteria of the WHO, while comfort has a more qualitative character. Although the issue of health has for a longer time been important in landscape architecture, in contemporary research and practice it has gained new attention (Ward Thompson et. al, 2010). The issues of sustainability and health are intricately related, but the operational advantages of working with health are more applicable in planning and design than sustainability, on which everybody agrees but nobody can make it operational. "Sustainable" has become a commercial banner for just about everything related to the environment and business, so its original meaning has been put to the background and the term has become ubiquitous and too general.</p>

planning, design, management	water management	energy transition	creation of comfort and healthy environments	levels of interventions	water management	energy transition	creation of comfort and healthy environments
<i>restoration</i>				<i>strategy for landscape dev. in the long run</i>			
<i>reconstruction</i>				<i>re-structuring</i>			
<i>renovation</i>				<i>materialisation of form</i>			

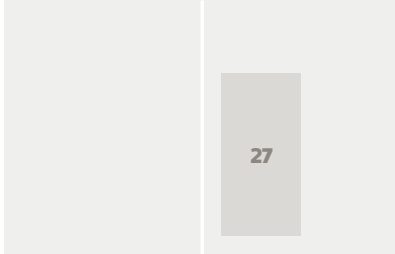
the region. In the design approach for the contemporary situation this principle will be re-established and will be supplemented by touristic developments. Economic development is based on making use of the local resources including a decentralised energy network which makes use of solar energy and water storage. Further research is needed whether the flow of the river can also be used for energy generation by means of hydro power.

- Design interventions at the structural level; settlement clusters, hubs (fig. 28)

At the regional level the existing geomorphology and the watershed are the basis for landscape structure. Settlements, road systems, railways and main types of land use further complement the structure. In the Maros river valley we see them bundled along the valley form. What is also characteristic that is the main road sometimes 'switching' from left to right bank and the other way round thus creating a certain 'asymmetry' in the valley landscape.

Each hub will get a special character related to the history of the settlement





**Fig. 27.:** Points of departure for a design approach. On top the existing situation of valley, settlements, main infrastructure. In the middle the river and its watershed, sub-watersheds and settlements with their own watersheds. Below a first principle for the horizontal organization of the valley

and on the different types of land use developed around them. Overall the settlements will be part of a redesigned context of green space for both the inhabitants of the settlements and tourism. The clusters of settlements will get their own energy generation based on solar panels and water reservoirs as storage.<sup>7</sup> In all settlements porting facilities have to be created for shipping and transport both of people and freight.

Between these hubs the North and South slopes will be developed differently in terms of land use. The north slopes – getting full exposure to the sun – will get a focus on generating solar energy in combination with agriculture, vineyards, forestry and water reservoirs for storage and irrigation.

Connections between the settlements will also take place over water; for both locals & tourists and for freight. The river will be redeveloped as a waterway at a regional and structural level between settlements.

– Design interventions at the level of elements, materialisation of form; the role of the historical mansions and gardens (fig. 29)

Fekete (2007; 2015)<sup>8</sup> did a first systematic study of Transylvanian

gardens of castles and mansions along the Maros River. He describes 37 examples and sketches in a short historical development. Some of the castles date from the Middle Ages but also till the 19th century, new mansions have been constructed and reconstruction of existing ones took place. The study forms also a point of departure for a regional development study in contemporary context.

The historical mansions will be used as core of setting up new farms, vineyards, forests, fish ponds. They will also function as key centre of energy generation by solar devices in combination with reservoirs that can be used both for storage, fishponds and irrigation. Sipos et al. (2014)<sup>9</sup> report as main problem the shortage of water in summer due to increase of fresh water use by different types of land use and by inhabitants. It means that water storage will be a main issue in the future for the region as a whole. Historical buildings and garden layouts or elements can be reconstructed for use as hotels, parks, museums, educational facilities.

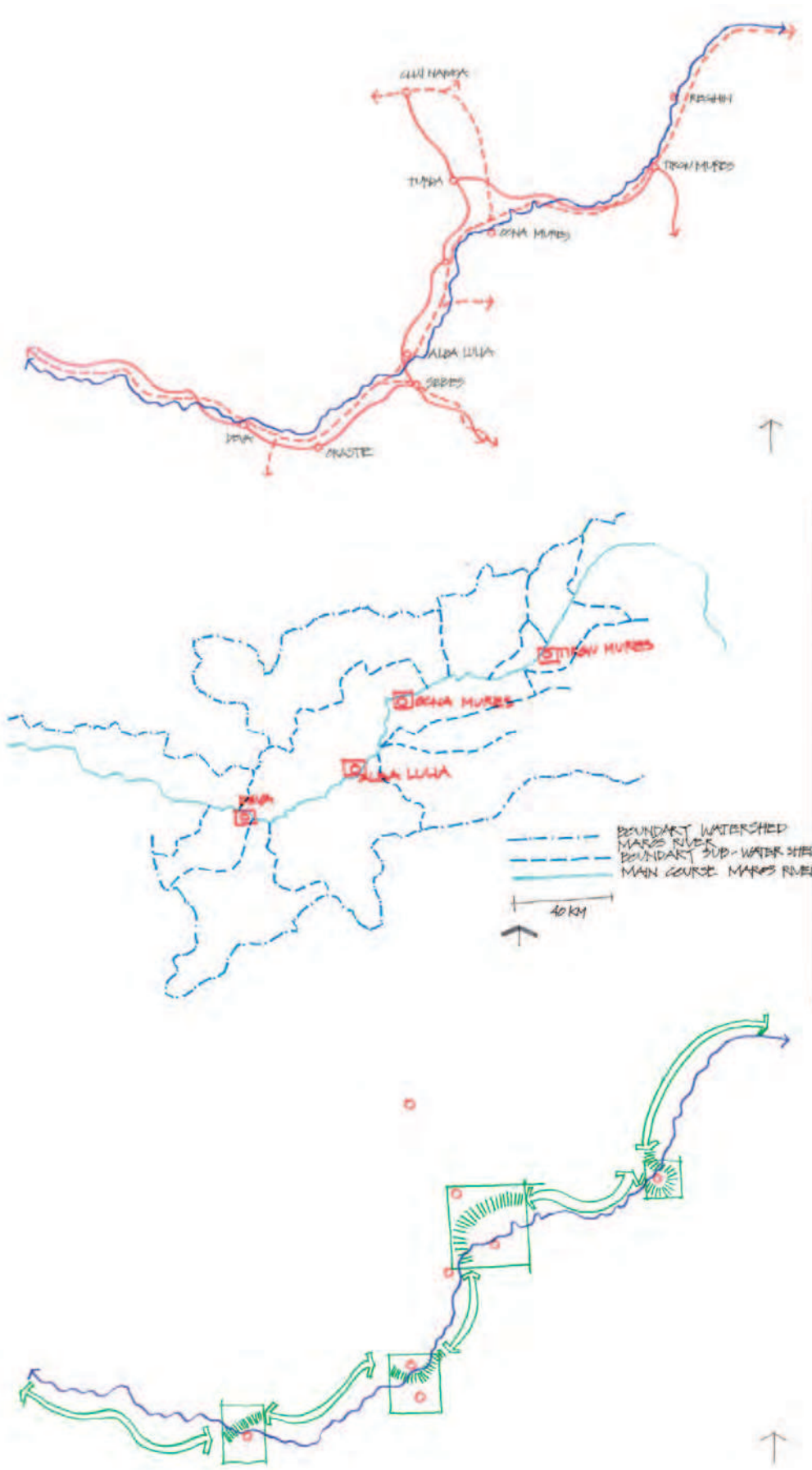
*Horizontal organisation of the river landscape*

Creation of distinctly different stretches among the settlements by making use

<sup>7</sup> Dobbelsteen, A. van den & N. Tillie & S. Boersma & M. Fremouw (2014): *The energy master plan: transition to self-sufficient city regions by means of an approach to local energy potentials*, Ahmedabad, 30th Int. PLEA Conference, p 252-260

<sup>8</sup> Fekete, A. (2007): *Transylvanian garden history – Castle-gardens along the Maros river, Kolozsvár, Művelődés* Fekete, A. (2015): *The Transylvanian castle gardens inventory – 2004-2014*, in: Niin & Mishra, 2015, p 410-413

<sup>9</sup> Sipos, G. & V. Blanka & G. Mezösi & T. Kiss & B. van Leeuwen (2014): *Effect of climate change on the hydrological character of river Maros, Hungary-Romania*, *Journal of Environmental Geography* 7 - 1/2, p 49-56





of the differences between the left and right bank (fig. 27; 30). It is materialised in the course of the river itself, the infrastructure of the valley and the location of the settlements. The horizontal organisation is based on the geology, the topography and the watersheds.

*Vertical organisation of the river landscape*

Comprises the spatial organisation of the slope and the relations with the underground for instance in case of geothermal resources. It is based on the form of the valley in its cross section, the form of the slopes and the underground material and resources (fig. 31). Especially for energy generation the differences in elevation represent potential energy. Geothermal energy is also important in the vertical organisation of the landscape.

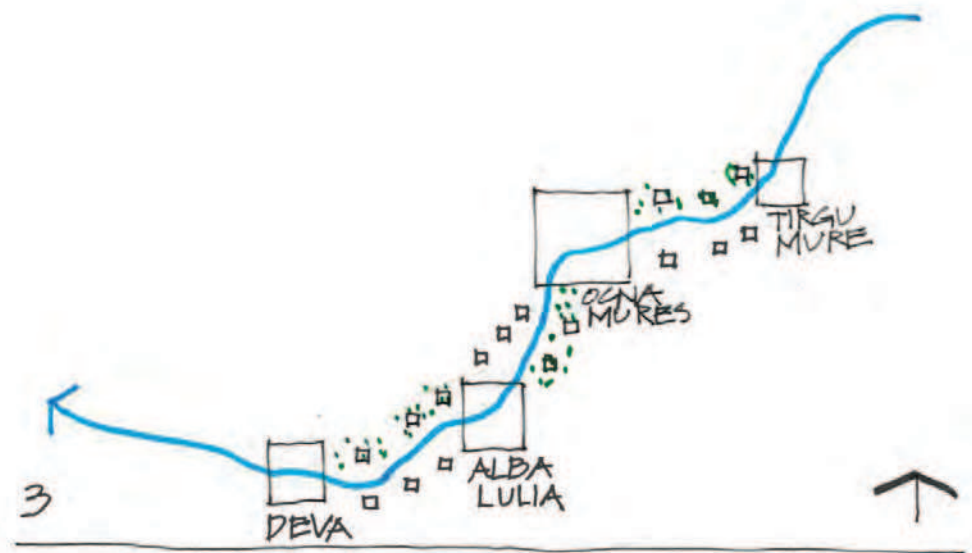
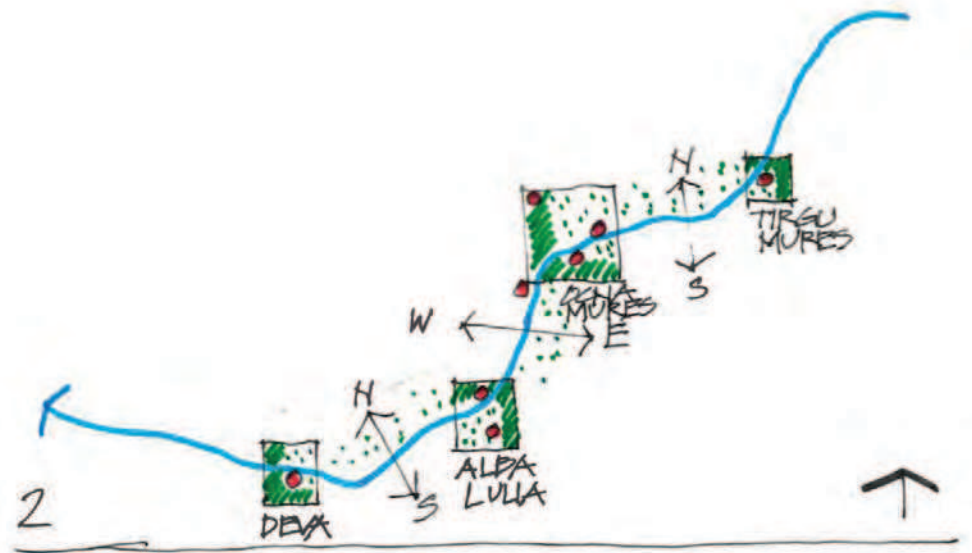
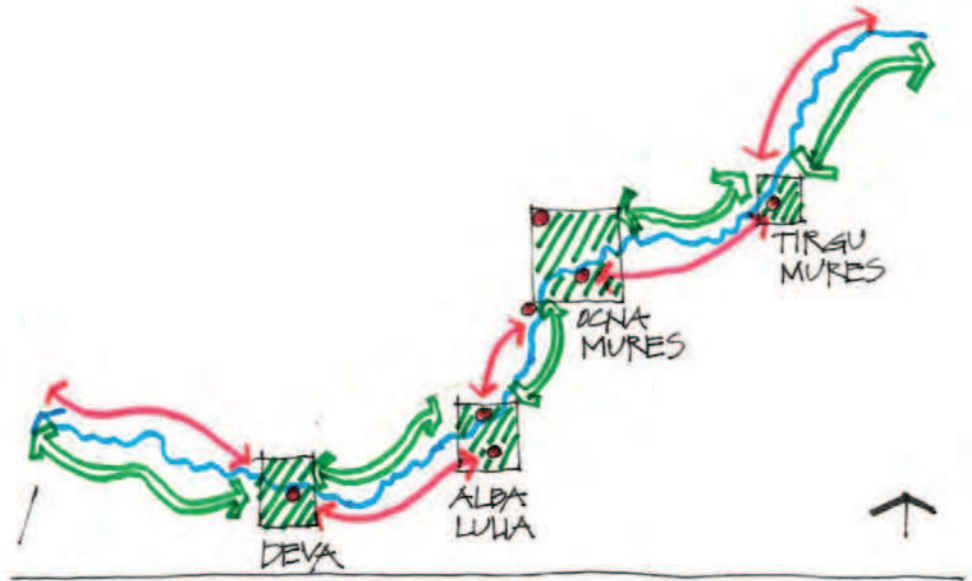
**CONCLUSIONS**

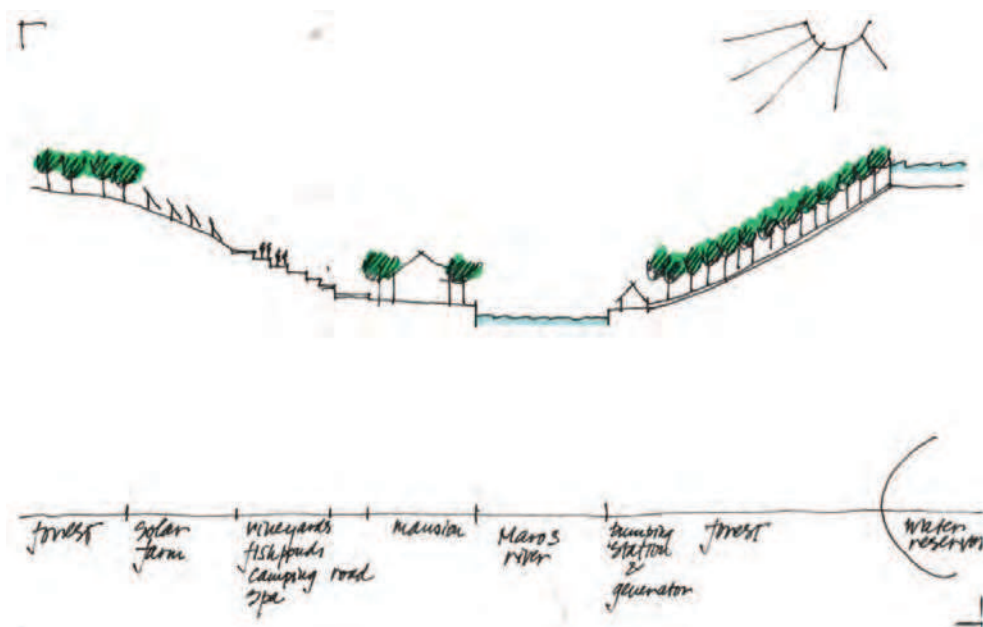
**Heritage, site and early plans**

In landscape architecture all interventions take place in an existing site which is explicitly part of the design task; 'tabula rasa' does not exist. The local qualities are always the point of departure. So, all design in landscape architecture can be considered as a form of transformation of the existing. In case of historical settings as we have seen, not only the existing site has to be taken into account but also earlier plan interventions from the past. Part of the problem analysis and concept development in the beginning of such projects is geared towards the taking into account and integrating these two into a new synthesis of a plan for the future.

**Three design approaches**

The three design approaches – restoration, renovation, reconstruction – that we have seen in the case studies, all deal in a different way with the problem of conservation and development of





28	31
29	
30	

**Fig. 28.:** Design approach for the Maros river; level of strategy. The strategy for the landscape development in the long run comprises a developing the river landscape, settlements and connections. In this part of the river we have distinguished four concentrations of settlements related to the river; Devia, Alba Julia, Ocna Mures, Tirgu Mures. These concentrations of settlements are areas that function as hubs that are connected by

the river, by train and by roads both for cars and slow traffic (bicycles). The stretches between these hubs are treated differently; the left and right banks alternate in busy (with main roads) and quiet (no through roads for cars, only for slow traffic such as bicycles). In this way the stretches will get a more distinct character, function and use  
**Fig. 29.:** Design approach for the Maros River; level of

structure. The strategy is elaborated further on the level of structure by defining guidelines for the settlement clusters as hubs and the connections between them. For the Maros River, we have developed a design approach of alternating future use by changing the road systems between left and right bank.<sup>9</sup> Thus creating differences and conditions for different types of use in the future, including water storage, leisure,

energy production by making use of hydropower and solar systems  
**Fig. 30.:** Design approach for the Maros River; level of element. The historical mansions can be used as 'catalysts' for socio-economic development both for the production of food and timber but also for tourism. Depending on location, what is left and potential of the site, they can serve as starting points for economic

development. Next to the historical mansions, also new ones can be developed; not in historical form but as contemporary centres of economic development with an integrated system of production of food, timber, energy and stimulating new touristic activities such as fishing, hiking, mountain biking, wild water canoeing and other ones  
**Fig. 31.** Design approach for the Maros River;

elaboration of slopes. Next to the horizontal relations also the vertical relations play a role, for instance in the spatial organization of the slopes of the valley. Here we give some principles for the difference between the north and south slopes. The north slopes could be developed in forest with water storage on top of the hill while the south slope could be developed in vineyards, spas, orchards. The upper slope could be used

for solar panels and on top forest or also water storage. The local energy generation could be based on both solar energy, hydropower from the river and the reservoirs on top of the hills as storage. Since there is also geothermal energy available, this could also be integrated into the new energy production plan

*ix Toorn, M. van den & A. Fekete (2016): Fieldwork in Transylvania – A landscape architectural perspective – Landscape and urban development (Part 2), Transylvania Nostra 10(2016) - 1*



the landscape at different levels of intervention. Heritage is not represented in the conservation of elements but in the use of landscape structures either natural or man-made.

### Heritage in architecture and in landscape architecture

Heritage, conservation and historicism in landscape architecture have a different content, meaning and scope than in architecture. Where in architecture heritage is focussed on conservation of elements (buildings), in landscape architecture heritage refers to landscape structure in interaction with human occupation and use. The structure provides a framework for both conservation of elements and for new developments as long as the historical structure of the landscape remains 'readable'.

### New challenges for landscape architecture

In landscape architecture there is no space for conservation like in a museum; a landscape is a living entity both naturally and culturally. For the future, new challenges for the profession that are demanded by society at large; energy transition, water management and conservation, the creation of comfort and healthy environments for people.

### Heritage in the landscape needs more than regulations, fences and managers

In search of conceptual unity, site, design history and program define the design concept and approach for the planning and design of historical gardens, parks, landscapes. Heritage needs first of all an integrated approach; conceptual thinking resulting in design that creates a new meaningful order. ©

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## A KÖZÉP-EURÓPAI TÖRTÉNETI KERTEK ÖRÖKSÉGE ÉS ÚJ KIHÍVÁSOK A TÁJÉPÍTÉSZET SZÁMÁRA, 2. RÉSZ

Ebben a tanulmányban a közép- és kelet-európai, s azon belül is különös tekintettel a magyar tájépítészet, kertművészet helyzetét és szerepét ismer-tetjük a szakterület európai törté-nelmében. A legfontosabb kérdés az elemzés során az örökség szerepe a kortárs tájépítészeti tervezésben.

A budapesti Tájépítészeti és Tele-püléstervezési Karon 2018. áprilisában a tájépítészeti örökségről szóló kon-ferencián tartott előadás egy, a hely-színen járó külföldi szakértői benyo-másain és meglátásain alapult. A régi-óval, a tájépítészeti adottságokkal és értékekkel csak néhány éve ismer-keдем, amióta Budapesten taní-tok és kutatok. A dolgozat első részé-ben (4D 49. szám) a kert, mint tájépi-tészeti alkotás történeti fejlődését mutattuk be általánosságban, illetve a gondolkodás és a tervezési gyakor-lat fejlődésére gyakorolt hatásában.

A jelen második rész az örökség és a kortárs tájépítészeti tervezés kap-csolatával foglalkozik. A tervezői, alko-tói szemléletet napjaink legfontosabb tájépítészeti kihívásainak tükrében mutatjuk be; az aktuális szempontok a fenntartható vízgazdálkodás és ener-giaszolgáltatás, valamint a kellemes és egészséges környezet megteremtése az emberek számára. Ezt egy romániai, a Maros folyó völgyében készült tájépi-tészeti munka esettanulmányként való bemutatása szemlélteti. A következte-ésekben az "olvashatóság" fogalmát a tájépítészeti örökség kontextusában értelmezzük, mint az örökségvédelem és megújítás egyik lehetséges útját.

A táji örökség sajátos jelenség. A tájat ugyanis nem lehet megőrizni, konzerválni, mert a táj az emberi beavat-

kozás nélkül is folytonosan változik. Az építészeti örökségvédelem hagyomá-nyos módszerei, a renoválás és a resta-uráció a tájépítészetben csak nagyon szűken értelmezhető. A táj nem műem-lék, s nem konzerválható. A tájat a tár-sadalom, a kultúra hozza létre és ala-kítja. Egyes tájakat "kulturális emlék vagy örökség" formájában kezelnek és tartanak fenn, a tájak dinamiká-ját szükségképpen figyelembe véve.

Az örökségvédelem tervezésemé-leti és gyakorlati megközelítése három határozott elvet, módszert követ.

1. A restaurálás a táji örökség esetében a leginkább kérdéses. A történeti értéket képező tájépítészeti alkotás hiteles és hű visszaépítése akkor képzelhető el, ha kellő információ áll rendelkezésre, és a restaurálás a jövőbeli funkciót (pl. múzeum) alapozza meg. A hollandiai Appel-doornban lévő híres Het Loo barokk kastélykertje jó példa erre a megújítási módra.
2. A renoválás részleges restaurálás mellett új anyagok és megoldások számára ad teret, megőrizve a történeti hangulatot. Villandry reneszánsz kertje hiteles hangulatot sugároz, miközben a történeti térszerkezetben telepített, ám a mai igényeknek is megfelelő konyhakert-kialakítások új vonzerőt jelentenek a látogatóknak, akik a látványon túl a házikert, a konyhakert kialakítására is kapnak ötleteket, információkat.
3. A rekonstrukció a történeti környe-zet keretei között valósít meg új programot. Városi léptékben értelmezhető rekonstrukciós beavatko-zásnak tekinthető Párizsban a meghosszabbított városi tengely: a Louvre, a Tuileriák és a Champs-Élysées meghosszabbítása a La Defense fejlesztéssel.

A tervezési elvek és szemléletmódok gyakorlati alkalmazását a romániai

Maros-folyó menti táj példáján mutatjuk be. A tájszerkezet, táji adottságok meg-értése a folyó és a folyó menti táj elem-zésére alapul, ahol a vízvázlat térség-ek lehatárolása az első lépés, hiszen ez határozhatja meg az esetleges beavat-kozásokat is. A Maros menti térség-ben négy nagyobb település – Maros-vásárhely, Marosújvár, Gyulafehérvár, Déva – jött létre, fejlődésében szoro-san a folyóhoz kapcsolódva. A történeti folytonosság alapvető szempont a ter-vezési folyamatban. A múltban a kas-télyok és kúriák jelentették a gazda-sági szervező erőt a térségben, tehát ezt a láncolatot kell újraértelmezni napja-ink turisztikai fejlesztését elősegítve, és megteremtve a gazdasági fejlődés lehe-tőségét a helyi források táj- és ökotuda-tos kiaknázásával, pl. víztározás, víz- és napenergia-hasznosítás formájában. A történeti épületek és kertek megújítása új funkciók keretében lehetséges (szál-loda, múzeum, oktatási intézmény, park, fürdő stb.). A folyó menti táj vertikális és horizontális értelmezése – lejtő- és völgyformák, földrajzi és vízrajzi adott-ságok – szintén új fejlesztési lehetősé-geket rejtenek (pl. geotermikus energia, új turisztikai attrakciók, mint vadvízi evezés, sziklamászás, horgászat stb.).

Összegzésként megállapítható, hogy a történeti örökség soha nem nulláz-ható le, hiszen minden kornak az adott-ságokból kell építkeznie. A tervezés tehát a meglévő adottságok, a táj átala-kítását, átformálását jelenthetik. A három fő tervezési szemlélet – resta-urálás, renoválás, rekonstrukció – a megújítás és fejlesztés céljait szolgálja különböző táji beavatkozások formájá-ban. Az örökség védelme nem pusztán a táji elemek megőrzésében, megújítá-sában valósul meg, hanem a tájszerke-zet, a tájadottságok használatában, füg-getlenül attól, hogy a táj, a tájelemek természeti vagy ember által alakított, ill. létrehozott elemek. ©