

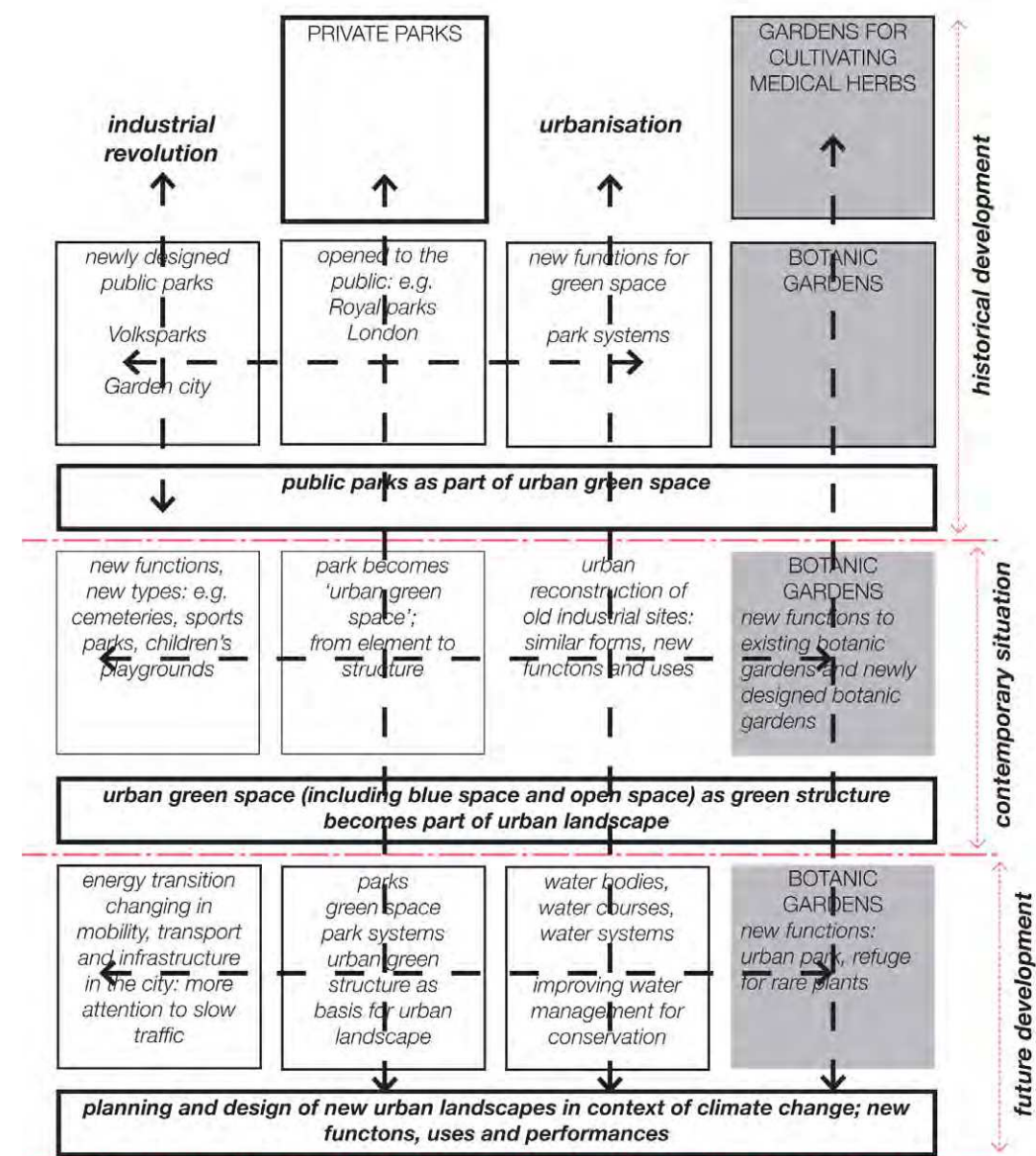
NEW FUNCTIONS AND ROLES FOR PUBLIC PARKS IN EUROPE

THE FUTURE RELATION BETWEEN PUBLIC SPACE AND PUBLIC HEALTH

EURÓPAI KÖZPARKOK ÚJ SZEREPKÖRE ÉS FUNKCIÓI A SZABADTEREK ÉS A KÖZEGÉSZSÉGÜGY KAPCSOLATA A JÖVŐBEN

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ABSTRACT

This article deals with the changes in function, use and form of public parks in the context of climate change. The scope is the European context and special attention will be paid to the public health in relation to public parks in the future.

Key research question is how landscape architects can plan and design public parks for the future by giving form to the global challenge of climate change and how that can be tackled for the local conditions.

The main line of reasoning follows the triad past, present and future. In the first part a short overview of the development of public parks is presented. In the second part some aspects of contemporary public parks in relation

to education are elaborated. In the last part three case studies are put forward to illustrate developments to come in the context of climate change. Core of the conclusions is the continuity and change in the planning and design of public parks and the design role of landscape architects.

Keywords: landscape architecture; climate change; design knowledge; urban landscape; design & health

1. INTRODUCTION

The subject of the Conference 'The educational role of public parks' has two key issues. First 'public parks' and secondly their 'educational role'.

The issue of 'public parks' refers to a special type of parks that emerged in Europe from the 18th century on and was at that time associated with the Industrial revolution and people moving to the cities.

The issue of their educational role can be diverse; it can comprise learning about plants, vegetation or animals but it can also be an adventure playground where children can build with rest materials, old pallets or other building materials their own huts and other creations. Moreover, the educational role can refer to different age groups, from children to families with children and grown-ups.

Public parks are a large work domain in landscape architecture and there is also a substantial body of design knowledge for this type of projects although this

is still largely implicit. In the context of climate change, also for public parks new functions and uses will emerge in which public health will play a key role.

Scope and outline

The study focusses on the future of public parks in Europe in the context of climate change and what landscape architects can contribute in that field. It is further limited by special attention for the educational role that public parks can play.

We start with two main issues; the public park in the past and nowadays and the new functions and uses in the climate change. In the last part these new functions and uses are elaborated into some case studies in which the educational role is emphasised.

Research questions and research approach

The research approach is based on the idea of learning from design experience in projects from the past and making use of that design knowledge in developing new functions for public parks. This development of design knowledge is a continuum not an abrupt change.

The general research question is what landscape architects can contribute to climate change in the domain of planning and design of public parks from an educational point of view. It can be divided in three sub-questions:

- What can we learn from the history of public parks and its development over time?
- How are contemporary public parks functioning and used?
- What could be the role of public parks in the future in the context of climate change?

Definitions and terminology

Public park

Fleming et al. (1998) define 'public park' as:

A park made for and usually maintained at the expense of an urban population.

Three aspects form the core of what a 'public park' is or should be. First access for the general public, second the goals of recreation and the improvement of social classes. Third the contribution to public health in some form.

Training

Training or instruction comprises the acquisition of skills. In most cases it is quite straightforward in scope and goals; learning a skill such as a computer program, the pruning of fruit trees or how to draw a cross section.

Learning

Learning takes place at a school in the form of acquiring knowledge. In landscape architecture there are different teaching modes such as lectures

courses, studio, field work. For each of them different teaching goals and learning goals have to be defined before, depending on level, prerequisites, cultural backgrounds of students.

In landscape architecture teaching at a University level, the BSc-level teaching comprises learning how and why while at the Master level the general approach is on why and how. The generic goal in university education is learning to think independently by integrating skills, knowledge into a personal development. Core of university education is based on the competence of abstraction.

Education

The most comprehensive form of teaching is 'education' which comprises skills, knowledge and insight as a basis for further professional and personal development.

In landscape architecture this takes place mainly in the studio where for instance during presentations of work the studio-master makes remarks and draws relations with what the students have learned in other courses, in the field or relates the work to practice. Gaining insight is a generic goal of all university-level education and continues also after finishing the studies at the University.

During periods of practice students gain insight in the relation between theory and practice, which is also the case with excursions abroad where students see projects and meet their peers in other countries.

The term 'education' can have different meanings. In most cases we first think of schools as part of public education. It is a form of 'institutional' education and is in most countries included in the constitution.

Public education is not only geared towards acquiring of knowledge but also to become part of a culture and learning to communicate with others in society.

Education can also be related to specific social groups such as families,

age groups, car drivers etc. The common goals of a social group can sometimes be achieved by some form of education. In the Netherlands during the first part of the 20th century, nature conservation organisations set up a system to introduce school children into the natural environment as part of their living environment. It was called 'nature education'.

Finally education can also refer to individuals who want to broaden their horizon or orient themselves into other types of work. Physical education by learning a sport is an example. In the Netherlands sports that are related to water such as swimming, sailing and rowing are also culturally engrained as part of a culture that has always been oriented and dependent on the sea.

Education takes also place outside specific institutions of the public education system. The general public is also – in an indirect manner – educated through media, governments at different levels, cultural institutions.

Landscape architecture

We use a definition by the European Council of Landscape Architecture Schools (ECLAS) which includes many aspects of others and is coherent and up-to-date (http://eclas.org/content/landscape-architecture/landscape-architecture_main.php, 2004):

"Landscape architecture is the discipline concerned with mankind's conscious shaping of his external environment. It involves planning, design and management of the landscape to create, maintain, protect and enhance places so as to be both functional, beautiful and sustainable (in every sense of the word), and appropriate to diverse human and ecological needs. The multifaceted nature of the landscape and mankind's interaction with it, means that the subject area is one of unusual breadth, drawing on and integrating concepts and approaches, not just from two sides of the traditional divide between the creative

arts and the natural sciences, but incorporating many aspects of the humanities and technology as well." (...) Landscape Architecture is both a professional activity and an academic discipline. It encompasses the fields of landscape planning, landscape management and landscape design in both urban and rural areas and at the local and regional level. It is concerned with the conservation and enhancement of the landscape and its associated values for the benefit of current and future generations.

Landscape

Landscape is object of study for many disciplines such as geography, geodesy, geology, anthropology, history. For landscape architecture the landscape is object of planning and design which distinguishes it from all other disciplines engaged in study of landscape and other design disciplines.

Usually a distinction can be made between urban, rural and infralandscape. Infralandscape are landscapes that are directly or indirectly influenced by infrastructure, flows and movement of people, matter, energy & information. In this study the focus will be on urban landscapes.

2. A BRIEF HISTORY OF PUBLIC PARKS

Public parks date back essentially from the 18th century and were associated with people moving to the cities to find work in mining and industrial production (Toorn, 2005; 2014 [2]). Before there were green spaces but only for a limited group in society and for different functions and use. Some of the public parks we know nowadays have their origin in a long history as private park for the well-to-do and were opened to the public in the 19th century such as the Royal Parks in London (Chadwick, 1966; Vercelloni & Vercelloni, 2009).

Botanic gardens are a special category in this context. Chadwick (1966) puts

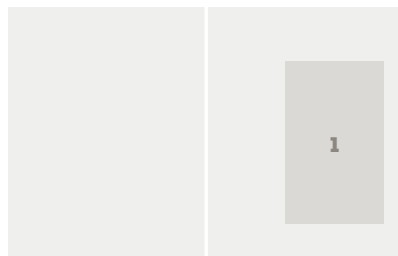


Fig. 1: Gropius (1955) in fact rationalised the principles of open space between buildings in a diagrammatic relation between building height and space between buildings.

forward that botanic gardens can be considered the first public parks because they have always been – and still are – open to the general public. Note that the function of botanic gardens is scientific research first into plants for medical use later on into the field of plant sciences and taxonomy in particular.

In the 20th century we see this development of the landscape as public space extended outside the cities as urban landscapes (Vroom, 1992). In the Netherlands the landscape plans for linear plantations along major roads and waterways from 1916 on and from the 30s on the landscape plans for the new Zuiderzee polders. The 20th century in Europe marked the emergence of the planning and design of the landscape as public space as a major new work domain for landscape architecture (Toorn, 2008).

Konijnendijk et al. (2005) give an extensive overview of urban forests and their history but do include also trees in parks, linear plantations along streets and boulevards and urban plaza's.

2.1 THE RISE OF THE PUBLIC PARK IN WESTERN AND CENTRAL EUROPE

The emergence of the need for public parks as open space for the general public was based on concerns about the alarming state of public health in the cities that had extended explosively but unplanned and in the cheapest possible way, with a few exceptions (Vercelloni & Vercelloni, 2009).

'Hygeia'

Public parks as open space that most citizens lacked, both in their living environment and in their working environment, were a first reaction to improve the bad living conditions.

One of the first initiatives to improve these bad living conditions in the city came from Sir Benjamin W. Richardson (1828-1896) a British physician who

specialised on public hygiene and infectious diseases. In 1875 he presented his well-known 'Hygeia' [the Goddess of good health, cleanliness, and sanitation] at a conference for the Social Science Association. The concept of 'Hygeia' was published in the same year under the title of 'City of health' (Richardson, 1875). It described basically how an ideal city might be planned from the viewpoint of public health; a functionalist approach to town planning with no concern for the aesthetic aspects of town planning of most architects of that time.

Richardson describes in great detail the need of sunlight in streets and dwellings, private gardens, sewage systems, no underground spaces or transport, chimneys in all private dwellings. For the layout of the city he mentions factories to be located outside the residential quarters, the same for the sewage works, the water works. He gives a detailed description of the hospital as an important public building, the same for houses for the aged and asylums. Apart from the private gardens, he also mentions swimming pools, playgrounds, gymnasia. Special attention is given to the cemeteries and burial grounds.

According to Richardson, every city should have a sanitary officer to watch over the sanitary welfare and well-being.

Howard; Garden cities of tomorrow

While Richardson's 'Hygeia' was – and still is – largely unknown even among professional landscape architects and architects, the opposite is the case for Howard's 'Garden cities of tomorrow'.

Sir Ebenezer Howard (1850-1928) the self-made utopian thinker and writer, published in 1899 'A Peaceful Path to Real Reform'. It can be seen as a manifesto for the overcrowding of cities during the Industrial revolution because of people moving to the cities to work in the factories. According to Howard part of the cause of the problem was the

land, not being available for workers and the lower classes and thus being housed in unliveable small dwellings.

In 1902 he published a revised version under the title 'Garden cities of tomorrow', largely based on ideas of social reform and town planning. The publication can be viewed as a blueprint for an ideal society, in which he formulated his solution to these problems in the form of a graphic layout for new settlements outside the big cities, also called 'garden cities' as self-contained communities surrounded by greenbelts containing proportionate areas of residences, industry and agriculture.

Letchworth, the first of the garden cities to be built and founded in 1903, was not a great success. Despite being owned and developed by a company, in the long run it proved to be too expensive for workers and other low-income groups. In general the garden city concept is based on low densities which is far more expensive than high density and high rise.

The concept of 'garden cities' was followed, often in adapted form, in the UK and abroad. Some people even consider the garden city movement as the start of suburbanisation.

Developments in Central Europe

In most history of landscape architecture books, the development of public parks in Central and Eastern Europe is not dealt with (Toorn, 2018 [3]). Gothein (1979), still a classic source, is hardly mentioning Central and Eastern Europe but even the few public parks that are mentioned are not described or analysed.

The study of Csepely-Knorr (2016) is a recent example of a thorough study based on analysis of archival material of public parks in Budapest. Hopefully more of these type of studies will be done, also for other cities and countries in the region because this is a 'white spot' in the history of European landscape architecture. Recent research shows how

the emergence of public urban parks also took place in Central and Eastern Europe. For example the park 'Maksimir' in Zagreb realised by Bishop Juraj Haulik (1788-1869), is one of the many examples of public parks in the region (Taylor, 2008; Šćitaroci & Šćitaroci, 2014; Rechner Dika & Toorn, 2018). The 'Varosliget' park is another example of a public park in Budapest (Taylor, 2008; Szilágyi & Veréb, 2014; Jámbor, 2016).

In the book published on the occasion of the 25th anniversary of the Faculty of Landscape architecture and urbanism in Budapest, a number of research projects on public parks is mentioned, some of them related to climate change (Csemez et al. 2018).

Fekete (2007) did a number of studies on historical parks and gardens of mansions in Transylvania (Romania), most of them outside the larger cities. Nearly all of them are in bad state of maintenance and local and regional governments are studying the possibility of restoring a number of them and giving them a new function as public park. The Maros river is a regional landscape in Romania, which could have a potential for the creation of a landscape park (Fekete & Toorn, 2016).

From public parks as elements in the urban landscape to park systems at the structural level

The restructuring of Paris under Haussmann also resulted in the emergence of 'park systems' (Saalman, 1971). Preoccupied to contribute to the health and wellbeing of the urban population, the Emperor Napoleon III provided the conditions for Haussmann and his collaborators to reorganise the urban landscape of Paris at a structural level.

Alphand (1817-1891) – the park designer under Haussmann – introduced a new style of public parks, partly based on existing forests (Bois de Boulogne, Bois de Vincennes) but also newly designed such as the Parc Monceau.

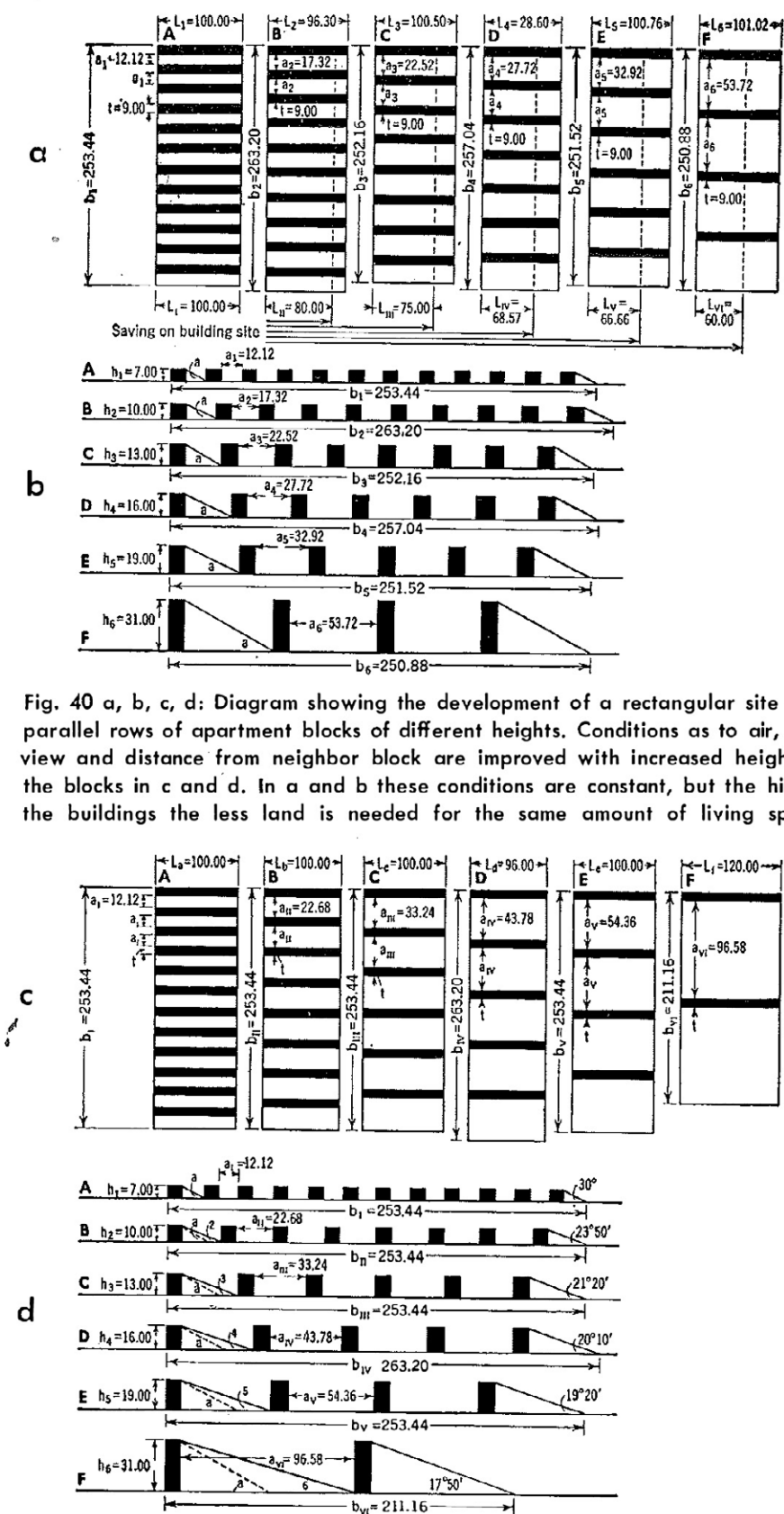


Fig. 40 a, b, c, d: Diagram showing the development of a rectangular site with parallel rows of apartment blocks of different heights. Conditions as to air, sun, view and distance from neighbor block are improved with increased height of the blocks in c and d. In a and b these conditions are constant, but the higher the buildings the less land is needed for the same amount of living space.

These new style parks were adapted to public use with pathways, small gardens, restaurants, water bodies.

At the beginning of the 20th century the Champs-de-Mars – the former site of the 'Exposition Universelle' in Paris in 1900 – was partly re-designed by J.C.N. Forestier (1861-1930) in which he developed a new eclecticism in French parks. It was Forestier who developed also the concept of park systems theoretically in which different types of parks were connected and integrated into the urban landscape, together creating a new green structure of open space, water bodies, linear plantations along boulevards (Leclerc, 1994; Leclerc & Cid, 1997). Forestier's concept of park systems was also applied abroad especially in South America.

In Stockholm at the end of the 30s a new development was initiated in the parks by director of parks Oswald Almqvist (1884-1950) and finished by his successor Holger Blom; the Stockholm park system (Nilsson & Burch, 2006). It comprises a coherent system as urban green system consisting of physically linked parks based on a concept which would later be called the 'Stockholm School of Park Design'. It can be considered as part of the modernist movement (Taylor, 2008). The new parks had a strong political impetus as a reaction to the urban development during the industrial revolution in the 19th century. These parks were more informal, fit for everyday park life for multiple use by all citizens.

In the second part of the last century, the green structure of Rotterdam also developed into a 'park system' but in this case the green structure was partly based on the structure of the landscape with the rivers Maas as the main water course and the small river Rotte as key landscape structures (Goossens et al., 1995). The whole system of parks is part of a man-made structure although it is also related to the river Maas.

2.2 VOLKSPARK

The concept of the Volkspark was founded in Germany and the first projects of Volksparks in Germany were: Ostpark Frankfurt (1906), Ludwig Lesser Park Berlin (1908) Schillerpark Berlin (1913), Vorgebirgspark (1911) Cologne (Vercelloni & Vercelloni, 2009).

Volksparks are designed as multi-functional urban green spaces (Pohl, 1993). Important elements in the concept of the Volkspark are an open green space or meadow as a multifunctional space for different types of uses, a water body and an urban forest. The 'urban forest' fits in the German idea of nature, very different from the landscape style forest in other countries.

One of the best-known Volksparks is the 'Stadtspark' in the city of Hamburg, designed by Schumacher in 1909. In the plan for the Stadtspark the three main elements come back; the 'great meadow', the 'Stadtspark lake' as part of the water system and the 'urban forest'. Next to smaller elements such as playgrounds, sports facilities, open air theatre, school gardens, these elements are part of a larger – mostly axial – structure. In the 'Stadtspark Hamburg' this axis forms a line from main entrance to the Planetarium (a former water tower, located at the highest point) and this axis organises the space also visually.

Note that the Volksparks lack any form of romanticism as we see in the landscape style and their plans are based on functional requirements of active and passive use of urban green space (Pohl, 1993). The planning and design backgrounds were explicitly not anti-urban as was later on the case in the 30s during the Nazi-regime.

Andela (1981) gives a historical overview of the development of the public park in the Netherlands and how it related to developments abroad, especially the Volkspark in Germany.

The concept of the Volkspark was also attractive as design approach because of its functional approach to the design of green space (Pohl, 1993). Implicit background of the concept of the Volkspark was the intricate relation between physical and mental health, a principle already engrained in the classical Greek culture.

2.3 THE MODERN MOVEMENT

The ideas of Richardson, Howard and others, resulting in more open space in the industrial city, were certainly part of the thinking and doing of the architects of the Modern Movement but the whole concept of the Modern Movement had a far larger scope. The Moderns wanted to create a new world designed by architects that used new materials, new ideas for better housing of people. They wanted to break with history, which was in their eyes a disaster and did not offer any inspiration for the new world they had in mind.

In relation to open space they developed new design principles (Fig. 1) in which there was enough open space between the buildings to let sunlight in and the buildings exposed to the sun in order to let in the sunlight into the interior (Gropius, 1955). Open space between buildings was a new function they introduced for the planning and layout of new urban extensions as was proposed in some of their CIAM meetings (Es et al., 2014). The architects of the Modern Movement extended the work domain of individual buildings to the organisation of these buildings in open space. For the Modern architects urban open space was a complement to their architecture.

Immediately after the WWII, in the Netherlands these principles were certainly applied and gave even in high rise neighbourhoods enough open space between buildings. The design

of the open space was not part of their design approach, for them open space was needed for health reasons (a functional approach) but there was very few – in any – attention for an integration between buildings and space. For the Moderns the landscape served only as background to their buildings and the landscape as such was certainly not object of planning and design.

Also in Budapest there are fine examples of these types of neighbourhoods from the period after WWII, in which the organisation of open space is exceptional compared to contemporary examples. Unfortunately these post-war neighbourhoods have been transformed in bad ways; the open space has for a large part been transformed into parking space for cars. In that sense they still function really well.

The Modern Movement was based on art and architecture, fields where also fundamental changes took place in that period. This was quite different from landscape architecture where the main change was the extension of the work domain from exclusively private gardens and parks to the planning and design of the landscape as public space (Toorn, 2005).

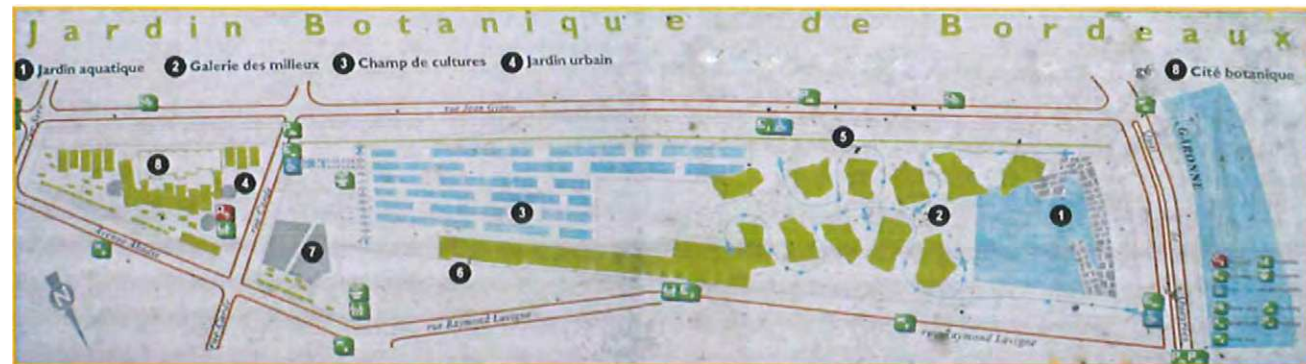
3. THE PRESENT SITUATION; WHAT IS THE ROLE OF PUBLIC PARKS NOWADAYS?

3.1 FUNCTION, USE AND ROLE OF PUBLIC PARKS

History and development over time

Before the 18th century there were no public parks in the real sense of the word; the botanic gardens were open to the general public but their main function was not public park.

One of the most important functions of parks before the 18th century was hunting, in the private gardens it was mostly pleasure, comfort



and in some case the collection and cultivation of rare plants.

Taylor (1995) gives an overview of functions of urban parks in 19th century Britain such as the park as a representation of nature in the city, as an artistic expression or as social places.

Kostof (2004) states that the public park is also an open space belonging to the public as of right. He considers the squares in London as urban open spaces that were in some or another way still related to the people and and surrounding dwellings. In his view the public park was a new phenomenon and explicitly related to the industrial revolution. The transition from private or royal park was a gradual development. He mentions as example the Englischer Garten in

München as an example of a public park in the strict sense, heavily influenced by the German idea of the Volkspark. He cites Loudon who considered the function of public parks also a means to raise the intellectual character of the lower classes. This is also the main idea behind the Derby Arboretum, which was designed by Loudon and for which the land was given by a philanthropist to the city of Derby.

Kostof views urban development as a process where different forces such as natural disasters, human interventions, war, big fires and planned interventions such as the creation of new boulevards by Haussmann in Paris, together create the form of the city.

Lund (1997) describes a great many gardens and parks designed by Danish

landscape architects. What is interesting in this chronological overview is the wide range of types of parks but especially their design backgrounds. To mention two design approaches; the functional, as in the design of sports facilities vs. the relation to the existing site and its topography as a basis for the structure of the park as in the example of housing estates, open air theatres and urban parks.

What are the benefits of public parks for people?

Konijnendijk et al. (2013) give a systematic overview of the benefits of urban parks. If we first distinguish the factors that influence the landscape as a system (natural, socio-economic and cultural), we can list them as follows:

- natural system
 - biodiversity
 - air quality, carbon sequestration
 - water management
 - microclimate
- socio-economic system
 - social cohesion; Francis, 2006; Nolin, 2006
 - tourism
 - house prices
- cultural system
 - identity
 - relation to nature
 - cultural monument

If we add to this outline the relation to people, as individual, as social groups and as society at large, we come to a matrix that represents the different relations. For each park the matrix can be filled in differently because of differences in site, time period and culture.

Note that Konijnendijk et al. explicitly refers to the role of trees in the urban landscape, not only in urban parks but also in linear plantations, urban plazas and solitary trees in the city. In Hungary Szabó et al. (2019) have set up research projects that investigate the role of urban trees in the urban climate and the relation with the urban heat island.

3.2 BOTANIC GARDENS

Botanic gardens are, in most cases, public gardens devoted to the cultivation of plants for scientific or educational purposes. Botanic gardens are distinguished from other gardens by the practice of arranging plants by some scheme that is helpful to the student of botany or horticulture and by complete and accurate labelling of all plant specimens. Already in history, botanic gardens had also other functions apart from scientific research; organise educational programmes to create environmental awareness among children, students and train teachers in environmental education but also inspire poets, writers and other artists by providing aesthetic experiences and pleasure.

Italy can be seen as the cradle of botanic gardens, founded on an ancient tradition of growing plants for medical uses. The origin of modern botanic gardens is generally traced to the appointment of professors of botany to the medical faculties of universities in 16th century Renaissance Italy, which also included the curation of a medicinal garden. The botanic gardens of Padua and Florence were founded in 1545, followed by the ones in Pisa and Bologna only a few years later.

In the contemporary times, botanic gardens are also important tourist attractions but can also be considered as the last refuge for some rare plants.

In Paris the Jardin des Plantes was established in the 17th century but originated from a nearby monastery and medical garden; the 'jardin du Roi' on the left bank of the Seine (Chadych and Leborgne, 1999). Overall the grounds are oriented on the river Seine. The buildings are both on the end and alongside of the axial system that is oriented to the river. In the jardin des Plantes organisation of plants is based on the system of Buffon (1739-1788), who became director of the garden and

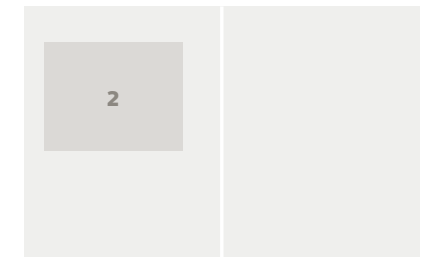


Fig. 2: The newly designed botanic garden in Bordeaux on the right bank of the Garonne (Mosbach, 2010)

transformed it into a major centre of research. The plants are organised by family, based on an evolutionary principle of development, fitting into the original layout from the 17th century.

The Jardin des Plantes is an extraordinary example of integration and urban quality, where all functions are beautifully integrated into a top quality design (Chadych and Leborgne, 1999). New additions, like the Museum are beautifully fit into the existing situation both from an architectural point of view (Bezombes and Bourgeois, 1994) as from a landscape architectural point of view. The garden is also a top quality urban public space where all urban activities you can think of are being used (Leveque, 1980). A superb urban space both naturally and culturally. Here the existing structure of the garden and its buildings is so strong that it can easily accommodate new interventions of various sorts.

In Bordeaux the botanic garden was displaced from the city centre to the right bank and was completely redesigned in 2007 by Mosbach as landscape architect and Jourda as architect (Fig. 2). The plan was based on three main requirements in the program; scientific research, informing the public, showing the regional natural landscape of the Aquitaine region. Mosbach searched for a concept that could inform urban people on the natural landscape right in the middle of the city (Fieldwork, 2006). The plan takes the historical parcelling of the agricultural land of the site as a point of departure. The relation between garden and city is important also in terms of physical borders in which the 'water garden' forms a transition to the river (Mosbach, 2010). The garden is organised in three main zones; the 'urban garden', the 'field of crops' and the 'gallery of natural landscapes'. The field of crops shows plants such as wheat, flax, oats; typically plants that people in the city don't recognise anymore. In the materialisation of form

the sculptural aspects of plants and groups of plants is also included. The gallery of natural landscapes shows different landscapes of the Aquitaine region. In fact, the plan for the botanic garden is a search for giving form to the relation between nature and culture in the city, an issue that has played a role in landscape architectural projects since its long history (Glacken, 1990). Bullivant (2007) includes the plan in her series of plans on 'activating nature' in the city.

While Chadwick (1966) puts forward the idea of botanic gardens as the first public parks, Tomasi (1991) comes to the conclusion that they might be the first step to modernisation of garden architecture because functional principles for the growing of medical plants and rare plants formed the basis for the design instead of aesthetic and style principles.

3.3 THEME PARKS, CHILDREN'S PLAYGROUNDS

Sørensen

The Danish landscape architect Sørensen (1893-1979) was the first to develop the concept of adventure playgrounds (Allen of Hurtwood, 1974; Lund, 1997). In 1931 he wrote 'Parkpolitik i sogn og kobstad' (Park Politics in Parish and Borough), a book still relevant today. Its most important contribution was the idea of adventure playgrounds which later spread all over Europe. Sørensen's idea of the 'skrammellegeplads' (adventure playgrounds) was first realised in Emdrup near Copenhagen in 1943, and later on in 1956 in the public housing development of Tingbjerg.

In the study of Lambert & Pearson (1974) an international overview of adventure playgrounds of different types and in different settings, is given. They include many projects from Denmark and the UK. It looks as if in that period the idea of adventure playgrounds was much more popular than nowadays. It is not entirely clear why.

Lady Allen of Hurtwood

Lady Allen of Hurtwood did a study on different types of adventure playgrounds in different countries (Allen of Hurtwood, 1974). While Sørensen had launched the idea in the 30s in Denmark, Lady Allen of Hurtwood has published a first overview of international experiences dealing with the phenomenon of play for children as part of their education in general. She has chosen a great variety of playgrounds, such as for different types of schools, in neighbourhoods, in parks but even in hospital settings. Not surprisingly the cases she describes and analyses come for a large part from Scandinavia.

Playing in the street or at dedicated playgrounds?

The Dutch architect Herman Hertzberger did a study on the relation between architecture, space and learning and the design of learning environments (Hertzberger, 2008). In this study he first of all states that the street could be an ideal place to play, learn and grow up in the outdoors but that it has been taken over by the car and become too dangerous for children. He distinguishes three learning environments for children; the classroom, the school as 'micro' city and the city as 'macro' school. The design of learning environments has always been an important domain for him as an architect.

Abu-Ghazze (1998) did a study in Jordan on the use of streets as environment for play for children. Like Hertzberger, he also remarks that nowadays streets could be ideal play environments for children but are too dangerous because of the contemporary 'Holy Cow' (which has much more space and privileges than the Holy Cows in India): the car. He studied how children did use the streets as playground in a neighbourhood in Amman in Jordan. He considers the street an important part of the growing up in a city and advocates

for such a layout of streets that both the car and children will be able to use it.

Hayward et al. (1974) compare different types and forms of playgrounds in three study sites in the US. They distinguish three types; traditional, contemporary and adventure, all were located in neighbourhood settings. One of the recommendations for further research is to find out how these organised, and mostly designed playgrounds, relate to the non-specific playing sites in the experience of children and how they contribute to the general education and growing up.

For children playgrounds are much more than only sites where they can enjoy the outdoors; discovery, experiment, social learning and contact with the real world are prime educational aspects for them. Depending on the design, layout and materials in the playground the scope of discovery and experimentation are hard to overestimate and are all experiences that cannot be learned in the classroom.

4. WHAT COULD BE THE ROLE OF PUBLIC PARKS IN THE FUTURE?

Landscape architecture is getting more evidence-based as we can see now in dealing with climate change.

Climate change is modelled on the basis of physics, the earth sciences and how it relates to and affects society at large. This scientific modelling is highly dynamic; as soon as new data are put into the model, the model changes. Models in science are based on a reduction of the everyday reality. In the building of models there are inevitably assumptions included, which are not always explicit. Models are first of all needed to get insight into backgrounds of the changes in real life and secondly to predict on the bases of results.

Landscape architects – and for that matter all other design disciplines

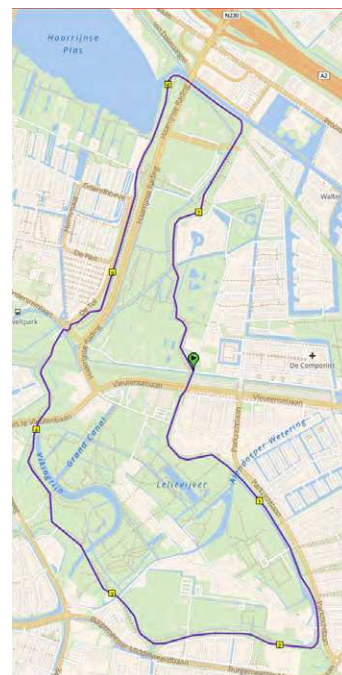


Fig. 3: The Maxima park in Utrecht, Leidsche Rijn On the left the line [het lint], in the middle an overview of different elements, structures and context, on the right the park in relation to the traffic system with the motorway A2 on top and the former branch of the river Rhine.

— deal with climate change in a completely different way. They approach the problem in a designerly way and work in real time and in real life. The scientific approach and the design approach complement and influence each other (Fekete & Toorn, 2019).

Climate change will undoubtedly also affect the function, form and use of public parks. The issue of public health will play a major role in functioning and role of public parks in the future.

Existing functions of public parks will largely remain but also new functions will emerge and consequently new types of use, users.

Functions as part of the landscape as a natural system will become more explicit and be extended. Not only will parks maintain their traditional role of 'lungs' of the city but this will become even more important due to the still rising air pollution. The function of parks as part of the water system will become more important due to the increased chances for peak discharges, parks can

function as temporary buffer for water storage. The need for water in parks will also change the form; not only due to earlier mentioned temporary storage in case of peak discharges but also as an important factor that influences the microclimate. Water surfaces, fountains and flowing water have a mitigating effect on the urban heat islands, a principle already practiced in the design of historic gardens (Jellicoe & Jellicoe, 1971).

Main changes in use will be increased use for physical exercise and the need for sunlight in the ever growing urban developments. The form of parks and open spaces will be more influenced by access; people should be able to reach urban parks and green spaces at reasonable distance from their home, a very similar principle as used for public transport.

In Europe, since the start of the industrial revolution, public parks have always had an educational role next to their functions and other types of use, by giving opportunities to the general public to experience the outdoors, for

physical exercise and have a contact with nature. This educational role became more and more important since larger numbers of people moved to the cities for work. In their living and working environments of that time, they lacked any direct contact with the outdoors and with nature. This process of moving to the (large) cities is still continuing. These living environments also gave rise to a growing number of infectious diseases thus calling for more attention for public health.

4.1 PUBLIC PARKS AND PUBLIC HEALTH

The WHO Europe has published a number of studies on the general issue of health in urban planning and design (Barton et al., 2003). The concept of health is not as clear as it should be for everybody, that's why the WHO Europe has published studies on 'health literacy' (Kickbush et al., 2013; Leeuw et al., 2014).

Public health is directly related to public space in the sense that public space can create conditions for clean air, clean water and quality soils by improving the landscape as a natural system (Conway, 2000; Ward Thompson, 2011).

Especially in the urban landscape it is hard to imagine how public health is not related to public space; it always is. Bowler et al. (2010) analysed 25 sites in the UK — both natural (public

parks and green university campuses) and 'synthetic' (indoor and outdoor built-up areas) — on their effect on public health and well-being. There was a clear evidence that the natural environments scored better than the 'synthetic' ones. Frumkin (2003) did a similar study in the US, searching for evidence that natural environments score better in terms of public health and well-being. He concluded with four aspects of the built environment, at different spatial scales, that were identified as offering promising opportunities for empirical research on public health: nature contact, building design, public spaces, urban form. Vlahov et al. (2004) focussed their research on the relation between urban form and health. They concluded with three key questions in considering how cities may affect health: what are the specific features of cities that are causally related to health?, to what extent are features unique to a particular city or different between cities?, to what extent are features of cities modifiable? All three studies are based on research from the fields of medicine and public health. Maas et al. (2006) searched for the specific relations between green space, urbanity and health. The study is based on social sciences research and concludes that the percentage of green space in people's living environment has a positive association with the perceived general health of residents. Green space seems to be more than just a luxury and

consequently the development of green space should be allocated a more central position in spatial planning policy.

Lachowycz & Jones (2012) developed a theoretical framework in which the relation between health and green space is represented in for individuals, for social groups and for society at large.

All five studies refer – in different ways and from different disciplinary fields – to the major importance for the planning and design of (urban) landscapes because they give evidence for the importance of green space, access and proximity for citizens for public health and well-being.

Even though there is wide evidence for the key role of urban green space for public health, we should not forget that public green areas can only be realised and maintained if supported by political support and planning instruments such as urban development plans and zoning plans. Generally speaking, despite political preferences and the available set of instruments, green areas remain a peripheral phenomenon compared with the increasing pressure of constructed development and space for traffic. Green areas in towns and cities remain vulnerable with their lack of financial yield they must maintain their position in towns and cities within a system that is geared toward economic gain and development.

In the present context of climate change new aspects are introduced that also affect public health, the function and form of green space and the organisation of transport and mobility that have become so important in contemporary environments (Fekete & Toorn, 2019).

For this study we focus on three key issues related to climate change, energy transition, improvement of water management and the creation of comfort and healthy environments for people. All three will also affect public health and liveability in the urban landscapes.

The energy transition from carbon-based fuels to renewables will also affect the air pollution and as such also contribute to public health. The improvement of water management will affect the micro-climate in the urban landscape because of new temporary storage of peak discharges in the city. The creation of comfort by means of bringing more fresh air in the city through new urban parks will mitigate the effects of urban heat islands (Brown et al., 2015). Without mentioning all, it is clear that these changes will greatly improve the quality of life in the urban landscapes both physically and eventually also mentally thus contributing to a new type of urbanity.

4.2 A NEW RELATION TO NATURE FOR THE 21ST CENTURY?

Over time we have seen major changes in our relation to nature (Glacken, 1990). In the Middle Ages the walled cities protected its citizens from the dangers of aggressors, enemies, intruders but also from nature. Nature was considered dangerous and was almost exclusively located outside the cities.

During the Enlightenment not only the attitudes and viewpoints towards authorities changed but also the interest into nature as object of study started to develop as the first steps into science and scientific research. Nature became object of study and especially in the study of plants it had its effects on production of food and the use of plants for creating comfort, for pleasure. Nature was regarded as an object of investigation rather than a force or attraction in its own right.

As a reaction to the ideas of the Enlightenment, in the 18th century romanticism emerged in which the relation with nature played a key role. Rousseau (1712-1778) was a key figure in this movement which also influenced

politics, education and society at large, think of the French Revolution in 1789. In landscape architecture romanticism also caused a revolution in Europe; all parks in the baroque style were transformed and redesigned according to the principles of the landscape style.

The changing relation to nature as part of the landscape as a cultural system

One of the key aspects of the landscape as a cultural system is our relation to nature. Historically Hunt (2000) distinguishes between three 'natures':

1st nature; the wilderness, nature untouched by man

In the Netherlands we don't have any wilderness anymore only some ecologists think they can create a 'new' wilderness which mostly comes down to bringing back a situation from the past which they consider to be important for ecology.

2nd nature; the cultural landscape, man-made landscapes

Landscape architects usually distinguish two types of cultural landscapes; the rural cultural landscapes, historic cities and other urban landscapes (Duby & Agulhon, 1958; Rasmussen, 1982; Kostof, 1999)

3rd nature; designed landscapes, gardens

Examples from the development over time of different types of gardens, parks and landscapes that were designed and are still existing (Taylor, 2008).

The mansions and their gardens from the 17-19th centuries.

In landscape design we distinguish between 'nature' both as physical and as mental phenomenon, 'environment' which often is used in relation to pollution and sustainability and 'landscape', the living and working environment for people (Ward Thompson, 2013).

Our relation with nature in the 21st century will not only be influenced by the search for a new relation with nature due to our changing working environments where less and less people have a direct contact with nature in their daily work.

Society at large should also learn to become aware of the invisible but crucial aspects of nature that relates to working of the landscape as a natural system that provides us with clean air, clean water and healthy soils. Drawing attention to the working of the landscape as a natural system and its key role for our living environment will demand information on the functioning of the natural system which is not directly visible and showing why that is essential. Contrary to green space such as urban parks which functions are visible and can be experienced directly, the water system is almost the opposite; even for professionals it is not always easy to find out how it works on specific sites.

This is not only a matter of informing people but also for landscape architects to show how the natural system works in the city, for instance by showing how a drainage system works on a plaza. Most of such a drainage system is now underground but it could be redesigned to show where rainwater goes.

In the urban landscape the experience of nature in our daily environment can be greatly enhanced by putting more emphasis on slow traffic (pedestrians, cyclists) and giving them more space so that the actual danger of traffic accidents by cars is diminished.

Ann Spirn, who taught landscape architecture at Penn and MIT, has already at an early stage drawn attention to the importance of 'urban nature' in cities (Spirn, 1998). Tillie (2018) has developed plans for urban agriculture in the city of Rotterdam as part of the Waterplan. It can be viewed as a form of food production but at the same time an active way of working with nature and natural processes.

The concept of public health will also be influenced by the climate change due to a different relation to nature as part of our culture.

4.3 THREE EXAMPLES OF CREATION OF COMFORT AND HEALTHY ENVIRONMENTS FOR PEOPLE

From the multitude of possibilities and potentials for the creation of comfort and healthy environments for people, we have chosen three issues as examples; role of physical exercise, the direct contact with nature for children and the role of more attention and space of slow traffic.

4.3.1 PHYSICAL EXERCISE; FROM PHYSICAL AND MENTAL HEALTH TO WELL-BEING

Already the classic Greek civilisation was aware of the importance of physical health in relation to mental health. For them the two were directly related which is still a basic presumption in contemporary context. This is also the relation that Catherine Ward Thompson (2011; 2013) is referring to both in terms of physical exercise and in the direct contact with nature and natural environments.

When the first private parks were opened to the public, the exposure to daylight, fresh air and open space was the first important function and use. Towards the end of the 19th century with the emergence of the concept of the Volkspark in Germany the importance of physical exercise in the outdoors became a major issue for public health. The concept of the Volkspark added

a new dimension to function, use and role of parks and green space in the city in general. Maass (1980) uses the term: 'culture in the open air' which was made available for everybody. She also mentions the functional basis of the plan making for the Volksparks.

In the second part of the 20th century we see the rise of 'sports parks', areas dedicated exclusively to sports in the outdoors, from swimming to rugby. Such sports parks often accommodate a series of spaces for different types of organised sports of groups, often with a competitive character.

Towards the end of the 20th century we see the rise of parks and green spaces as 'urban landscapes', green, open and blue space as integral part of the city. The best known case is the Parc de la Villette in Paris – often referred to as a 'park for the 21st century' – which can also be considered as a 'laboratory and experimental ground' for a new type of urbanity.

In the Maxima park in the city of Utrecht, designed by West8 landscape architects, we see the concept of a park as integrated into the urban landscape in a completely different form than in Parc de la Villette.

The park – with a surface of 300 ha and as large as the old centre of the city – is located in the recently designed urban extension for ±80.000 new residents west of the old city and is called 'Leidsche Rijn' (Fig. 3).

The park consists of six main parts:
 - The line [het lint]. A strip of 8 km's long and 3 meters wide that surrounds the entire park and is used for walking, skating, cycling, running, jogging. For horseback riding there is a

separate path. The line is connected to all other parts of the park and to the adjacent neighbourhoods both for pedestrians and cyclists.

- The inner court [binnenhof] forms the central part of the park and is 45 ha in surface. An old course of the river Rhine [Vikingrijn] crosses it.
 - The butterfly garden [vlindertuin], designed by the garden architect Piet Oudolf, has special flowers and plants that attract butterflies and other insects.

- The Rhine of the Vikings [Vikingrijn] is a former course of the river Rhine in the area and has been used in the past by the Vikings and the Romans. It is now used for boating and other water-related activities.

- The pergola [park pergola] surrounds the inner court and is a built wall of 6 meters high in the form of a honeycomb pattern which can be used by vines, insects, birds and other animals.

- The outer court [buitenhof] located in the northern part of the park which is more natural and where less activities are located.

The park is a major success in different ways; in functioning as an attractive green space for the neighbourhoods around, as space for activities and sports of all sorts and in general as part of the urban landscape also for other parts of the city of Utrecht.

The line [het lint] defines the contour of the park but at the same time organises the use. It is intensely used thus leaving the inner court largely very quiet. It organises the access for slow traffic from the adjacent neighbourhoods independently and safely from car traffic and railway.

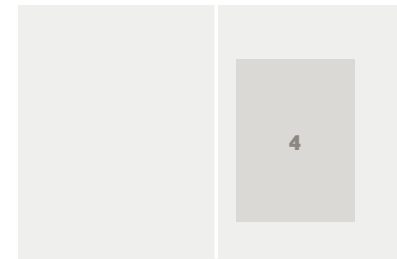


Fig. 4: School gardens in Slovenia (Nature's, 2017 Examples of school gardens in Slovenia, both historical and contemporary cases.)



4.3.2 SCHOOL GARDENS; LEARNING OUTSIDE THE CLASSROOM

It is extremely important that every young person should experience the world beyond the classroom as an essential part of learning and personal development, whatever their age, ability or circumstances.

Learning outside the classroom is not an end in itself but rather a vehicle to develop the capacity to learn. It provides a framework for learning that uses surroundings and communities outside the classroom. This enables young people to construct their own learning and live successfully in the world that surrounds them.

Places may refer to a location, activity or workshop, but regardless of where learning outside the classroom takes place, the purpose is the same. Give young people a real-world learning experience that will set them up for success in life beyond school. Learning outside the classroom experiences differ from those that arise through conventional teaching methods as students may be encouraged to engage a broader range of soft skills such as teamwork, leadership and compromise in their learning environment.

There is strong evidence that learning outside the classroom adds much value to classroom learning. It can lead to a deeper understanding of the concepts that span traditional subject boundaries and which are frequently difficult to teach effectively using classroom methods alone. It provides a context for learning in many areas: general and subject based knowledge; thinking and problem-solving skills; life skills such as co-operation and interpersonal communication (Ward Thompson, 2013).

Learning experiences outside the classroom are forms of experiential learning (Dewey, 1997). These experiences are rooted in the simple principle that “experience is the best teacher.”

School gardens; learning about nature by doing, learning outside the classroom

Learning outside the classroom can be accomplished in different ways.

One way is taking school children out into the landscape by means of organised field visits.

Schools in a rural setting around Bourg en Bresse, north east of Lyon, have organised field visits with school children into the rural landscape around (Oddou-Daragon & Nelson, 1984). In the publication 'Pays – paysage à l'école' [Land – Landscape at school], the authors describe the outline of an intelligent and well-thought-of approach of a number of sessions in the outdoors in the vicinity of the school. The program was well-structured in a series of exercises ranging from landscape perception, farm visits, learning about the different plants and meeting local people.

At a Conference in Dordrecht on 'School History Museums & Collections' a most interesting and charming presentation was made about the experience of school gardens in Slovenia (Nature's, 2017). The images – both historical and recent – are very convincing and show a diversity of activities in school gardens in Slovenian schools (Fig. 4). Given the large number of examples of schools that have school gardens, it seems that the Slovenian educational policy is stimulating for the use of school gardens in basic education at schools all over the country.

In the 'Volksparks' one of the characteristic elements were the school gardens (Vercelloni & Vercelloni, 2009). School gardens were from the very beginning part of the Volksparks and are still functioning in the same way as they were meant for when the plans were made. Even on Google Maps it is easy to find school gardens in Volksparks for instance in Hamburg and Berlin.

Many botanic gardens have special programs for school children.

The new botanic garden of Bordeaux, designed by Mosbach landscape architects and Jourda architects, comprises issues of biodiversity, renewable natural resources and the dynamics and mutation of landscapes. The garden is organised into six sections, including an arboretum, fields of grain, an alley of vines, and a water garden (1250 m²). It also contains greenhouses, as well as eleven landscapes representing the environments of Aquitaine, including dune, cliff, wet grassland, moorland and school gardens for children from the city (Mosbach, 2010).

In a manual on school gardens of the World Food Program, examples are given from school gardens in Gambia (School, 2013). Here the school gardens have a primary function on food production and teach school children how to manage, maintain a house garden for food production on their own.

It is remarkable that in recent references on education, learning in the outdoors is considered to be an excellent complement to classroom learning but that educators and thinkers about education – except for Piaget and Montessori – only mention it rarely (Palmer et al., 2010; Pelt, 2015).

4.3.3 STIMULATING SLOW TRAFFIC; CREATION OF SPECIAL INFRASTRUCTURE FOR PEDESTRIANS AND BICYCLES; THE CITY OF UTRECHT

Many studies on climate change and climate design pay exclusively attention to buildings and clusters of buildings, they focus on architecture and urban design (Givoni, 1998). So far very few pay attention to the role of traffic, mobility and transport

Even though the Netherlands is historically known for the popularity of bicycle use, the car is still most used as means of transportation. Use of bicycles in the last

decades did increase despite the rise of car use. In the Netherlands investments in motorways and road systems for cars are still dominant compared to investments in public transport and in bicycle infrastructure. The climate change has increased the general interest in cycling because of efficiency of energy use, no pollution and major health benefits over car use. The bicycle and bicycle use is also well-known outside the Netherlands; for instance Richardson (1875) was one of the earliest advocates of bicycling; he wrote 'Cycling as an Intellectual Pursuit' for *Longman's Magazine* in 1883.

Because of the active and stimulating attitude of the city of Utrecht for bicycle use as part of their traffic system (Fig. 5), we use it as a case study (Actieplan, 2015). Utrecht is a city with 350.000 inhabitants.

Utrecht pays attention to different types of bicycle use, but the improvement of the bicycle system to enable use for commuting now gets special attention and will give best results from viewpoint of health, pollution and efficiency of use of space.

Planning and design of traffic systems for the bicycle affects all three levels of intervention.

At the strategic level it is in the case of the city of Utrecht a matter of policy which enables interventions on the level of structure and the level of element and material form. At this level the relation to climate change is fundamental; cycling is a form of transport and movement that is based on renewable energy. A second fundamental point is the improvement of health through cycling since it is a daily physical exercise which does not pollute (Fraser & Lock, 2010; Terzano & Morckel, 2011). All together this policy contributes greatly to the creation of healthy environments for people (Chapman, 2007; Pucher & Buehler, 2010; Litman, 2013).

The organisation of the entire urban transportation system is also part of

the strategic level. The bicycle plan in Utrecht is based on a design principle in traffic engineering of separating the different traffic modes. In this case we distinguish between: motorised traffic or fast traffic, public transport and non-motorised or slow traffic (pedestrians and cyclists)

For the bicycle tracks a special distinction should be made between those who pedal and those who do not pedal; only those who pedal should be allowed on the bicycle tracks, so no motorised cycles, no (neither carbon-powered nor electric) scooters. This is not yet the case in Utrecht.

This political choice is not automatic because of the number of cars and car owners who are also backed by influential pressure groups. The city puts much effort in the organisation of the participation of the citizens; regularly meetings are organised to stay up-to-date on the experiences and opinions of cyclists in the city.

At the structural level, the relation of the network to location of users and the structure of the urban landscape is at stake. Another important issue is the continuity of the linear structure and the facilities as hubs in the network; the line is viewed as a 'chain' of structural elements such as crossings, bridges and hubs in the network (Ketenaarapak, 2015).

At the level of element the materialisation of the traffic system is dealt with. Space requirements for different intensities of use, the separation between traffic systems for bicycles, pedestrians and cars is of prime importance to improve the safety. Specific elements are crossings, facilities for bicycle parking for individuals, neighbourhoods and the city at large (Bach et al, 2006; Actieplan, 2015).

Different organisations, also European and worldwide, have rated the bicycle system, use and active stimulation of the city as one of the highest in the world.

Recently Utrecht came out even higher than Copenhagen in a rating according to the German insurance company Coya.

For landscape architects, the planning and design of road systems and facilities for bicycles at different levels has been part of the work for a long time (Toorn & Fekete, 2018). For the design of road systems in the city, see for instance the classic study on urban roads, boulevards and other types of Allen Jacobs from UC Berkeley (Jacobs, 2001).

Safety is a major issue because of the vulnerability of cyclists in relation to cars (Hartog et al., 2010; Rojas-Rueda et al., 2011). For planning and design of traffic systems and facilities for bicycles a number of issues are important.

First of all the types of bicycles and their use; technical aspects

There are different types of bicycles; regular bikes of daily use, racing bicycles (mostly for leisure), e-bikes for commuting and for leisure and in the last decade the cargo bikes for deliveries, transport and for children (Bach et al, 2006; Handboek, 2010; Handboek, 2018). All have different sizes, speeds.

The type of use and users; traffic systems

We usually distinguish three types of use for bicycles; for use in the daily living environment, for commuting and for leisure (Bach et al, 2006; Bendiks et al., 2011).

The planning and design of traffic systems for the bicycle in the landscape at large

These types of use can be related to the bicycle as means of transportation and how that influences the planning and design in the context of spatial planning; technical aspects of the facilities and systems, the traffic system and users, the relation to the (urban) landscape (Banister et al., 1997). The integration of these bicycle facilities in

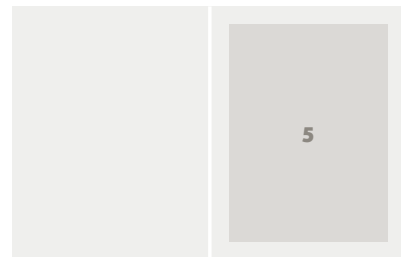
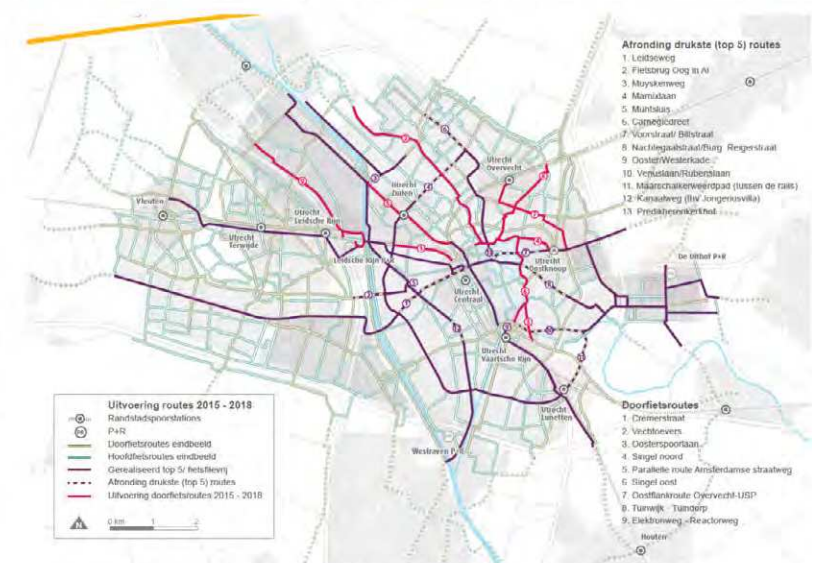
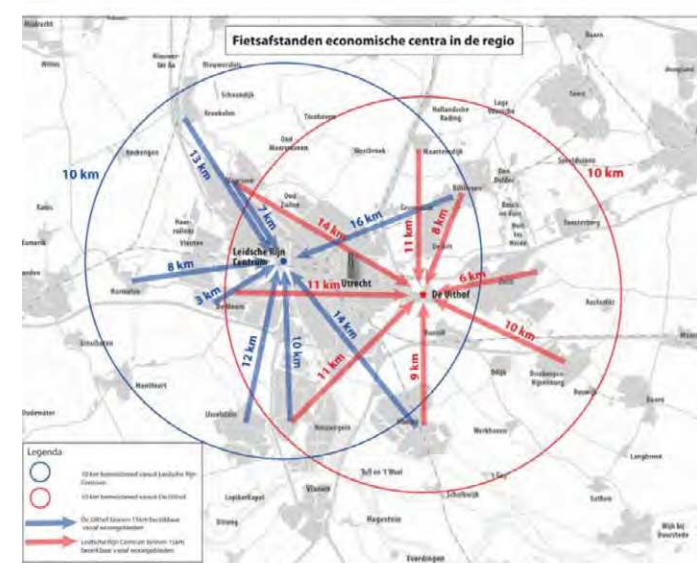


Fig. 5: New bicycle infrastructure for the city of Utrecht as part of urban mobility, transport and traffic plan (Actieplan, 2015)



60% woont binnen 15 km van de werkplek en zou op de fiets kunnen.

the urban traffic system and in the urban landscape in general could also greatly improve the quality of the urban environment but also the liveability because of the better air quality (Bach, 1989; Frank & Engelke, 2001; Martens, 2004; Ward Thompson, 2013).

CONCLUSIONS

- In the development of public parks over time we see continuity and change. In the continuity we have to search of design principles that worked well and can be applied in contemporary context of place and time. The change — as nowadays climate change — offer new challenges for landscape architects to develop new ideas, concepts and approaches based on design as research and design experiments.

- Core of the changes in educational role of public parks will be on public health. Public health and public space are intricately related and influence each other. All public space has a function in public health but public health comprises more than public space. The concept of public health will also be changed by the developments in climate change. The educational role of public parks extended from providing fresh air and physical exercise for citizens into a more comprehensive concept of contributing to a different attitude to nature in the city and well-being

- Overall we see a development in European parks from private to public (19th century), from physical health to mental health to comfort and well-being, from

individual green spaces as elements towards green structure as basis for the urban landscape development in the long run.

The function and use of public parks has evolved over time, from providing green and open space in the polluted cities to an integrated part of the green structure in the urban landscape with different functions. - The Volkspark in Germany not only stood for new functions and use of the public park but introduced also a new functionalist design approach as opposed to the principles of the former 'landscape style'.

- Botanic gardens have kept their original function and use but have also maintained their role as part of the public park system in the urban landscape.

- The contribution of landscape architecture in the future of public parks is first of all in its design role; integrating different functions and uses into meaningful environments for people and for society at large. This search for new synthesis on the basis of the existing site and new demands from society forms the core of landscape architecture as design discipline.

- The effect of stimulating bicycle traffic for daily transport in the living environment has two major effects for public health; first of all a far lower pollution, secondly the daily physical exercise.

- In the 20th century we see this development of the planning and design of the landscape as public space extended also outside the cities. In the Netherlands two major developments took place before WWII; the

making of landscape plans for linear plantations along major roads and waterways from 1916 on and from the 30s on for the new Zuiderzee polders. - It would be interesting to investigate the level of pollution in the 19th century industrial city to the pollution in the contemporary cities. At first sight it looks as if the pollution nowadays is dominated by traffic using carbon-based fuels. ☉

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EURÓPAI KÖZPARKOK ÚJ SZEREKÖRE ÉS FUNKCIÓI – A SZABADTEREK ÉS A KÖZEGÉSZSÉGÜGY KAPCSOLATA A JÖVŐBEN

A cikk a közparkok funkcióinak, használatának és megjelenésének változásaival foglalkozik, a klímaváltozás tükrében. Az európai szintű áttekin- tésben kiemelt figyelmet kap a közparkok jövőbeli közegészségügyi szerepe.

A kutatás kulcskérdése, hogy milyen eszközökkel tudnak a tájépíté- szek a klímaváltozás okozta kihívásoknak megfelelő közparkokat tervezni, és hogyan lehet azokat a helyi viszonyoknak megfelelően alkalmazni.

A kifejtés a múlt, jelen és jövő hármasára épül. Az első rész rövid áttekin- tést ad a közparkok történetéről. Ezt a kortárs közparkok egyes oktatási-neve- lési vonatkozásainak ismertetése követi. Végül, a harmadik rész három esetta- nulmányt ismertet a klímaváltozással kapcsolatos fejlesztési trendek illusztrálására. A következtetések fókuszá- ban a közparkok tervezéstörténetének folyamatossága és változása, valamint a tájépítészek tervezésben betöltött sze- repe áll.

MAUER PARK BERLIN: BALANCING THE EDGE OF A PARK BETWEEN URBAN VIBRANCY AND COMMEMORATION

BERLIN, MAUER PARK. PARKSZEGÉLY PEZSGŐ VÁROS ÉS EMLÉKHELY HATÁRÁN

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ABSTRACT

Mauerpark Berlin was opened in 1994 on the former Death Strip of the Berlin Wall. Designed by renowned German landscape architect Gustav Lange, the park became soon a vibrant and free-spirited urban place. Today, Mauerpark is considered a Gesamtkunstwerk and protected by copyright. In the fall of 2020 Mauerpark will double its grounds with a Lange-authored design that commensurate with the 1994 park.

Mauerpark is also located adjacent to the terminus of the 1.4 km Berlin Wall Memorial that commemorates and illustrates the history of Germany's division. In January 2018, two artifacts from the time of the separation of East and West were found during construction

of an underground retention tank at the southern entrance of Mauerpark. One artifact is the entrance of a 1963 escape tunnel, the other one is a vehicle barrier from the former fortifications. Consensus amongst historians and stakeholders of Mauerpark is that both are significant artifacts and should be integrated into Mauerpark as part of the Berlin Wall Memorial. This will change the perception and use of Mauerpark at one of the most active entrances. Another relevant factor that is going to impact Mauerpark in the future is related to the intensive use of the park. Recent administrative directives recommend limiting activities at the edges of the park.

How can a park as a Gesamtkunstwerk with a character and mission

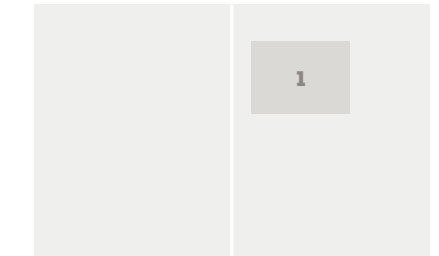


Fig. 1: Entry at Eberswalder Strasse during the Sunday Flea Market expresses activities of the park at the edge of the street (COURTESY OF T. VOLLMER, 2017)

that is diverging from the educational goal of commemoration integrate artifacts of a memorial? How will the recent directive of lowering intensive activities at the edges of Mauerpark define the gateway and what are the anticipated qualitative changes from formal-artistic and social-perceptive perspectives? Finally, how does this relate to consequences of reconstructing historic parks.

The paper compares the design qualities of the previous entry situation until 2018 with the new design that considers the planned display of the artifacts of the memorial and the recent guidelines that discourage activities at the edges of Mauerpark. This study touches on revealing Gustav Lange's layered design concept through personal conversations and exploring his philosophy and design language.

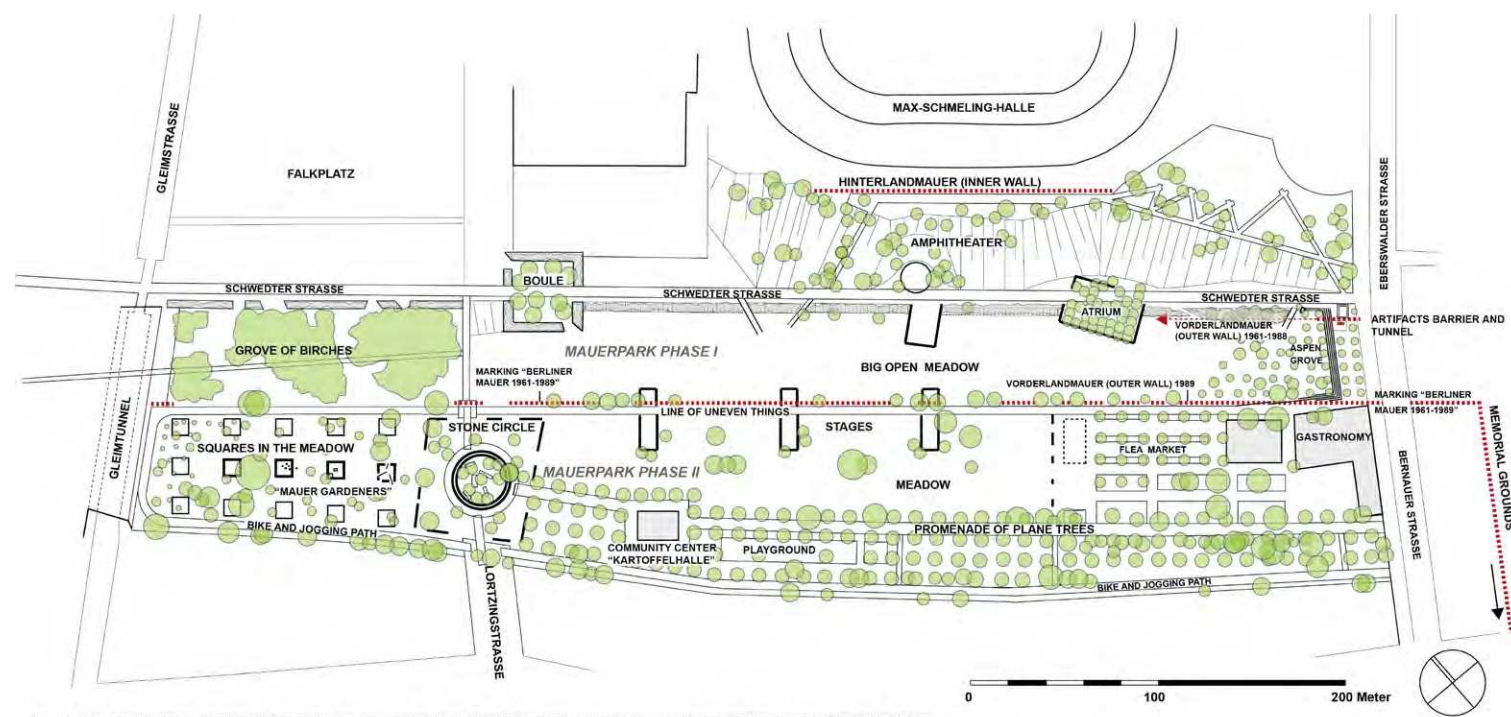
Findings are that the planned design integrates the memorial-related interventions and provides an invitational gesture through a new tree-grid that begins at the edge of the street and dissolves into the park. From another perspective, the new edge of Mauerpark dilutes Lange's concern for clarity. It teaches us the importance of identifying, conserving and maintaining our landmark pieces of landscape

architecture like Mauerpark as they are an expression of their time and any reconstruction will always result in shortcomings of authenticity and potentially social-cultural values.

BACKGROUND AND INTRODUCTION

Mauerpark Berlin was opened in 1994 on the former Death Strip of the Berlin Wall. Designed by renowned German landscape architect Gustav Lange as a winning entry of a design competition in 1992, the park became soon a vibrant and free-spirited urban place for markets, open-air concerts and diverse random activities outdoors (Fig.1). Today, Mauerpark is considered a Gesamtkunstwerk and protected by copyright. In the fall of 2020 Mauerpark will double its grounds to the west with a Lange-authored design (Mauerpark Phase II) that commensurate with the 1994 park in the east (Fig.2).

Mauerpark is also located adjacent to the terminus of the 1,4km long Berlin Wall Memorial that memorizes the history of Germany's division during the Cold War (Berliner Mauer, 2020). Over the last decades these two public spaces coexisted close to



Sources: a) Mauerpark Erweiterung, Grün Berlin Stiftung mit G. Lange, Anker und BBS, Berlin, 06.03.2018. b) Machbarkeitsstudie Mauerpark Bestand, Projektbericht, Stand 08.05.2019 | GRUPPE PLANWERK, Plankarte 07. Bestand: Häufigste und prägende Baumarten, p. 20. c) Entwurf Eingangsbereich Eberswalder Strasse, G. Lange, 15.01.2020

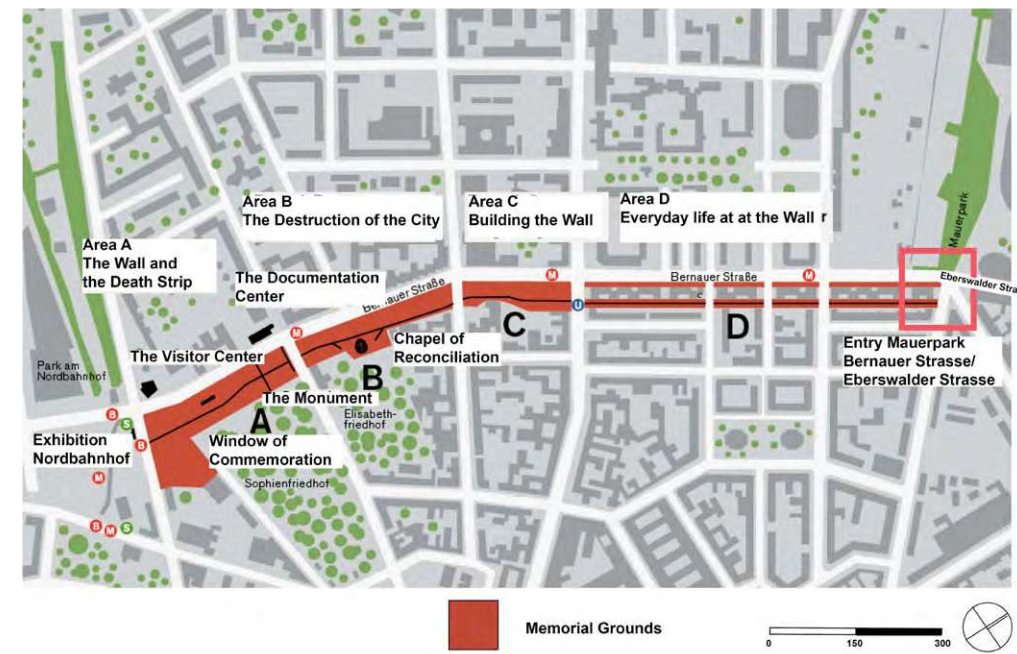


Fig. 2: Mauerpark Phase I and II - Overall plan with major design elements and geometries designed by Gustav Lange. The design of phase Mauerpark Phase I was constructed from 1994-1997. The design of Mauerpark Phase II is expected to be constructed by fall of 2020.

Fig. 3: Berlin Wall Memorial on Bernauer Strasse and the location of the south entry Eberswalder Strasse at Mauerpark as red rectangle (Berliner Mauer, 2000).

each other without negative interferences and their own agenda (Fig. 3).

In January 2018, two artifacts from the time of the separation of East and West were found during construction of an underground 7400 cubic meter storm-water retention tank at the southern entrance of Mauerpark (Fig. 4). One artifact is the entrance of a 1963 escape tunnel, the other one is a historical vehicle barrier from the former boundary fortifications. Consensus amongst historians and stakeholders of Mauerpark is that both are significant artifacts illustrating the impact of the Berlin Wall at its time. Therefore, they will be integrated into Mauerpark as part of the Berlin Wall Memorial (Tagesspiegel, 2018).

Another relevant factor that is going to impact Mauerpark in the future is related to the high popularity and intensive use of the park. Concerns by adjacent neighbors have significantly increased over the last ten years and are mainly related to noise in the evenings and at night. The overuse is also related to a trend in most European and other metropolises all over the world - tourism is a growing industry and impacts not only the core areas of cities but also their surrounding neighborhoods such as the district of Prenzlauer Berg where

Mauerpark is located (Prenzlauer, 2019). Therefore, local, community-driven strategies for Mauerpark recommend limiting activities at the edges of the park (Freunde, 2020).¹

The paper compares the design qualities of the previous entry situation before the works on the retention tank with the new one that will be completed in the fall of 2020. This study also touches on revealing Gustav Lange's layered design concept and explores his philosophy and design language. The paper assesses the recent design plans from 2019 to 2020 at the southern entry Eberswalder Strasse that a) accommodates a new entry integrating Mauerpark East (Phase I) and Mauerpark West (Phase II); b) revisits the unmapped design before the building of the retention tank and compare it to Lange's original design concept from 1994; c) accommodates the artefacts from the Berlin Wall that were discovered in January 2018; and d) responds to the recent guidelines that limiting intensive activities on the edges of Mauerpark.

This study will therefore delve into revealing the diverse layers of the landscape in history and the original design concept and execution of Mauerpark and respond to the following questions: How

¹ Friends of Mauerpark [Freunde des Mauerparks e.V.] are a grassroots organization that is been committed to preserving and promoting Mauerpark and mitigate between local residents and users

can a memorial with educational goals being integrated into Gesamtkunstwerk of a with a substantially diverging character and mission, and how does the recent directive of lowering intensive activities at the edges of Mauerpark define the new gateway at Eberswalder Strasse? What do these changes of the recent design from 2020 mean for the formal and socio-cultural qualities in comparison to the original design? These findings are applicable to other parks and plazas in landscape architecture and will lastly reveal more of Gustav Lange's rather undocumented design philosophy and language. This is important to understand, value, preserve or restore and maintain his oeuvre in Berlin and elsewhere.

METHODS

Mapping from aerial photographs, analysis of the original design concept, analytical drawings, and tracing of unpublished construction documents created the basis for this study. Online research for background information on the Berlin Wall Memorial, history of the site, contemporary uses and cultural context supported the

study. Further knowledge was generated through conversations with the landscape architect Gustav Lange and understanding his design philosophy and language through collaboration in the design process (Author, 2020).

HISTORY OF THE AREA BEFORE MAUERPARK

In the early 1800's, the eastern area of Mauerpark served as a parade ground for the Prussian army. Ironically this was also one of the places of the 1848 German revolution when 20,000 workers protested against the Prussian King to obtain higher wages, regulated working hours and the right for free education. In 1877, the area served as the freight railway for the Berlin Nordbahnhof as the southern terminus of the Berlin Nordbahn. After the second world war the railway was renamed into Güterbahnhof Eberswalder Straße [Freight Railway Eberswalder Straße] and part of West Berlin. In 1961, after the building of the Berlin Wall, only a small part of local freight traffic remained and was finally closed in 1985. Remnants of the railway are integrated in the 2020 design of Mauerpark Phase II.



From 1961 to 1989 the eastern area of Mauerpark was part of the “Death Strip” between the border fortifications “Hinterlandmauer” [Inner Wall] and Vorderlandmauer [Outer Wall]. “Death Strip” commemorates that at least 140 people were killed when crossing the border from east to west (Berliner Mauer, 2020). One notable detail at Mauerpark is that Schwedter Strasse was the western boundary of East Berlin until 1988 when West Berlin sold a 50-meter-wide strip of the railyard. The remnants of border fortifications that were found in January of 2018 were part of the Berlin Wall from 1961. After the falling of the wall in 1989, the area was soon used as an informal park which led to the announcement of the official Mauerpark design competition in 1992 that was won by Gustav Lange.² Most of the eastern part of Mauerpark was realized by fall of 1994.

DESIGN OF MAUERPARK

The main elements of the 1994 Mauerpark are the grand open meadow as a clearing in the city, an embankment with the 300-meter-long “Hinterlandmauer”, the Schwedter Straße as the demarcation of the “Vorderlandmauer” until 1988, and the western edge that delineates the “Vorderlandmauer” of 1989. This line creates the actual transition between the design from 1994 and the Mauerpark II.^{3,4} The park redefines

this void, this wide and open field – from a Prussian parade ground, to a railyard, to a death-strip, to a park that lives the city. Mauerpark includes smaller, special places as legible design interventions that are expressed through basic geometric forms such as circles, squares and rectangles that contrast with the sensation of openness (Fig. 2). Mauerpark accommodates incentives for diverse and flexible, spontaneous modes of appropriation by groups or individuals and self-driven activities. Lange believes that gaps and seams are the free space of the city. Spontaneity is essential for life and applies to people and vegetation alike. Within formal-spatial framework there is still space for randomness – straying vegetation and people (Fig. 1, Fig. 5)

ORIGINAL DESIGN ENTRY EBERSWALDER STRASSE 1994

When Gustav Lange designed the entry of Mauerpark at Eberswalder Strasse, he envisioned a grove of trees that would guide visitors in the park providing shade and comfort in the hot summer days. Mauerpark, was provided with a 0.45m to 1.00m base of topsoil on the former death strip. Grown with plants and green it would create a new layer on a mentally contaminated site that was ready to write a new story. At the sidewalk of Eberswalder Strasse, a flight of up to eight, wide and low steps would

² Hamburg-based landscape architect Gustav Lange won the design competition and Mauerpark opened officially on November 9th of 1994, the fifth anniversary of the falling of the Berlin Wall. Lange, also Professor for Landscape Architecture at the University of Kassel (GER) has comprehensive portfolio of built work that expands all over Germany and includes many renowned projects in Berlin (GER) such as the Mauerpark Berlin, the courtyards for the German Bundessrat, or the Narva Courtyards (Stimmann, 2001). Lange also authored the artwork “Treppe ins Nichts” [Stairway to Nothing] as a symbol of democracy against the royal plaza at the contemporary art exhibition documenta IX in Kassel (GER). The stairway was later destroyed by the mayor of the city.

³ The location of the “Vorderlandmauer” 1989 will be also visible on the ground with a 50 cm-wide strip out of two strips of steel and a double row of cobble stones.

⁴ Mauerpark II was designed by Lange from 2011 in collaboration with the Buergerwerkstatt included many suggestions from local residents and stakeholders. The Berlin-based office BBS partnered with Lange to develop design development and construction documents and leading the construction supervision. In the construction supervision phase, Lange is authoring the artistic supervision of the project.

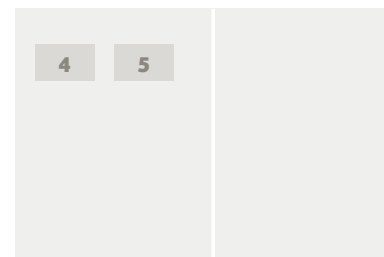


Fig. 4: Traces of the escape tunnel (foreground) and cut-off vehicle barriers (background) during excavation work on the retention tank on January 9, 2018 (PHOTO BY AUTHOR, 2018)

Fig. 5: Random and spontaneous vegetation in the seams and gaps of the naturally-broken granite blocks that create a consistent theme of materials at Mauerpark (PHOTO BY AUTHOR, 2017)

absorb the slope of the new soil layer and create a legible, architectural gateway to Mauerpark that provides multiple opportunities to sit and gather or perform. The grove of trees would start right at the top of the stairs and would dissolve further down in the park to invite for free movement and activities of any kind. Special places were defined as geometric, form-based carrees of trees or voids defined by robust slabs of naturally-broken granite stone as legible and distinct interventions. At Eberswalder Strasse, Lange conceptualized the grove of trees as a dissolving grid of European aspens (*Populus tremula*). These were selected because their leaves would flicker in the light and salute people to enter and define Mauerpark’s character as a place of dynamics and vibrancy. European aspens grow naturally on open woodlands and usually on poorer soils. This seemed to be a good choice for the park.

GROWTH AND WITHERING OF THE GROVE

The planting of the dissolving grove represents a simple idea that was executed poorly. Almost three quarters of the first generation died shortly after the opening of the park in 1994, two thirds of the second generation of replanted trees did not last long, and a third generation that was planted in 2009 finally created a modest canopy of trees (Krüger, 2019). Aerial photographs that were retrieved from 2000 to 2016 (google 2000, 2006, 2015, 2106) show that Lange’s idea of a dissolving grove of trees never really came to fruition (see also Fig. 7).

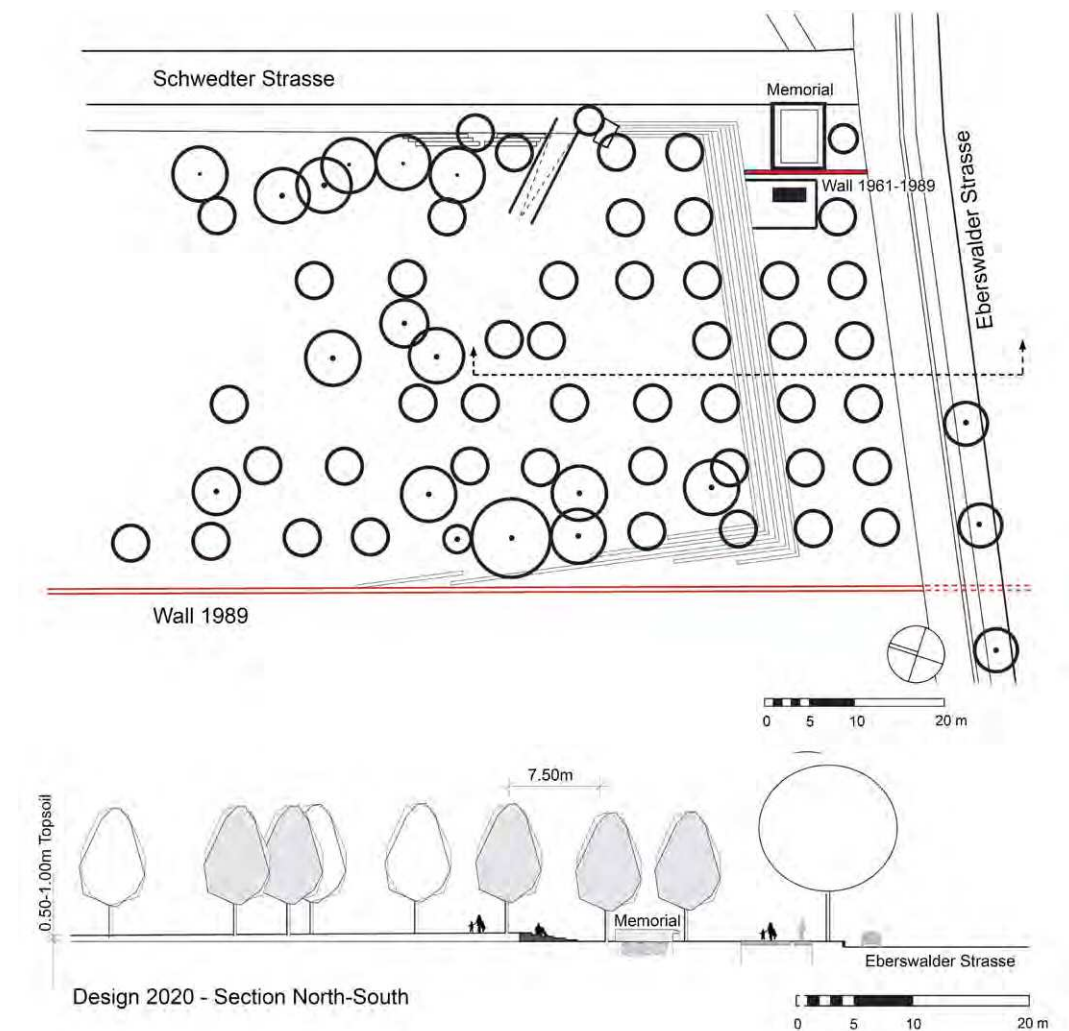
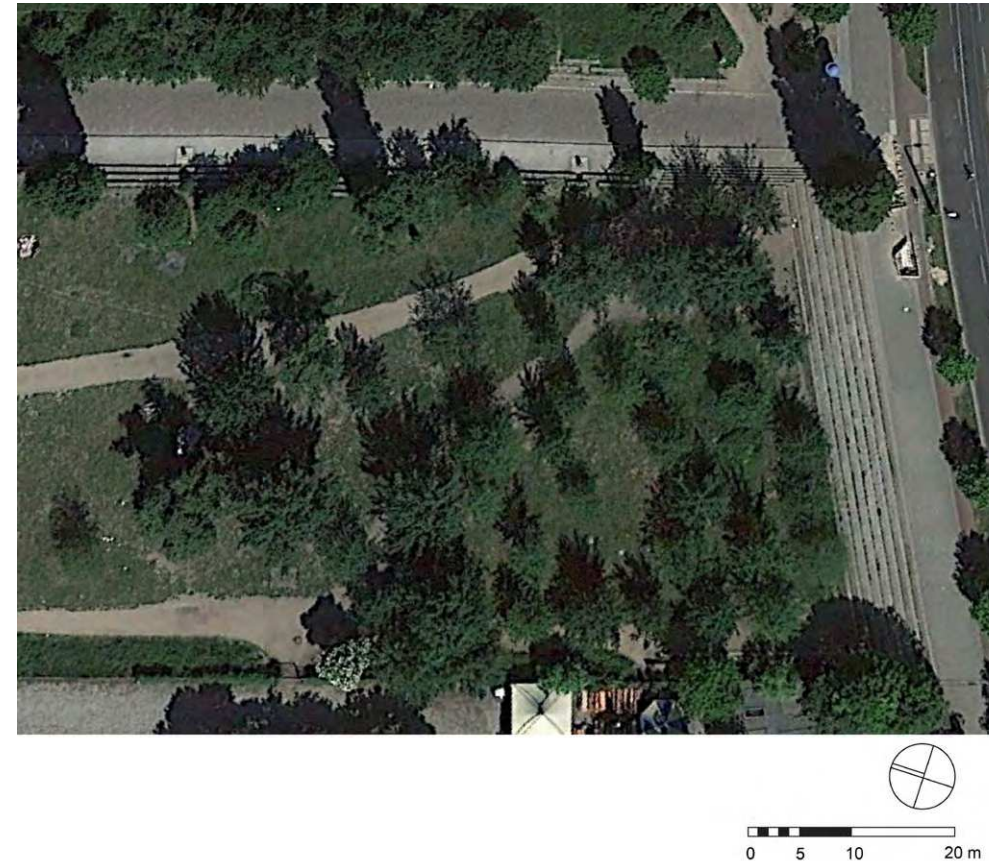
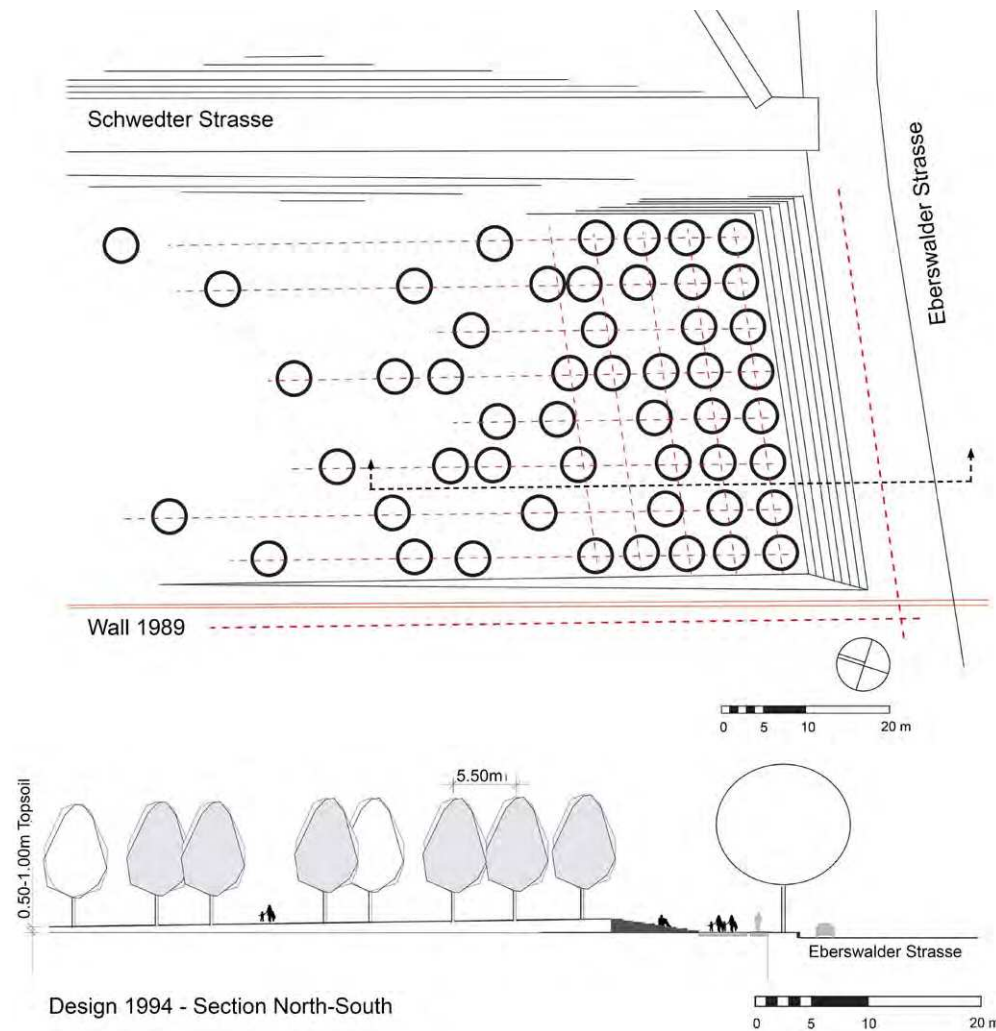
The gateway at Eberswalder Strasse had to face more challenges. After the

city of Berlin decided to build a 7400 cubic meter stormwater retention tank just at the entry of Mauerpark, it resulted in a complete removal of about 40 aspen trees and one pyramid poplar that had – over the years become an important landmark for the entrance. While the city had guaranteed the replacement of removed trees, they did not survey the trees that were cut down beforehand.

Another event impacted the entry situation at Mauerpark: From December 2017 to January 2018, two artifacts from the time of the separation of East and West were found during construction of the stormwater tank (Fig. 4). One artifact is the entrance of a 1963 escape tunnel, the so-called „Weinstein-Fluchttunnel“. This tunnel was never completed and caused the people from East Berlin that were involved severe punishment from the East German Government (Dressler, 2018). The other artifact is a historical vehicle barrier from the period of the cold war. Consensus amongst historians and stakeholders of Mauerpark was that both are significant artifacts illustrating the impact of the Berlin Wall at its time. Therefore, they will be integrated into Mauerpark as part of the Berlin Wall Memorial (Tagesspiegel, 2018).

THE BERLIN WALL MEMORIAL ON BERNAUER STRASSE

The Berlin Wall Memorial on Bernauer Strasse is the central memorial located on the 1.4-kilometer former border strip and one of four locations that are supported by the Berlin Wall Foundation. The mission of the 2008-founded foundation is to document and provide



information about Berlin Wall and the German division and the East-West conflict. Under this mission, historical sites and authentic remains are preserved to create places of commemoration (Berliner Mauer, 2020). The main locations and artifacts of the memorial are located further west along Bernauer Strasse while the entrance for the Mauerpark at Eberswalder Strasse is located at the eastern end of the memorial (Fig. 3).

DESIGN CONCEPT OF DISPLAYING ARTIFACTS OF THE BERLIN WALL AT MAUERPARK

The entrance of the Mauerpark at Eberswalder Strasse will display the surface of the entry of the escape tunnel with a rectilinear Corten steel plate and the contours of the foundation of a former railyard building, the remnants of the foundations of the Berlin Wall at Schwedter Strasse, and a 1.00 m high

Corten steel construction that frames and protects the remnants of the former vehicle barrier and also carries boards for information display (Fig. 8 and 9). Berlin-based Landscape architects (SINAI) and architects (Winkelmüller and ON architektur) are responsible for the design (Sinai-Winkelmüller-ON, 2019). These three firms have already worked collaboratively on the Berlin Wall Memorial on Bernauer Strasse.

ANALYSIS

1994 Design Entry Eberswalder Strasse

The design displays a grove of 45 aspen trees in a polygonal grid that relates to the orientation of Schwedter Strasse in the east, Eberswalder Strasse in the south, and the alignment of the 1989 Berlin Wall. The first line of trees starts at the top of the flight of seven to eight stairs with a tread of 1.00 m and a total riser of 0.14 m. Beyond walking, this configuration allows for multiple

opportunities to sit on the stairs. The grid dissolves towards the interior of the park through increase of spacing of trees in the axes from south to north and omission of trees towards the center of the park. This design feature creates small clearings that suggest small rooms in the grove. While the grid creates a strong sense of unity and coherence, it is balanced with strategic omissions and exceptions to create a sense of looseness and spontaneity. As far as the execution of the original design idea can be evaluated - the analysis of aerial photographs from the past has some limitations - is that the design was executed more or less after the plans of 1994 (Fig. 6).

2016 Design Entry Eberswalder Strasse

Aerial photographs (google 2015, google 2016) show the layout of the tree locations. Various images available online show character and social values of the entry Eberswalder Strasse. Then aerial photograph from June 2016 (google,

2016) shows a rather loose configuration of trees of different canopies and a subtle legibility of the grid as formal planting scheme. This perception is reinforced when analyzing photos taken from the ground. The grove demonstrates a high degree of incoherency due to missing individual trees and the presence of trees at various ages and health and even species. Another perspective is that the images on the ground demonstrate a high intensity and diversity of uses at the entrance Eberswalder Strasse. Street performers use the sidewalk as their stage while people sit individually or in groups on the stairs watching. The edge Eberswalder Strasse invited for political demonstrations and gatherings - in short - the free and liberal spirit of Mauerpark had its place not only in the interior of the park but was also carried out to the public streetscape (Fig. 1).

2020 Design Entry Eberswalder Strasse

The design displays a grove of 50 newly planted European aspen trees in a

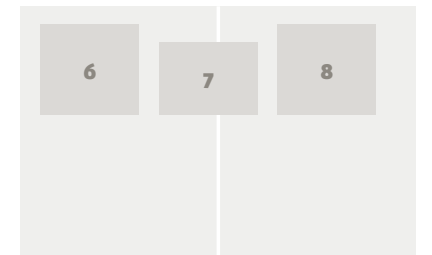


Fig. 6: Design Plan from 1994 with the original planting concept: Trees in a dissolving 5.50 m x 5.50 m, polygonal grid (Lange 1994). Sectional elevation facing east from 1994 design plan. **Fig. 7:** Aerial Photograph 2016 (SOURCE: GOOGLE, 2016)

Fig. 8: Design plan from 2020 with existing and proposed European aspen trees in a 7.50 m x 7.20 m grid, and the location of the memorial with artifacts (Lange 2020). Sectional elevation facing east from 2020 design plan.

polygonal grid equivalent to the 1994 design with the difference of applying a 7.50m x 7.20m grid. The first line of trees starts at the edge of the sidewalk. The grid dissolves towards the interior of the park and mingles with about 10 aspen trees that survived the construction work of the stormwater tank.

The flight of five stairs starts approximately 12.50m from the sidewalk to allow the placement of the Berlin Wall artifacts on the lower level adjacent to Schwedter Strasse. There, the grid of trees is interrupted through the locations of the artifacts while continuing evenly and crossing the flight of stairs into the park. Like the original design from 1994, the planting scheme creates a strong sense of unity and coherence, while it is balanced with omissions and exceptions that respond to existing trees and artifact (Fig. 8).

FINDINGS

The 2020 design is characterized by trees as living elements overlapping stairs as architectural elements of the landscape. The design responds to the new directives inhibiting activities on the edges. The canopy of European aspen trees creates a design layer that unifies the diverse elements of the entry, including the memorial-related interventions and provides an invitational gesture through a new tree-grid that begins at the edge of the street and dissolves in the park. Planted at the same time and with the prospect of being planted and maintained more carefully than the previous generations of aspens, these trees provide the opportunity to create a sense of coherence that is stronger than in the previous state of 2016. With the physical intervention of the memorial, a new layer will be introduced into the park that reveals a meaningful layer of the past. Pre-reconstruction, the entry

Eberswalder Strasse was an important place for social interaction and spontaneous, self-driven, cultural activities. Maintaining these activities was discouraged through the new design program.

DISCUSSION AND CONCLUSION

Before reconstruction, the open-minded philosophy of Mauerpark was a tangible experience at the street edge of Eberswalder Strasse. In the future, Mauerpark will lose the street edge literally and metaphorically. The entry will now provide easy flow and intermediate refuge and shelter from the streetscape. The memorial will add a moment of reflection.

The new design for the entrance cannot be seen without the context of how the use of the park and public spaces has heavily increased over the last decade – cities and places becoming major tourist destinations can wear heavy on just maintaining parks and keep trees alive. The new design entry Eberswalder Strasse also reflects another age of planning and designing in public. Designing for public space today involves an inclusive approach that is weighing the specific claims of a diverse society. In this context, the 2020 design is a product of the spirit of the time.

Contrastingly, the edge of Mauerpark at Eberswalder Strasse will dilute Lange's design principle of formal clarity. This teaches us the importance of identifying, conserving and maintaining our landmark pieces of landscape architecture like Mauerpark. They are an expression of their time and authenticity cannot be reconstructed.

These findings and insights were made possible through the opportunity of working together with Gustav Lange and the support of his family. The author is most thankful for this trust and friendship. ©

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BERLIN, MAUER PARK. PARKSZEGLÉY PEZSGŐ VÁROS ÉS EMLÉKHELY HATÁRÁN

A berlini Mauerparkot 1994-ben adták át a berlini fal egykori halálzónája helyén. Az ismert német tájépítész, Gustav Lange által tervezett park rövid idő alatt életteli és szabad szellemiségű városi helyszínné vált. A Mauerpark ma már összművészeti alkotásnak (Gesamtkunstwerk) számít, és szerzői jogi védelem alatt áll. 2020 őszén a park területe duplájára nőtt, egy, az 1994-eshez hasonló méretű területrészt hozzácsatolása révén, amelynek tervét ugyancsak Lange jegyzi.

A Mauerpark közelében található az 1,4 km hosszúságú „Berlini fal emlékhely”, amely Németország egykori megosztottságát szemlélteti, és állít annak emléket. 2018 januárjában egy föld alatti csapadékvíz-tározó építése során a kelet-nyugati megosztottság időszakának két emléke került felszínre a Mauerpark déli bejáratánál. Az egyik egy 1963-ból származó menekülőalagút bejárata, a másik az egykori határzár egy úttorlasz-eleme. A történészek és a Mauerpark révén érdekelt felek egybehangzó véleménye szerint mindkettő fontos kordokumentum, és ennek megfelelően a berlini fal emlékhely részeként helyet kell kapnia a parkban. Ennek nyomán az egyik leginkább használt bejáratnál megváltozik a park tematikája és használata. Egy további, a Mauerpark jövőjére nézve jelentős hatást gyakorló tényező a terület intenzív használatából fakad. Az aktuális hivatali irányelvek a park szegélyeinél a használat korlátozását javasolják.

A Mauerpark összetett jellege kapcsán számos kérdés vetődik fel. Hogyan

lehetséges egy összművészeti alkotásnak számító, az emlékhely nevelési céljától jelenleg eltérő karakterű és rendeltetésű parkban a történelmi emlékek beillesztése? Hogyan befolyásolja a parkszegélyek intenzív használatának mérséklésére irányuló útmutatás a „kapu szerepet”, és milyen minőségi változások várhatók formai-művészeti valamint a társadalmi befogadás szempontjából? Végül, hogyan kapcsolódik mindez a történelmi parkok helyreállításának általános követelményeihez?

A cikk összeveti a korábbi parkbejárat kertépítészeti megjelenését a történelmi emlékek tervezett elhelyezésével és a Mauerpark szegélyei használatának mérséklésére vonatkozó irányelvek figyelembevételével megvalósuló új kialakítással. A tanulmány Gustav Lange többretegű tervkoncepciójának bemutatására is kitér, személyes beszélgetések, valamint a tervezői filozófia és az alkalmazott stíluselemek ismertetése révén.

A megállapítások szerint a tervezett kialakítás szervesen integrálja az emlékhelyhez kapcsolódó beavatkozásokat, és a rácshálózatba ültetett facsoporttal invitál látogatásra, amely az út szélétől indulva fokozatosan beolvad a parkba. Más szempontból nézve a Mauerpark új szegélye megbontja Lange letisztultságra irányuló törekvését.

A bemutatott esettanulmány a tájépítészeti Mauerparkhoz hasonló, meghatározó alkotásai számbavételének, védelmének és fenntartásának fontosságára tanít, amelyek egy adott korszak megnyilvánulásai, és megújításuk minden esetben az eredetiség és esetenként a társadalmi-kulturális értékek rovására történik. ©

EDUCATIONAL ROLE OF PUBLIC PARKS: WINDOWS TO PAST, TO FUTURE AND TO EXOTIC WORLDS KÖZPARKOK OKTATÁSI SZEREPE. ABLAKOK MŰLTRE, JELENRE, TÁVOLI VILÁGOKRA

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ABSTRACT

The design of public parks in Europe evolved at the end of 18th century. The first public parks were created primarily for leisure, entertainment and social representation. Reflecting architectural and artistic trends of specific time periods and eras, and design concepts of various ideologies, through their images, compositional aspects and symbols public parks also fulfill an important educational role in everyday life.

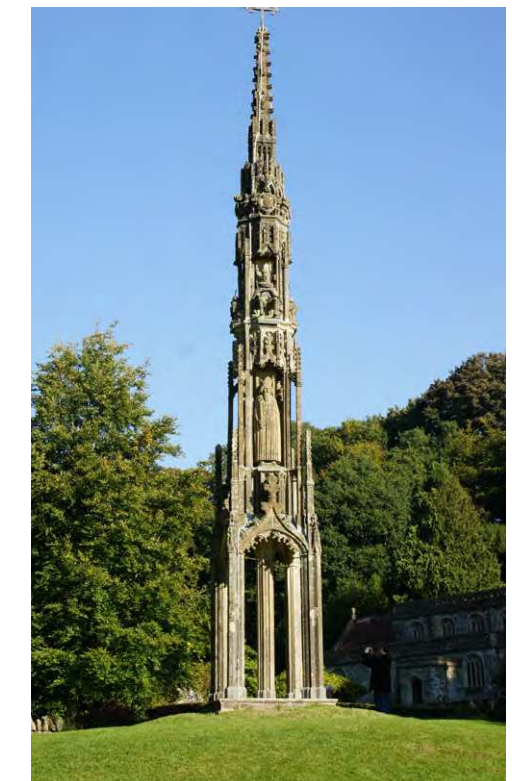
Following the progress of the theoretical background of European public parks, the article introduces the research analysis of the educational role of the parks. The conclusions drawn from the historical review and from the analysis of public parks and gardens

provide a good basis for the renovation methodology of historic parks and for the design of contemporary urban parks and open spaces, with an emphasis on their current and future educational role.

Placing the survey and assessment of the public parks into an international context makes it possible to overview the most important educational benefits of public parks to the society.

INTRODUCTION. THE CONCEPT AND ROLE OF PUBLIC PARKS

By public park, we mean those public urban green spaces that were established for the purposes of recreation in an urban area, and are equally accessible for use by any citizens. According



to the *Oxford Dictionary (2014)*, public park is “a park that is open to the public”. This is in accordance with the definition of the most important professional and cultural heritage organisations: “urban public parks were created or procured for the well-being of the public” (ICOMOS-IFLA, 2017).

The public park as an amenity appeared in the second half of the 18th century in Europe. The need for public parks was first discussed by Hirschfeld in his book “*Theorie der Gartenkunst*” published in 1779-1780. Later this concept was related mainly to the names of Joseph Paxton and John Claudius Loudon. (Jámbor, 2015)

In his work titled “*Encyclopaedia of Gardening*” Loudon describes what makes a park a public domain and how does it benefit the society. Education and dissemination of general botanical knowledge were established as the roles of the public parks, which at the same time also provided free or cheap leisure and entertainment

opportunities to the visitors, including sports activities. (Major, 1852)

In Hungary, with the waning of feudalism, the public park became the symbol of civil values and social progress. Public parks supported the progress of civil society and strengthened national identity. And, as venues for informal meetings, communication and exchange of views, places for walking, a ritual providing opportunity to see and to be seen, they became a primary scene of socializing (König, 1996), while also offering the experience for the visitors to feel close to nature.

OBJECTIVES AND RESEARCH METHODOLOGY

Based on a review of relevant international literature and an analysis of case study sites, the aim of the research is to systematically explore the outstanding educational role public parks play, and introduce the impact

1.a

1.b

Fig. 1.a: The North-West View of Bristol High Cross, with a Prospect of the Cathedral, and the Parish Church of St. Augustine (SOURCE: HTTP://WWW.RAREOLD-PRINTS.COM/Z/18106 ACCESSED ON 15.04.2020.)

Fig. 1.b: The Bristol High Cross in Stourhead, nowadays (SOURCE: HTTPS://WWW.FLICKR.COM/PHOTOS/ALWYN_LADELL/21932032515/IN/PHOTOSTREAM/ ACCESSED ON 15.04.2020.)



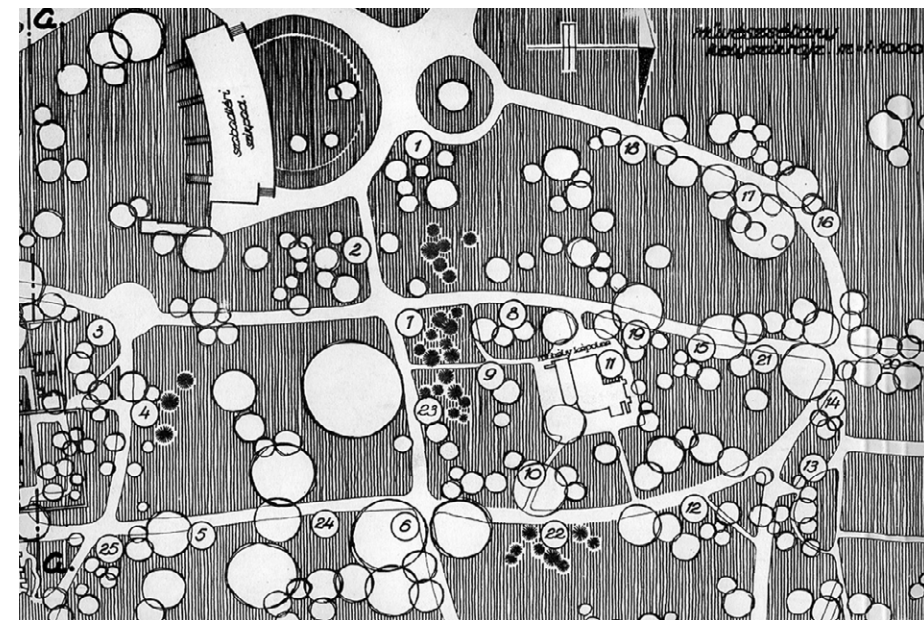
Fig. 2: Ludwig von Sckell Monument (Sckell-Saule), Englischer Garten, Munich (PHOTO BY AUTHORS, 2013)
Fig. 3: Detail from the design for the

Artists Walkway on the Margaret Island by Mihály Mőcsényi. Numbers mark the proposed locations of the statues. (SOURCE: MARGITSZIGET MŐVÉSZÉTÁNY – A FŐVÁROSI TANÁCS

VB HATÁROZATA ALAPJÁN KÉSZÜLT JAVASLAT, 1963)
Fig. 4: General view of the Crystal Palace, 1851. Dickinson's Comprehensive Pictures of the Great Exhibition of 1851,

from the originals painted for Prince Albert, by Messrs. Nash, Haghe and Roberts, Published: London (SOURCE: HTTPS://WWW.BL.UK/VICTORIAN-BRITAIN/

ARTICLES/THE-GREAT-EXHIBITION# ACCESSED ON 20.03.2020.)



of the ever-changing social ideologies on the design of public parks.

Regarding the methodological approach, the research is an overview of the European history of public parks. The milestones of the historic development and the main educational roles of public parks are defined in an international context, based on a review of fundamental publications of comprehensive public park research. Fundamental works were determined as publications most-cited in public park history research at national or international level. Based on a comparative analysis, educational roles characteristic to the public parks in the 19th and 20th century were established then.

The research conclusions are suitable to support the elaboration of historic park renovation methodologies and the planning of contemporary urban parks and open spaces.

DEVELOPMENT OF EDUCATIONAL USE OF PUBLIC PARKS

Public parks play a complex role in the life of the society. Since their appearance, the social demand for the parks has not decreased, but the use has changed and extended.

The review of the trends in public park design has clearly demonstrated the educational role of the parks. Based on the analysis of the selected comprehensive works on public park history (Hirschfeld, 1780; Meyer, 1873; André, 1879; Rapaics, 1940; Chadwick, 1966; Hennebo, 1971; Jordan, 1994; Taylor, 1995; Conway, 1996; Woudstra, 2003; Magyar, 2008; Sisa, 2014; Csepely, 2016) various substantial educational roles are possible to determine.

A. PATRIOTIC EDUCATION: EVOKING HISTORICAL PAST AND THE GENIUSES OF THE NATION

Introducing and raising awareness of historical past amongst the general public has been and is still an essential role of public parks. In his work titled "Theorie der Gartenkunst", Hirschfeld hints at the opportunity and necessity of the development of a characteristic German style in landscape design and landscape character.¹ He considers the parks as venues and tools of patriotic education. He suggests that the topic of the statues and artworks in the parks should relate to national history. In England, patriotic education dates

¹ „Ist es etwa mehr Empfehlung, wenn der deutsche Fürst einen englischen, als wenn er einen deutschen Garten hat? Lasst sich nicht eine Manier gedenken und einführen, die deutsch genug ist, diesen Namen einzunehmen?" Hirschfeld, C. L. 1985. *Theorie der Gartenkunst II. Hildesheim*, 142.

back to an earlier period, the beginning of the evolution of the landscape garden theory. In 1712, in his work titled "Letter concerning design", Lord Shaftesbury attributes great importance to the expression and visual representation of "national taste" in architecture, landscaping and other kinds of arts. The same is emphasized by Alexander Pope in his "Essay on criticism" written in 1736. Resulting from the evolution of an ideology based on national feeling in the first half of the 18th century, Gothic style structures, as symbols of a typical English national style in architecture, were introduced the first time in the public parks of the country. Located at focal points of the design, and evoking liberty and the glorious historical past of the nation, the Gothic style features played a central role in the composition. They served as symbols of transience, monuments of national history and panoramic viewpoints alike. Classical examples are the Bristol High Cross (Figure 1a and Figure 1b),² or the monumental Albert Memorial located in the southern section of Kensington Garden in London.³

Various additional Gothic structures, minor and less significant monuments, pavilions, churches, chapels, farmyard

buildings (e.g mills) were also suitable to symbolise the historic roots, the glory of the past.⁴ Beyond the English and German examples, the promotion of national identity is noticeable in many other countries. From Sweden⁵ to Romania (Constanini, 2016), parks serving for patriotic education are present all over Europe, and the manifestation of the idea is also possible to observe in the parks of the United States (Dennis, 1998). "If people are not represented in historical national parks and monuments or, more importantly, if their histories are erased, they will not use the park... Symbolic ways of communicating cultural meaning are an important dimension of place attachment that can be fostered to promote cultural diversity" (Low, Taplin, Scheld, 2005). From the 18th century, patriotic education and the related structures, symbols, events, and even the public park design theory itself, made significant parts of the development programme of the parks, and this is also true for the landscape design and park use of nowadays. Although patriotic education was not the priority of the park design in Hungary after the World War II, it is still possible to find such examples in the parks, such as the Garden of Counties in Népliget, opened in 1973. (Bakay, 2013)

² It recalls the memory of Edward the 3rd who established the independent County of Bristol in 1373. In 1756, the Cross was relocated to the picturesque park of Stourhead, where it is still possible to see as an important element of the landscape garden composition.

³ The monument was built by Queen Victoria, to the memory of his husband, Prince Albert, and was inaugurated in 1872.

⁴ For instance the Gothic Summerhouse (Gopsall Hall, Gopsall, Leicestershire), the Gothic Cottage House in Whiteknights Park (Sonning, Berkshire) and the Gothic Temple in Painshill Park (Cobham, Surrey).

⁵ "The design of Stockholm's green spaces was also increasingly affected by the belief that urban parks should reflect Swedish national identity, as expressed in Swedish nature" (Clark, 2016)

5

6

Fig. 5: The Megalosaurus sculpture in Crystal Palace Park
(SOURCE: [HTTPS://WWW.FLICKR.COM/PHOTOS/PETEREED/4065650832/](https://www.flickr.com/photos/peterreed/4065650832/))

Fig. 6: Parc du Champ-de-March nowadays, bird's eye view
(SOURCE: [HTTPS://WWW.FLICKR.COM/PHOTOS/IJANSCH/3094069986/IN/PHOTOSTREAM/](https://www.flickr.com/photos/ijansch/3094069986/in/photostream/))



One of the themes of the 2014 Venice Architecture Biennale, curated by Rem Koolhaas, relates to how national identities are absorbed into a universal language. Regarding this issue, the US architect Charles Renfro, the designer of the Zaryadye Park, next to the Kremlin in Moscow, Russia, was asked, how would the park design manifest the national identity of Russia. He explained that the starting point for the project was to make a collage of four landscapes of Russia: the steppe, the tundra, the forest, and the wetland. Russia is almost entirely made up of these four landscape types, and their intention during the design was to sample these landscapes and to bring them into the park. Thus, while urban, the context also represents the ecology of the country, showing national characteristics.⁶ Several examples illustrate that, beyond their role in patriotic education, the memorials in the parks also serve for the promotion of other notions (e. g. moral, friendship) and for understanding

cultural history. The statues and monuments placed in public parks introduce distinguished persons, historic events, artists and heroes, and represent historical epochs and artistic styles. Moreover, the monuments erected in the picturesque parks also contribute to the atmosphere. Their rapid spread in the public parks coincides with the age of Sentimentalism, laying the foundation for the cult of monuments in the 19th century. Some well-known international examples worth mentioning to illustrate this, such as the Speke's⁷ Monument in Kensington Gardens (London, UK), the Johann Strauss Monument in Stadpark (Vienna), the Friedrich Ludwig von Sckell⁸ Monument in Englischer Garten Munich (Figure 2.), the Monument to Guy de Maupassant in Monceau Park (Paris) or the Memorial of the Engine Room Heroes of the Titanic in Birkenhead Park (Liverpool).

Following the European trend, significant initiatives appeared also in Hungary from the mid-19th century. The

⁶ <https://www.dw.com/en/architect-renfro-brings-wild-urbanism-to-moscow/a-17700128> acc. on 21.03.2020.
⁷ John Hanning Speke (1827-1864), explorer; he discovered the Nile's source in 1862
⁸ Friedrich Ludwig von Sckell (1750-1823), German landscape architect, designer of many parks and gardens including the Englischer Garten Park in Munich

busts of the writers Dániel Berzsenyi (1860) and Ferenc Kazinczy (1861) were placed in the garden of the National Museum, as an initial contribution to its development as a national memorial garden. This was a novel approach in Hungarian garden art. In the country, the memorial garden in Debrecen was meant to have a similar role in the 1860s, with the statue of the poet Mihály Csokonai Vitéz located there (Sisa, 2014).

Another instance in Budapest from the early 20th century is the Plan of the Artists Walkway on the Margaret Island, appearing amongst the substantial developments initiated in 1910 by the Budapest Council for Public Developments. The inauguration of the statue of the poet János Arany on the 22nd of June in 1912 also relates to this. The statue was made by Alajos Stróbl upon the commission from Archduke Joseph, and according to the will of the donor, it was placed under the „Oaks of János Arany”. Presumably, the Artists Walkway existed only as a plan, since we have no information of any other sculptures from this period. Later the walkway was extended with additional sculptures placed. The current layout originates from the 1960s, with the sculptures arranged according to the plan of Mihály Móczsenyi (Figure 3). (Bercsek, 2013)

Public parks also serve patriotic education as venues for public commemorations. Commemorations provide the sense of belonging and educate people to respect social and national values. “Parades, festivals and fiestas allowed individuals to contribute to, and experiment with, national identities ... Martial music, grand fireworks and galas were among the ways in which the public parks allowed individuals

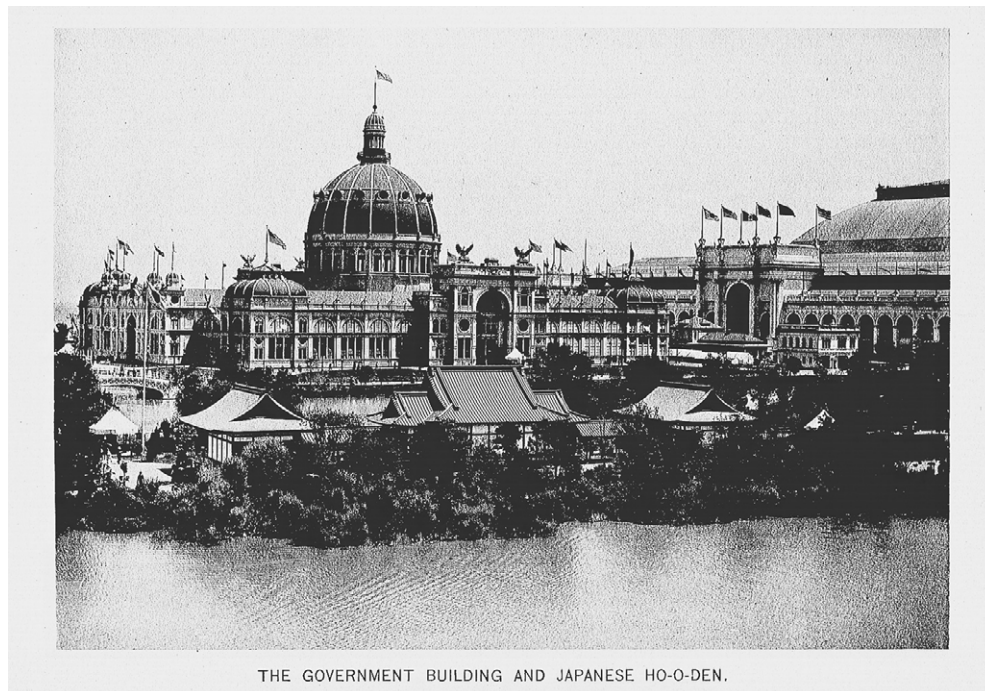
to participate in the celebration of the nation.” (Stubbs, 2013) Commemorations of Independence Day (4th of July) in many public parks of the United States of America may be quoted for reference, and a similar event takes place in the garden of the National Museum in Budapest, every year as a public celebration on the 15th of March.

With preference given to native plants characteristic to the location, the theory on plant use evolved from the mid-19th century onward supported also the patriotic education. This trend appeared first in Germany. The Friedrichshain Park in Berlin by Gustav Meyer was exemplary for designers in many other countries. The Türkenschanzpark in Vienna could be mentioned amongst the followers, where a nature trail was established to introduce native plants. Regarding Hungary, the second phase of Népliget is the best example, which was realised at the turn of the 20th century. (Csepely, 2016)

B. EXHIBITIONS INTRODUCING TECHNICAL INNOVATIONS AND CULTURAL HISTORIES

The international fairs and exhibitions, including the world expositions, were important scenes for the representation of patriotic feelings in the 19th century, and the spacious urban parks were suitable to accommodate these events. Beyond their role played in the promotion of national identity, the world expos were also significant for the propagation of scientific and technical innovation in a competitive international context.

The first world exhibition was organised in 1851 in London's Hyde



THE GOVERNMENT BUILDING AND JAPANESE HO-O-DEN.

Park, titled the “Great Exhibition of the Works of Industry of All Nations”.

The idea came from Prince Albert, husband of Queen Victoria, and it has been recorded as an exhibition of primarily industrial products. It had an influence on the development of the society in many aspects, regarding arts education, international commerce or tourism. Moreover, it has set an example, and became exemplary to subsequent international exhibitions, which were later referred to as “international expos”, and which are still being organised worldwide. “Vertiginous, fascinating vision exceeding all expectations. One does not know what to look at, where to begin, and falls in despair whether and how it would be possible to see everything. A giant temple of artworks, industry and products of the world.” – as written by Antal Csengery of the exposition in London. (Gál, 2009)

The greatest attraction of the London expo was the exhibition hall built specifically for this event in the Hyde

Park, the Crystal Palace. Designed by Joseph Paxton, a famous architect of the period, with its 39 meters internal height and 565 meters length it was an incredible technical innovation in its time (Figure 4). Its significance is shown by the fact that Paxton had been knighted after the inauguration of the giant glasshouse. (Blalock, 2001)

The first industrial exposition of the world had been visited by more than six million visitors. Amongst the other interesting objects exhibited, the steam engines and locomotives, the large foundry products by Alfred Krupp, the revolver by Samuel Colt, the daguerreotypes, and the sculptures of prehistoric animals by the London-based artist, Waterhouse Hawkins worth mentioning.⁹ (Figure 5)

The London exhibition was followed by the Paris (1867, 1878, 1889, 1990), Vienna (1873), Philadelphia (1876), Chicago (1893) and Antwerp (1894) expos, and all these 19th-century events propagating cultural history, and

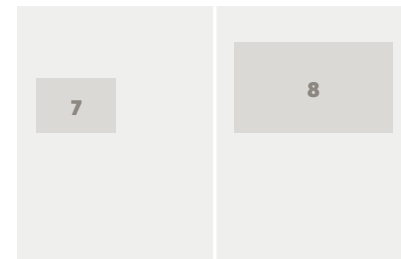
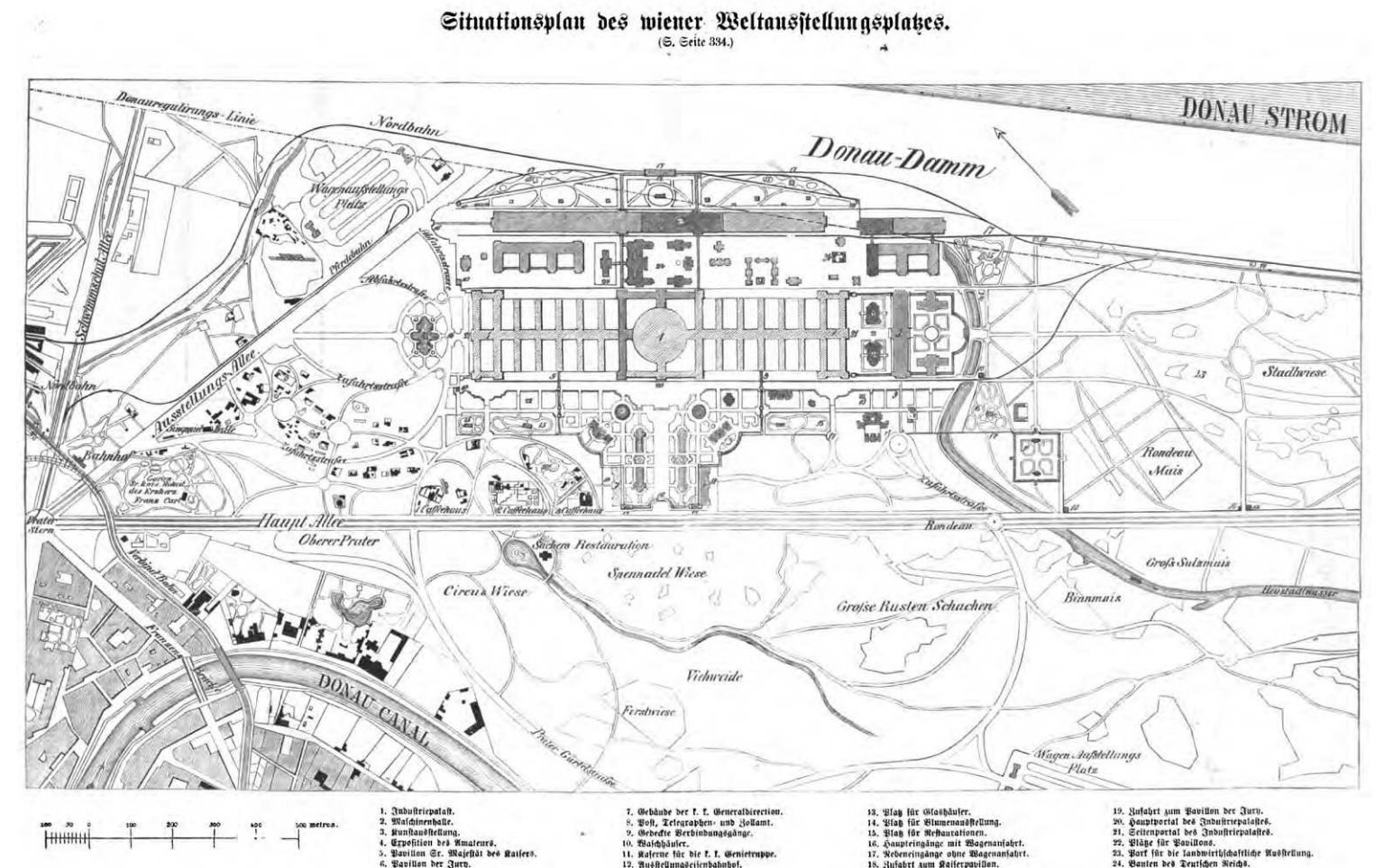


Fig. 7: The plan of the Vienna expo in the Prater Park with the pavilion layout (SOURCE: ILLUSTRIRTE ZEITUNG – WELTAUSSTELLUNG, MAY 3, 1873 ISSUE, PAGE 336.)

Fig. 8: The hööden (鳳凰殿) (exterior) and the U.S. Government Building. (SOURCE: ARNOLD, C. D., HIGINBOTHAM, H. D.: OFFICIAL VIEWS OF THE WORLD'S COLUMBIAN EXPOSITION HTTPS://WWW.NDL.GO.JP/EXPOSITION/ DATA/L/208L.HTML#EXHIBIT_1)

⁹ The prehistoric animals (*labyrinthodont*, *teleosaurus*, *megalosaurus*, *iguodonon*, *megaceros*) were built under the guidance of professor Richard Owen who established prehistory as an academic discipline and who introduced the word “dinosaur” to the language. (Conway, 1996)



1. Schallbrunnentempel.
2. Weltkronleuchter.
3. Museum der Naturgeschichte.
4. Exposition des Mineralien.
5. Pavillon St. Michael bei Rainfeld.
6. Pavillon der Jura.
7. Gebäude der k. k. Generalkriegskasse.
8. Hof, Ziergärten und Zirkel.
9. Gebäude der k. k. Hofbibliothek.
10. Hofbibliothek.
11. Galerie für die k. k. Gemäldegalerie.
12. Hofbibliothek im Hof.
13. Hof für die k. k. Hofbibliothek.
14. Hof für die k. k. Hofbibliothek.
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attracting several million visitors were accommodated in urban public parks.

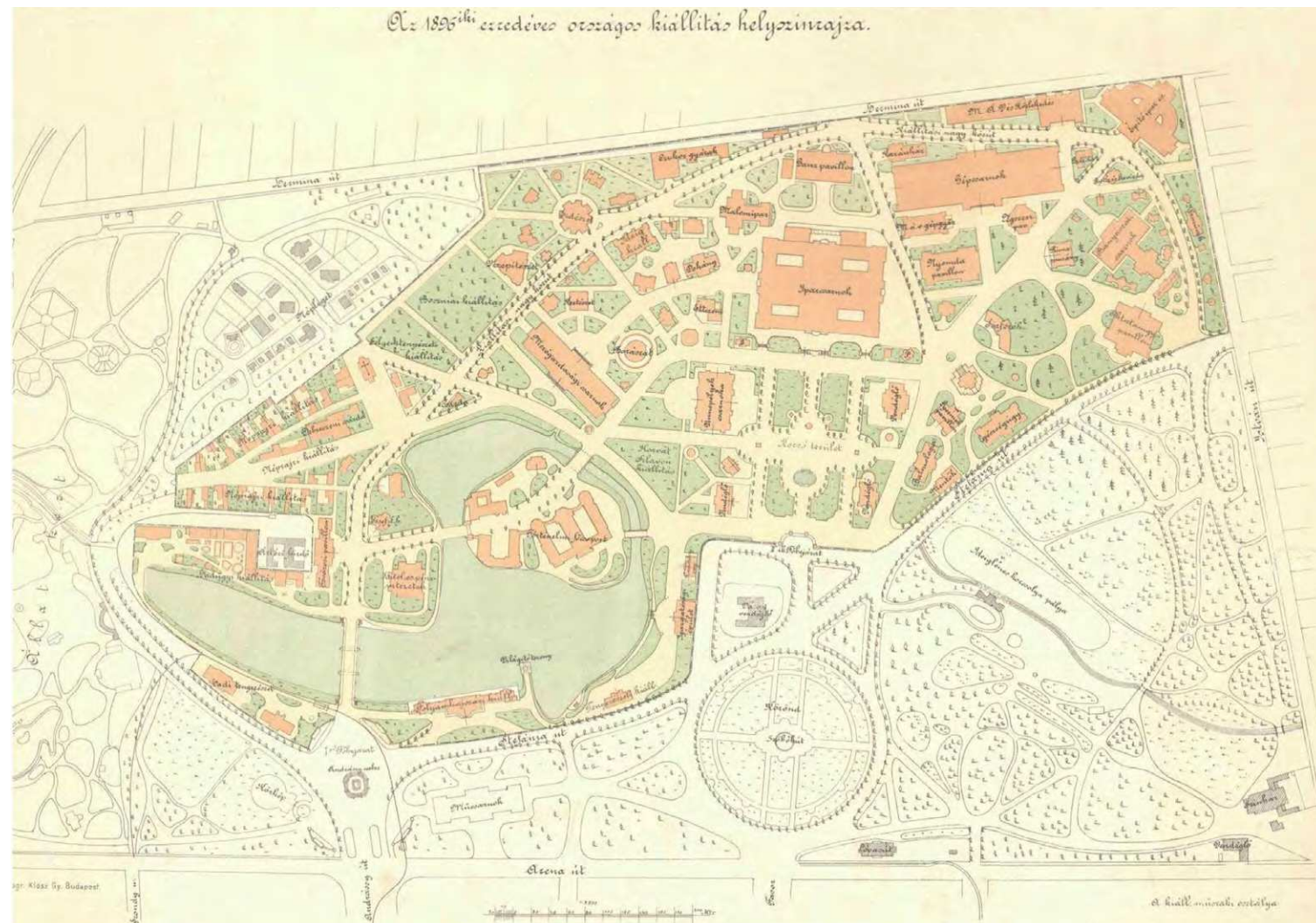
Paris expos took place in Parc du Champ-de-Mars, that time located outside the city walls, which was designated a public park in 1780 (Figure 6). The area had been the site of public events since ancient times, as a gathering and training field for the Roman army. Several more outstanding events of the history of France relate to the park, such as the Festival of the Federation (Fête de la Fédération), the massacre on the Champ de Mars, the execution of major Bailly, and the Cult of the Supreme Being (l'Être suprême) at the zenith of the French revolution.

The 1873 world expo in Vienna was held in the largest public park of the city, on 233 hectares, under the slogan “Austria invites the World!” The exposition served to consolidate the status of the Austro-Hungarian Monarchy amongst the great powers, promote Vienna into the position of a metropolis, gaining grounds against the rival

city of Berlin. Almost 52,000 exhibitors were introduced in nearly 200 buildings. The main building of the Rotunde, comparable to the integral exhibition space of the Crystal Palace in London, aimed at expressing the unity of nations. At the same time, the plan of the exhibition also included the layout composition of pavilions in the vast grounds of the park. (Figure 7)

Martin Wörner (Wörner, 1999) considers the 1876 Philadelphia exhibition¹⁰ as a milestone in the development of the pavilion layout. This time dozens of pavilions were built, with references to national or local history. Two years later, the 1878 Paris expo then formally announced the concept of national architecture for the pavilions. Along the idea of “Rue des Nations”, all foreign countries invited had an opportunity to define their own image through design, with reference to a significant building or the application of the national characteristics in architecture. The later expos were organised

¹⁰ The World Exhibition (The Centennial International Exhibition) was located in the Fairmount Park, the largest municipal park in Philadelphia, Pennsylvania, represented by a group of parks located throughout the city, on over 830 ha, established from 1855 to 1867. In: https://en.wikipedia.org/wiki/Fairmount_Park (accessed on 19.03.2020)



along the same idea, with each nations articulating their own characteristics in the design of the pavilions.

Some of the countries based the design of their pavilions on famous buildings from a specific historical period (based on the Elizabethan manor houses for England, on “Fachwerk” architecture for Germany, on the towers of Kremlin for Russia, and along a similar concept for Spain, Netherlands and Italy). At the same time, the alternative, national approach took the design patterns from vernacular architecture (Lakner, 2000). The relation between the architectural design of the world expos and vernacular architecture is therefore diverse, and the three classical fields of rural cultural heritage, vernacular architecture, folk costumes and folk arts and crafts were generally all promoted to visitors.

The pavilions of the World's Columbian Exposition in Chicago, held on the 400th anniversary of the discovery of the American continent, occupied an area of 200 hectares. The exhibition

opened its gates in the Jackson Park, designed by Frederick Law Olmsted, in cooperation with Daniel H. Burnham and John Wellborn Root. In this case, we can see an example where the parkland was first developed as the host site of a World Exhibition. Moreover, Jackson Park featured the first public golf course west of the Allegheny Mountains, which opened in 1899.

Another famous element, the Jackson Park's Japanese gardens, were created during the 1893 World's Columbian Exposition, with a garden and a Japanese hōōden (鳳凰殿) (Phoenix Temple) for the government of Japan as a pavilion for the exposition. (Figure 8) The pavilion was based on the hōōdō (鳳凰堂) (Phoenix Hall) of the Byōdō-in Temple (平等院) in Kyoto. After the opening of the international exposition, the hōōden (鳳凰殿) was even more highly regarded, and many of the visitors commented that the structure was exotic and elegant. It is well-known that Frank Lloyd Wright was influenced by the hōōden (鳳凰殿).

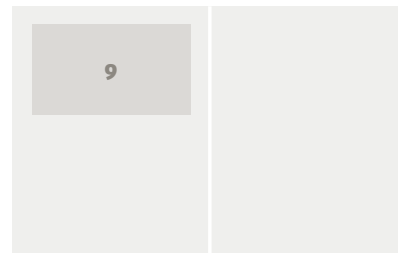


Fig. 9: The layout of the 1896 National Millennium Exhibition. (SOURCE: [BUDAPEST TÉRKÉPEINEK KATALÓGUSA 3824] BFL, HADTÖRT. TKTÁR G I H 1469, OSZK TM 1043, OSZK TM 1477: COLOUR.)

In addition to the influential world expos, public parks had also accommodated several national or local exhibitions which helped to increase general or specific knowledge of all age groups and social strata. Moreover, the events also made participants to recognise that visiting exhibitions is something good, it is a nice experience, an informal visit to see innovations, try tools and machinery and learn about novelties.

From the 1870s to the World War II, the City Park (Városliget) in Budapest was the second most popular recreational and amusement center for the citizens. The 1885 National Universal Exhibition received two million visitors. An area of 70,000 m² of the 300,000 m² total exhibition area was built up with more than hundred pavilions.

A decade later, the Millennium Exhibition of 1896 was already visited by more than five million people. An objective of the Millennium Committee was to allow the most people possible to visit the central exhibition in the City Park. This is how the newspaper titled “Vasárnapi Újság” describes the visitors in its issue on the 21st of June 1896: „Great masses of people arrive from all over the country to see the exhibition. Not only the rich and wealthy classes but also the farmers, and not only the adults but also hundreds of pupils.” (Lovas, 2017)

The 1885 Budapest exhibition brought extensive landscaping, the Stefánia Avenue was extended into the City Park, the Industrial Hall was built up as a permanent structure with a promenade decorated with rectangular flowerbeds in front of it, and the old Exhibition Hall (Millenium House nowadays) also originates from this time. The plan for the 1896 exhibition (Figure 9) basically respected the winding character of the park walkways, with an irregular exhibition boulevard, adjusted partly to the promenade running along the edge of the park, added, and a bridge

arching over the pond discretely fitted into its environment (Sisa, 2014).

C. INTRODUCING EXOTIC WORLDS

The Great Exhibition of 1851 in London provided an overview of the status of the countries of the world, according to chronological and geographical orders, and the progress of civilisation. Japan formally did not participate this exhibition yet, although there were some artworks presented amongst the Chinese exhibition material. The 1873 Vienna exhibition was a turning point in this aspect, where Japanese culture, products and arts were adequately introduced the first time. A traditional Japanese gate (torii) and a Shinto temple were installed in a small garden, along with a minor pond and an arched bridge in the vicinity. The press of the period also took notice of the wind-blown, swinging gold fish flags (Tóth, 2018).

The Japanese garden and the Ho-o-Den temple at the 1893 world exhibition in Chicago were built upon the initiative of the government for the promotion of the national image and representation. It had a great importance for North American citizens to get an insight into an isolated culture they had not really known before. As it is generally known, public parks had played a great role in introducing exotic countries and cultures since much earlier. The stream of ideas was never unidirectional only. The British who were pioneers in European garden culture and the establishment of public gardens, learned a lot from India and China,¹¹ and this knowledge was transferred to the Continent partly by the means of public parks.

In the second half of the 18th century, the books of William Chambers on Chinese arts and gardens were published.¹² Architectural elements, motifs and common objects from the Far East were becoming more and more

¹¹ “Luoyang, the eastern capital ... had been redeveloped, to such an extent that provided home for more than two million inhabitants. People had their recreation in large public parks and museums. The palace gardens were flourishing on vast terraces ornamented with pavilions and supported by retaining walls, providing distant views to the lakes and bays ... In these glorious early days of the Tang dynasty China became the exquisite ornamental garden of whole Asia, exceeding the grandeur of the courts of the Samarkand, Damascus or Baghdad khans or khalifahs” In: Needham, J. (1954): *Tudomány és civilizáció Kínában (Science and Civilisation in China)*. Cambridge, p. 240.

¹² Chambers, W. (1757): *Designs of Chinese buildings, furniture, dresses, machines and utensils to which is annexed a description of their temples, houses, gardens*. London. Chambers, W. (1759): *A treatise on civil architecture in which the principles of that art are laid down and illustrated by a great number of plates accurately designed and elegantly engraved by the best hands*. London. Chambers, W. (1763): *Plans, Elevations, Sections and Perspective Views of the Gardens and Buildings at Kew in Surrey*. London. Chambers, W. (1772): *A dissertation on oriental gardening*. London

present in Europe (Fig. 10.a - Fig. 10.b). The Chinese pagoda designed by Chambers in 1761-62 still exists in the Kew Gardens, and many other later instances from the 19th century also illustrate the popularity of these structures evoking exotic cultures in public parks (one of the best known Chinese style structure in the Continent is the pagoda in the Englischer Garten in Munich).

In addition to Chinese pagodas and tea houses, exotic structures of other periods and regions also appeared in the public parks of the 19th century in order to enhance the prospect (Greek theatre, Turkish Bath, Arabic mosque). In the course of the 19th century, owing to their appearance (colours, shapes, architectural characteristics, symbols), the exotic garden structures played an important role in the introduction of distant Far Eastern cultures, novel to the European societies at this time. The educational role of their aesthetic qualities, and often the mythological elements they bear is evident in the fields of history and arts. Often, the structures also refer to outstanding civilisations of history. The Chinese house (and garden) to oriental wisdom, the pyramid and obelisk to the culture of Egypt, the temple of Pan to the Greek Arcadia, the altar and the stele to the antique Rome (Jámbor, 2009). And although these elements first appeared in private gardens and castle parks in Europe, from the 19th century many of them became and are still public domains.

Owing to its architectural design and the statue of Neptune on the bell-roof, the musical Bodor Fountain in Budapest, built adjacent to the Japanese garden on Margaret Island recalls the atmosphere of the antiquity. According to the plaque mounted to the side of

the structure: "The fountain is a true copy of the one by Péter Bodor, Székely handyman, built in 1820-22 and demolished in 1911 in Marosvásárhely (Targu Mures)". The fountain recalls similar structures of West European parks that were inspired by antique and exotic cultures. (Figure 11a-11c).

In Birkenhead, there is also a Swiss bridge, and in Peel Park, Salford, the Victoria Arch built in 1859 featured Indian elements in its horseshoe arches and oge-shaped finials.

Amongst the park pavilions of exotic design, the bandstand played a special role. It was so popular that it became a compulsory element of all public parks by the second half of the 19th century. Concerts by military and workmen's bands were held on weekday evenings and Sundays in the summer. A wide range of classical music was performed, and music was considered to have an important positive influence. The bandstand was seen as another aspect of the reforming potential of the parks' educational influence.

The use of the buildings, structures and other functional units in the parks was usually regulated also for educational purposes. Park buildings, shelters and refreshment rooms were often closed during the time of church services on Sunday, in order to encourage people to go to the church. Another solution was to use them for educational activities as a museum, library or art gallery and this conformed with the educational aspirations of the park promoters. For instance, in Manchester the City Art Gallery had branches in five different public parks (Conway, 1996).

The colourfulness and diversity of the gardens of Far East were adapted

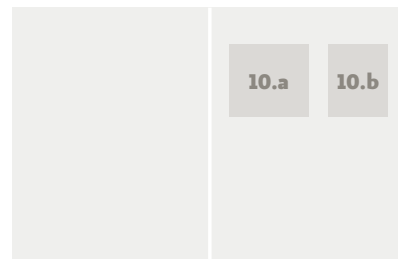
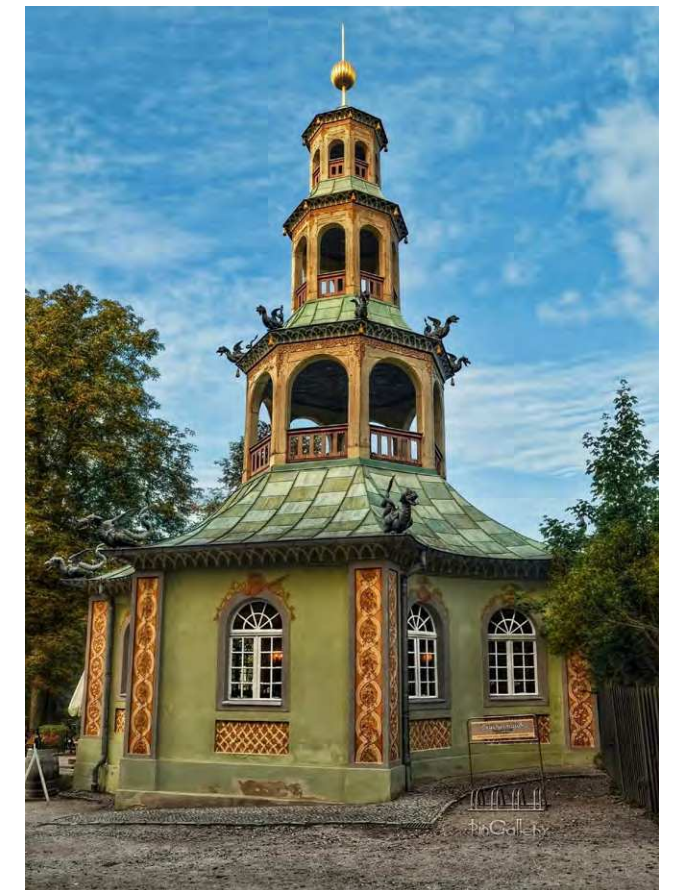


Fig. 10.a: Chinese Tea House, Sanssouci Park, Potsdam, Germany, 1755-64 (SOURCE: [HTTP://ANTIQUEFRENCHLIVING.BLOGSPOT.COM/2010/11/NEW-GIVEAWAYHARRISON-HOWARD-CHINOISERIE.HTML](http://antiquefrenchliving.blogspot.com/2010/11/new-giveaway-harrison-howard-chinoiserie.html))

Fig. 10.b: Chinese Dragon Pavilion, 1770-72 (SOURCE: [HTTPS://WWW.DEVIANTART.COM/PINGALLERY/ART/DRAGON-HOUSE-IN-SANSSOUCI-PARK-337853154](https://www.deviantart.com/pingallery/art/DRAGON-HOUSE-IN-SANSSOUCI-PARK-337853154))



in order to renew the landscape garden style that became overmuch blank by the mid-19th century, and was applied as the main style of the public parks. This implied not only the use of oriental structures, but following Far Eastern patterns, hills, ponds, creeks and waterfalls also appeared in the parks, introducing the visitor into the unique and spectacular visual appearance of the Eastern landscape and garden culture.

Beyond the ornamental role, the use of exotic plants was also an effective tool from educational aspects. In the first half of the 19th century, the collectors garden style started to spread in British public parks. While in the beginnings, the collectors garden reflected primarily the botanical passion and interest of the owner or founder, later it became an important tool of environmental and scientific education.

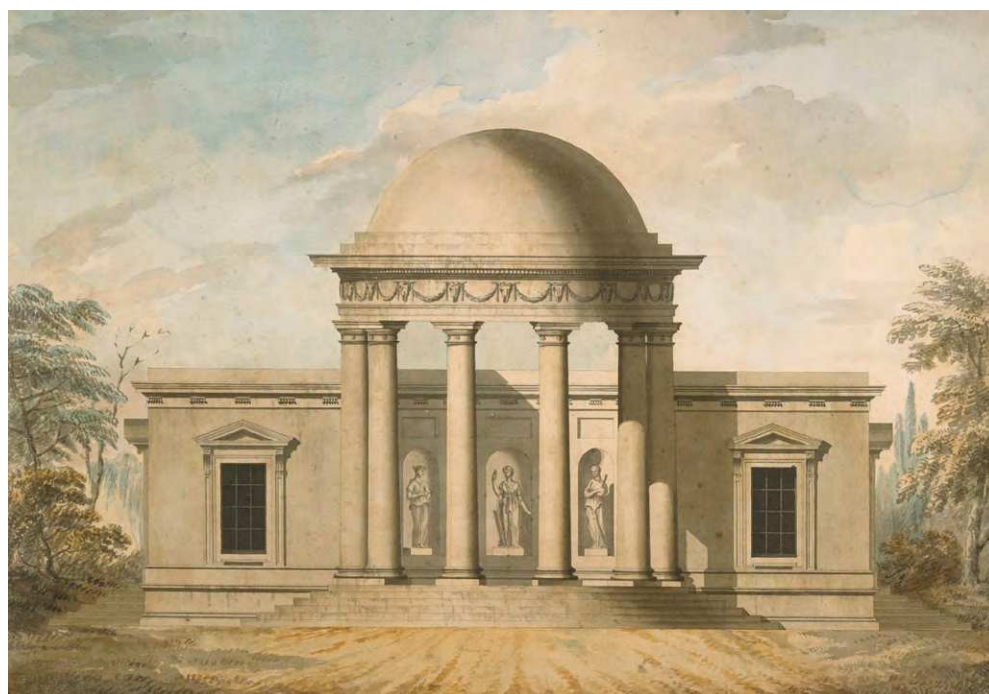
It was also Britain, where arboretums first appeared as public parks. Amongst the first ones, Westonbirt Arboretum (1834), Bicton Arboretum (1839), Derby

Arboretum (1840), Bowood Pinetum (1848) and Nottingham Arboretum (1850) worth mentioning. The arboreta played an important role in education, interpretation and practical introduction of horticultural sciences since the beginnings.

The word "arboretum" first appeared in John Claudius Loudon's article in "The Gardener's Magazine" in 1833, but the concept had been established for long by then. According to Loudon's definition, the arboretum is a collection of exotic and native trees, with all species represented by a single specimen,¹³ so that to provide the most diverse plant collection possible in the area available.

In Hungary, following the example of the Crystal Palace in London, a palm glasshouse was designed with the purpose of botanical education of the public. The architects, János Hein and Albert Schikedanz, proposed the building to be placed on the top of Gellért Hill in the 1890s. The direct impact of the exemplar is also reflected by the fact that the central building was

¹³ „Loudon was the first to recommend arboreta as collection of both foreign and native trees - never more than one specimen of each kind...” (Quest-Ritson, 2003.)



named Chrystal Palace. (Csepely, 2016) Although the proposal was not realised, it was followed by several examples of garden details during the planning of Hungarian public parks, which were to improve the horticultural knowledge of the visitors. This idea was also present after the World War II, as illustrated by the small botanic garden established in the City Park in the 1960s. (Bakay, 2013)

SUMMARY

Since their appearance, public parks have played an important role in the education of the youth and the older generations, and were substantial scenes of self-representation of the various social classes. Our urban public parks originating from the 19th century and undergoing a continuous development even nowadays, are also significant scenes of our history. Owing to their varied types, roles, functions, and the image that represents them, public parks bear symbolic contents and multiple options for interpretation, which are possible to understand only in the contexts of history and collective memory (Nora, 1984).

The historical review of public parks highlighted the fact that the educational

role of the parks has always been inevitable in the course of their development. In this aspect, we would underline patriotic education, which, in addition to teaching about the past, and delivering or sometimes reinterpreting historical knowledge, implies also individual and social commemorations, social cohesion, and awareness raising about cultural heritage (statues, memorials, intangible heritage elements etc.). At the same time, the major public commemorations also raise awareness about the importance of mutual respect and acceptance of national emotions.

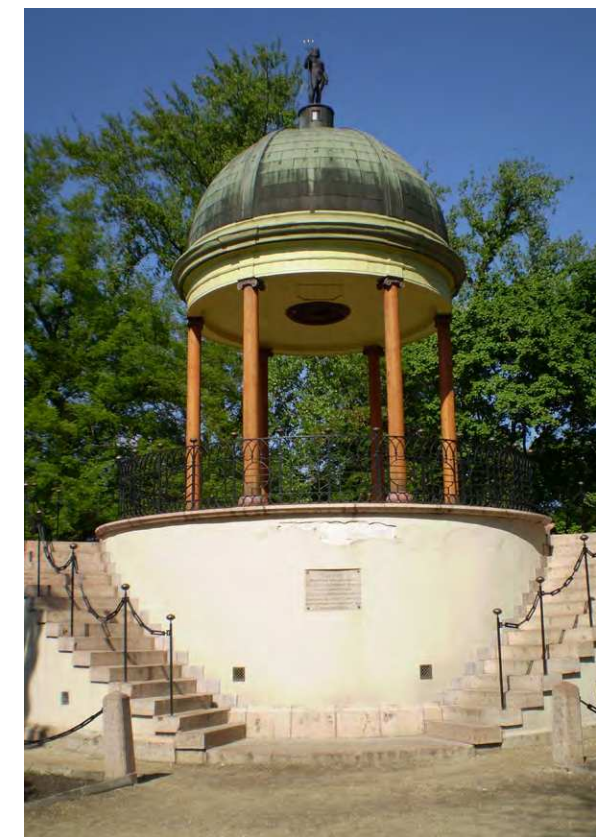
General dissemination of knowledge, promotion of technical innovations and scientific results from the 19th century until nowadays may be interpreted as a complementary to school education, and is considered nowadays as a fundamental form of adult education. Beyond the didactic introduction of interesting and unique innovations (exhibitions, zoos and botanic gardens, nature trails etc.) and the awareness raising about the environmental values, all forms of knowledge dissemination have been and still are and important role of public parks.

The introduction of exotic landscapes and cultures marks an outstanding



Fig. 11.a: Temple for Henry Willoughby: elevation. Design by Sir William Chambers, ca. 1780¹⁴
Fig. 11.b: The Beacon in Staunton Country Park. Design by Lewis Vulliamy, 1830 (Jones, ed) (SOURCE: [HTTPS://IMAGES-PRODUCTION.GARDENVISIT.COM/UPLOADS/IMAGES/15967/STAUNTON_COUNTRY_PARK_377_JPG_ORIGINAL.JPG](https://images-production.gardenvisit.com/uploads/images/15967/STAUNTON_COUNTRY_PARK_377_JPG_ORIGINAL.JPG))

Fig. 11.c: The Bodor Fountain on Margaret Island, Budapest. Design by Peter Bodor, 1811-12 (PHOTO BY THE AUTHORS (2019))



epoch in the history of public parks. These parks attest the openness of the society, the spread of progressive ideas, and due to their artistic components, they support also the development of aesthetic sense. Many of the exotic elements, functions and symbols applied to historic parks are still popular to use as common features, and became integral and often essential parts of the public parks of nowadays (pavilions, decorative artistic features, plant use etc.).

The educative impact of the public parks on the visitors was obvious. This has also been proven by statistical data, already in the 19th century. An article published in 1857 in the "Transaction of the National Association for the Promotion of Social Science" noted that three years after the opening of West Park in Macclesfield (UK) in 1854, drunkenness and disorderly conduct have decreased by 23%, gambling by 50% and the use of profane language by 60%. (Conway, 1996)

The educational role of the parks persists, but the classical (historic) educational roles have partly changed. Beyond the functions and uses, the methodology of the planning (or renovation) process of the parks has also

changed, and the role of the planner became more complex. The main reason for that is because the planning process has multiple participants nowadays. In addition to the client and the planner, the users make also part of the process (participatory planning), so that their needs can be better represented in the public parks. Moreover, local governments, other professionals concerned, managers of public utilities, authorities (e.g. cultural heritage conservation, natural heritage conservation), NGOs (e.g. bicycle associations, associations for blind people), contractors, park managers and others also participate and comment on the plan. The final result then must have the agreement of all, which requires a comprehensive coordination based on a complex approach from the landscape architect as the general planner. ©

¹⁴ <https://www.royalacademy.org.uk/art-artists/work-of-art/copy-design-of-temple-for-henry-willoughby-elevation>

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KÖZPARKOK OKTATÁSI SZEREPE. ABLAKOK MŰLTRA, JELENRE, TÁVOLI VILÁGOKRA

Az európai közparktervezés kezdetei a 18. századig nyúlnak vissza. Az első közparkok a rekreáció, a szabad-téri szórakozás és a társadalmi reprezentáció jegyében születtek. A közparkok megjelenésük óta különböző korok és stílusirányzatok művészi üzeneteit, változó társadalmi ideológiáit és műszaki vívmányait közvetítették használóik felé. Kompozíciós elveik, formai megjelenésük és szimbólumaik révén fontos oktató-nevelő szerepet játszottak a mindennapokban.

A cikk átfogó fejlődéstörténeti áttekintésre alapozva mutatja be a közparkok oktatási és nevelési szerepének elemző feltárását. A nemzetközi kontextusban végzett történeti elemzés európai szinten is rálátást biztosít a közparkok oktatási szerepének fontosságára, népmvelő jelentőségére a kezdetektől napjainkig.

A cikk célja rávilágítani arra, hogy a közparkok oktatási, köznevelési szerepe mindig is egyértelmű volt fejlődéstörténetük során. Ebben a vonatko-

zásban kiemeljük a hazafias nevelést, ami a múlt megismerésén, a történelmi ismeretek átadásán, esetenként újraértelmezésén túl az egyéni és közös megemlékezést, az összetartozást, a kulturális értékek tudatosítását (szobrok, emlékművek, történelmi emlékezet stb.) segíti. A nyilvános, tömeges megemlékezések ugyanakkor egymás nemzeti érzelmeinek az elfogadását, tiszteletben tartásának fontosságát is tudatosítják a parkhasználókban.

Az általános ismeretterjesztés az új technikai vívmányok és tudományos ismeretek népszerűsítése a 19. századtól napjainkig az iskolai oktatás kiegészítőjeként értelmezhető, s mai szemmel nézve a felnőttoktatás egyik formája. Az érdekes és különleges újítások didaktikus bemutatása (kiállítások, állat- és növénykertek, tanösvények stb.), a környezet értékeinek tudatosítása mellett az ismeretterjesztés minden formája a közparkok fontos feladata volt és maradt.

Az egzotikumok, idegen tájak és kultúrák bemutatása egy nagyon fontos korszakát képezik közparkjaink történelmének. Társadalmi nyitottságról, a haladó eszmék elterjedéséről

tanúskodnak, s művészi összetevőjükön keresztül az esztétikai érzék fejlesztését segítették. A múltban alkalmazott idegen közpark-elemek, funkciók és szimbólumok közül nagyon sokat átvettünk, napjainkra ezek teljesen beépültek a parkhasználatba, közparkjaink szerves és sokszor elengedhetetlen részeit képezik (pavilonok, művészi értékkel bíró dekorációs elemek, növényalkamazás, stb.)

A kutatás következtetései jó kiindulási alapot szolgáltatnak történeti közparkjaink megújítási módszertanához illetve a kortárs városi parkok tervezéséhez, különös tekintettel a közparkok és szabadterek jelenlegi és jövőbeni oktatási-nevelési szerepére. ©

A NEW LANDSCAPE ARCHITECTURE: THE LIVING FENCES EXPERIENCE IN BUENOS AIRES

INNOVATÍV TÁJÉPÍTÉSZELET. „ÉLŐ KERÍTÉS PROJEKT” BUENOS AIRESBEN

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ABSTRACT

The *Breathe/Respirar* Project (BRP) explores opportunities to improve air quality in schoolyards using living fences, and to facilitate the multiple social and environmental co-benefits that can result from greening existing urban infrastructures, which include opportunities for environmental education and reconnecting people with nature. This exploration takes place through a series of experiments in Urban Living Labs set in schoolyards of Buenos Aires, Argentina. The experiments involve (1) engaging the school community (teachers, schoolchildren, parents, other stakeholders) to co-create the experiment; (2) designing and implementing interventions in ‘the schoolyard as landscape’; (3) including activities that enhance co-benefits; (4) monitoring integrated effects; and (5) collectively analysing outcomes. The essay discusses preliminary findings from a pilot project’s early set up. With

effectiveness outcomes still in process, we focus on implications for further project implementation and wider lessons learned to inform the practice of landscape architecture in the context of interdisciplinary socio-environmental projects. These speak to a framework of three premises (making environmental commitment a central pillar; using multidisciplinary approaches for multifunctional landscapes; and communicating strong messages through landscapes themselves and complementary activities). We suggest the current relevance of this professional ethos as landscape architecture seeks to play a bigger role in meeting environmental challenges.

INTRODUCTION

This essay reflects on early findings and lessons learned from the *Breathe/Respirar* Project (BRP), a living fences project that addresses air quality in schoolyards and incorporates Urban

Living Labs (ULL) methods to pursue the multiple social and environmental co-benefits that result from enhancing existing urban infrastructures with a green layer of vegetation. Whilst BRP has been undertaken in collaboration between Argentine and British researchers since 2018, the focus herein is on the project’s challenges and implementation in Buenos Aires. The essay aims to assess these against three premises that we propose for a new landscape architecture, which speak more broadly to the profession’s mission and challenges in the face of the planetary ecological crisis and the new role that cities can play as a solution in the context of unprecedented global urbanisation. The essay explains the BRP’s interdisciplinary methodology, which borrows from (i) international ULL’s experimentation within social-ecological systems; (ii) local expertise on urban environmental education; and (iii) research on the hurdles to provisioning green space and articulating a network of nature-based solutions. We conclude with a reflection on BRP’s ongoing activities and implications for landscape architecture.

THE PLANETARY ECOLOGICAL CRISIS AND THE ROLE FOR GREENER CITIES

Landscape architecture is being redefined to confront the fate of humans in the face of the human disruption of the Earth System and its manifold

consequences (Hamilton, 2017). At the IFLA 2019 World Council meeting, President James Hayter remarked that “we have declared a Climate and Biodiversity Emergency on behalf of the profession of landscape architecture worldwide... landscape architects have all the skills, beliefs and passion to not only make a difference but to be the leaders in land management and city making.” <https://www.iflaworld.com/newsblog/ifla-2019-world-congress-closing-remarks-from-president-james-hayter>

Meeting the environmental challenge indeed requires understanding how city making increasingly implicates land management. In the context of the thorough and extensive urbanisation of the world, cities not only house humanity’s majority but also produce footprints that reach far beyond city limits: peri-urban zones exhibit widening buffers and lengthy urbanisation corridors proliferate (Soja and Kanai, 2014; Kanai and Schindler, 2018). Furthermore, high levels of resource consumption and the concentration of command and control functions mean that what happens and is decided in cities affect broad swaths of the planet. Thus, city-building professions have begun to redefine their remit, spatial focus and assumptions about what constitutes the urban realm (Burdett and Kanai, 2005; McHale et al., 2015), and global sustainability strategies no longer question the central role that cities are to play in sustainable development (Parnell, 2015).

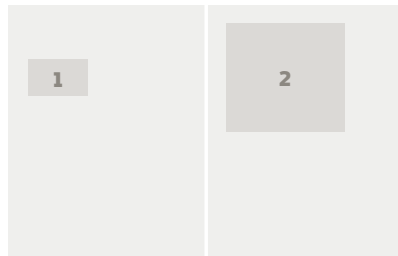


Fig. 1: Children interacting with nature by watering new schoolyard garden at pilot school, January 2020



Fig. 2: Plan for the pilot project schoolyard with its three strata (CREDITS: FABIO, MOUZO, INOMATA, JAUME, PARISI, PICCINI, RIFAHI, RUBINSTEIN)



Sustainable cities have intrinsic value. Their urgency is given by the sheer number of people impacted by environmental threats in urban areas. The devastating impacts of urban air pollution on human health constitute a case in point. In 2016 91% of the world population was living in places where the WHO air quality guidelines levels were not met and ambient air pollution was estimated to cause 4.2 million premature deaths worldwide. (WHO, 2016)

Evidence is accumulating on how and where green infrastructure, including green fences and hedges, can reduce the ground-level concentrations of pollutants (Hewitt, Ashworth and MacKenzie, 2020). Landscape architecture should inform these efforts providing expertise on the selection of optimal plant species, integration of green layers to existing built environments, and designs that will garner public interest and raise awareness on urban air pollution, its sources, consequences and the ways to abate it.

THREE PREMISES FOR LANDSCAPE ARCHITECTURE

We believe that a renewed and redefined practice of landscape architecture can be at the forefront of efforts to make cities greener in ways that can contribute towards global sustainability. In particular, the profession has

the capacity to intervene in urban environmental initiatives, such as ecosystem restoration projects, whilst presenting them effectively to diverse publics in order to garner wide social support to maintain them and scale them up over time. Landscape architecture can ensure that there is more nature in urban landscapes and that it is inviting and legible, making visible the workings of the social-ecological system, and sending people a different message about what the city is and how they could and should live in it. The invitation to learn and interact should begin in childhood (Image 1).

If urbanism was historically posited on a fraught separation of city dwellers from nature, with urban green spaces designed as tokens of nature in the city, we now need interventions demonstrating that urban settings are embedded in ecosystems and that humans are part of complex social-ecological dynamics. The growing interest in green infrastructure¹ and nature-based solutions (NBS), which leverage eco-systemic properties, has spearheaded a range of experiments and identification of best practices in cities around the world. Rather than top-down centralised and oft exclusionary interventions based on technological approaches (Hodson and Marvin, 2010), many of these ULLs have highlighted the role of a variety of people in facilitating the provision of ecosystem services by changing the way in which they manage land or water for which they are responsible—or

¹ Tzoulas et al. (2007) consider green infrastructure “to comprise all natural, semi-natural and artificial networks of multifunctional ecological systems within, around and between urban areas, at all spatial scales.” The multifunctional aspect is a particular advantage. Unlike conventional infrastructure, which tends to serve one purpose, the same green space that offers drainage, air filtering and microclimate regulation can also provide habitat to support biodiversity conservation, and serves as a place to play or learn or relax.

have taken responsibility (Astbury and Bulkeley, 2018; Voytenko et al., 2016)

The following three premises provide a guide on how landscape architecture can play a role in this.

1. Landscape architecture should reaffirm its environmental commitment as a pillar for a profession that produces landscapes to be ‘lived in’ rather than landscapes to be ‘looked at’.
2. Landscape interventions should be intended with aesthetic, recreational and functional impacts bound to its environmental programme, in other words with an interdisciplinary approach that considers the inextricable linkages between the environment and the socio-cultural and individual health and wellbeing dimensions of landscape.
3. Landscape improvements should produce clear messages, and if required be accompanied by educational and awareness-raising activities targeted to diverse socio-cultural

groups. Intended beneficiaries should be invited to appropriate and identify with the landscape so they can develop a better understanding of social-ecological processes. We should seek to open up green spaces whilst opening up the minds of those who inhabit them so that they become their advocates and place-keepers.

THE PROJECT’S METHODOLOGY AND ITS IMPLEMENTATION IN BUENOS AIRES

BRP began with a clear objective of addressing local air quality concerns in a school community of Sheffield, UK. A group of staff, parents and university researchers collaborated on planning, designing, building, monitoring and maintaining a green barrier to abate the air pollution that the schoolyard was exposed to due to its near-traffic location. The results of this intervention are still to be published.² Such

² See <https://www.sheffield.ac.uk/landscape/news/breathe-barrier-pollution-hunters-bar-infant-school-maria-redondo-bermudez-break-ground-1.858451> Details of the experience in Sheffield are beyond the scope of this essay but they will be available in a PhD thesis by Maria del Carmen Redondo Bermudez that is nearing completion.

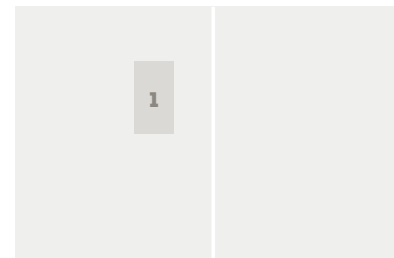


Table 1: Names and quantities of species used (SOURCE: AUTHORS' OWN CALCULATIONS BASED ON THE PLANTATION FRAMEWORK USED IN ARGENTINE AGRONOMIC PRACTICE. SEE [HTTPS://WWW.AGROPTIMA.COM/ES/BLOG/CALCULAR-NUMERO-ARBOLES-HECTAREA/](https://www.agroptima.com/es/blog/calculacion-numero-arboles-hectarea/))

Species	Quantity
Lobularia maritima	20
Asclepias curassavica	8
Arundo multiplex	40
Phyllostachys aurea	52
Cineraria maritima	25
Dietes bicolor	32
Euryops pectinatus	32
Hedera helix	60
Trachelospermum jasminoides	10
Lantana montevidensis	35
Liriope muscari variegado	35
Pilea cadierei	100
Plectranthus ciliatus	115
Salvia involucrate	40
Salvia greggii	8
Senecio kaempferi	30
Stipa tenuissima	5
Tradescantia pallida	100
Weigelia florida variegada	8

green barriers are increasingly used in the UK and elsewhere as a response to growing concern with air quality and its implications for health and well-being (Barwise and Kumar, 2020).

In Buenos Aires, the city's overall levels of contamination exceed WHO air quality guidelines, and in some neighbourhoods they are three times acceptable levels (Greenpeace Argentina, 2018). Despite this, local policy engagement with air pollution is incipient (Abrutzky et al., 2014; Murgida et al., 2013). Yet social awareness on the issue is growing (cf. Greenpeace Argentina, 2018). This inspired the BRP international collaboration predicated on knowledge exchange and mutual learning rather than one-way technical assistance from the UK. Locally led from the Landscape Architecture programme at the University of Buenos Aires, the initiative received enthusiastic initial support from academics of multiple disciplines, government institutions, professional and business circles and advocacy groups.

New hurdles soon became apparent. These included practical problems such as, on the one hand, the costs and technical challenges of monitoring air quality with imported equipment, and on the other hand, the complex governance of city schools requiring multiple permissions before any intervention can occur in schoolyards. Moreover, we found contradictions between the city government's stated intention to increase green coverage, through for example the high-profile programmes that have been launched in the past decade (e.g. Buenos Aires Verde), and the dearth of green (and blue) infrastructure approaches to

address socio-environmental challenges and adapt existing city infrastructures (Kozak et al., 2020). At the society level, social and spatial inequalities shape the provision of and access to urban green spaces (Baxendale and Buzai, 2019; Perelman and Marconi, 2016), which results in a particular dearth of green in densely-built middle class areas and difficult local access to regional parks located in poorer southern neighbourhoods. Moreover, there is a disconnection between ecosystemic approaches of pro-nature NGOs and the economic and environmental concerns of poor people's activism, whereby advocacy for the development of green infrastructure oftentimes lacks resonance with grassroots concerns over trade-offs between employment opportunities and toxicity threats in disadvantaged neighbourhoods (Auyero and Swistun, 2009; Gutiérrez and Isuani, 2014).

The project's implementation in Buenos Aires required a participatory process with several rounds of trial and error to identify and enrol stakeholders in a broadly defined green infrastructure initiative; select opportunity areas of schools with the locational characteristics required for an effective intervention (a city-run public primary school; with a schoolyard at the front facing the road; in an area of the city identified as having poor air quality); and most critically, starting open-ended dialogues on what potential co-benefits would partners and beneficiaries value most intuitively in the fences, and how we could build on those to make issues of air quality and social-ecological sustainability more graspable. This process drew on international lessons from ULLs; local

expertise on pluralistic environmental education; and social science insights on how the politics of urban greening play out in the city given its salient inequalities and fragmentary development.

The landscape design for the pilot project was developed by Landscape Architecture staff and students from UBA with input from international partners. The design responded to the following parameters: (1) The site was a small play area of irregular shape adjacent to the infants' (aged 4-5) classroom who used the garden mainly during their breaks; (2) The play area was at the front of the school exposed to a road used by cars and heavy goods vehicles with consequent noise and air pollution; (3) The schoolyard lacked direct sunlight for most of the day due to the combination of trees and shadows cast by nearby buildings, thus allowing very little vegetation to grow. The combination of these three factors resulted in an unfavourable setting. It called for extensive shade-resistant ground cover and plants with capacity to block contaminants, all of which should contribute to a more attractive and interesting outdoor space for schoolchildren.

The design involved planting in three strata:

1) Ivy (*Hedera helix*) constituted the first line between the exterior and the interior of the schoolyard. This species was chosen because it is a hardy, low maintenance plant that adapts easily to different sites. It has minimal water requirements and persistent foliage. The ivy made up the first layer of the living fence. It was compactly mounted on top of an existing railing, which ensured that the plants grew vertically.

2) Non-invasive canes (*Phyllostachys aurea* and *Bambusa multiplex*) constitute the second level of the living fence, facilitating density and height. In our choice of species, we prioritised rapid growth while avoiding invasiveness as to limit competition with the plants in the third strata of our design.

3) The third strata was made up of plants that aligned with our premises concerning a landscape architecture that is aesthetic, recreational, sensory and has environmental benefits and/or environmental education value, such as re-connecting with nature and increasing biodiversity.

The three strata are represented in the above plan for the schoolyard (Image 2) accompanied by the names and quantities of species used (Table 1).

The plantation framework is a concept that combines genus and species with planting distance, and the final size and form of each plant.³ These relationships determine the number of specimens planted per metre squared and linear metre.

The maintenance regime proposed for the schoolyard relates to three key elements:

1) Soil - To maintain plant health, the addition of compost ensures that the plants receive the nutrients they need, and the soil is enriched over time.
2) Watering⁴ - The chosen species have low water requirements but at some points watering is required and this task must be taken over by a member of the school community.

³ Due to budget constraints, smaller plants were used and these are expected to need two years of growth in situ in order to reflect the aspirations of the design.

⁴ The school is designated as a heritage building with limited changes to the site permitted. This made it impossible to install an automatic irrigation system. However, watering responsibility was voluntarily and proudly assumed by a non-teaching member of the school staff.

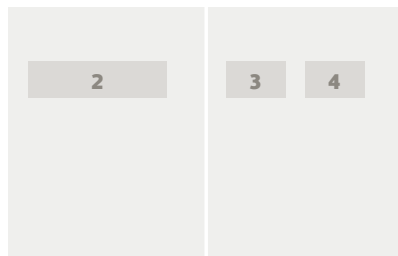


Fig. 3: Pilot living fence and garden, December 2019
Fig. 4: Cooperative members participating in training, May 2019

Fig. 5: Cooperative members and students creating living fence, November 2019



3) Pruning – The ideal final height of the living fence was determined to be no more than two metres, with a maximum width of one metre for each fence section. Therefore, the task of pruning must be assigned in order to ensure that the fence conforms to this standard for two years.

With the first living fence planted between November 2019 and February 2020 (see Image 3), the analysis below presents our early findings. These are based on lessons learned in the process of planning, building and maintaining the fence as well as exploring opportunities to expand the model with additional living fences in schools throughout the urban region. Additionally, our analysis is informed by the multiple workshops, policy advocacy and dissemination activities undertaken since the 2018 launch of BRP in Buenos Aires.

EARLY RESULTS AND OBSERVATIONS

Engaging City Government: The project obtained recognition from the City Council and engaged with multiple units within the local government, most notably the Buenos Aires Ministry of Education and its sustainability education programme. We recognised the importance of working in an integrated way with policy makers. If landscape architecture is to become a force for change, and if green infrastructure

is to be mainstreamed, this must be supported by those who will in many cases fund and implement the projects. We focused on exploring the opportunities for integrating the living fences and associated activities with the *Escuelas Verdes* (Green Schools) programme. This programme has focused primarily on sustainability issues, e.g. recycling and energy efficiency, rather than on connecting to nature and understanding ecosystems. There is an opportunity here to put the ‘green’ into ‘green schools’, which would facilitate the multiplication and the normalisation of living schoolyards (and increase the social demand for environmentally committed landscape architecture). In parallel, the curriculum could be adapted to reflect increased understanding of NBS and of the many benefits of engagement with nature for both people and environment. This could potentially change the way environmental education is delivered at the primary school level so that it becomes centred on interaction with nearby nature, which children can learn to understand, appreciate and care for. We hope that this collaborative multidisciplinary approach where landscape architecture, environmental science, psychology, education and other disciplines come together will result in learning landscapes at schools across the city, sending a strong message about the presence of nature in the city and its important role in the education of children. From the perspective

of the Sustainability Programme Coordinator of the Buenos Aires Ministry of Education and Innovation: “The Breathe project gives me hope, not only because it involves an improvement in the environment and in environmental education but also because it’s being done in a collaborative manner that generates a multiplier effect so that every one appropriates it, and implements these type of actions in their homes.”

Our **Breathe Deep Experimental Training Course** provided an opportunity for people who are working, or hoping to work, in landscaping to receive training and practical experience of creating living fences and schoolyards (see Image 4). Most of the participants were members of cooperatives, which in Argentina serve to assist people in meeting pressing needs, including skills development and access to employment. This is increasingly important when the industrial sector is changing and jobs are disappearing. In this context, facilitating access to work in an emerging green economy is vital. The training was also an important way to embed our first premise, integrating environment as a central pillar of landscape architecture, across a range of people who will be working on the ground—and sharing their practices with other cooperative members, encouraged by the organisational structures of their cooperatives and the spirit of cooperativism. While the participants were primarily motivated by developing new employment

opportunities, this did not mean that they weren’t interested in environmental issues. As expressed by one cooperative member, “The Breathe project signifies a very important link, being able to add plants to schools means more connection with nature and this is very important.” They were proud to be part of this initiative, the first of its kind in Argentina. They were also proud to have completed the training and to receive their diplomas, which for some was the first diploma they had ever received. This feeling of pride is a strong motivator for people to seek out, and to promote, projects with an environmental commitment. As another cooperative member said, “Plants are everything. The truth is my fellow cooperative members and I feel great pride in being part of this project.” Two other cooperative members have already gone on to develop, and in one case implement, green infrastructure projects. So this training facilitated appropriation of the initiative not only by the school community (schoolchildren and staff, parents, neighbours) but also by the cooperative members—and others who participated in making it e.g. local and international university students and staff (See Image 5). By making creation of the new landscape into a participatory project, the living fence and schoolyard have additional educational value.

Applied Learning with University of Buenos Aires (UBA) students involved them in research, analysis, design and



Fig. 6: Students involved in creating garden, February 2020
Fig. 7: Design students developing a design for a second school, August 2019

Fig. 8: School-children participating in environmental education workshop, October 2019

implementation of the first living fence and schoolyard in Buenos Aires (see Image 6). As in the case of the cooperative members, this activity gave students who will pursue careers in related fields an opportunity to participate and learn through an intense experience of professional practice. This exercise reflected our premises by highlighting the centrality of environmental commitment; taking an integrated multidisciplinary approach to maximise multifunctionality in the landscape; and offering students hands-on educational activities that deepened their understanding. As one of the students described, “This project has helped me to see landscape design in another way, not simply as something contemplative, but also as a way to solve the problems that cities present, to be able to convert them into healthy, and above all sustainable, places.”

Other activities with students included participation of a large group of UBA students from the various design disciplines in developing a communications tool concerning the benefits of NBS in relation to habitat and community, and particularly the use of vegetation to address the climate and biodiversity, as well as having positive effects on physical and mental health. These were entered in the 4th National Biennale of the Faculty of Architecture, Urbanism and Design.

Similarly, final year design students from different disciplines undertaking

research internships participated in studying the context and site, and then developing a design for a second school (see Image 7). They focused on creating a high quality playground for children within the living fence and schoolyard model. They also attended to functional aspects such as rainwater capture to water the vegetation, and technical specifications for play equipment, thus again demonstrating the value of a multidisciplinary approach. Some of the students that were involved in the above activities continue to engage with the BRP voluntarily thus indicating their on-going commitment to this work.

School-based activities with children and teachers: 5th year primary school-children took part in an arts-based workshop facilitated by environmental educators using art, music and games (see Image 8). The children were asked to think about how plants meet the needs of individual human beings, such as food and clothing, and also about how plants keep the planet healthy for all living things. Each child was given a potted plant to take home and care for, giving them a chance to immediately apply their heightened awareness of the importance of plants and the role of humans in appreciating and caring for them. Bringing home their own plant also opened up a potential channel for sharing their experience of the workshop with their families and hopefully leading to further discussion, and perhaps action, at home. This activity

represented a successful example of the complementary activities that can facilitate connection with nature, in this case bringing to bear other cultural elements such as art, music and play in a way that is effective for children, among others. Teachers at the school have also engaged with the initiative and offered useful input concerning the importance of speaking to children about environmental quality rather than contamination. This is an important addition to our third premise concerning educational activities—in an era of planetary environmental crisis, we must take great care not to provoke fear and despair in children (and other people) through the activities offered to them. The project has opened up new spaces for thinking and doing things differently, as noted by the Deputy Director of the school, “*The Breathe project allowed us get beyond the school walls and open ourselves to new situations and to share experiences of a type we are not used to.*”

Exchange and Collaboration:

In order to extend the network of academic and professional collaboration, UBA and the *Sociedad Central de Arquitectos* convened an international conference in Buenos Aires on green infrastructure in Latin American cities, which attracted approximately 50 participants and led to creation of a Bioremediators Network facilitating continued collaboration. Members of our team also presented at a meeting on climate change organized by *Centro*

Argentino de Arquitectos Paisajistas, and at an interdisciplinary meeting held at the *Consejo Profesional de Arquitectura y Urbanismo*. We were also invited to a forum organised on adaptation to climate change at the city council.

CONCLUDING REMARKS AND FUTURE AGENDA

We still have much to learn about living fences, from the optimum design specifications for air quality improvement to the manifold social and ecological co-benefits that this layer of vegetation enhancement yields. Whereas the former has a clear site-specific focus, which in the case of schoolyards is of critical importance to secure environmental health for children, the latter can and must accrue at multiple scales, and link as much as possible with broader networks of nature-based solutions.

The BRP’s implementation in Buenos Aires has taught us that landscape architecture plays a critical role if living fences are to live up to their potential, transforming them into activated landscapes with multifunctionality rather than simply building them as sustainability artefacts with limited remit and affordances. Furthermore, we learnt that if landscape architecture is to be put at the service of urban environmental aims, it must also be put at the explicit service of a plurality of intended beneficiaries. If effectively enrolled

and attended to, diverse communities of users and producers will also become likely advocates and place-keepers if not initiators of green infrastructure innovations such as living fences. Our three initial premises come together as a dual and concurrent care for people and the environment.

We have much exciting work ahead with living fences in Buenos Aires and beyond. We clearly need to produce clear and robust evidence from urban living lab activities to inform policy shifts and continuing governmental engagement. Additionally, we plan to explore their role in site-specific and creative pedagogies of urban environmental quality in early education. Our activities of planting and maintaining the fences will be designed as to provide as many formal and informal opportunities as possible for involving parents and broader school communities. Feedback from the initial training and ongoing engagement with the participating grassroots cooperatives will provide us a guide for future programme improvements. Businesses, professional associations and academics are some of the stakeholders we will need to build capacity and continuously assess our working assumptions. It is certainly a daunting agenda but one that is called for by the pressing needs for greening the city in any way possible and contribute to the broader transitions in urban environments to face our planet's crisis.

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INNOVATÍV TÁJÉPÍTÉSZET. „ÉLŐ KERÍTÉS PROJEKT” BUENOS AIRESBEN

A Breathe/Respirar (Lélegezz) projekt az iskolakertek levegőtisztaságának javítására („élő kerítések” segítségével), valamint a meglévő városi infrastruktúra zöldítéséből fakadó társadalmi és környezeti előnyök kiaknázására irányul – egyebek között a környezeti nevelés és a természetszeretet erősítése terén. A projekt megvalósítása az argentin főváros, Buenos Aires iskolaudvaraiban létrehozott Városi Élő Laboratóriumok révén történik. A kísérleti projektek keretében sor kerül: (1) az iskolai közösség (tanárok, diákok, szülők, más érintettek) bevonására; (2) az iskolaudvar kertépítészeti tervezésére és megépítésére; (3) egyéb olyan tevékenységekre, amelyek segítik a zöld fejlesztések nyújtotta előnyök minél teljesebb kiaknázását; (4) az elért környezeti és társadalmi hatások nyomon követésére; (5) és az eredmények közös elemzésére. A cikk egy kísérleti projekt kezdeti szakaszának előzetes eredményeit tárgyalja. Tekintettel arra, hogy a hatékonyságra vonatkozó eredményekre még várni kell,

a cikkben elsősorban a projekt további végrehajtása szempontjából hasznos tapasztalatokra összpontosítunk, továbbá a tájépítészetre vonatkozó, de az interdiszciplináris társadalmi-környezeti projektekkel kapcsolatos általános tanulságokat emeljük ki. Ezek egy hármass feltételrendszerbe foglalhatók: a környezet iránti elkötelezettség központi szerepe; a többfunkciós kertek témájának multidiszciplináris megközelítése; és határozott üzenetek közvetítése kertépítészeti eszközök segítségével (valamint egyéb tevékenységek révén is). Fontosnak ítéljük ezt a megközelítést, amely hozzásegíthet ahhoz, hogy a tájépítészeti szakma nagyobb szerepet tölthessen be a környezeti kihívások megoldásában.

EDUCATION THROUGH LANDSCAPE – CHALLENGES IN SCIENCE COMMUNICATION AND ECOTURISM

OKTATÁS TÁJJAL - KIHÍVÁSOK A TUDOMÁNYKÖZMUNIKÁCIÓ ÉS AZ ÖKOTURIZMUS TERÜLETÉN

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ABSTRACT

The purpose of this study is to summarize the science communication activities of the Faculty of Landscape Architecture and Urbanism, which are also required to include familiarisation with the image of landscapes formed by society. In 2006, the Faculty of Landscape Architecture and Urbanism of Szent István University integrated the issue of environmental education in its curricula. Parallely with the arrangements for environment education programmes, the traditional admission programmes of the Faculty have been renewed and extended since 2016. Landscape communication is also made possible for landscape architects as designers in the course of planning nature interpretation

facilities, or putting this the other way around: examination of the content of nature interpretation facilities can provide information to explore the receptiveness and knowledge of society on landscapes. In the current stage of our research it was found that from the 29 nature trails analysed 23 featured landscape-related content; most characteristic topics included landscape history, traditions, current landuse, and cultural heritage. All in all, science communication is both a tool and a target in landscape architecture education, developing new skills and competencies for our students, just as enhancing the society's general knowledge of the landscape and landscape architecture, moreover, providing essential experiences for ecotourism planning and design projects.

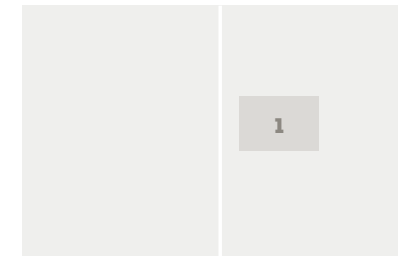
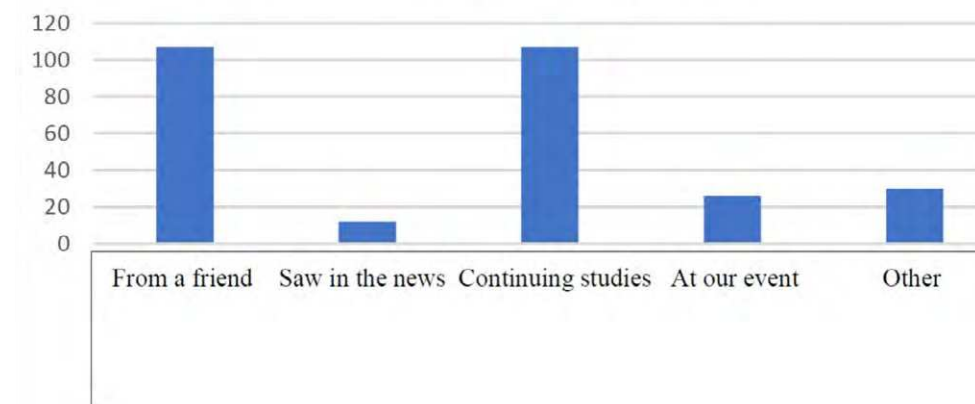


Fig. 1: Results of the survey conducted among first-year bachelor students (2017-2019)

"Where did you first learn about landscape architecture?"
(number of respondents), 2017-2019



INTRODUCTION

A landscape architect is a specialist who – with a complex knowledge - contributes to the formation of liveable, sustainable landscapes and establishments, properly operating communities, as well as to the balance of social interests and environmental / ecological conditions. Success is based on social reputation and recognition. Today, this requires such conscious, planned, and structured activities in which training locations and higher education institutions play a prominent role - to some extent as a part of their own marketing operations. Thus, in the course of their professional orientation attempts, universities also carry out science and profession related communication. In respect of

landscape architecture and landscape architecture education, this process and activity is even more complex, since not only the profession, but also some parts of its value system and key concepts are unknown, unclear and intransparent for a broad spectrum of the society - e.g. landscape character.

A specificity of landscape architecture education in Hungary is that such specialists are trained only in one institution, thereby the Faculty of Landscape Architecture and Urbanism of Szent István University acts as the founder of the entirety of landscape architecture in Hungary, playing a key role in the promotion of the profession and science communication. The formation of this, however, was a complex and not completely linear process.

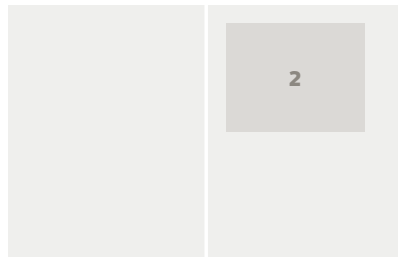


Fig. 2: The extended science communication activities of the SZIE Faculty of Landscape Architecture and Urbanism required new tools and a higher level of organisation

The purpose of this study is to summarize the science communication activities of the Faculty of Landscape Architecture and Urbanism, which are also required to include familiarisation with the image of landscapes formed by society. Landscape communication is also made possible for landscape architects as designers in the course of planning nature interpretation facilities, or putting this the other way around: examination of the content of nature interpretation facilities can provide information to explore the receptiveness and knowledge of society on landscapes.

FROM CLASSIC ENVIRONMENT EDUCATION TO THE COMMUNICATION OF LANDSCAPE AND LANDSCAPE ARCHITECTURE SCIENCE

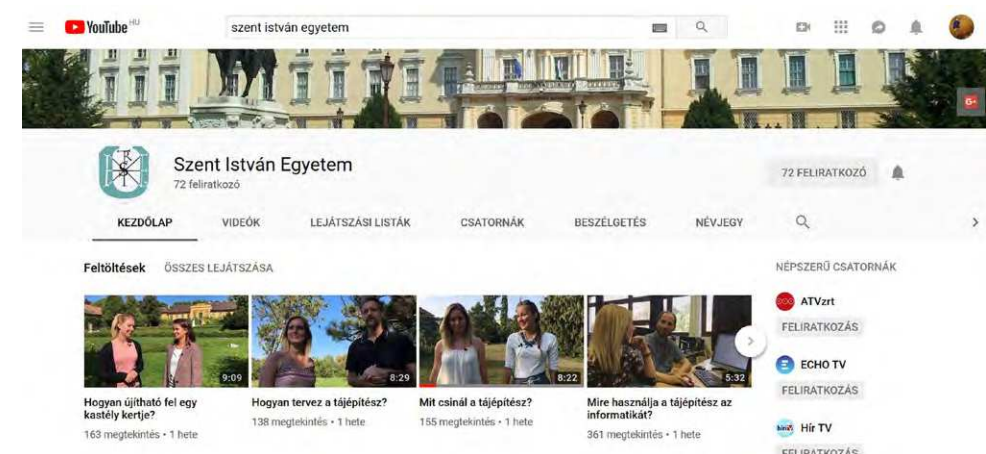
At universities today, environmental education is no longer expected to only convey up-to-date technical, natural scientific and legal knowledge. It is an important task for students to comprehend global environmental correlations in a broader time perspective (Orr 2010), to prepare for resolving unexpected situations, and to master appropriate attitudes as well. In addition to engineering thinking, students are also required to learn ethical engineering thinking and behaviour (Fekete 2010). One of the possible directions for jointly resolving the problems above is to integrate practical environment education

in university training, including landscape architecture training.

In 2006, the Faculty of Landscape Architecture and Urbanism of Szent István University integrated the issue of environmental education in its curricula. To begin with, the Faculty's students, having strong graphical skills, have drawn up and edited awareness-raising informative booklets, followed – as a second step – by workshops held for pre-school and school age kids. Publications and workshops focused on the following topics:

- waste management – 2006-2011
- production and utilisation of electric current – 2012-2015
- protection of water-quality – 2016-2018
- landscape protection – 2019-2020

At the Faculty of Landscape Architecture and Urbanism of Szent István University, a questionnaire consisting of 4 questions has been filled in by newly admitted first-year Bachelor students since 2017. In this framework, the following question is posed: “Where did you first learn about landscape architecture?” Most respondents first learned about the profession of landscape architecture from friends or guidelines for continuing studies, or from news sporadically (Figure 1), which properly illustrates the societal reputation of the profession. Partly for the reasons above, the topic of landscape protection itself has been selected as the subject matter of the traditional environment educational programme since



2019, thus – really and truly – stepping over to the area of the communication of the science of landscape architecture, and showing a practical example to the implementation of the objectives of the National Landscape Strategy (2017) as related to social “landscape awareness” and increased landscape identity. The examination of the landscape architecture aspects of environment education has already been published within the scope of doctoral research as well. Basic research issues include the characteristics of open spaces favourable from the point of view of environment education, and the characteristics of children's use preferences and attitudes in different types of open spaces (Jákli 2017).

Parallely with the arrangements for environment education programmes,

the traditional admission programmes of the Faculty have been renewed and extended since 2016. Open day appearances have been transformed into interactive environment protection festivals, and supplemented by professional orientation and science communication programmes at frequented external locations and science festivals. This requires the procurement of interactive devices demonstrating landscape architecture as well as videos presenting the profession, the launch of new social media interfaces, arrangements for drawing competitions to appeal to students, the involvement of well-known public figures representing and promoting the value system of the profession, setting up a Faculty working group, as well as intensive cooperation with the Faculty

Location	Year of establishment	Number of stations	Landscape-related content		
			Landscape history, landuse, landscape pattern	Landscape character, scenery	Landscape restoration landscape management, landscape planning
Molnári	2019	5	1	-	-
Bácsbokod	2019	5	1	-	-
Kaposvár	2019	8	2	-	1
Gönyű	2019	4	1	-	-
Szarvas	2019	no data	no data	no data	no data
Nagyrécsce and Magyarszerdahely	2018	no data	no data	no data	no data
Székesfehérvár	2018	8	2	-	1
Vértess	2018	12	2	-	-
Páty	2018	6	1	-	-
Karczag	2017	9	5	-	-
Mohács	2017	4	4	-	-
Fót	2017	5	-	-	-
Nagymaros	2017	2	1	-	-
Csesztreg	2017	6	2	-	-
Pákozd	2017	4	-	-	-
Kaszó	2017	no data	no data	no data	no data
Zalaszabar	2016	12	2	-	2
Tamási	2016	7	3	-	1
Paloznak	2016	5	3	-	-
Sopron Hills	2016	6	5	-	-
Budakeszi	2016	6	-	-	-
Hatvan	2016	12	2	-	-
Zalakaros	2015	5	2	-	-
Sarród	2015	5	1	-	-
Duna-Gerecse region	2015	10	5	-	-
Gyomaendrőd	2015	9	1	-	-
Kiskunhalas	2015	9	2	-	1
Péteri	2015	10	1	-	-
Zalakaros	2015	8	2	-	-

Students' Self-Government (Figure 2). One of the interactive playing devices for scientific communication – of unique design – is a layout table made of wood, divided into 8x8 pcs elements, to be furnished with different landuses, such as a village, a town, a vineyard, a small and a large ploughland, a plantation, or a natural forest. There is a water stream on one side of the layout table, from where the “terrain” is elevated into the other direction.

In the long run, the interactive playing device can also be suitable for examining the picture of the landscape formed by the society (Boromisza et al. 2019b). In order to test this, we took photos – a total of 69 – of “landscapes” installed by children using the interactive playing device to furnish landscapes with

throughout the 3 days of two national science promotion events in 2019. On each occasion, children were allowed to use the same 20 landscape elements to furnish the signboard. After the digitisation of results, the landscapes installed by children were compared using Microsoft Excel. Based on the first results, it can be observed that the children involved in the research were not willing to place urban areas beside the water course, nor to more highly elevated reliefs, but they preferred to use forests in both situations. At the same time, ploughlands are frequently placed beside the water flow, which probably coincides with their personal experiences. On this basis, the scenery of a plain along a water stream – delineated by ploughlands and grasslands,

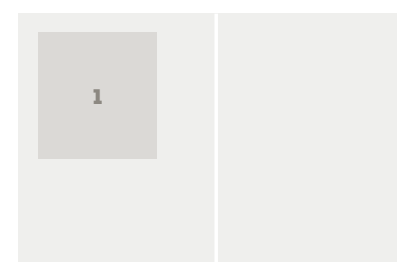


Table 1: Overview of the landscape-related content of the 29 nature trails analysed (2015-2019)

and somewhat mosaic-like – and a homogeneous, downy and hilly landscape dominated by forests is delineated.

INTEGRATION OF THE TOPIC OF THE LANDSCAPE INTO NATURE INTERPRETATION

Familiarisation with the social knowledge related to the landscape, with the level of landscape awareness also constitutes a special way through nature interpretation. A specificity thereof is provided by the fact that landscape architect specialists regularly take part as designers in eco-touristic development projects, thereby tourism, eco-tourism, and nature interpretation are also present as part of landscape architecture training.

As shown by visitor numbers, the social demand for nature attraction factors is increasing; the eco-touristic offer has rapidly expanded over the past few years (Bell, 2009, Kiss 2007, Mikházi 2015). The registered number of visitors of the eco-touristic services of national park directorates has been constantly increasing since 2005, except for the 2010 fallback (Pádárné Török 2018). It is a characteristic tendency that eco-tourism appears within the landscape with more and more facilities; at the same time, there are few professional guidelines and points of reference for integrating them into the landscape functionally, ecologically

and aesthetically; moreover, attempts for integration in the landscape are not implemented in practice in many instances. In order to decide on the placement and design of equipment, the vulnerability of natural values is required to be specified together with the relevant environmental impacts accompanying investment developments (by improving the methodological grounds required), the criteria, aspects and means of landscape integration. The study produced in 2019 at the Department of Landscape Protection and Landscape Restoration provides points of reference primarily up to the systematic presentation of design recommendations, international / Hungarian good examples and best practices in respect of integrating / fitting eco-touristic facilities into the landscape.

Prominent eco-touristic establishments feature educational trail / nature trails for nature interpretation. The proportion of nature trails reached half of the total of eco-touristic establishments as early as 2012, which further increased in 2017 (55%); in 2018, there were 188 nature trails established and operated by national park directorates (Pádárné Török 2018). As regards the content of nature trails, the work of Duhay (2006) serves as a basic and comprehensive source of information, providing an overview of presentation locations and nature trails in nature protection areas by national parks. As regards the capital, Budapest,



Fig. 3: Examples for nature trail signboard graphics, working up landscape-related topics (Boromisza et al. 2014, 2016, 2019a)

Bajor-Lampert and Bajor (2018) expressly elaborated the subject of nature trails for education, grouping establishments (41) according to the level of protection of the area. In respect of content, the homepage of Patkós Stúdió (url1) – markedly specialised in the design and implementation of nature interpretation – provides valuable insights, using which the nature trails of the company completed in the past five years (2015-2019) were analysed. In respect of the 29 nature trails, the focus was on the content related to the landscape, whether the signboards of each station featured topics of a) landscape history, landuse, landscape pattern, b) landscape character, scenery, c) landscape restoration, landscape management, and landscape design (Table 1).

It can be established that the nature trails analysed mainly deal with natural endowments and natural values, including the flora and fauna and habitats in general. Out of the 29 nature trails, 23 featured landscape-related

content (in 3 cases there was no information available); most characteristic topics included landscape history, traditions, current landuse, and culture history values, cultural heritage. In some cases (6 signboards) landscape restoration and landscape management appeared as topics (e.g. habitat reconstruction, forest structure transformation). The opinion of society on landscape restoration can be positively influenced as a topic of nature interpretation, which is greatly needed on the basis of our earlier research among primary school pupils on the assessment of lake shores transformed and semi-natural (Jákli and Boromisza 2017). On this basis, it can be established that the topic of the landscape has been present in the recent period of nature protection presentations, but subject-related content is within a considerably narrow range. No topics related to landscape character and scenery have been found in the sample analysed. The results so far suggest that the

landscape awareness communicated to society still has considerable reserves through this mechanism (Figure 3).

SUMMARY

All the activities listed can be further developed: familiarisation with the knowledge of society about landscapes can be further specified by fine-tuning the mechanisms mentioned. In case of the interactive game, further major statistical analyses and the use of landscape ecology methods are planned to be used in the next phase of the research, in addition to a further increase of sample numbers. As regards the research commenced in relation to nature trails, analysis is intended to be continued by a more differentiated content assessment related to landscapes, by further breaking down the three topics, as well as by processing illustrations related to each topic (e.g. historical map, graphics based on freehand drawing, and interactive elements). The analysis can be extended to the assessment of other presentation options (e.g. visitor centres, paper-based publications, virtual nature trails), broken down by regions / nature park directorates / landscape character types.

It is reasonable for many reasons to increasingly involve university students in current Faculty communication mechanisms, in the research commenced as described above. Students can face

the image of society created about the landscape and landscape architecture and the knowledge thereof, as well as children's awareness of responsibility, sense of justice, pursuit of knowledge, creativity, and exemplary enthusiasm, meaning that the strengths of nursery school education – e.g. the method of passing on, interdisciplinarity, the enhancement of taking initiatives and arousing interest – may also be exploited in higher education (Békésiné et al. 2011).

Perspective opportunities include the use of the Faculty's communications channels – primarily its social media interfaces – for science communications purposes (e.g. for sharing educational videos) (Gerber 2014). Opportunities for interactivity can be provided in this case as well: new vistas can open for involving university students, and for researching landscape-related thinking.

All in all, science communication is both a tool and a target in landscape architecture education, developing new skills and competencies for our students, just as enhancing the society's general knowledge of the landscape and landscape architecture, moreover, providing essential experiences for ecotourism planning and design projects. ©

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OKTATÁS TÁJJAL - KIHÍVÁSOK A TUDOMÁNYKÖZMUNIKÁCIÓ ÉS AZ ÖKOTURIZMUS TERÜLETÉN

Jelen tanulmány célja összefoglalni a Tájépítészeti és Településtervezési Kar tudománykommunikációs tevékenységét, amely többek között a társadalom tájról alkotott képének megismerésére is alapoz kommunikációfejlesztési stratégiájában. A Szent István Egyetem Tájépítészeti és Településtervezési Kara a környezeti nevelést 2006-tól kezdődően különböző formákban építette be oktatási programjaiba. Az óvodások, iskoláskorúak és felnőttek számára szervezett környezeti nevelési programokkal párhuzamosan, 2016-tól kezdve a Kar hagyományos beiskolázási programjai is megújultak, kibővültek.

A táj kommunikációja tervezői szempontból nézve is fontos. Tájépítészeti feladatként, a táj megértését szolgáló természetvédelmi bemutató létesít-

mények tervezése során ismerni kell a létesítményeket és tájat használók igényeit és ismereti szintjeit. Ez fordítva is igaz: a természetvédelmi bemutató létesítmények tartalmának vizsgálata információt adhat annak feltárására, mit kaphat, mit tudhat a társadalom a tájról, milyen irányba érdemes fejleszteni a tervezési irányelveket.

A fenti kérdésekre a válaszok egy részét attól a kutatástól várjuk, amely során eddig a különböző hazai természetvédelmi bemutató létesítmények közül 29 tanösvényt vizsgáltunk. A kutatás jelenlegi fázisában megállapítható, hogy a vizsgált helyszínek közül 23 esetben volt tájhoz kötődő tartalom. A legjellemzőbb témák ezeknél a bemutatóhelyeknél a tájtörténet, a hagyományok, illetve a jelenlegi tájhasználat, és a kultúrtörténeti értékek.

Összességében, a tudománykommunikáció egyszerre eszköze és célja a tájépítészeti oktatásnak. A hallgatók

számára új készségeket és kompetenciákat biztosít, segít megérteni a kortárs társadalom tájhoz és tájépítészethez fűződő viszonyát, értékes tudással és tapasztalatokkal járulva hozzá az ökoturisztikai projektekhez szükséges tervezési ismeretek elsajátításához, elmélyítéséhez.



CREATING THE CRAFTED PLAYGROUND THROUGH CO-DESIGN

PROVIDING AN ACTION SPACE FOR CREATING COLLABORATIVE CAPABILITIES

KÉZMŰVES JÁTSZÓTEREK EGYÉNI KÉSZSÉGEK, KÖZÖSSÉGI TERVEZÉS

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ABSTRACT

This paper describes two comparative case studies; one co-crafted playground workshop conducted in central Gothenburg, Sweden and one in Dunga Beach, Kisumu, Kenya. The idea behind the workshops was a hands-on, co-crafting playground that explored the intersection between crafts, design, play, and space innovatively. Local designers, architects, students, craftsmen and citizens collaborated in activating dormant public places through building a temporary playground with co-creation in focus. It also explored how play might become more than just a child's activity. The workshop in Gothenburg was held for five days in Vasaparken, a central park in Gothenburg,

Sweden while the workshops in Kisumu were held for a total of three days.

The workshop investigated how a 'Do It Yourself' craft activity could become a catalyst for: collaboration and knowledge sharing between stakeholders in neighborhoods; activating dormant or derelict public spaces and/or local livelihoods; opening up opportunities in predefined, functionally determined urban environments; new arenas for design & craft production; encountering the unexpected and spurring social imagination.

The research question was: How can the concept of the co-crafted playground provide an action space that supports building collaborative capabilities, with the goal of contributing to more sustainable cities and communities?

Contributions of these workshops include: reflections around what values and challenges collaborative work in public spaces between various stakeholders gives to a design-process aimed for positive social change. The paper also contributes to a discussion about how designers and craftsmen can benefit from each other by finding arenas for collaborative work, and finally: a discussion of what we can learn by comparing different cases in Scandinavia and East-Africa. The method used was action research and reflexive comparative case studies. Data was collected from both children and adults through environmental autobiographies. The process was documented through photography, sketching and note taking. Observations and interviews were conducted throughout the process.

Keywords: co-crafted playground; participatory design; frugal design tool; action space; collaborative capabilities; sustainable urban public spaces

1. INTRODUCTION

About half of the world's population lives in cities and urban settlements, a number that will increase even further.¹ As cities around the world are becoming denser and more crowded, public spaces for play and recreation are at risk of being reduced.² The UN Convention of the Rights of the Child (UNCRC)³ states that all children should have the opportunity "to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts" (Article 31). The Convention also

states, that "parties shall assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child" (Article 12). Nussbaum (2013) also states that play is a fundamental human right and is one of ten "Central Capabilities" that should be provided by society.⁴ This means children should have the right to be involved in development processes which concerns their own life and well-being, in this case a dedicated space where they can play and rest.

According to UNDP (2017) participation is key in implementing sustainable development in practice. The core of participatory design is that "people who are affected by the change should be actively involved and have a say in the process".⁵ This means participatory designers can make a valuable contribution to target both the Sustainable Development Goals and the UNCRC. However, as stressed by Helena Kraff, a design researcher who has seen participatory pitfalls in East Africa, (2018),⁶ participation should not be taken for granted and new tools and methods are needed that reflect these complexities. This paper explores a concept of a co-crafted playground, a methodological concept we argue can provide an action space for developing collaborative craft capabilities.

The aim of the paper is to reflect around challenges and benefits of collaborative and participatory work between various stakeholders representing Global North and South, and to discuss what we can learn from this. The paper follows how a co-crafted playground moved from Sweden to Kenya where it was transformed to suit the local design context. The goal was to bring in the perspective

¹ According to the United Nation, more than half of the world's population today live in cities. <https://sustainabledevelopment.un.org/sdg11>, accessed Oct 16, 2019.

² In Sweden there are 2.2 million children and of these, 85 percent grow up in cities. Petter Åkerblom et al. "Växande städer måste ge utrymme för barnen", Svenska Dagbladet, last modified Oct 5, 2019, <https://www.svd.se/vaxande-stader-maste-ge-utrymme-for-barnen>,

³ "The UN Convention of the Rights of the Child" <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>, accessed Oct 16, 2019.

⁴ The ten Central Capabilities are: 1. Life 2. Bodily Health 3. Bodily Integrity 4. Senses, Imagination and Thoughts 5. Emotions 6. Practical reason 7. Affiliation 8. Other Species and 9. Play Control over one's environment. Martha C. Nussbaum, *Creating Capabilities: The Human Development Approach*, (Cambridge, Massachusetts: Harvard University Press, 2013), 33-34.

⁵ Helena Hansson et al., "Exploring Boundary Object" as a Participatory Design Tool-Voices from Sweden and Kenya", She Ji, in press. Based on Erling Björqvinnson, Pelle Ehn, and Per-Anders Hillgren, "Design Things and Design Thinking: Contemporary Participatory Design Challenges," *Design Issues* 28, no.3 (2012): 101-116 https://doi.org/10.1162/DESL_a_00165

⁶ Helena Kraff, *Exploring pitfalls of participation and ways towards just practices through a participatory design process in Kisumu, Kenya, Gothenburg, Sweden: University of Gothenburg, 2018*, 15.

from an often-marginalized social group in the design process, namely the children. The co-crafted playground is here defined as a concept that supports children's rights to play, through the creation of temporary play areas in public spaces within urban environments. The aim is to give access to structured play spaces and the craftsmanship that comes through the creation of these spaces, where the children are viewed as experts on play. Describing, analyzing and discussing the travel of the co-crafted playground is the core of this research article. It builds on an earlier paper that was co-written by three of the authors.⁷

The research primarily builds on earlier work by Busch (2008⁸; 2013⁹), a design researcher who has explored how design and craft "can be shared among many participants as a form of civic engagement, building community capabilities through collaborative craft and social activism".¹⁰ In this paper, three key concepts from his work are highlighted: *co-craft*, *action space* and *collaborative capabilities*, which also form the theoretical framing of this research paper. While von Busch research is based in the context of Global North,¹¹ this paper contextualizes and test the theories in a case study based in Kenyan-Swedish- design context. We argue that the African design context can give new perspectives on these theories, and to the field of participatory design as a whole. The research question that has guided this process is: *How can the concept of the co-crafted playground provide an action space that supports building collaborative capabilities, with the goal of contributing to more sustainable cities and communities?*

1.1 THE RESEARCH CONTEXT

This research project started in 2012, in Kisumu, Kenya, located on the Eastern shore of Lake Victoria. Kisumu is the

third largest city in the country and is one of the fastest growing cities in Kenya. It is hereby defined as a frugal context. The name 'frugal' means "sparing" or "economic",¹² and in this research, frugal refers to the sparing conditions that characterized the design context in Kenya: "resource scarcity constraints", "affordability constraints" and "institutional complexities".¹³ It primarily concerns the lack of participatory approaches (that involve children), as well as the lack of formal structures (for play). The research was part of a larger research program that was conducted within the framework of *Mistra Urban Futures* (MUF), an international center for sustainable urban development.¹⁴ One research activity within MUF brought together seven PhD students from Sweden and Kenya in a 'core group'.¹⁵ The goal was to co-produce knowledge clusters¹⁶ around design and urban development by using a transdisciplinary and participatory research approach.¹⁷

Since this case was project based it had a defined start and stop. The goal was therefore to create *global networks*,¹⁸ which it found necessary to carry and create knowledge clusters. In contrast to projects a network and knowledge clusters will last over time. However, to do so requires that the relations are nurtured, otherwise the network will dissolve.

The common place for implementation of the different research projects in the core group was a fisherman's village, *Dunga Beach*, located by the Eastern part of Lake Victoria, six km outside Kisumu city. The expected outcome of the knowledge production process was to contribute to new livelihood opportunities. One development area and research theme was *Ecotourism*, which suited well as the community wanted to invest in local tourism, where the visitors aimed at were not the traditional Safari tourists, but rather local communities, churches and schools.¹⁹ Another

⁷ Hansson, Helena.; Mwangi, Franklin.; Otiemo, Jennifer.; and Nyström, Maria "A Transdisciplinary Research Approach: Challenges and Benefits of Co-production". *Cumulus Johannesburg Conference Proceedings*, (2014) 383-391

⁸ Otto von Busch, *Fashion-able: Hacktivism and Engaged Fashion Design*, Gothenburg, Sweden: University of Gothenburg, 2008.

⁹ Otto von Busch, "Collaborative Craft Capabilities: The Bodyhood of Shared Skills", *The Journal of Modern Craft* 6, no. 2 (Summer 2013):135-146, DOI: 10.20752/174967813X13703633980731

¹⁰ Ibid: 135

¹¹ The distinction between Global North and South refers to the socio-economic and political gap that exist between so-called developing countries (Global South) and developed countries (Global North). According to UN, co-operation between Global North and South should be encouraged as this is viewed as a potential to promote inclusive and sustainable development. <https://www.un.org/development/desa/en/news/intergovernmental-coordination/south-south-cooperation-2019.html>, last modified March 2019, accessed Nov 29, 2019.

¹² "Definition of Frugal" <https://www.lexico.com/en/definition/frugal>, accessed Nov 29, 2019.

¹³ According to Bhatti & Ventresca, a frugal environment is characterized by the above mentioned constraints. Yasser A. Bhatti, and Marc Ventresca, "How can frugal innovation' be conceptualized?" (Said Business School Working Paper Series, Oxford, 2013): 4, <http://ssrn.com/abstract=2203552>.

¹⁴ The research was originally part of the *Mistra Urban Futures* (MUF) program which included local nodes as research platforms, for example in Gothenburg, Sweden and Kisumu, Kenya. The platform in Sweden, which was the main hub, was named *Gothenburg Local Interactive Platform (GOLIP)*, while the platform in Kenya was a local node named *Kisumu Local Interactive Platform (KLIP)*.

¹⁵ This research project was a collaboration between the two platforms in Gothenburg (GOLIP) and Kisumu (KLIP). This North-South co-operation platform was later renamed to *Sweden-Kenya Interactive Learning Labs (SKILLS)*, <https://www.mistraurbanfutures.org/en>. Accessed Sept 1, 2019.

theme of interest was *Marketplaces*, which forms the core of a village/city and links production, distribution and consumption systems at large, including food, craft, waste management, etc. In this specific case the aim with the global network activities was to co-produce knowledge around playgrounds in Kenya and Sweden, which belonged to the two themes. The co-operation became a starting point for a platform to establish a knowledge cluster on children and play that could be implemented in the local practice and livelihoods.

The PhD's in the *core group* represented different knowledge backgrounds as well as different socio-cultural and economic backgrounds, this meant that there existed different views of how to deal with co-production and participation. These "multiple framings"²⁰ became a collaborative challenge. To bridge the different knowledge perspectives and cultures, and being able to formulate a joint vision, something that could bring the diverse actors together was needed. Two of the PhD students: a Swedish design researcher and a Kenyan researcher in Architecture, who are two of the authors of the paper, identified lack of adequate spaces for play in the frugal context. A joint idea of developing a concept called "the co-crafted playground" was born and the initial experiment was conducted in Gothenburg Sweden in April 2013. A few months later a similar experiment was conducted in Dunga Beach by the Kenyan researcher. This experiment gave valuable experience when conducting the joint experiment in Kenya in October 2013.²¹

2. THEORETICAL FRAMEWORK

The theoretical foundation of this research process is a set of concepts, articulated by Otto von Busch: co-craft, action space and collaborative capabilities, described in this

section and unpacked in relation to the frugal design research context.

2.1 CRAFT

According to Adamson (2013), craft is a material-based art, which can be defined as "making something well through hand skill".²² He argues that the "invention of craft" emerged during the early nineteenth century, at a time when artisanal labour was separated out from other related processes and products.²³ However, as Adamson emphasizes, artisanal work has a long tradition before that, but it was only after the industrial revolution that it was possible to talk about craft as "a separate field of endeavour".²⁴ An identified difference between crafts and design is that while craft has a "deep connection with materiality and cultural continuity",²⁵ design is sometimes being accused for "lacking context", here meaning lacking an understanding of the bigger picture and being too future oriented.²⁶ The local design culture in Kenya is anchored in a small-scale innovation culture, *Jua Kali Sector*²⁷ where only simple tools and locally accessible materials are used, this means the mode of production is closely connected to a craft based design approach. Hence, it is different from design and innovation as conducted in the Global North, which is adapted to a larger scale of production, often with the use of advanced technologies.

2.2 CO-CRAFT

In this paper, we use the term 'co-craft', which is closely related to co-design as an instance of co-creation,²⁸ Von Busch sees co-craft as "a tool for artisan innovation and civil engagement through the design and craft sphere",²⁹ co-craft is here viewed as a participatory design tool which is used to connect to the local

¹⁶ According to Caravanni et al (2009), a knowledge cluster "represents a specific configuration of knowledge and possibly also knowledge types". Ref: Carayannis, Elias G, and David F.J. Campbell "Mode 3 and Quadruple Helix: century fractal innovation eco system", *International Journal Technology Management* 46, no3 (2009): 201-34. See also Ref. (Not yet published), Nyström, Maria, Sjöberg, Jörgen, Isacson Åsa, Marcus, Johan, Stawicki Boleslaw and Källbäck, Lisa, "East African Urban Academy, Chalmers University of Technology, Gothenburg, Sweden (2010).

¹⁷ Transdisciplinary means a co-operation between researchers and practitioners (Mobjörk, 2010), where the local practitioners - the once in target for the development activities - play an active role and had a voice in the process, which was initiated by the researchers.

¹⁸ A global network can be explained as a "local-to-local" activity which moves "across a flatland". Such a view on knowledge production refers to Actor-Network Theory (see for example Czarniawska, 2015:8).

¹⁹ Ecotourism is catering for holiday makers in the natural environment without damaging it or disturbing habitats. It is a form of tourism involving visiting fragile, pristine, and relatively undisturbed natural areas, intended as a low-impact and often small scale alternative to standard commercial mass tourism.

²⁰ *Mistra Urban Futures, Manual of Joint Knowledge Production for Urban Change: Version 1.* (Mistra Urban Futures, 2013), accessed November 29, 2019, <https://www.mistraurbanfutures.org/en/publication/mistra-urban-futures-manual-joint-knowledge-production-urban-change-version-1>

²¹ See a flow chart in the Appendix of how the co-creative process was conducted in Sweden and Kenya and thus moved in-between contexts.

²² Glenn Adamson, *The Invention of Craft*, (London, Bloomsbury, 2013), xxiv

²³ Ibid, xvi

²⁴ Ibid, xvi

²⁵ Ibid, xxii

²⁶ Ilpo Koskinen et al., "Building Research Programs," in *Design Research Through Practice: From the Lab, Field, and Showroom*, ed. Rachel Roumeliotis and David Beavans (Waltham: Elsevier, 2011): 4

innovation culture in Kenya. As Gewald et al reflect (2012),³⁰ most innovation activities in Africa have been imposed from outside, and local innovations have often been replaced by innovations having been developed elsewhere. In worst case such 'top-down' approaches risk creating cultural destructions, but as a result, many development processes also stop after the projects come to a terminal end.³¹ By adapting a co-craft approach, as this study suggests, the design adapts to the local knowledge clusters and technologies that already exist. Like in a co-design process, the interface and the roles between professionals and amateurs, producers and users, are blurred. At the same time the difference in the process is crafts based, which better suits the frugal conditions. Since only simple tools and crafts based technologies are used, co-craft makes it possible for many people to engage, even if resources are scarce. As a material art, craft helps to make change real and tangible for all involved. In addition, a co-craft approach supports cultural continuity, where the inventions build on the local innovation culture rather than replacing it. In total this makes co-craft a sustainable design approach when designing in frugal contexts.

2.3 ACTION SPACE

Even if there are several potentials embedded in the concept of craft and co-craft, von Busch argues that craft practitioners should be more concerned about how the craft-making "affect our abilities".³² He suggests looking into the concept of "action space", which he defines as "the rooms for maneuver", the operational possibilities realized by skill, the choices available to execute practice".³³ The core essence of the concept is that craft can be a political force that can support empowering individuals as well as communities. To strengthen his ideas,

von Busch refers to philosopher Richard Sennett, who in his book *The Craftsman* (2008) argues that there are emotional values embedded in crafts, which are empowering: "The emotional rewards craftsmanship holds out for attaining skills are two-fold: people are anchored in tangible reality, and they can take pride in their work".³⁴ As a material-based art, craft makes change real and tangible, and the reward of craftsmanship is thus that peoples' skills are recognizable, both for the self and the surrounding. In their book *Hantverka för en Bättre Värld* (2009), von Busch & Åhlstöm further elaborate on how craft can be a political force. They highlight embedded values such as "local anchoring, community-building function, meditative power, reconnection with history, developed craftsmanship and ecological perspectives".³⁵ Ethnologist Annelie Palmköld (2011) builds further on this and argues that craft as a political concept is a means to take action in an international arena.³⁶ Since it connects into many of the current political issues craft can thus provide what we refer to as a "glocal"³⁷ action space.

2.4 COLLABORATIVE CAPABILITIES

One concept brought forward by von Busch, which is the core concept in this research, is "Collaborative Capabilities". The concept brings focus to the collective aspects of craftsmanship and refers to Richard Sennett's book *Together: The Rituals, Pleasures, and Politics of Cooperation* (2012).³⁸ The core message is that to be able to act and make bigger changes, there is a need for people to get associated, which requires a specific "socio-ability".³⁹ The concept, in turn, refers to "The Capability Approach" (see, for example, Sen, 1985;⁴⁰ Nussbaum, 2011⁴¹), an economic concept where the core principle is that development should - rather than focusing on economic growth - concentrate on

27 *Jua Kali*, in the Swahili language means 'Hot Sun', it is borne from the working environment where local informal innovators work in the open hot sun. This is mostly along road and railway reserves. This informal crafting activities which cater for about 60 % of the countries workforce are generally quite innovative be in small scales.

28 Co-design is here defined as "the act of collective creativity that is experienced jointly by two or more people applied across the whole span of a design process" Elisabeth B.-N Sanders, and Jan, P. Stappers, "Co-creation and the new landscapes of design" *Co-Design, International Journal of Co-Creation in Design and the Arts* 4, no.1, (2008):5, <https://www.tandfonline.com/doi/full/10.1080/15710880701875068>

29 The quote comes from von Busch who was a key note speaker at the EAD Conference in Gothenburg, 2013, <http://www.craftingthefuture.se/text/keynote.html>, accessed Oct 29, 2019

30 Jan Bart Gewald, André Leliveld and Iva Peša. eds., *Transforming Innovations in Africa: explorative studies on appropriation in African societies* (Koninklijke, Brill NV, 2012)

31 According to Nobel Prize Peace winner Wangari Maathai, many development processes stop since the participants do not see the value in its continuation. Wangari Maathai, *The Challenge for Africa* (London: Arrow Books, 2010), 75.

32 von Busch (2013):139

33 *Ibid*

34 Richard Sennett, *The Craftsman* (London: Arrow Books, 2008): 21.

35 Clara Åhlvik and Otto von Busch, eds., *Handarbete för en bättre värld*, (Jönköping: Kristianstads boktryckeri, 2009):16

36 Annelie Palmköld, *Begreppet Hemslojd* (Vingåker: Hemslojdens förlag, 2012):13

37 'Glocal' is here explained as "locally anchored in a global world", Palmköld (2012):13

38 Richard Sennett, *Together: The Rituals, Pleasures and Politics of Cooperation* (New Haven: Yale University Press, 2012).

39 von Busch (2009):140

40 Amartya Sen, *Commodities and Capabilities* (Amsterdam: Elsevier, 1985)

41 Martha C. Nussbaum, *Creating Capabilities: The Human Development Approach* (Cambridge, Massachusetts, Harvard University Press, 2013): 33-34.



Fig. 1: The research experiment in Sweden. The photo is from the first design intervention that was conducted

in Vasaparken, Gothenburg, Sweden in April 2013. (PHOTO: SIMON FARSI, 2013)

supporting building human capabilities, where freedom is the ultimate goal. The Capability Approach (CA) was developed by Amartya Sen, but has since then, for example, been explored further by Martha Nussbaum in the book, *Creating Capabilities: The Human Development Approach*. The book highlights ten interconnected Central Capabilities (CC) which Nussbaum argues form a framework for providing basic human justice. Four of these capabilities are found highly relevant to this work, which are:

- *Affiliation* (CC7), where the core message is that people - including children - should have the right to engage in social interactions with others where they are "treated as dignified beings" (Nussbaum, 2011).
- *Senses, Imagination and Thought* (CC 4), which refers to peoples opportunities to "imagine, experience and produce works and events", in this case related to co-craft as a participatory endeavour.
- *Play* (CC 9) which concerns peoples opportunities to be able to laugh, play and rest. In this study, particularly childrens' right to play are highlighted, where the space of exploration is the playground, here viewed as an action space.
- *Control over one's environment* (CC10), where the core essence is that every citizen should have the possibility to "participate in governing processes that concern themselves, in this case to co-craft a playground.

The Capability Approach (CA) is the ultimate goal of our research project. The reason is that if society does not provide these opportunities, people's freedom to act and choose is hindered, which challenges sustainable development. It is our belief that the implementation of von Busch's ideas of co-craft, action space and collaborative capabilities can be a way for designers to act on an international arena and create these opportunities. This means co-craft as a design tool can be means for positive change when designing in frugal contexts.

3. RESEARCH METHOD

In this project, the CA has been implemented through the concept of the co-crafted playground, which had the aim to engage children in development processes in Sweden and Kenya, in co-operation with others. The case study consist of two experiments whereof the first took place in Gothenburg Sweden in April 2013 and the second experiment was conducted in Kisumu, Kenya in October the same year. In this initial phase of the research study, which was action based, several actors were involved, researchers as well as practitioners, and the core research methods used were "participatory prototyping"⁴² and design intervention. The first author of this paper is a Swedish PhD student in design, herein named *The Swedish design*

researcher, who produced the empirical material together with a Kenyan researcher in Architecture and with local practitioners, who is the second author and who is herein named *The Kenyan design researcher*. The division of labour was that the Swedish design researcher planned and conducted the first experiment (4.1), while the second experiment (4.2) was planned and conducted by the Kenyan researcher.

3.1 DESIGN INTERVENTIONIST RESEARCH

The co-crafted playground concept relates to the method *design intervention*, which in turn relates to action research (Lewin 1946).⁴³ An intervention can be seen as a change experiment in the field rather than in a laboratory. The core is that the researcher intervenes in the situation being researched, rather than just being a passive observer. (Baard, 2010,⁴⁴ Jahnke, 2013⁴⁵). Buchanan (1992)⁴⁶ views the design intervention as a working hypothesis for exploring issues of concern, where the aim is to identify the views of all participants, which makes design intervention a participatory design method. Rather than being a solution-oriented method, Halse & Boffi, (2014)⁴⁷ explain design intervention as an explorative and experimental research approach that “does not aim to test a prefigured solution to a defined problem, but enables new forms of experience, dialogue and awareness about the problem to emerge”. In this case study two design interventions were staged, which are named “the experiments”. Significant to this study was that co-craft was used as a tool in conducting the design intervention, since the hypothesis was that this would make it possible to engage the perspectives of different stakeholders in Sweden and Kenya including children and adults.

3.2 FOLLOWING OBJECT: STUDYING THE ‘TRANSLATION’ OF THE PLAYGROUND

To analyse the experiments, the Actor-Network Theory (ANT) related method “following object”⁴⁸ was used, combined with photo diaries. According to Czarniawska (2014) following object can be seen as a form of “shadowing”, which is a social science method where selected people are followed in their everyday tasks during a specific period of time. However, following an object means the observed actor is a material object not a human being. The object in this study, the co-crafted playground, was transformed when it was adopted into the local Kenyan frugal design context. From an ANT perspective, this can be explained as a *translation* process, where translation means “displacement, drift, invention, mediation, creation of a new link that did not exist before and modifies in the part of the two agents” (Latour, 1993).⁴⁹ To study this drift of the concept is the main focus for the study, since it creates a deeper understanding of the challenges participatory designers need to consider when acting in frugal contexts.

4. CASE STUDY: THE CO-CRAFTED PLAYGROUND

The case study follows how the co-crafted playground concept was co-developed by the Kenyan and Swedish researchers. Due to political uncertainties at the time,⁵⁰ a planned field work activity in Kenya by the Swedish design researcher was hindered. Encouraged by von Busch, at that time the Swedish design researcher’s supervisor, she decided to conduct the planned research activities of the playground concept in Sweden, described below in 4.1. This first experiment was a one-week activity planned and conducted by the Swedish design researcher in the beginning of

⁴³ Kurt Lewin, “Action research and minority problems (1946)” in *Resolving Social Conflicts*, ed. G.W. Lewin. (New York: Harper & Row, 1948)

⁴⁴ Vici C. Baard, “A critical review of interventionist research”, *Qualitative Research in Accounting & Management* 7 no. 1 (Spring 2010): 13-45. <https://doi.org/10.1108/11766091011034262>

⁴⁵ Marcus Jahnke. *Meaning in the Making: Introducing a hermeneutic perspective on the contribution of design practice to innovation*. Gothenburg, Sweden: University of Gothenburg, 2013.

⁴⁶ Richard Buchanan, “Wicked Problems in Design Thinking. *Design Issues* 8, no. 2 (Spring, 1992): 5-21. <http://www.jstor.org/stable/1511637>

⁴⁷ Joachim Halse and Laura Boffi, “Design interventions as a form of inquiry” (Conference paper presented at *The Design Anthropological Futures Conference in Copenhagen 13- 15 Aug 2015*)

⁴⁸ Barbara Czarniawska, *Social Science Research: From Field to Desk* (London: SAGE, 2014): 66.

⁴⁹ Bruno Latour, “Messenger talks” (Working Paper, Lund: *The Institute of Economic Research*, no 9, 2003):

⁵⁰ The design researcher had plans to conduct collaborative activities together with the Kenyan design researcher, which was hindered due to fear of post-election violence, as in 2007 years election. Tom Maliti “Victims of Kenya’s Post-Election Violence Still Destitute, Seeking Justice, Six Years Later” *International Justice Monitor*, Last modified July 21, 2014, accessed Nov 29, 2019. <https://www.ijmonitor.org/2014/07/victims-of-kenyas-post-election-violence-still-destitute-seeking-justice-six-years-later/>



Fig. 2: From the second design intervention that was conducted in Dunga Beach, Kisumu, 2013. (PHOTO: HELENA HANSSON, 2013)

April 2013, and the site of exploration was *Vasaparken*, a public park in Gothenburg, Sweden. The experiment built on the experiences from a summer course titled “*Garden play*”⁵¹ and the aim was to explore how co-craft activities/constructions could help to activate the park.⁵² The second experiment (4.2) took place in Kisumu and was a two day activity that was jointly planned and conducted by the Swedish and Kenyan researchers, both present in Kisumu. They worked in collaboration with the community members in Dunga Beach, the site of experiment. The second experiment built on an intervention conducted by the Kenyan researcher earlier on, who had followed the work in Sweden and had developed it further. This meant the second intervention was designed to merge the perspectives of the two.

4.1 THE CHANGE EXPERIMENT IN SWEDEN, APRIL 2013

The first experiment was a one week activity titled “*Crafting Play:ce*” that became part of the 10th *European Academy of Design Conference*, EAD.⁵³ The space of exploration was a public park in central Gothenburg, *Vasaparken*, which was offered for free by Gothenburg Municipality. The aim was to create a Do-It-Together (DIT) activity with the research objective to activate an unused space in the city and attract a new audience to the park (children

and youth) through co-crafting. The research activity was partly planned and conducted together with an American PhD colleague in design, working at the same institution as the Swedish design researcher. The key participants and key-constructors in the intervention were 14 students from the Master program *Child Culture Design*⁵⁴ program at HDK. The students’ task was to construct simple playstructures in willow as a way to activate the site and engage children in the making, and the students were taught simple craft techniques by a professional willow weaver. An additional crafts technique was added which was rope-making, that was introduced by two professional rope-makers. A crafts consultant was involved to support the organization of an open workshop during the weekend where the public was invited to co-construct and play. The result was three sculptural play objects: a spider family, a balancing basket and a climbing/balancing net.

The process/method involved the following: first the students were introduced to the task as part of their curriculum. They were thereafter taught the craft techniques by a professional willow weaver. Thereafter they explored the park together with the design researcher and the willow weaver. Based on this, structures for play were designed by the students, a process which took place before the actual intervention with the children. To bring in

⁵¹ “*Garden Play*” was a collaboration between Academy of Design and Crafts and the Botanical Garden in Gothenburg. The educational activities took place between June and August 2012. <https://news.cision.com/se/goteborgs-botaniska-tradgard/i/garden-play-i-botaniska-tradgardem,c4956677>. Published June 27, 2012, accessed on November 2, 2019

⁵² Reflections on the experiment in *Vasaparken* has earlier been published in: Otto von Busch et al., (Edt), “In the Making: The ‘Power to the People’ Workshop Track at Crafting the Future.” *The Design Journal* 17, no.3 (2014): 379-401, DOI: 10.2752/175630614X13982745782966. However, the content presented in this article is different as it is compared with a Kenyan playground experiment.

⁵³ “*Crafting the Future Conference*” <http://www.craftingthefuture.se/>, accessed on Oct 31, 2019.

⁵⁴ “*Child Culture Design*”, https://utbildning.gu.se/education/courses-and-programmes/program_detail?programid=K2CCD, accessed on Oct 31, 2019

the children's perspectives, participants from a pre-school in the age of four to five were invited as "experts", together with a parent who was also a specialist on children's culture. The idea was to give input to the design process while the playground was still under construction. There was also an open invitation for any by-passing citizen, children as well as adults, who showed interest and attraction by the students' creations. During the weekend the invited rope-makers held an open workshop together with the crafts consultant involved, and the public was invited to co-construct and play. The children could build on the existing structures or make their own constructions, a process where the children took the lead, only supported by the adults. The playground was designed to be a temporary structure and was therefore deconstructed after the research experiment was over. This was done together with the public, who were given the material for free. Finally a written evaluation was made with the students, but no evaluation was made in public.

4.2 THE CHANGE EXPERIMENT IN KENYA, OCTOBER 2013

The second experiment was a two-day activity held in *Dunga Beach*, outside Kisumu Central Business District (CBD). Since there did not exist any formal spaces for play at the site, the playground this time was meant to be a more permanent construction. The site of exploration was not a formal public space, since the land was owned by the Beach Management Unit (BMU). To build the playground, the researchers needed to seek for permission to use the space from the BMU which created some delay because of bureaucratic red tape. The purpose of the experiment was twofold: both to co-produce knowledge with community members

and to create a formal play space for children, which could also be a social meeting point. The aim was to involve both adults and children in the process and give the local residents the opportunity to take part in a cultural activity where they could create their own play space to be proud of. The participants of the workshop had all been invited to the workshop in advance through an open invitation. The participants were, except from the two design researchers who had planned the activity, community members such as local crafts women and tour-guides. Other actors involved were two international volunteers at an NGO in the village and three Swedish students, who were studying a Bachelor program in Leadership in Handicrafts at the University of Gothenburg (Conservation department). The students were acting as assistants to the Swedish design researcher. The material used were wooden poles and sticks, similar to willow and sisal ropes. An additional element was also introduced which was a simple, hand-held rope-making machine (see figure 4d). All materials were brought to the site and were fairly expensive, in order to make it last longer.

The process started with a preparation phase where the material was collected with support from a craftsman living in the village, who also participated in the workshop. This phase included invitations to the community and request for physical space onto which the playground could be built. Day one started with the Kenyan researcher in Architecture introducing the method *Environmental Autobiographies*.⁵⁵ The participants were to identify play memories from their childhood, a way to bring in a child perspective and make them re-connect to nature and space. Around 28 participants (10 children and 18 adults) sketched and shared ideas, including the Swedish design researcher. After a discussion and joint

⁵⁵ *Environmental autobiographies; a method where the participants make a written and mapped memoir of significant places in one's own life with an emphasis on environmental and sensory aspects. It is a method for understanding more directly children's feelings about the places they inhabit. This mapping can be done both by children and adults. As self-reported data, environmental autobiography may yield insights into child environment behaviours that might otherwise be ignored while designing for specific age-groups. See Boschetti, Margaret A. "Memories of Childhood Homes: Some Contributions of Environmental Autobiography to Interior Design Education and Research" (1987) <https://doi.org/10.1111/j.1939-1668.1987.tb00109.x>*

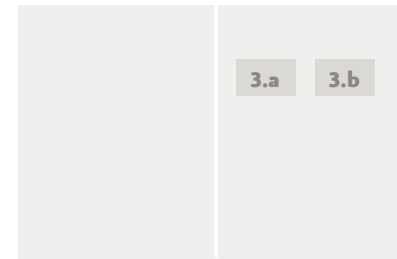


Fig. 3.a: Co-craft as a cultural bridge. Image (3a) shows how the Swedish children created their own additions to the designed structures made from ropes when the concept was implemented in Kenya. **Fig. 3.b:** shows how the ropes and sticks were used in a similar, yet different way (PHOTO: HELENA HANSSON, 2013)



decision making, it was decided to make three play structures that were common among the 28 environmental autobiographies done. During day two (2) the construction started on site, but because of the time constraints, only two structures were built: a combined structure with swings including a shelter to protect from the sun, and a hop-sotch structure made from ropes. Approximately 40 participants engaged in the construction phase. A significant observation was how people from the local community constantly entered and exited the construction site, attracted by the activities. Thereafter the constructed structures were tested by both adults and children, and in this phase, the mothers of the children added new material to the constructions: for example, hanging plastic bottles that gave an extra play dimension to the structure. It was noted that the adults played on the structures as much as the children as they reminisced their childhood play scenes. The work was thereafter orally evaluated in public. An unexpected result was that the co-crafted playground did not last over time, even if this had been the intention. The constructions were ripped off their material which disappeared, mostly used for firewood by the local mothers. However, a continuation was that the playground idea was adopted by a local school where a new structured with a more permanent steel construction was built in their compound.

5. ANALYSIS OF THE CHANGE EXPERIMENTS

In this section, the two change experiments in the field are analysed with support from the concepts of co-craft and Action Space.

5.1 CO-CRAFT -TRIGGERS PARTICIPATION AND CREATES CULTURAL CONTINUITY

A key concern with the co-crafted playground was to create a concept which could adapt to the different material cultures in both Sweden and Kenya. By using simple and similar materials and techniques, such as willow/sticks, weaving and rope-making, and by engaging the ones that were most affected by the change, co-craft became partly a participatory design tool, but with a bridging effect.

A cultural difference was that in Gothenburg, the children were directly involved in the making, while in Kisumu the child perspective was brought forward with support from the method *Environmental Autobiographies*. As the images below show, new change potentialities were co-created even if there were frugal constraints, which points to the *glocal* potentialities of the concept. In Vasaparken, a designed balancing structure was completed with a handrail made of ropes, made by the children and only supported by the adults (Image

3a). In Dunga Beach (3b), a different kind of balancing structure was created, and again the ropes acted as hand-rails. This observation captures what we see as the core of co-craft process, which is that the designer does not try to replace what already exists, but rather builds on it by indicating new potentialities. The materializations are made to trigger participation, and by encouraging and embracing local differences, a cultural continuity is created.

At the same time, we identified several challenges with the co-craft concept. One context based challenge is the importance to choose the right material. For example, in experiment 4.1 the chosen material worked well, and could even be deconstructed and reused. In the second experiment (4.2), in a frugal context, similar material was instead being perceived as fairly expensive. To use poles and sticks that was brought to the site, was an attempt to make the structure last over time. However, as the material was so desirable, people wanted to keep the material for individual use afterwards, which we refer to as a material resource scarcity constraint. In the end, the result was that the playground was deconstructed, even if the intention was to make it long lasting. Another kind of challenge, which we find as a core issue to consider in participatory work, is the issue of time and ownership. Because of time constraints, the co-craft process was forced. The result was that the process was not fully anchored in the community, here being referred to as an affordability constraint, which was probably the main reason why the playground did not last.

5.2 THE CO-CRAFTED PLAYGROUND AS A SHARED LEARNING OBJECT

One concrete result of the co-crafted playground was that new rooms for manoeuvre were created that did not

exist before. The social effect was also that it brought various people together for joint actions, who would not have otherwise met. In both experiments, it was observed how the simple crafts-based technologies (weaving and rope-making) made it possible for a variety of participants to engage and make a contribution, even without having the professional craftsmanship skills. As the co-crafting activities took place in public (and semi-public) spaces, the individual actions needed to be co-ordinated. As the joint efforts became visible both for the participants and the surrounding, which attracted new actors to the site. One key observation made was how the co-creative work stimulated conversations, for example pivoting around techniques and durability of the materials. It was found that the playground, as an action space, provided a space for joint learning. That people shared ideas and perspectives while they were working together, is identified as a huge potentiality which is embedded in co-craft and needs to be investigated further.

At the same time, it can critically be observed that the playground as an action space was lacking a crucial design element - namely a more organized space for shared reflection. This was, for example, evident in experiment 4.1. Even if an evaluation was made with the design students involved, the organized reflection came quite late in the process. Since it was solely made by the students, meant there was a lack of participation from other participants. For example, critical aspects (and the perceived learning outcomes) were never really raised and discussed in and with the public, which could have brought in valuable perspectives to the concept. An identified challenge when designing in public space is that such a space for reflection can be challenging to organize. As it was evident in experiment 4.2, a key complexity was that people constantly entered and exited

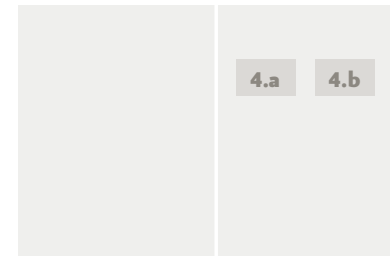


Fig. 4.a: Co-craft as a shared learning space. The first image (4.a) shows how crafts technologies (rope-making) was transferred between generations

(PHOTO: HELENA HANSSON, 2013)
Fig. 4.b: The second image (4.b) shows how crafts-based technologies (the rope making machine) was transferred and

implemented among local community members (PHOTO: HELENA HANSSON, 2013)



the site, which for example made it difficult to talk about risks and safety.

5.3 A CO-CRAFTED PLAYGROUND MUST ALSO ACKNOWLEDGE THOSE WHO CANNOT PARTICIPATE

A central idea with the co-crafted playground, was to encourage play and make people get associated in order to build collaborative capabilities. The study showed how a variety of actors in Kenya and Sweden were involved in the process, who in various ways engaged in the playground building activity. One aspect of play, which we had not fully taken into consideration, was the importance of relaxation as part of the playground concept which the images below show. Another aspect, which challenged our view, was that participation as it was viewed in these interventions required that people were present. However, as it became evident in 4.2, people do not always have the possibility to participate, even if both they and the organizers (us) want to. One complexity which hindered active participation, was that the research activities took place during day-time. This meant many people who had a stake were occupied at work. For example, for the female fish mongers, the playground building activities became something that took place in-between or after their duties, a creative break.

One key complexity to handle in this process was the view that children were

not 'professional' or considered capable enough. Even if the children did participate in the autobiography exercise, and were thus part of the planning process, this was done in a separate workshop. This meant they did not have the chance to co-create ideas together with the adult community members, and also lacked control of the decision making process⁵⁶ They were neither part of the actual construction, but at the same time, the children did enjoy the play space after it was finished, and they also played together with the adults. This highlights the matter of concern that participation cannot be taken for granted, since not everyone can actively take part in a co-cooperation, even if there is a want to. This raises the question of who has the right to accomplish change.⁵⁷ A co-crafted playground concept must therefore also acknowledge the non-participants and their needs, since they are stakeholders too, even if they are not physically present.

6. DISCUSSION

This discussion links back to the research question: *How can the concept of the co-crafted playground provide an action space that supports building collaborative capabilities, with the goal of contributing to more sustainable cities and communities?* It is pivoting around the Central Capabilities that was highlighted in the theoretical framework, which

⁵⁶ For example, one child raised an idea of creating a soccer game area, but this was neglected by the adults.

⁵⁷ Joakim Forsemalm. *Bodies, bricks & black boxes: power practices in city conversion*. Gothenburg, Sweden: University of Gothenburg, 2007.

were Imagination, *Senses and Thought* (CC4), *Affiliation* (CC7), *Play* (CC9) and *Control over one's environment*. (CC10).

The ultimate goal of the co-crafted playground was the Capability Approach, which was to be implemented and materialized through the creation of the co-crafted playground. The primary user group in this study was the children, and the core idea was to co-create a space where they could laugh, play and rest, which refers to CC 9 *Play*. The children's right to play and be part of the decision making are stated in the UN Convention of the Rights of the Child and the SDG's, and as the analysis brought forward, the co-crafted playground concept acknowledged this need. To a high degree, it encouraged participation and provided a global action space for play and relaxation. However, as the analysis illuminated, there also exist several complexities which need to be unpacked and discussed.

6.1 A CO-CRAFT PROCESS REQUIRES TIME AND OWNERSHIP

One of the Central Capabilities that this study relates to is that of *Affiliation* (CC7), which in this case meant that children should have the opportunity to engage in collaborative processes, together with others. Since the interventions were taking place on accessible public sites, it meant anyone who wanted to participate in the co-creation was invited. This made it possible for a variety of actors to meet and interact, and it was shown that co-craft was a successful method in getting people involved, since participation was made possible even without having professional craftsmanship skills. However, as the study brought forward, collaborative and participatory practices are a complex endeavor, and time consuming, not at least since there are many actors' perspectives to be aligned

and co-ordinated. Time is an important resource needed to adapt to the local context, so that local variations can be identified and acknowledged. There must also be time to anchor the process in the local culture, in order to create ownership, which supports continuity. However, in this case the continuity was challenged, and one possible reason was that it was not well anchored in the local culture. In order to be sustainable, participatory designers must consider time and ownership as a combined design element, in order to support continuity.

6.2 AN ACTION SPACE MUST ALSO INCLUDE A SPACE FOR JOINT REFLECTION

Another highlighted Central Capability in this paper was that of *Senses, Imagination and Thought* (CC 4), which refers to peoples' opportunities to "imagine, experience and produce works and events. In this study, this capability was implemented through the creation of the co-crafted playground, which as an action space provided room for manoeuvre where people could meet and jointly construct ideas of change. As it was found in the analysis, an identified favour was the concrete nature of the concept, which did not only make change real and tangible for all actors involved, but also helped to attract new audiences to the sites of exploration. As a material-based art, the concrete aspect is embedded in the very concept as such, but as von Busch highlights, crafts people (and designers) should be more concerned about how the crafts making "affect our abilities" (von Busch 2008). What was found to be a lacking design element in this case was an organized space for joint reflection, where the actors involved could reflect and thereby increase the understanding of the learning outcomes. To contribute to more sustainable design

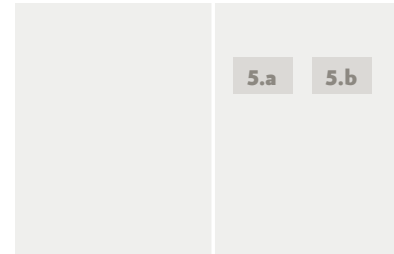


Figure 5.a: Co-craft as a space for relaxation. Relaxation was as an important aspect of play and became an important part of the co-crafted playground concept, in Sweden

(PHOTO: HELENA HANSSON, 2013)

playground concept, in (PHOTO: HELENA HANSSON, 2013)



practices, we argue an action space should also include a space for reflection, where the concrete making should be combined with more abstract thinking, which in this case was only provided to a certain degree.

6.3 METHODS ARE NEEDED WHICH ALSO CONCERN THE NON-PARTICIPANT PERSPECTIVE

The last highlighted capability in this paper was (CC10), *Control over one's environment*, where the core message is that citizens of different ages should have the possibility to "participate in governing processes that concerns themselves". This, which is the core of participatory design, was also shown as the most challenging aspect to handle when designing in a frugal context. The ultimate goal with the co-crafted playground concept was to create new change opportunities where people had the freedom to act and choose. As the analysis brought forward, people do not always have the possibility to participate, even if they want to, even if this is the core intention. Depending on different cultures and life-situations, the views of participants differ. The crux seems to be how to make sure that each stakeholder's interests are properly acknowledged, even if they cannot be physically involved for different reasons. One design method, *Environmental Autobiographies*, was introduced as a methodology by the

Kenyan design researcher and was found highly valuable, as it brought in the child perspective and helped the adults to re-connect to childhood memories and re-invent play. We argue that development of such emphatic design methods are much needed, especially in frugal contexts, where the people's participation cannot be taken for granted.

7. CONCLUSION

To learn more about participation based in an African design context this paper zoomed into a specific place in cities and communities dedicated for our youngest citizens in society, namely the *playgrounds*, which due to frugal constraints and the densification of our cities, run the risk of being reduced. Theories of "Co-craft, Action Space" and "Collaborative Capabilities" (von Busch 2013), were used as theoretical frameworks to acknowledge the frugal constraints but also to find a way to bridge between actors, cultures and contexts. The case studies included two change experiments in the field (design interventions), which were compared, one in Sweden and one in Kenya. After analysing and discussing the concept of the co-crafted playground and its collaborative qualities, three key findings were identified, which we argue should guide future design processes in order for them to be more sustainable and to increase peoples' capabilities in driving change.

- The issue of time and ownership should be acknowledged, to support trust and continuity over time
- A space for reflection is needed which combines concrete making and abstract thinking
- Design methods are needed which also concerns the non-participant perspective

7.1 FROM PROJECT BASED RESEARCH TO THE CREATION OF A KNOWLEDGE CLUSTER

To encourage sustainable development, the UN urges support of least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.⁵⁸ However, we argue we must move away from the view that designers – as representatives for Global North - are “assisting” least developed countries. We instead suggest that we must Design Things Together and learn the skills and techniques of utilizing local materials in essence – to co-craft for creating Collaborative Capabilities. The implementation of von Busch ideas of co-craft, action space and collaborative capabilities, highlight that craft and play can be valuable means for change that support bridging differences between cultures in the Global north and South. Additionally, they also support the building of knowledge clusters and capabilities as discussed above. By considering the above-mentioned complexities, we argue that co-craft can provide a sustainable design method where collaborative capabilities can be created over time. The potential we see is that a shared learning object can be created where global matters of concern can be brought to a common table, a way to craft relationships among and in-between generations, societies and countries. In essence: moving from project-based research to the creation of a knowledge cluster.

7.2 FUTURE RESEARCH

For future studies, we suggest to further look into how co-craft can be further integrated in design as a participatory tool and space for learning. We also suggest to explore design methods that can help to increase the awareness of cultural differences and non-participation. For example, role play may be an interesting method to explore and implement in such collaborative design processes. It is also suggested that bigger emphasize should be made on investigating how to organize spaces for reflection when designing in public open spaces, since reflection is central for learning.

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58 *The UN Sustainable Development Goals, target indicator 11C: <https://sustainabledevelopment.un.org/sdg11>, accessed on Nov 1, 2019.*

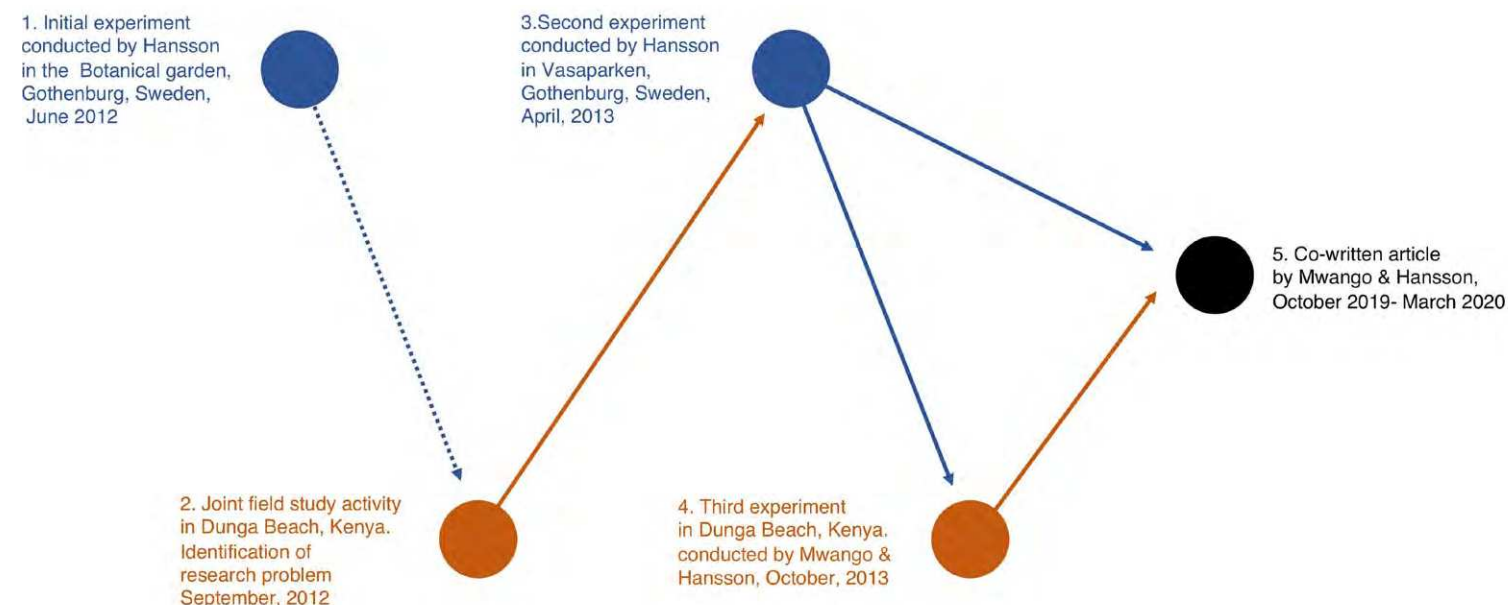
59 *SIDA is a government agency working on behalf of the Swedish parliament and government, with the mission to reduce poverty in the world. Through our work and in cooperation with others, we contribute to implementing Sweden's Policy for Global Development.*

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1		
2.a	3.a	4.a
2.b	3.b	4.b

Appendix 1: The flow chart diagram of the co-craft process between Swedish and Kenyan actors. (COPYRIGHT © 2013 HELENA HANSSON)

Appendix 2.a: Reflections from Sweden. "I think it is more hands on in the craft process. It is so much planning and researching in design". Quote from one of the design student's who during the workshop discovered how the crafts based design process was more intuitive and inclusive than the traditional design process.

Appendix 2.b: "I want to build my own play house!" A quote from one of the visitors, a young girl who discovered how easy it was to build her own structure, which she did. The building process was assisted by her parents and the design students. (PHOTOS: HELENA HANSSON, 2014)

Appendix 3.a-b: Reflections from Kenya_1. Images from the Environmental autobiography session in Dunga Beach, where the participants were drawing their childhood memories. (PHOTOS: HELENA HANSSON, 2014)

Appendix 4.a-b: Reflections from Kenya_2. "I am a happy man because of this." A quote from a craftsman in the village who reflects on the playground construction process. The young man discovered how the construction of the playground became a community-building activity also among the adults. (PHOTOS: HELENA HANSSON, 2014)

KÉZMŰVES JÁTSZÓTEREK - EGYÉNI KÉSZSÉGEK, KÖZÖSSÉGI TERVEZÉS

A cikk összehasonlító elemzéssel ismerteti két esettanulmányt: egy-egy közösségi együttműködéssel megvalósított játszótér a svédországi Göteborg, illetve a kenyai Kisimu példáján. A műhelymunkák háttérben az aktív részvétellel, közös alkotással megvalósított játszótér ötlete állt, amely innovatív módon aknázza ki a kézművesség, a tervezés, a játék és a szabadtér közös metszetében rejlő lehetőségeket. Tájépítés tervezők, építészek, diákok, mesteremberek és helyi lakosok közreműködésével valósult meg a kihasználatlan köztérek életre keltése ideiglenes játszótérek közösségi részvételen alapuló kialakításával. A műhelyek feltárták annak lehetőségét is, hogyan, miben lehet több a játék, mint pusztán gyermeki elfoglaltság. A göteborgi műhely a város egyik központi parkjában, a Vasaparkenben ötnapos volt, míg a kisumui három napig tartott. A műhelyek feltárták annak lehetőségét, hogy egy „Csináld magad!”

jellegű alkotó tevékenység hogyan játszhat katalizátor szerepet a lakóközösségek közötti együttműködésben és tapasztalatcserében, a kihasználatlan vagy gazdátlan közösségi terek, illetve a megélhetési lehetőségek aktiválásában, előzetesen kiválasztott, funkcionálisan meghatározott városi terek fejlesztési lehetőségeinek kibontakoztatásában, a tervezői és alkotói munka új fórumainak megteremtésében, a váratlan helyzetekkel való szembesítésben és a közösség ötleteinek ösztönzésében.

A kutatás alapkérdése, hogy miként válhat az épített környezetben egy „kézműves alkotással kialakított játszótér” a képzelőerő, a tudásátadás, a játék és az együttes alkotás közösségi színterévé a különböző életkorú, kulturális háttérű és anyagi helyzetű közreműködők számára.

A műhelyek hozzájárultak annak megértéséhez, hogy milyen hozadékot és kihívásokat jelent a különböző szereplők közreműködésével közösségi tereken végzett munka a pozitív társadalmi változást célul tűző tervezési folyamat szempontjából. A cikk hasznos adalék ahhoz, hogy milyen elő-

nyöket jelenthet a tervezők és a mesteremberek számára a közösen végzett munka, és tanulságokkal szolgál a skandináv és kelet-afrikai esettanulmányok összevetése is. A kutatás módszere akciókutatás, reflexív összehasonlító esettanulmányokkal. Az adatgyűjtés során gyermekek és felnőttek megkérdezésére is sor került, az életkörülmények feltárásával. A munka során fényképek, vázlatrajzok és írásos dokumentáció, valamint feljegyzések és interjúk is készültek. ©

CHILD-FRIENDLY URBAN LANDSCAPES

THE MEANING OF CHILD-FRIENDLY URBAN OPEN

SPACES AND THE OPPORTUNITIES FOR

IMPLEMENTING INITIATIVES IN HUNGARY

GYERMEKBARÁT VÁROSI SZABADTEREK

A GYERMEKBARÁT SZABADTÉR JELENTÉSE

ÉS SZEMPONTJAINAK ÉRVÉNYESÍTÉSI LEHETŐSÉGE

MAGYARORSZÁGON

SZERZŐ/BY: PÉTER ISTVÁN BALOGH, ILDIKÓ RÉKA BÁTHORYNÉ NAGY,
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DOI:
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ABSTRACT

There is an increasing emphasis on children's perspectives in the urban open space design around the world. Despite the fact that children's development is greatly influenced by the environment in which they grow up, children hardly have an opportunity to determine or contribute to the shaping of their environment. The next generation's personal attachment to the landscape is fundamental to build a responsible and sustainable future.

In this paper, a brief overview is provided to show the evolution of how children were playing in the city in different historical periods around the world. Focusing on the outdoor play activity, it can be said that we

can distinguish free play and structured play in the urban open spaces. It is also clear that with the phenomena of motorization and urbanization in the 20th century, the urban landscape for children has dramatically changed. Children's opportunities to play outdoors in cities are diminishing and constrained in most cases. The idea of child-friendly cities is becoming more and more prominent nowadays and designers are looking for alternatives to compensate the negative phenomena.

There are many researches and initiatives around the world addressing the topic of child-friendliness. Our study presents and interprets the two main directives currently in force. One of them aims at increasing the quantity and improving the quality of urban

open spaces dedicated to children, with standardization and regulation in the focus. This approach aims to create new rules and professional guidelines that can be followed. On the other hand, the other directive focuses more on the coordination of processes and seeks ways to improve playability of the overall urban open space in the city. This approach emphasizes the importance of social engagement and the involvement of young people and children in the processes.

After the theories, the research introduces the Hungarian context, and through the example of Budapest evaluates and interprets various practical strategies for a child-friendly city. Examining the principles that shape child-friendly cities it correlates the general theories with the Hungarian context. Based on the survey of the density and distribution of existing child-friendly elements, the research identifies the most important development opportunities for Budapest. The paper reviews the relevant regulations and legal instruments that determine urban development in Hungary, and points out the most important opportunities where child-friendliness could be supported. In doing so, the research draws attention to the importance of the duality of the systems approach and participation, as these methods can be used to achieve both qualitative and quantitative improvement.

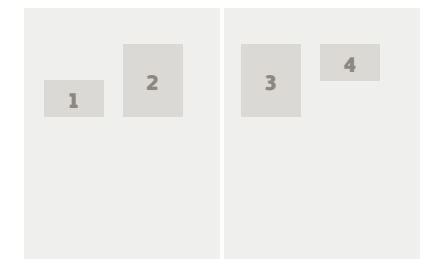
Urban landscapes that put children's perspectives first are safer, more exciting and active. The presence of children in urban open spaces also facilitates the socialization of parents, increases community interactions, and therefore it can be seen as a social catalyst in the urban environment. What is good for children is also good for adults. When it comes to design, child-friendly urban open spaces need creativity and for the designers to think out of the box.

WHY IS IT IMPORTANT TO CREATE CHILD-FRIENDLY URBAN LANDSCAPES?

In this paper, we define urban landscape as an **organically developing, complex system** of man-made and natural elements within the city containing buildings and urban open spaces. Therefore the quality of the urban open spaces in a city contributes a lot to the urban landscape in general. As more and more people are living in cities all around the world, landscape architecture has the pressure to focus more on the urban landscape. It is a trend that **children grow up in big cities with limited experience of rural or natural areas**. American studies have shown that beyond their time at home, children have 42% of their free time activities outdoors, however only 9% of this happens in the schoolyards (Düll, 2009). This means that the rest of the **outdoor activities happen in public open spaces**.

It is proven that the environment where children grow up is essential in their **cognitive development**. A Swiss research project called *The landscape and your health (Paysage á votre santé)* outlined the areas where the surroundings have a critical role on the person's development: **physical, psychological, and social health** of children and young people. Nature, that can stimulate cognitive, motor, social and emotional skills for children and foster a positive effect on their health in the long term, may be scarce or missing in the urban environment. (Gyimóthy, 2015)

Kevin Lynch, in his book *Growing up in Cities* from 1977, already emphasized that children have **less and less time for free activities in urban public open spaces**. He made studies of the spatial environment of adolescence in four nations in six cities, and compiled *The Child Friendly Cities Initiative*. This early work is still relevant if we want to understand how the quality



of the spatial environment affects youth in urban landscapes. The work attempted to change municipal policies by encouraging the involvement of children's perspectives in the planning process, and to build a base for shared action amongst community and government-based groups supporting children's rights. (Lynch, 1977)

In the past century, the city has been changed a lot: spatial limitations – due to urbanization and the automobile culture – and the online world distracts kids and shifts their attention, leaving aside and completely ignoring the importance of the outside world. In the last decades, the global trend started in the 1970s got even worse: children are less and less welcome in urban open spaces – it is more common to invite them to indoor areas that are adult-centered and are integrated into adult-driven activities (like restaurants, shopping malls etc.). Children nowadays are doing most of their social interactions through screens. Even in the public

urban open spaces we like to bring our kids into controlled, designated areas like playgrounds. Due to the change in mobility, cities have completely changed – the traffic is more and much faster that creates high risk and loss of space for children. (Krasniqi, 2019).

The Child Friendly Cities Initiative (CFCI) launched in 1996 by UNICEF and UN-Habitat aims to make cities liveable for all. It declares that the well-being of children is the ultimate indicator of a healthy habitat, a democratic society and of good governance. This UNICEF-led initiative supports municipal governments in realizing the rights of children at the local level using the UN Convention on the Rights of the Child as its foundation (UNICEF, 2020).

The 2030 Agenda for Sustainable Development published by the United Nations (UN) in 2015 sets out goals for “ensuring healthy lives and promoting well-being for all at all ages” (SDG 3) as well as “making cities and human settlements inclusive, safe, resilient and

sustainable” (SDG 11) (UN, 2015). In the spirit of the New Urban Agenda and the commitment to “leave no one behind”, local governments should invest in their public spaces, using an integrated and trans-disciplinary approach in partnership with a range of stakeholders to ensure inclusive, safe and accessible public spaces for all (Andersen, 2016).

Due to the above mentioned reasons, the importance of children and their perspective being taken into consideration in the urban landscapes – especially in urban open spaces – is crucial and a current topic for landscape architects. A UN Report shows that by 2030 approximately 60% of all urban dwellers will be under the age of 18 (UN, 2013). Children usually don't have any right or say in shaping the environment they live in, learn and play. Children need great places to play, learn, and socialize – however children are one of the most vulnerable groups in the city and there is a need for specific solutions and strategies introduced

for them. Now it is a new challenge to create cities that emphasize children's perspective through their interest, needs and rights in the urban environment.

EVOLUTION OF PLAY IN THE URBAN LANDSCAPE AROUND THE WORLD

Free play in the city
Play itself is an ancient phenomenon, every child plays – regardless of gender, age, culture and social background. We can see that in all early cultures, children's toys are naturally borrowed from adult life. Children made up games and stories and acted out daily events. They were reflecting their parents' lifestyle in their play. In production communities production-related processes, in hunting communities hunting-related activities were imitated by children. Racing and competition were always part of the games – as it is also something that adults did in sports or other free time activities.

Pict. 1: Turning Bars, Madrid, 1908 (SOURCE: GEORGE EASTMAN HOUSE COLLECTION, DOWNLOAD: https://flickr.com/photos/george_eastman_house/2677559569/ IN/ALBUM-72157606224254056/) **Pict. 2:** Children being creative in Manchester, 1946 (SOURCE OF PICTURE: <https://mult-kor.hu/boldog-kepek-abbol-az-idoszakbol-ami-kor-a-gyerekeknek-meg-nem-volt-okostelefonjuk-20170320?openimage=11355>)

Pict. 3: New York, 1940s (SOURCE OF PICTURE: <https://mult-kor.hu/boldog-kepek-abbol-az-idoszakbol-ami-kor-a-gyerekeknek-meg-nem-volt-okostelefonjuk-20170320?openimage=11355>) **Pict. 4:** A “sand garden” in Boston's North End, the first playground in the United States, Courtesy of The Boston Globe (SOURCE: <https://northendwaterfront.com/2014/04/notable-news-north-end-sand-garden-enjoying-the-harborwalk-eliot-preschool-and-more/>)

Since there were cities, children were always taking advantage of playing on the streets, hanging out with friends together. In the Middle Ages, children were **playing in any open spaces in the city** and it was quite natural for the community. “After school and chores, children were sent outside to play, unsupervised or in the company of older children. Their main activities were running, jumping, skipping, singing, dancing, hunting, fishing, catching birds, casting stones, climbing trees, wall-walking and other balancing games. Children also played group games like hide-and-seek, blind man's bluff, leapfrog, horses, piggy-back riding, vaulting, acrobatics, and wrestling. They played with toys like hoops, windmills, balls, throwing sticks, hobby-horses, skip-ropes, jacks, marbles, tops, stilts, tree swings, seesaws, shuttlecock, quoits, skittles, clog, football, and tennis.” (Stirler, 2013)

After the end of the 18th century, cities changed a lot – although medieval cities were surrounded by walls, nearby forests and fields were still accessible for kids. The **relationship between human and nature was much stronger** and the traffic of the streets was less and safer. (Jancsó - Osvát - Sárdy, 1974). Although with the urbanization and motorization it was a need to create safer, controlled outdoor spaces for children in cities, **the need for free play on the streets never really disappeared.**

Structured play spaces in the city

Play is ancient – but playgrounds are the consequences of the 19th-century urbanization. Open spaces of educational institutions were always important places for structured play. School gardens were the first open-air facilities where children were under constant supervision, in an organized manner, and games appeared

in parts of the schoolyard. The first designated public open space for children was created in Vienna in 1863. The Kinder Park was the **first urban public park for children**. There were no play equipment in the park yet, but it was an important change in attitude, because rough-and-tumble play or uncontrolled running around was not allowed for children in the public open spaces (Csepely-Knorr, 2011).

With the disadvantages of intensified urbanization, there was a need to keep children together and to provide **supervised and organized play** for them even after the school time. The first playground in the World was built in 1859 in Manchester, England – although the original idea of formal playgrounds was developed in Germany in the middle of the 19th century (Heap, 2012). The main goal was to create a controlled environment where children can learn how to play safely and fairly with one another. **With more and more cars on the roads, it became a constant danger** for urban kids to play on the streets. Playgrounds were always meant to be controlled, supervised areas where kids can play, exercise and socialize. (Hart, 2006)

The playground movement in America started in the 1880s in Boston with the introduction of “sand gardens” (Pic. 4.). They were **simple fenced sand boxes** placed in public spaces with some simple play equipment. Early playgrounds were supervised and segregated by gender (Creative Play, 2020).

At the beginning of the 20th century playground associations were formed to promote the idea and help to establish playgrounds, including their layout and design. People were trained as instructors to teach children necessary lessons like equipment lessons, parades, theater productions etc. (O’ Shea, 2013). Playgrounds were properly introduced to the United States in 1907 when President Theodore Roosevelt in a speech

weighed the importance of the playgrounds (Heap, 2012; Erickson, 2012). The first city to make playgrounds a priority by **creating regulations** was New York in 1912. The city decided to ban climbing structures as it seemed too dangerous (Erickson, 2012).

However the benefits of these designated, safe areas for children were obvious, kids still enjoyed being outside on the calmer so-called “*play streets*”. During the First World War, in America playing on the street was a crime as people believed that could lead to truant behavior (Hart, 2006).

In the beginning of the 1930s a new wave of playground design emerged. Danish architect, C. Th. Sørensen introduced the idea of “adventure or junk playgrounds” that **let children create and shape the playground environment** (Erickson, 2012). This initiative became more and more popular around the world because children could experience the space on their own without adult instructions and gender splitting.

From the 1960s **mass production** reached the playgrounds as well, due to some serious lawsuits industry regulations for **health and safety standards**. With urbanization and industrialization, equipment and playgrounds became uniform, leading to standardized playgrounds.

From the 1980s new forms, bright colours and **new materials** were introduced like plastic, rubber or concrete in order to create safer surfaces and reduce maintenance costs. In the 1990s *thematic playgrounds* became fashionable and they still continue to exist. The aesthetics of the playgrounds have developed a lot in the last decades. However, excessive safety regulations to reduce risk at playgrounds often result in equipment boring for the older (Stipo, 2018). Today **creative stimulation** is a key element for playgrounds and designers are eager to find new ideas for kids to have fun.

THEORIES AND PRACTICES

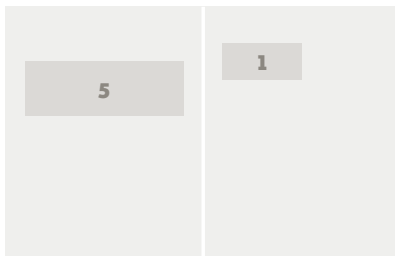
What makes a great urban landscape for children?

Children's way of perception is different from adults – they perceive the environment through **movements and activities** (Kylin, 2013). Visual appearance and aesthetics are not so important to them as their vivid imagination complement reality. That is why the good question for them is not “*What do you want to see here?*” but rather “*What do you want to do here?*”.

It is obvious that **safety** comes first when we talk about kids. Although we usually put more emphasis on the limitations – we should rather focus more on the opportunities and the capacities of the place. It is important to note that the most strict requirements for play environments are formulated by the parents (Düll, 2009). Kids' perception is different even if we look at **security**. Finding the right balance between risk and safety is a crucial element of child-friendliness. Letting children learn from their mistakes contributes to the ultimate goal: to raise self-confident, responsible, and resilient individuals who feel they have some control over their destinies and are alive to the consequences of their actions (Gill, 2007).

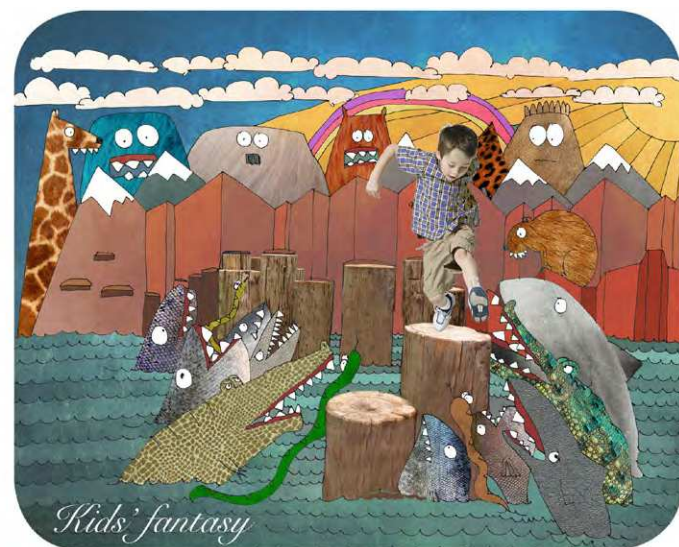
Designers should be aware of slow traffic, clear zone separations with puffer zones, clean green areas and interactive, creative, sense-oriented places. In order to make our living environment child-friendly, we have to follow four basic principles: **safe, healthy, lively and sustainable.**

It is important to note that children not only have a different eye-level but their methodology of perception is also very different from that of an average adult. If we design child-friendly spaces we need to focus on the kids' perspective including but not limited to **colours, forms, scales, textures, balance, interactivity and creativity.** (Krasniqi, 2019)



Pict. 5: Reality vs. kid's fantasy - detail of the child-friendly public space competition (DESIGNERS: ANDREA SIPOS-KERESZTES, ANITA REITH, ANITA SZÖBÖLÖDI)

Table 1: Main differences between playgrounds and playscapes



Free play is very important for the healthy cognitive development of a child. It is not necessary to put all the pieces together for them as their fantasy is lively and creative and they are happy to use it in every step they take in the city. Stimulating their **fantasy and creativity helps them to develop cognitive skills** like spatial awareness or decision making that are essential to raise healthy, open and independent adults. If the world is not perfect, they can compensate with their fantasy to create one (Pic. 5; Dattner, 1969).

There are a lot of initiatives and organizations around the globe who are eager to answer this complex question. Although the issue seems contemporary, it has actually been present in public space design since the late 1960s (Báthoryné Nagy - Gecséné Tar 2019). In the past decades most of the developed cities and even countries have developed initiatives for child-friendliness. Hundreds of funds are supporting the children's engagement in shaping their environment. This topic has spread not only across the architectural and urbanist world, but also among **teachers, sociologists, psychologists, and other related professions**. Owing to technology and the

internet, it is easy to access good practices and research in the different fields. UNICEF has a collection from 45 countries worldwide where CFCI has been already introduced.¹

Unfortunately, the regulations and design strategies do not take enough attention to children's needs. It is crucial to provide equal opportunities for all – including children. We must fight ignorance in order to **democratize our open spaces** (Fotel, 2009). Participation of kids is essential in order to include children's perspective into design as a way to democratize the landscape and provide **equal opportunities for all**. There are many good examples and initiatives to engage children with different ages and adolescents in specific phases of design (Lynch, 1977; Stipo, 2018). Participation is also important at the individual level: personal effort helps to build a feeling of ownership which will lead to more sustainable environments (Düll, 2009). Studies show that children's engagement is useful not only in the design process, but also in the implementation or maintenance of a playground (Düll, 2009). Engagement is an equally powerful tool to create child-friendly urban landscapes and to foster a **higher level of consciousness from**

¹ The website of UNICEF is a great resource for child-friendly city initiatives. Not only guiding principles can be found there but practice examples listed in the thematic areas (participation, education, play, migration, innovation etc.) are also available: <https://childfriendlycities.org/initiatives/>

Formal child-friendly urban open spaces (playgrounds and institutional gardens)	Informal child-friendly urban open spaces (playscapes)
Designed specially for kids	Designed for all
Has boundaries	No boundaries
Separated from other functions	Integrated into other functions
Has play equipments	Does not necessarily have play equipments
Planned and limited activities	Spontaneous, unlimited activities
Structured play with equipment mainly	Play activity is free
Organized/supported supervision	Supervision is not organized / necessary
Safety is first (special regulations)	General safety requirements

an early age. "The child-friendliness of a city should be measured by the network of placemaking initiatives and citywide strategies for public spaces that together shape and integrate kids' perspective in decision-making." (Stipo, 2018)

A recent publication on The city at eye level for kids by Stipo has a collection of **successful projects and good practices** from all around the world. It summarizes 36 lessons for a better city at eye level for kids, and creates a criteria list for design at the micro scale (neighbourhoods, squares, and parks), at the meso scale (main streets, waterfronts etc.) and finally at the city scale. (Stipo, 2018)

Stipo's booklet emphasizes the importance of the different **age groups**, making differentiation between young children and teenagers, paying special attention to girls, reaching out to caregivers, being sensitive to social, economic, cultural and climatic context. It stresses and gives support on how to build city wide strategies. Since the living conditions and physical context can vary widely, **bringing play beyond playgrounds** by integrating play into daily routines and **reimagining everyday spaces as mini play destinations** is crucial. Stipo also provides *Seven Key Steps to Engage Kids* and a brief description of *12 Proven Methods*.

Designing for and with children

Based on the theory of Sven De Visscher, the Belgian social work lecturer and urbanist there are two paradigms, having a different approach to what a child-friendly city means. The first paradigm is rooted in developmental psychology, and seeks for an **objectification of the child-friendly city with universal guidelines** for protecting

children against the malicious influences of the modern world. Child-friendliness appears, in this paradigm, as an **outcome of professional interventions in the best interest of children**, which can be translated into common approaches, and thus it is possible to create **guidelines and checklist** for child-friendly spaces. In contrast, the other paradigm does not lead to more standardisation but instead looks for more contextualisation in understanding child-friendliness.

The second paradigm is rooted in sociology and critical pedagogy and aims for a **subjectification of the child-friendly city, focusing more on kids' participation**. It aims to strengthen the position of children in the city in general, and assumes that sustainability, liveability and democratic future for our cities depend on how we involve our children in planning for tomorrow. In this sense, this paradigm **promotes the quality of the process through which the city is shaped and reshaped and underlines the contextual uniqueness of the community and the local culture**. (De Visscher, 2016 & Schepel, 2006)

Indisputable that both models are equally important and have relevance to the topic. Objectification and guidelines are important in order to **support city regulations** and create norms that are accepted by professional groups. Putting an emphasis on the quality of the processes of how we shape our environment is also crucial as it has an important **message for everyone** in general. "If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places" – as Fred Kent says (PPS, 2005). It is important to see the relevance and threats of both the approaches. While



regulations and guidelines are useful for municipalities and the bureaucratic world, they can lead to boring and homogeneous designs. The institutional approach is important but not enough. Situational approach, on the other hand, needs some guidelines and facilitations in order to create long-term, sustainable solutions and successful designs.

Overview of formal and informal play spaces in urban landscapes

In the urban landscape, we can talk about formal and informal child-friendly open spaces. Formal child-friendly urban open spaces are **playgrounds and institutional gardens** (gardens of educational, social or health-care institutions). These spaces are designed for specific target groups, are of mostly limited access, and allow only certain behavior or activities. Formal child-friendly urban landscapes always have **boundaries and specific equipment** that encourage kids to play, learn, or socialize. Informal child-friendly urban landscapes are called **playscapes** and they are **not limited in use or activities**. There is a difference between a ground to play at and a playground. Playscapes are grounds to play at and – in contrast with playgrounds – are part of the urban landscape without excluding any user groups or having formal boundaries. These open spaces stimulate children’s creativity and imagination and allow free, spontaneous play. They are

invisible playgrounds that attract kids while serving the rest of the community.

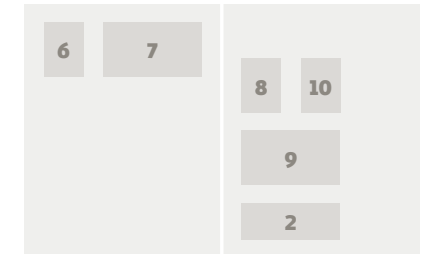
Of course, it is never a matter of black and white, there might be some places in the city, which have no boundaries but do have some play equipment (Pic. 6-7.), or we can find playgrounds that do not have prefabricated play equipment. (Pic. 8-10.).

ANALYSIS IN BUDAPEST AND THE HUNGARIAN CONTEXT

Overview of the Hungarian context

In 1777, *Ratio Educationis* was the first law that affected children and their play in Hungary. This law was pioneering in Europe as it initiated the provision of outdoor spaces for physical exercise and play for all educational institutions. In this period, the school environment belonged to the topic of public health in Hungary. In the end of the 1880s, the first reports were published that put an emphasis on the **quality of the school environment and the open spaces around schools**. (Klagyivik, 2018)

The evolution of playgrounds in Hungary was similar to the European trends. In the socialist era, landscape architecture and urbanism were also very **sensitive to social issues**, which was also relevant to playground design. With the construction of **social housing estates**, play spaces for children were also created as parts of the development.

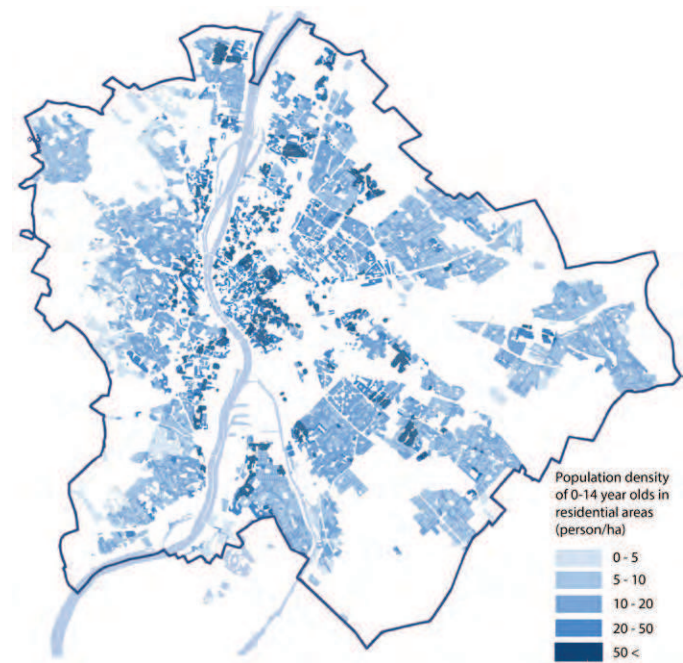


Pict. 6-7: Temporary seesaws in New York City (SOURCE OF PICTURES: [HTTPS://WWW.THISISCOLSAL.COM/2020/01/IMPULSE-SEESAWS-NEW-YORK-CITY/](https://www.thisiscolossal.com/2020/01/impulse-seesaws-new-york-city/))

Pict. 8-10: Assiniboine Park Nature Playground in Winnipeg, Canada (SOURCE OF PICTURES: ANITA REITH) **Table 2:** Green infrastructure hierarchy for Budapest (Source: Almási, 2007)



Green Infrastructure Category	Area (ha)	Accessibility (m)	Limited accessibility (m)	Land Use Category
regional park	above 150	6000		Forests, green spaces, agricultural lands, fields, water-management areas
city park	30-150	2500		
neighbourhood park	10-30	1000		
public park	3-10	500	350	
local gardens	1-3	400	280	
public gardens	0,03-1	300	200	green spaces



Population density of 0-14 year olds in residential areas (person/ha)

0 - 5
5 - 10
10 - 20
20 - 50
50 <

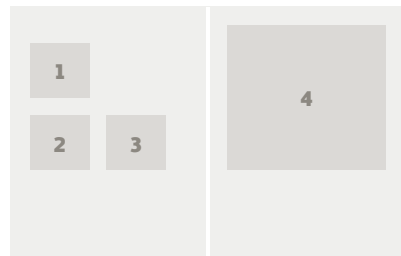
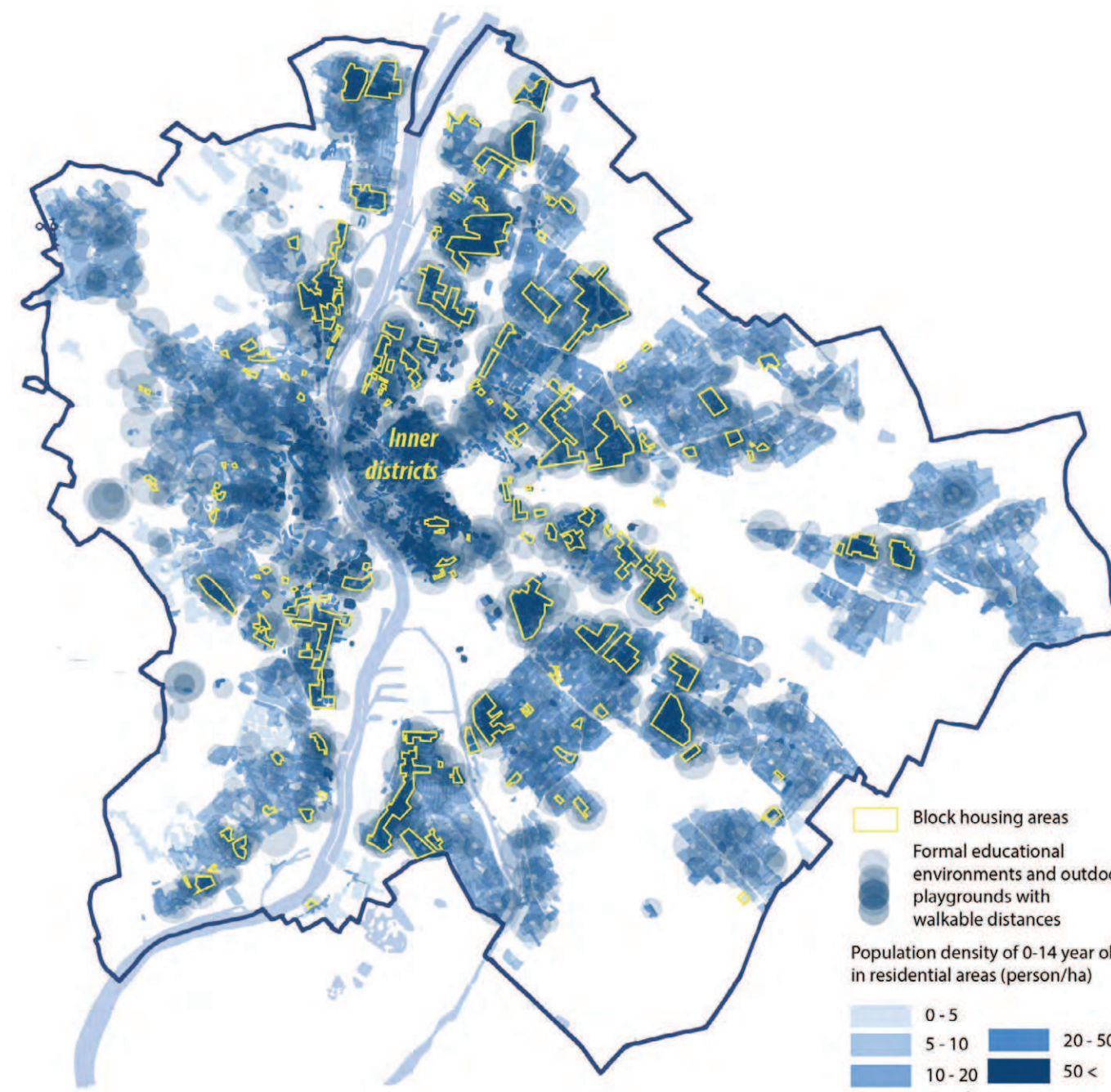


Fig. 1: Population density of 0-14 year olds in residential areas of Budapest
Fig. 2: Formal educational environments in Budapest
Fig. 3: Outdoor playgrounds in Budapest

Fig. 4: The density of relevant urban areas of children's physical environment in Budapest



Block housing areas
 Formal educational environments and outdoor playgrounds with walkable distances
 Population density of 0-14 year olds in residential areas (person/ha)

0 - 5	20 - 50
5 - 10	50 <
10 - 20	

Free play in the city was part of children's life in the last century. The legendary *The Paul Street Boys* written by Ferenc Molnár is one of the greatest examples of how kids spent their free time in urban open spaces in the 1880s in Hungary.

In order to understand and identify what are the most important urban areas for children, studies in developmental environmental psychology has to be taken into account. According to today's environmental psychological research, under the age of six, children's existence and orientation in the physical environment is primarily based on their home environment and only indirectly influenced by the characteristics of the neighborhood. The potential activities, impacts and dangers learned in

this environment will become part of the child's social, emotional and cognitive experiences. Touching and grasping objects and surfaces plays an extremely important role in human development and in establishing identity (Düll, 2009).

One of the most important research areas of environmental psychology are the institutional places of education, the so-called educational environments, as these spaces are primarily designed for the education and socialization of children. There are basically two types: formal and informal educational environments. Formal educational environments like kindergartens, schools, nurseries etc. are controlled and limited in use, while informal educational environments like zoos, museums etc. are special recreational and leisure

spaces. Besides playgrounds and play-scapes, these are very important open spaces in the city, which can be part of child-friendly urban open spaces.

Before analysing, it is also important to introduce the Hungarian classification of green spaces (public gardens, public parks, city parks etc.). Based on Balázs Almási's work, six different types of green spaces can be defined in urban landscapes, according to their size and accessibility (Almási, 2007; Table 2). Playgrounds can be found in all six types of green spaces, but when we talk about local needs, public gardens and local public parks matter the most. Accessible within a distance of 200-400 meters, public gardens and local parks are supposed to primarily serve the needs of the local residents - in the case of children, the need for daily play.

Spatial distribution of child-friendly urban open spaces in Budapest

Based on the available data from the *Budapest City Development Concept, Situational Analysis (2011)* this paper attempts to define children's spatial use in Budapest. The purpose of the analysis is to identify urban open spaces where the so-called child-friendly design considerations are of primary importance. In this research, the study area is Budapest- but the method can be adapted to any other cities.

In the study, only formal educational environments (nurseries, daycares, and elementary schools) are presented. Nevertheless, it can also be extended to informal educational environments. Because of the different size



11

12

13

Pict. 11-12: Two emblematic playgrounds integrated well in the urban environment in Budapest. The first one is at Horváth Garden from 1965 with the trams passing along boulevard in the background.

The second picture is from 1976 at Nehru Quay. **Pict. 13:** Enjoying play without age limits. Óbuda Island in May, sometime in the 1980s. (SOURCE: FORTEPAN)



and accessibility, nurseries, daycares, and playgrounds as formal child-friendly urban open spaces are represented with a radius of 250 meters, while elementary schools are shown with a radius of 500 meters showing the walkable distance around the facility.

In Figure 1, the population density of 0-14 years old children can be seen in Budapest. Based on this figure, it is clear that there are some areas which have higher need for child-friendly initiatives. These areas are mostly social housing estates or dense urban neighbourhoods in the inner part of the city.

In Figure 2, we can see the distribution of formal educational environments in Budapest. In Figure 3, the distribution of outdoor playgrounds is shown. It is clearly visible that the two figures do not correlate – although the needs are the same. Making a comparison with Figure 1, it can be said that the distribution of formal educational spaces more or less reflects the population density, while that of outdoor playgrounds in the city does not correspond to the population density. While the high-density residential areas with blocks of flats (for example: Káposztásmegyér, József Attila lakótelep, Havannatelep) are mostly served well with playgrounds, the downtown area of Budapest (districts 5, 6, 7 and 8) is short of playgrounds. This fact highlights the need for creation of playscapes in the inner parts of the city.

Finally, Figure 4 was created by overlaying the population density and the accessible child-oriented urban environments.

Analyzing Figure 4 closely, we can point out some interesting correlations. It is visible that the density of the needs is not in line with the facilities provided. As it was also seen in Figure 1, the inner districts and the high density residential areas should have a priority in child-friendly initiatives as their population of children is higher than that in other areas.

The other important conclusion we can take from the figures is that both the formal educational and the outdoor playgrounds are block elements and the spatial connection between them is not developed well in the city. Linear elements like streets, boulevards and greenways should be considered as important playscape options. In order to improve the quality of child-friendly urban open spaces in Budapest (or elsewhere) it is crucial to focus on the links between designated child-friendly destinations. A systematic approach is essential when we work towards developing the child-friendliness of Budapest.

OPPORTUNITIES IN URBAN PLANNING REGULATION IN HUNGARY

As seen from the previous analysis, formal educational environments are well-distributed in Budapest, and serve

the population well. The open spaces of the educational facilities are designated as institutional gardens, which means that these open spaces are open to the public only for limited time and use. Therefore formal educational environments cannot be taken into account for everyday recreation. However, the surroundings of the educational environments – like the entrance areas of schools and kindergartens – play a very important role in a child-friendly public open space network in the city.

Playgrounds can be considered as parts of the urban public open space network – however they operate with restricted use only. In contrast with the formal educational environments, playgrounds can be well integrated into the urban public open space network (Pic. 11-12.), and thus provide sufficient recreational green spaces for the whole population, especially but not limited to children (Pic. 13.).

Young children prefer to stay in their close environment, they use the same routes and tend to stay in close proximity to their home and school routes (Özgece, Edgü és Taluğ, 2015). Therefore building a network of playscapes and creating links between children-destinations is extremely important when improving child-friendliness in a city. Networking between block elements is important in order to achieve good functionality, so that we must consider the paths between them as important as the element itself. Better connections can be

realized by constructing greenways and alternative routes (pedestrian, bicycle, roller) or by transforming existing infrastructure into connecting structures. It would be important to designate the pedestrian promenade as another structural element in the local plan for the sake of spatial security and functional connection, and to include it as a pedestrian zone into the planning policies.

According to the principles of human-centered urban planning (Gehl, 2014), short distances to reach events should be sought, and integration of function can achieve social sustainability and a general sense of security. Inspiring urban spaces for outdoor activities, walking and cycling need to be created, and it is especially important to provide gradual transition between buildings and outdoor spaces. In order to enhance urban life in cities, public open spaces should be designed in a way that people can use them most of the time of the day or the year. Authors of this paper propose to summarize the child-friendly interpretation of the general principles according to Table 3.

Within the framework of local public affairs, the task of the local government is to develop the settlements pursuant to the Act on Local Authorities in Hungary.² Urban Development Plans (Településfejlesztési Tervek), Local Plans (Településrendezési Tervek) and Townscape Initiatives (Településképi Tervek) are regulatory tools that can be used to comply with the above mentioned

² Act CLXXXIX of 2011, Section 13. § (1)

Urban Planning Principle	Child-friendly interpretation
Short distance to reach events	In areas that are most important to the development of children, efforts should be made to improve pedestrian accessibility, obstacle clearance, and a sense of security. The comfortable distance varies with age group and public space design. Long-distance locations should seek to establish a secure cycle path network.
Integration of functions	The most important functions for the development of children should be integrated as much as possible in one place.
Urban space to inspire to stay outdoors	Efforts should be made to create urban spaces of human scale, where congestion and unpleasant sensory impressions (e.g. excessive noise, gusts/drafts, dust) should be avoided.
Gradual transition between buildings and outdoor spaces	Ground floor design and the design of entrance areas should give a preference to small details at eye-level of both adults and children. These areas play a critical role in the interaction between the inside and outside world.
Extending the possible usage of urban outdoor spaces	Urban outdoor spaces should be designed to allow 20-25 minutes of stay: seating areas, play areas and aesthetic qualities that respond to environmental conditions are needed at all times. For positive sensory impressions not only good design but also visibility (contrast in colors, illumination) is required.

Hungarian local planning documents	Primary content ³	Opportunities for integrating child-friendly aspects
Urban Development Plans	long, medium and short-term development directions, defining goals, programs, and tools	To formulate approaches for a child-friendly city as a horizontal principle, to identify priority areas and possible related projects by the means of land use surveys.
Local Plans	define spatial and physical frameworks for development, promote functionality and minimize environmental damage, designate infrastructure network, protect valuable assets of landscape	Designate and protect public areas with appropriate purpose and size. Define building rights and uses accordingly.

Act. Table 4 points out the opportunities for integrating child-friendly aspects into these planning documents.

Urban Development Plans define the directions of developments, the goals, and the programs and tools needed to achieve them. Child-friendliness can be added as a goal into these documents, and sub-goals and projects can be described in order to achieve that goal. Based on the survey, it is possible to identify the physical environments used most commonly by children, through a methodology of spatial analysis of use, where the principle should be intensified. Territorial projects in these areas should be selected.

Local Plans primarily define the physical frameworks for development to ensure the city is operational. These plans should provide the spatial locations for the development decisions specified in the municipal development plans. In order to reserve the areas, it is essential to designate the appropriate zoning and

define the child-friendly aspects of the prospective uses and building rights.

Townscape Initiatives serve to protect and shape the settlement, and to support development by social involvement and consensus. The Cityscape Identity Guidebook provides an opportunity to shape this approach, presenting good examples that have already been accomplished and providing qualitative aspects for both public and private spaces. The rules on the use, the shape and materials of buildings may be set as local policies; the way in which green spaces are designed and specific types of buildings are accommodated. The areas affected by the public land use plan can be delimited.⁴

*The Act on the Development and Protection of the Built Environment*⁵ defines the long-term urban development concept (*hosszú távú településfejlesztési koncepció*) and the medium-term integrated urban development strategy (*középtávú integrált településfejlesztési*

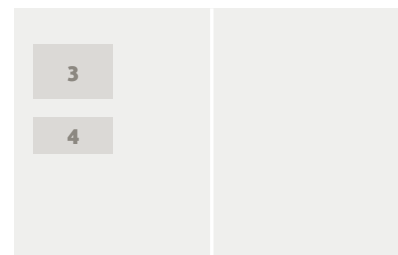


Fig. 3: Outdoor playgrounds in Budapest

Fig. 4: The density of relevant urban areas of children's physical environment in Budapest

³ According to Act LXXVIII of 1997. and Act LXXIV of 2016.

⁴ 314/2012. (XI. 8.) Government Decree on the urban development concept, the integrated urban development strategy, the urban planning tools, and special legal institutions in urban planning 23 / E. §§ 23 / E §

⁵ Act LXXVIII of 1997. Act on the Development and Protection of the Built Environment: "The purpose of urban development and planning is to create an urban structure and a high quality environment for the sustainable future of the community and to improve the quality of life of the population, promoting public interest by ensuring the harmony of national, regional, municipal and legitimate private interests, the enhancement and protection of architectural values and the promotion of environmental-friendly utilization of resources."

stratégia) as mandatory documents of urban development, and defines the local plan and the local planning policies as mandatory urban planning tools. In addition to the mandatory development plans, if their capabilities allow, local governments may also prepare other sectoral plans for the implementation of complex environmental, social and economic objectives, on a voluntary basis.⁶ When preparing additional strategic plans that support mandatory urban development plans, it is worth being aware of international trends and good practices. Existing international child-friendly urban strategic plans (Copenhagen, Vienna, etc.) can be introduced as good examples. It is also suggested to review other related project genres and incorporate the child-friendly aspect into them. **Sustainable Mobility Plans, Green Space Development and Maintenance Strategies and Action Plans, and Urban Renewal or Rehabilitation Plans** can also promote child-friendly urban planning principles.

The municipalities have special legal institutions for the implementation of their urban development objectives (*Act LXXVIII of 1997, § 17*). Of these, we highlight some of the most relevant in terms of ensuring a child-friendly public space design.

The municipality concerned may enter into a so-called **planning agreement** with a person or legal entity wishing to invest in its territory in order to achieve certain municipal development objectives (*Act LXXVIII of 1997, § 30 / A*). With the introduction of the planning agreement, municipalities can have the opportunity to set out a policy prior to the beginning of the development, which cannot be defined in normative regulation and which, among other things, promotes child-friendly environments, for example shopping centres to create a child-friendly environment in the private entrance areas. (Locsmándi, 1999)

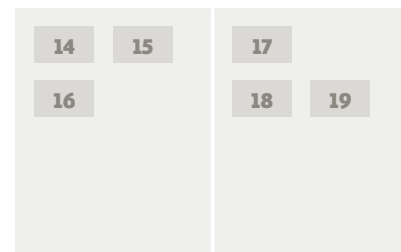
Another special legal institution is the possibility for municipalities to prepare a **Plan for the Development of Public Spaces** (*Act LXXVIII of 1997, § 30 / E*). The plan should include open space and landscape design, pedestrian and motorized traffic, utilities, surface drainage and telecommunication facilities in order to ensure a consistent public space design. The spatial definition, where it is obligatory to draw up this type of plan, shall be laid down in a municipal decree.⁷

In addition to enforcement tools, municipalities can ensure the involvement of children into the development projects through the use of available **social engagement tools** and, after the identification of the target group, by the use of age-specific tools. This involvement is also possible during the preparation of the Urban Development and Settlement Plan or the Townscape Initiatives – especially because the preparation of these plans requires **wide-ranging public participation**. The involvement of children in planning and the implementation of child-friendly aspects can be ensured by the municipality in the case of projects funded or co-financed by the municipality, whenever this is set as a condition for funding. The problem in Hungary is that municipalities are **lacking the tools when it comes to design with children** who are a special user group that need the proper tools and approaches to work with.

Generally speaking, public participation also needs to be improved in Hungary – especially the participation of children in urban development projects. Today's practice relies primarily on the use of **online applications, media and infocommunication tools** (online questionnaires, park user surveys, online community development planning⁸ etc.), but it often does not reach children. Children need special tools and methods to participate and to be heard or formulate an opinion and

⁶ Section 12 (1) of Act CLXXXIX of 2011
⁷ Special policies apply to playgrounds deriving from the European Standards (EN MSZ 1176-1:2018, EN MSZ 1177:2008). These standards show guidance for general safety, playground equipment, surfacing, and critical fall height. Based on the decree of the Ministry of Economy, it is applicable and mandatory also in Hungary from 2003.

⁸ Budapest Dialog is a community urban development site through which both the local residents and local governments can share their development ideas and projects. The interactive interface of the portal helps community development plans to be realized. Members can evaluate, share, and support ideas with not only leaving feedback but with community funding or other offerings (e.g., volunteer work, material donations).



Pict. 14-16: Students voting at the Aquincum School for schoolyard design ideas that were prepared by university students in collaboration with the school students (SOURCE OF PICTURES: BALOGH PÉTER ISTVÁN)
Pict. 17-19: Building together with students Budakalász - Szent István park (SOURCE OF PICTURES: TAKÁCSNÉ ZAJACZ VERA)

wishes. In some aspects, children are also "disabled," as they can lack many of the physical and mental skills needed to use the space - just like people with disabilities (Szaszák, 2018). Children are not able to express their feelings and thoughts easily therefore **structured games** can help them a lot to engage them. The importance of play as a tool in architectural design and urban planning is spreading - **games can not only contribute to design but also create discussion, support critical thinking and improve various skills in children.** (Brković Dodig - Groat, 2019). Education on the built environment aims to develop and use methods that help children to **explore, understand, and actively shape their environment.** Applying methodologies for the education on the built environment can be useful in participation as it improves *civic and participatory skills* and this is especially important in the case of young people (Reicher - Edelhoff - Kataikko - Uttke, 2013; Sebestyén - Tóth, 2013).

There are some good examples in Hungary where children were engaged from the very early stage even to the implementation and maintenance of public space developments - however, these projects are usually related to institutional gardens (Pic. 14-19). Municipalities are realizing more and more the advantages of participation and engagement of the younger generation,⁹ but it is still a long way ahead to **popularize these methods in the development of urban public open spaces**, which can serve **long-term sustainability** of the urban landscape and the community who lives in it. Vandalization can be reduced, local identity and the sense of belonging can be encouraged by engagement. Community planting, painting and crafting or doing minor construction works with kids can **develop a lot of social and cognitive skills and can raise awareness.** These engagement processes are extremely valuable for the young generation while they can contribute to community building in general.

⁹ Several Hungarian settlements or city districts (Tata, Jászboldogháza, Zalaszentgrót, Belváros-Lipótváros, Budaörs, Orosháza, Zalaegerszeg, Alsómocsolád, Bordány, Hajdúnánás, Cigánd, Hódmezővásárhely, Óbuda) have already gained the international recognition of being a *Child-friendly Settlement*. The award is given by UNICEF Hungary for good practices in supporting the rights of children.

CONCLUSIONS

To conclude the paper, if we would like to improve child-friendly urban landscapes, a systematic approach is essential. **Creating strong links** between the child-friendly destinations, formal or informal educational environments, is crucial in order to achieve improvements that children can really benefit from. Playscapes are especially important for streets, boulevards, greenways or other linear urban open space elements.

Another important message is that we need to **develop the tools for engaging children.** Landscape architects should be more open to related professions (teachers, sociologists, psychologists etc.) in order to gain knowledge that is useful for understanding the needs and interests of this special user group. A democratic approach is essential to create successful child-friendly cities.

The way we deal with our environment gives a message to the future generations. Paying more attention to

our kids is important not only for their healthy development but also serves the long-term goals of our communities. For example, playgrounds - in addition to serving the needs of children - are important places for socializing for the different generations (Beleznay, 2011). Placing children at the heart of urban planning and design will lead to **more lovable, livable, sustainable, safe and inclusive cities for all.** The fundamental principle is now more real than ever: *"A city good for children, is a city good for all."* (Stipo, 2018)

No doubts that designers, planners, and developers have responsibilities in creating more child-friendly urban landscapes. The first step is to fight the ignorance towards children's rights and needs and to **understand their different way of perception.** Being open to this special user group will help us to build a better world that is more sensitive to minorities, and a more creative, playful, tolerant, healthier, greener, and safer environment. A better place to live in. ©

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GYERMEKBARÁT VÁROSI SZABADTEREK

- A GYERMEKBARÁT SZABADTÉR JELENTÉSE ÉS SZEMPONTJAINAK ÉRVÉNYESÍTÉSI LEHETŐSÉGE MAGYARORSZÁGON

A városi szabadterek tervezésében világszerte egyre nagyobb hangsúlyt kap a gyermekek nézőpontja. Habár a gyerekek fejlődésére igen nagy hatást gyakorol a szűkebb és tágabb környezet, amelyben felnőnek, mégis legtöbbször igen kevés lehetőségük van – vagy egyáltalán nincs lehetőségük – beleszólni vagy meghatározni annak alakítását. A felnövekvő generáció környezethez, városi tájhoz, szabadterekhez való kötődése alapvető fontosságú egy felelősségteljes és fenntartható jövő megalapozásához.

Jelen tanulmány röviden áttekinti a városi környezet szerepét a gyerekek életében, különös tekintettel a szabadterén végzett játékos tevékenységekre. A városi környezet a gyerekek számára alapjaiban változott meg a motorizáció megjelenésével: a közterei szabad játék egyre inkább az intézményi, kontrollált területekre szorult vissza. A gyermekek szabadterei játéklehetőségei egyre csökkennek, „szabványosodnak”. A napjainkban egyre hangsúlyosabban megjelenő gyermekbarát városok eszméje ezt a negatív folyamatot igyekszik kompenzálni.

Szerte a világban számos kutatás és kezdeményezés foglalkozik a témával. Tanulmányunk a jelenleg érvényben lévő két fő várostervezési irányelvet mutatja be, értelmezi. Egyik a gyermekek számára dedikált városi helyek mennyiségének növelése, minőségének javítása: itt fontos a standardizáció, olyan új szabályok, szakmai iránymutatások meghatározása, amelyeket be lehet tartatni. A másik irányvonal azoknak a folyamatoknak a koordinálása, amelyek a városi szabadterek általános minőségének javítását, gyermek-kompatibilisebbé tételét tűzte ki célul. Ez utóbbi a fiatalok bevonását szorgalmazza a városi szabadterek általános fejlesztésére, játszhatóbbá tételére teszi a hangsúlyt.

A kutatás a gyermekbarát város elméletének különböző gyakorlati stratégiáit is értékeli, értelmezi. Megvizsgálja, hogy milyen elvek alakítják a gyerekbárát városokat, majd a széleskörű áttekintés után magyarországi kontextusba helyezi az elméleteket. A hazai környezetpszichológiai publikációkból kiindulva azonosítja a városi términtázatban a gyerekek fejlődésének szempontjából legfontosabb helyszíneket, amelyeknek a sűrűsödésben kiemelten fontos figyelembe venni a tervezés során a gyerekbárát szempontokat. A metodika illusztrálásához a cikkben a mintaterület Budapest.

Azok a városi szabadterek, amelyek előtérbe helyezik a gyerekek szempontjait biztonságosabbak, izgalmasabbak és aktívabbak. A gyerekek jelenléte a városi szabad tereken a szülők szocializációját is segíti, növeli a közösségi interakciókat, ezért szociális katalizátornak tekinthetők a városi környezetben. Ami a gyermekek számára érdekes, az a felnőtteknek is az – gyerekbárát városi szabadterek tervezésénél fő szempont a kreativitás, a megszokott sémáktól való elszakadás. A gyerekek valódi mércéi az élhető és szerethető városoknak, ezért mindannyiunk érdeke, hogy a gyerekek szempontjai hangsúlyosabban megjelenjenek a városi szabadterek tervezésében. Ennek érvényesítésére keresi a kutatás a lehetőségeket a magyar településfejlesztési környezetet meghatározó tervtípusok és jogi eszközkészlet elemzésével. Ennek során a rendszerszemlélet és a részvételi tervezés kettőségének fontosságára hívja föl a figyelmet, hiszen ezekkel a módszerekkel érhető el egyszerre minőségi és mennyiségi fejlesztés. ©

FROM THE BISHOP'S ESTATE OF THE 19TH CENTURY TO THE CAMPUS OF THE 21ST CENTURY ZÁGRÁB, MAXIMIR PARK. 19. SZÁZADI PÜSPÖKI BIRTOKBÓL 21. SZÁZADI EGYETEMI CAMPUS

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ABSTRACT

In this paper, the development of Maksimir Park from an archdiocesan forest and agricultural estate of the 18th century through the foundation of the first city park and a bishop's exemplary agricultural estate of the 19th century to the present will be analysed and introduced.

The design of Maksimir park was initiated by Bishop Maksimilijan Vrhovac, and was further developed by archbishop Juraj Haulik. Haulik completed Maksimir Park and created a model estate based on the highest contemporary achievements of the agricultural profession. In addition to producing food for the needs of the Zagreb Archdiocese, the estate was open and accessible to all citizens and visitors. Located outside the city, "not far from Zagreb", it has equally served for the education of the local farmers as well as for the education of the citizens. At the beginning of the 20th

century, the land of the estate was purchased by the state for the purposes of today's Faculties of Agriculture and Forestry, who are further developing and adapting it to their needs.

The goal of this paper is to review primarily the educational roles of Maksimir Park and Estate, which were recognized already at the time of their emergence, the changes that have occurred due to the development of the two faculties and, most importantly, to determine the opportunities for their future development. The park renovation and its adaptation to contemporary needs, especially the further development of the faculty estate as a more open ground for contemporary methods, aimed at solving current problems of global warming, sustainable and ecological agriculture, achievements in collecting, purifying and reusing rainwater, and ultimately, contemporary trends in landscape design. The reopening of the institution and its resources to both

interested agricultural producers and the greater urban audience, involves an enormous educational potential (not only of local but also national character) that our faculties have yet to face.

1. INTRODUCTION

Green infrastructure can be considered as one of the main structural systems of the contemporary city within which public green spaces are of a particular importance. Although the need to create public spaces had already been recognized by the Assyrians, it was not until the 19th century that planning of green systems began (Boston Emerald Necklace by F. L. Olmsted), while the formal recognition of the status and the role of green spaces in the city was defined by the Athens Charter in the first half of the 20th century. Ogrin (2010) divides the role of urban green spaces (natural or designed) into active and passive, where the former one refers to the structural function in the city (opening up the urban grain, defining the city, designing/shaping the image of the city) and the latter one implies all functions needed by citizens for active uses (walking, playing, sports and recreation etc.).

The emergence and the increased number of public parks in Europe and the United States was a consequence of the Industrial Revolution when the importance and impact of parks on improving the quality of citizens' lives was recognized. Since then, during the two hundred years of its development, the public park has undergone significant changes and conceptual transformations, and has even been "a training ground for projecting diverse ideological views" (Ogrin, 2010).

The rapid development and the significant economic, social and cultural changes in the 20th century led, on the one hand, to the development of a diverse park typology and, on the other, to the enrichment of the park programmes, and thus the contemporary city parks can be considered the most complex public spaces in terms of meeting citizens' needs. Unlike the first public parks, which were primarily designed for walking and relaxation of all city residents, a contemporary park that meets the needs of the city residents must, in a structured or unstructured way, simultaneously fulfil a number of significantly different functions - recreational, cultural, health and well-being, ecological, imitation of nature, educational etc.

In order to propose an integrated strategy for the development of Maksimir Park, its historical evolution and the potential for its future transformation should simultaneously be considered from various aspects (spatial, heritage conservation, social etc.), which by far exceeds the purpose of this publication. In this paper, the development of Maksimir Park from an archdiocesan forest and agricultural estate of the 18th century through the foundation of the first city park and a bishop's exemplary agricultural estate of the 19th century to the present will be analysed and introduced, with the goal to review, primarily, the educational roles of Maksimir Park and Estate, which were recognized already at the time of their emergence, the changes that have occurred due to the development of the two faculties and, most importantly, to determine the opportunities for their future development.

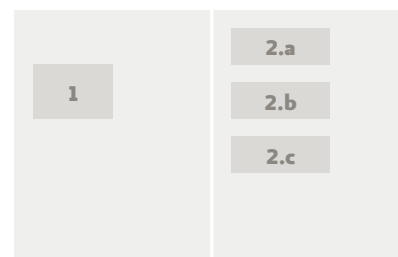
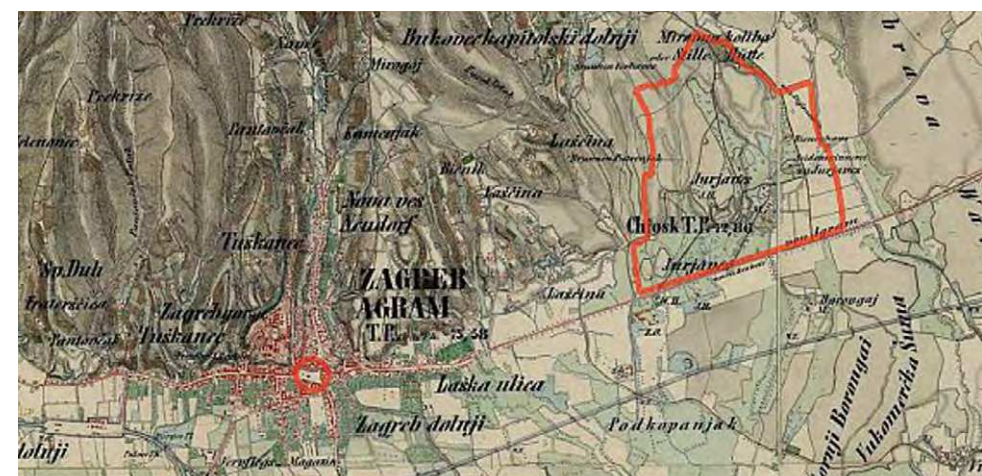
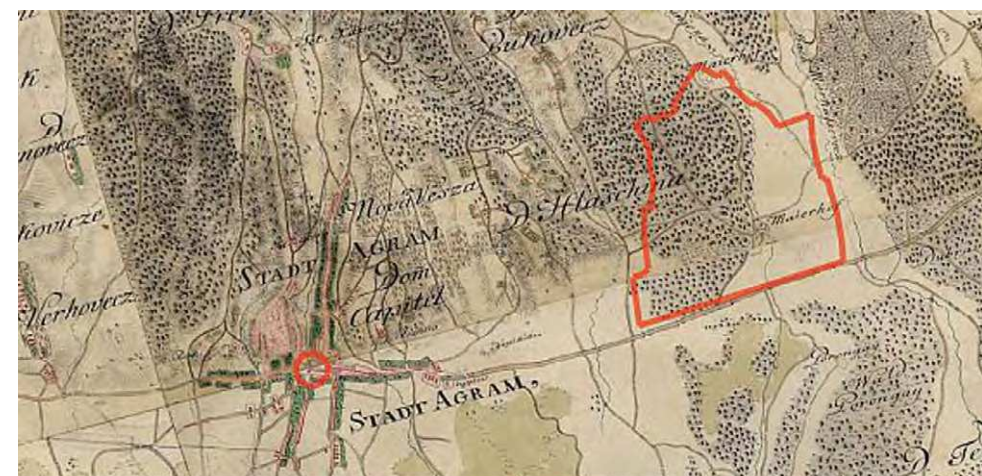


Fig. 1: Maksimir Park in the context of the City of Zagreb, 2020 (SOURCE: HTTP://PREGLEDNIK.ARKOD.HR; CENTRE AND PARK ADDED BY THE PAPER AUTHORS)

Fig. 2.a: The park location and its surroundings, 1783-1784 Provinz Kroatien, First Ordnance Survey of the Habsburg Empire (MOLNÁR ET AL., 2014); **Fig. 2.b:** 1865-1869 Croatia, Second Ordnance Survey of the Habsburg Empire (TIMÁR ET AL., 2006); **Fig. 2.c:** 2020 Aerial view (SOURCE: HTTP://GEOPORTAL.DGU.HR; CENTRE AND PARK BOUNDARIES ADDED BY THE PAPER AUTHORS)



2. DEVELOPMENT OF MAKSIMIR PARK

Maksimir Park was part of the several hundred hectare central diocese (archdiocese since 1850) property located a few kilometres from the City of Zagreb since the 13th century (Mudrinjak, 1982). The land of the estate extended between the southern slopes of Medvednica Mountain and the Pannonian Plain (Sava River Plain) in the northeastern part of the city (Fig. 1). The northern and western parts of the estate were covered by old dense oak forest with numerous gullies and were used only for hunting and logging, while the eastern and southern parts of the estate, surrounding the forest, were covered with arable land and meadows (Fig. 2a).

It should be emphasised that, until the unification in 1850, the city of Zagreb consisted of two small medieval settlements Gradec and Kaptol (the seat of the Zagreb diocese) with a total population of only 10,000 inhabitants at the beginning of 19th century and about

15,000 in 1850. These facts are even more interesting regarding that at that time the entire city occupied an overall area of 150 hectares and the Maksimir Park 402 hectares (according to Mudrinjak (1982) the total area was even 650 hectares, 192 ha of which was park, 191 ha arable land, 58 ha meadow, 173 ha forest etc.). Today, the City of Zagreb has a population of about 800,000 inhabitants, the park occupies an area of 316 hectares and it is located closer to the city centre than to the peripheries of the city (Fig. 2c).

The decision to transform the land of the bishop's estate into a city park was made by Bishop Maksimilijan Vrhovac (1752-1827) in 1787, but the final design of the park is attributed primarily to (Arch)bishop Juraj Haulik de Varally (1788-1869). The peculiarity of Vrhovac's original idea of Maksimir Park from the very beginning is the formation of three distinct spatial and functional parts: a forest in the northern part (existing), a designed public park in the southern/

south-eastern part (mostly within the existing forest) and an agricultural estate in the eastern part (existing agricultural fields and meadows) of the area (Fig. 2b).

Vrhovac conceived the park in a geometrical, Baroque style, and even though, unfortunately, the original plan has not been preserved, a detailed description was published in the album Park Jurjaves in 1853. Although the author is not explicitly mentioned, it certainly originated under Haulik's supervision (Žmegač, 2002). The only known and preserved elements from

that time, which are still noticeable today, are the entrance and the main alley ending with an elevated view-point (a kiosk was built later by Haulik) from which distant views were provided through ten linear, star-shaped forest openings (only the main alley has been preserved). His successor Bishop Aleksandar Alagović (1760 - 1837) decided to redesign the park in the English landscape style, but the final concept and park realization is from the mid 19th century by Archbishop Haulik with the help of Vienna masters - Michael

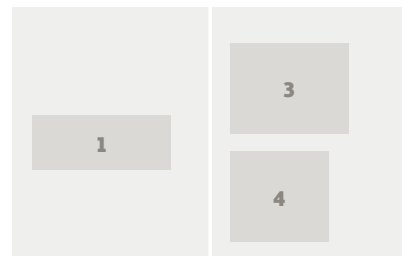
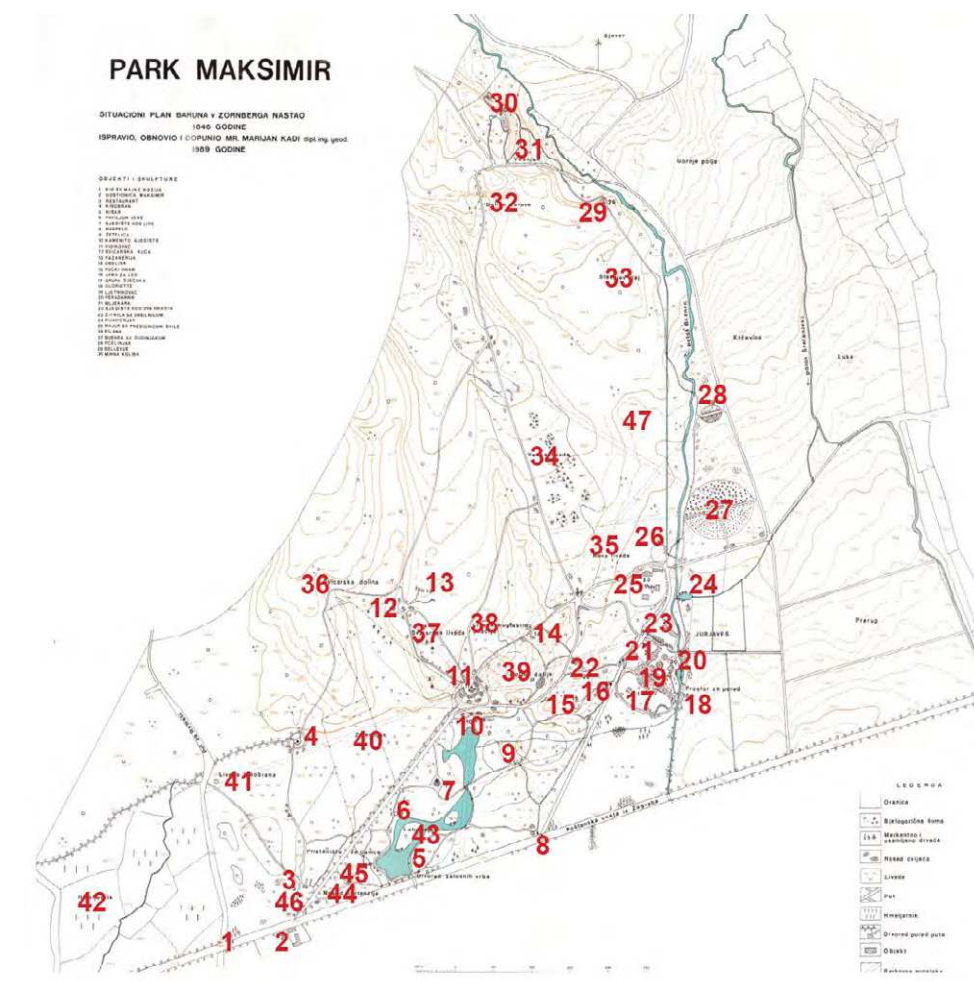


Table 1: Architecture, sculptures, gardens and groves in Maksimir Park
Fig. 3: The Zornberg map, 1846 (SOURCE: NATIONAL AND UNIVERSITY LIBRARY IN ZAGREB)
Fig. 4: Maksimir Park – The Zornberg plan from 1846 / corrected, renewed and updated by M. Kadi in 1989 (SOURCE: NATIONAL AND UNIVERSITY LIBRARY IN ZAGREB; RED NUMBERS ADDED BY THE PAPER AUTHORS)

Legend: **1.** St. Mother of God, **2.** Old Tavern Maksimir, **3.** Restaurant, **4.** Umbrella pavilion, **5.** Fisherman from Naples, **6.** Echo pavilion, **7.** Seat at two oaks, **8.** Crucifix, **9.** Barn, **10.** Stone seat, **11.** Kiosk, **12.** Swiss house, **13.** Pheasant farm, **14.** Obelisk, **15.** Public temple, **16.** Ice pit, **17.** A group of boys, **18.** Gloriette, **19.** Hauliks' villa, **20.** Poultry farm, **21.** Dairy farm, **22.** Seat at two oaks, **23.** Barn, **24.** Leech pond, **25.** Grange with Silk house, **26.** Sawmill, **27.** Silkworm house with mulberry trees plantation, **28.** Apiary, **29.** Bellevue, **30.** Peaceful cottage with vineyard, **31.** Orchard, **32.** Pine valley, **33.** Nightingale grove, **34.** New meadow, **35.** Big meadow, **36.** Swiss valley, **37.** Swiss meadow, **38.** Acacia meadow, **39.** Dahlia valley, **40.** Menagerie (Deer grove), **41.** Umbrella valley, **42.** Hop plantation, **43.** Swan islet, **44.** Hydrangea garden, **45.** Gatekeeper's cabin, **46.** St. Juraj, **47.** Birch cottage (1-30 ORIGINAL MAP LEGEND, 31-44 DESCRIBED ON THE MAP, 45-47 ADDED BY THE PAPER AUTHORS)

ARCHITECTURE		SCULPTURES	GARDENS AND GROVES	
[N] Old Tavern Maksimir (2)	[E] Hauliks' villa (19)	[E] St. Mother of God (1)	[R] Linden seat (7)	[N] Swiss meadow (37)
[E] Restaurant (3)	[E] Poultry farm (20)	[R] Fisherman from Naples (5)	[R] Stone seat (10)	[R] Acacia meadow (38)
[N] Umbrella pavilion (4) / [E] Mogila at same location from 1925	[E] Dairy farm (21)	[E] Crucifix (8)	[N] Ice pit (16)	[R] Dahlia valley (39)
[R] Echo pavilion (6)	[N] Barn (23)	[N] Reaper woman (9)	[N] Hauliks' villa garden (19)	[N] Menagerie (Deer grove) (40)
[R] Kiosk (11)	[N] Leech pond (24)	[E] Obelisk (14)	[N] Seat at two oaks (22)	[E] Umbrella valley (41)
[R] Swiss house (12)	[N] Majur with Silk house (25)	[E] A group of boys (17)	[N] Mulberry plantation (27)	[N] Hop plantation (42)
[N] Pheasant farm (13)	[E] Sawmill (26)	[N] St. Juraj (46)	[N] Apiary garden (28)	[R] Swan islet (43)
[N] Public temple (15) / [E] St. Juraj's chapel at same location from 1864	[E] Silkworm house (27)		[N] Orchard (31)	[R] Hydrangea garden (44)
[N] Gloriette (18)	[E] Apiary (28)		[R] Pine valley (32)	
	[N] Bellevue (29)		[N] Nightingale grove (33)	
	[N] Peaceful cottage (30)		[N] New meadow (34)	
	[R] Gatekeeper's cabin (45)		[N] Big meadow (35)	
	[R] Birch cottage (47)		[N] Swiss valley (36)	

LEGEND: [N] NON EXISTING [E] EXISTING [R] RESTORED
 NUMBERS: SHOWN IN FIG. 4



Riedl, landscape architect (Schönbrunn, Laxenburg and Hetzendorf), Franjo Serafin Körbler, gardener, Franz Schücht, architect (Laxenburg), Josip Käszmann, sculptor, Leopold Phillip, head of construction works, Anton Kothgasser, stained glass master, Eduard Gurka, engraver and painter, and Haulik also employed quite a few of Zagreb masters. Engaging known and recognised contemporary experts from all relevant professional fields also illustrates the importance that Haulik attributed to the concept and integral design of the park. Haulik keeps the basic park division into the public park and the agricultural estate as well as the main built elements of the Baroque composition, and integrates them into a new English landscape style design.

Using existing natural features (gently rolling topography, water features / streams and dense forest) as a design starting point, a remarkable plasticity of the composition, was achieved (Rechner Dika and Toorn, 2018). In the period 1838-1843, Haulik carried out extensive works - opened broad meadows by clearing the dense forest, constructed roads, pathways and bridges, and numerous buildings (Table 1), excavated the first two lakes, placed many sculptures and pavilions (Table 1) and introduced diverse plants (trees, bushes including exotic species) and forms of planting (Dahlia Valley, rose garden etc.). It needs to be added that, in spite of a significant, formal change in the design paradigm (from Baroque geometry to

English landscape style free curvilinear forms), in reality, the "park was built simultaneously with the overlapping of these two ideas" (Rechner Dika and Toorn, 2018). As it was noted by the same authors, the actual geometry of the characteristic elliptic plantations in Dahlia valley, around the Silk house and the Apiary, also oppose the concept of free, English landscape park design. The original idea of a Baroque star-shaped forest with linear openings was also integrated into the new design. As it is visible on Zornberg map (Fig 3.), there are nine linear forest openings mainly directed towards new buildings constructed by Haulik (only the main alley is from the original Baroque layout). Žmegač (2002) questions if the openings were actually made, and suggests they should be understood as a programme planned for the future. Nevertheless, besides the main alley, their function was only to achieve visual connections between important buildings in the park and the estate.

It can be concluded that the result of this approach is "a subtle superposition" of two distinctively different design approaches and philosophies, which "can be considered as a unique design value of the Maksimir Park" (Rechner Dika and Toorn, 2018).

3. AGRICULTURAL ESTATE IN THE 19TH CENTURY

Although the agricultural estate (Mayerhof / Majur) was established by Vrhovac at the beginning of the 19th century (Žmegač, 2002), Haulik is solely responsible for its prosperity. Haulik's advanced and farsighted vision, as

well as intentions for the further development of Maksimir Park, are best described in a letter he wrote to the Royal Hungarian Council in 1843: "to give the poor who want to work an opportunity to earn a living, to help diligent craftsmen and other civic skills, I as a head of the Croatian Economic Society, set a model for conducting agriculture on reasonable economic principles, to encourage more noble gardening and to raise the taste and decorate not only the city but also the whole surrounding area, and finally for the local people to have places with innocent natural delights where they can refresh their souls, tired of public or serious business" (Mudrinjak, 1974). It is clear that he does not think about Maksimir as a public space only for relaxation, rest and leisure, but also, maybe even more so, as a space for teaching and education of the public.

Initially, the main activities in the estate were cattle breeding and poultry farming, dairy farming (milk, cream and cheese production) and various crops were cultivated on the surrounding land (Mudrinjak, 1974). Haulik significantly expands and enhances the estate. The resulting exemplary estate in the middle of 19th century includes an extraordinary variety of farm buildings (described by Ivanković, 2009), agricultural activities and production (Fig. 4): dairy, apiary (including flowers and lime trees for bees), a house for breeding silkworm cocoons (surrounded by 10000 mulberry trees), a house for silk production, an orchard with 2000 trees of different varieties, pheasant farming, deer farming, a poultry farm with various rare poultry species, a brewery, a mill, a sawmill, a pond with turtles,

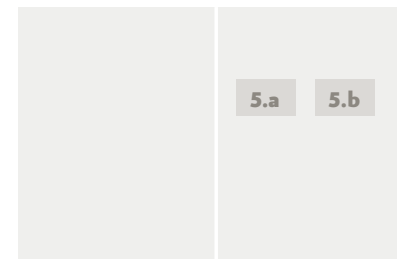


Fig. 5.a: Hauliks' villa, 1900-1905 (PHOTO: UNKNOWN AUTHOR; THE MUSEUM OF THE CITY OF ZAGREB),

Fig. 5.b: 2014 (PHOTO: STANKO ŠTERGARŠEK)



leech breeding for health purposes (Mudrinjak, 1982), a vineyard with several hundred types of vines (Milić, 1960) etc. The same author claims that the agricultural products were exhibited and have received the highest recognitions at European fruit and wine exhibitions, which also illustrates high level and exceptional quality of modern agricultural production at that time.

Near the dairy and pheasant farm Haulik built his summerhouse – a villa (Fig. 5) with a very peculiar landscape design primarily due to the abundant use of plants – flower beds, rose garden, rhododendrons, azaleas etc. The house and the garden were fenced (as well as the rest of the estate), but also open to and for the education of the public. All plants were labelled

so that "besides being fascinated by the variety of colours, shapes, leaves and plants" the visitors could also "practice their botanical knowledge" (Haulik in Janjić et al., 1993).

The integral thinking about Maksimir Park and the estate as inseparable interdependent and interconnected space entities (from the "big scale" down to the smallest detail) is represented by the sculpture of The Group of Boys in the front of the villa (today in the Museum of the City of Zagreb.) Three boys playing with flowers, pigeons and silkworms. One of the boys holds a honeycomb, a hive is in the front and a pheasant, a peacock and a wild duck are at the back – all details indicating agricultural and economical aspects of Maksimir summarized in one piece of art.

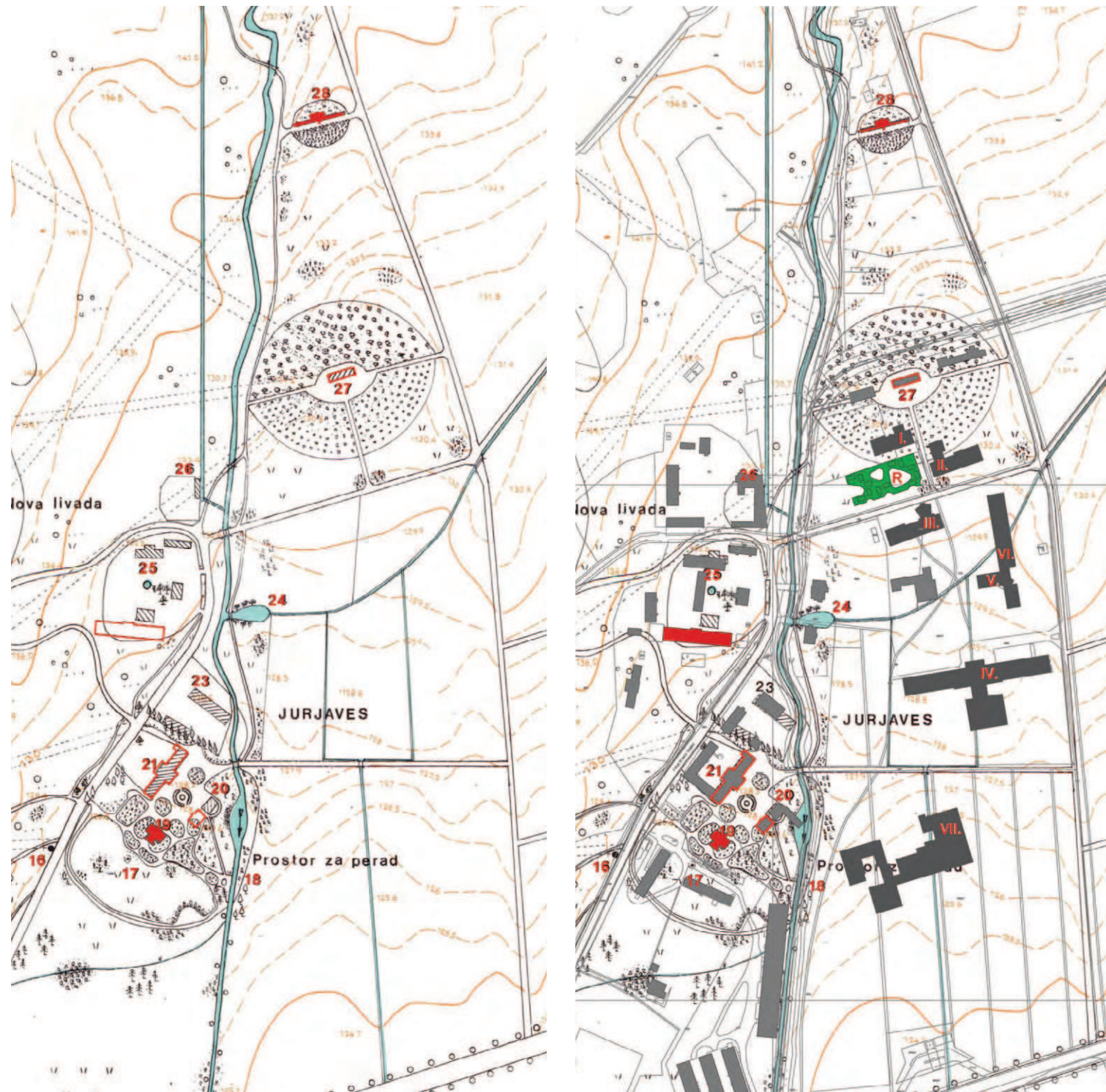
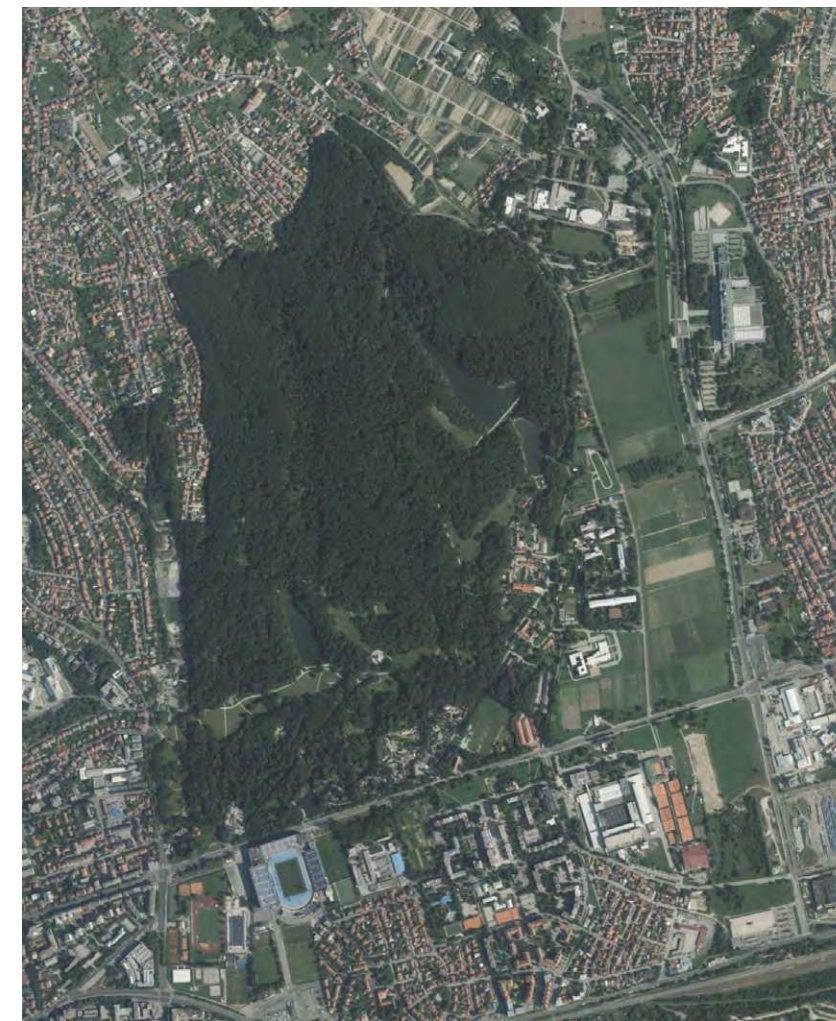


Fig. 6: Part of the Zornberg plan from 1846 / corrected, renewed and updated by M. Kadi in 1989 (SOURCE: NATIONAL AND UNIVERSITY LIBRARY IN ZAGREB; UPDATED BY THE PAPER AUTHORS)
Legend: **16.** Ice pit, **17.** The group of boys, **18.** Gloriette, **19.** Haulik's villa, **20.** Poultry farm,

21. Dairy farm, **23.** Barn, **24.** Leech pond, **25.** Grange with Silk house, **26.** Sawmill, **27.** Silkworm house with mulberry trees plantation, **28.** Apiary, **I.** Pavilion I, **II.** Pavilion II, **III.** Pavilion III (I-III /1932-40, Group Earth), **IV.** Pavilion IV. (1942.- 49.,

R. Nikšić), **V.** Pavilion V (1975.- 79., H. Auf-Franić, L. Pleština, B. Radimir), **VI.** Pavilion VI (1997.- 2002., H. Auf-Franić, V. Olujić), **VII.** Faculty of Forestry pavilion (1992.-99., Architects Vulin - Ileković) **R.** Restaurant (2014-today, 3LHD)

Fig. 7: Aerial view, 2016 (SOURCE: HTTP://GEOPORTAL.DGU.HR)



The golden era of Maksimir unfortunately ends with Haulik's death, and a long period of gradual deterioration and decay begins.

4. THE FACULTIES OF AGRICULTURE AND FORESTRY IN 20TH CENTURY

The beginning of the 20th century brings significant changes - the Zagreb Archdiocese sold the property, and the public Maksimir Park fell under the management of the City of Zagreb, and

the estate section (including all existing buildings) was given to today's Faculty of Agriculture and Faculty of Forestry in 1922. The forest in the northern part of Maksimir Park was dedicated to scientific research and teaching for the purposes of the Faculty of Forestry, while the agricultural areas, along with all the estate facilities, for the needs of the Faculty of Agriculture (Mudrinjak, 1982).

The expansion of both faculties caused the most significant and irreversible changes (Fig.6) - new pavilions

I, II and III were built in the estate area along Haulik's axis extending from the Silkworm house. This spatial concept was abandoned with the construction of the sizable pavilion IV, towards which pavilion V and VI were later oriented forming a relatively isolated central park (campus) space. The completely separated large pavilion of the Faculty of Forestry was built in the middle of experimental fields and is oriented towards Maksimirska Street.

During World War II, a series of military buildings, of exclusively

utilitarian value (the so-called "camp") were built south of Haulik's summer house. Both the quality of their design and construction and the overall layout do not respect the existing spatial values of the complex. A number of smaller buildings were built during and after WW II without an obvious urban plan (Milić, 1960).

Most of the 19th century estate buildings have changed their purpose, some have been demolished, but it should be noted that Haulik's villa was partially renovated for the needs of the



Fig. 8: Experimental fields with greenhouses (PHOTO: STANKO STERGARŠEK, 2020)

Fig. 9: The Old Stable (PHOTO: STANKO STERGARŠEK, 2014)

Fig. 10: Apiary (PHOTO: STANKO STERGARŠEK, 2015)



School of Landscape Architecture (the building was declared as the "Home of Landscape Architecture" in the plans).

A comprehensive analysis of the Grange / Campus area from the end of the 20th century shows that, despite the fact that well-known and renowned architects were hired to design new buildings, a certain absence of integral development vision is apparent (Fig. 7).

The use of agricultural fields for scientific and teaching purposes contributed to preserving the original educational role of the estate, while at the same time protecting the entire (eastern) valley from Maksimir to the Štefanovec Stream (where a Police Academy was built in 1960) from intensive expansion of the urban tissue that has changed all the other park boundaries and has reduced the park's area.

Agricultural fields are still used today (Fig. 8) for experimental cultivation of numerous crops, which enables agriculture students to gain practical knowledge during their studies. Several Departments at the Faculty of Agriculture have dedicated areas with fields and/or greenhouses for conducting experiments with different crops and cultures, genetic research, growing of medicinal and aromatic

herbs, vegetables, an orchard with about 40 cherry varieties and several varieties of apples, pears, plums etc.

The central campus area has been transformed in the middle of the last century as a joint project of both Faculties under the leadership of professors Ivo Pevalek, Elza Polak and Mirko Vidaković. Existing vegetation was enriched by introducing many different tree species, varieties and cultivars with a total of 112 taxa in 1992 (Zebec et al., 2014). From the very beginning, education was, and still is, one of the estate's basic features, but unfortunately, today only a small central "botanical" campus area is open to the public, while all experimental fields are fenced and inaccessible to visitors.

Also, despite the fact that there is no physical fence between the park and the campus, it is clear that, what was initially intended (and realized) as one integral multifunctional complex, is being developed as two separated units - a public park suffering from neglect and threatened by the surrounding urban development and a propulsive Faculty campus that is developing independently.

It was not until the middle of the 20th century that the cultural and natural

values of Maksimir were recognized: protected as a nature park in 1948 and as a cultural monument in 1964, without considering the different characters of the park and the estate.

5. MAKSIMIR PARK AND CAMPUS IN THE 21ST CENTURY

At the end of the last century, the awareness of the park values raised again and Maksimir Public Institution was founded in 1994 in order to manage the park and protect its natural and cultural values. Although Maksimir "must be understood as a living organism that cannot be treated as a museum or a historical monument" (Jeglic et al., 1985), 21st century brings just such an approach - mostly the existing structures in the park are being restored as well as some parts that have completely disappeared over time. According to the same authors, at the same time "a meaningful adaptation of the park to the needs of modern times" is necessary, but such an approach is still not in the focus.

Haulik's idea of introducing allochthonous species in the park, to create an educational botanical garden was restored and plants were labelled.

In the period 2014-2016, the ZOO has undergone a comprehensive modernization and reconstruction.

It was only in 2019 that a city project co-financed by EU "City windows in the nature - enhancing of urban biodiversity and developing of green infrastructure (Modernization II)" started, and by 2021 twelve various elements of infrastructure shall be built or restored, new urban equipment installed etc. A series of educational programmes and interpretative facilities shall also be developed.¹ The details of this ambitious project are not known, nor can the conclusions about the impact of its realization on the integrity of the historical matrix be drawn, but the intention to strengthen the educational component is clearly visible. From the available data, no effort is visible to involve the Faculty of Forestry or the Faculty of Agriculture with their scientific and professional capacities or spatial resources into this project. The parallel development of the two entities obviously remains a *modus operandi* in the immediate future.

The life of the campus, at the beginning of the 21st century, was marked by a landscape design project (Aničić et al., 2002) as an endeavour to create a representative open space

¹ <http://park-maksimir.hr/o-nama/#projekti>



Fig. 11: Garden for horticulture therapy (PHOTO: STANKO STERGARŠEK, 2020)

Fig. 12: Design & Build structure (PHOTO: A) STANKO STERGARŠEK, 2015, B) IVA RECHNER DIKA, 2015)



in front of the already built Pavilion VI. However, a holistic approach that would encompass the whole campus, and especially the idea of functional and design re-integration with the park, is still lacking.

The renovation and the conversion of Haulik's "Old stable" (Fig. 9) into a research centre (2010 - today) was the first major investment by the Faculty of Agriculture in the restoration of historical heritage, followed by restoration of the Apiary (Fig. 10) (unfortunately only the building) in 2012-2015. In addition to academic education, the Apiary is partially oriented towards working with school children, hobbyists and general public, unlike the Old Stable that, although intended for education, will not be open to the general public.

By building a new student restaurant (2010, still unfinished) that will be partially open to the public and offer food produced at the university's experimental fields and hunting grounds, the centre of the campus is moving northward. Innovative architecture could contribute to the integration of the campus into the public sphere of the park.

Thanks to the collaboration with the restoration department of the Academy

of Fine Arts, in 2010 the restoration research of Haulik's summer house began, which resulted in valuable knowledge of the building, and also the discovery of previously unknown wall paintings (two of which were subsequently restored). Unfortunately, in 2019 Haulik's villa was put out of function, and the landscape architecture school thus lost an important working and exhibition space.

As part of the IPA project "Training as preparation for work in ornamental horticulture" an adequate space adapted for persons with reduced physical and mental abilities was designed (S. Stergaršek, I. Rechner Dika, 2014) and realized (Fig. 11).

At the month-long international workshop for landscape architecture students 'Design & Build 2015', with the participation of about 40 students and professors from Zagreb, Ljubljana (Slovenia) and Seattle (USA) schools, students designed and then built a two-part garden structure² (Fig. 12). The structure is extensively used by students and also frequented by visitors from outside of the faculty campus, showing that such manifestations of the educational process stimulate the interest of the public.

² https://issuu.com/landscape_architecture_zagreb/docs/design_build-zagreb_2015

In 2017, inspired partly by the experience of North Carolina University, USA (project on 'Agroecology Education Farm'),³ the Faculty of Agriculture promoted the idea of transforming the experimental fields into a demonstration space for new sustainable food production technologies with the opportunity of insight and the participation of students and the wider interested public (volunteer work).

The potential of this idea is to address current problems of global warming and to propose solutions through the application of sustainable and ecological agriculture methods, presenting them through high-quality contemporary landscape design on the experimental fields while offering the opportunity for volunteer work to the general public. Haulik's experiences of building self-sustaining artificial lakes (connected to existing streams) need to be upgraded with up-to-date knowledge in collecting, purifying and reusing rainwater, making the processes visible and applicable in both the park and the campus area. Out of these landscape-designed hydro technical interventions (wetlands and other forms of biological water purification), the reconstruction of a special turtle lake from the 19th century is desirable, along

with other new major water bodies within the campus that could be used as a study site for applied zoology (fish farming). The collected and naturally purified water would provide an opportunity for the installation of contemporary irrigation systems, both for the surrounding experimental fields and the units of ornamental horticulture within the campus.

Ultimately, contemporary trends in landscape design including the use of green roofs (with the first one already designed upon a new restaurant), solar and other renewable energy sources, green walls, composting and recycling, and other contemporary, even experimental tools to create sustainability, are all opening up new areas of cooperation with other parts of the academic community. Their implementation in a form presentable to both the professional and the wider audience, as an open laboratory designed using landscape architecture knowledge, presents a great potential for raising awareness of the need to cope with climate change.

The use of modern information technologies for monitoring the process is a necessary part of such a vision, and their use for presentation purposes is no less important. Only a clear reopening of the institution and its

³ http://www.agr.unizg.hr/hr/article/1639/predavanja_gostujući_predavači_s_north_carolina_state_university

resources to both the interested agricultural producers and the large urban audience can lead to the desired results.

The great challenge at the moment is to establish functional cooperation between the two entities – the public park on one side and the two faculties on the other, because only the development of joint projects with a unique vision can lead to the restitution of Haulik's ideal: an educational platform that unites the park and the estate / campus and is open to the interested public. Leaders in this vision should certainly be landscape architects, as professionals who acquire multidisciplinary knowledge in the fields of biotechnology, engineering, humanities and arts during their education.

After restoring the building and the surrounding landscape (sufficient historical data are available), Haulik's villa, as a building with historical and architectural value, has the potential to become an important connecting point between the park and the campus and thus finally bring to life the idea of a "House of Landscape Architecture".

6. CONCLUSION

Archbishop Haulik's comprehensive approach to designing Maksimir Park and the estate as its integral part, in addition to the park's usual recreational purpose, explicitly includes a cultural (to develop good taste), an educational (to encourage more noble gardening) and even a social role (to give the poor who want to work an opportunity to make money), all with the intention that the widest circle of the population be able to enjoy the park and enhance their well-being. Such an approach,

the so-called 'big-picture' is unfortunately not visible in the later development of either the park or the estate.

It can be said that the neglect during the twentieth century has led to a decrease of the original compositional features (the simultaneous existence of Baroque and English landscape style features), the park's spatial values (linear openings and meadows decreased due to forest expansion), and was damaged by aggressive urbanisation along the edges and poor planning within some of its parts. At the same time, only a small number of new elements (children's playground, stage), of questionable value, have been introduced into the park.

At the beginning of the 21st century, efforts were made, in the park and on the campus, primarily to restore a part of the existing elements and to reconstruct some of the historical elements and buildings that have decayed with age. In terms of general public education, these initiatives raise the awareness of the historical and cultural value of particular segments, and to a smaller extent of the entire complex.

Also, the latest ideas promoted for the park through the project "City windows to nature" and the Faculties' initiative to transform experimental fields and open them to the public, show an increased awareness of the educational segment's importance in re-thinking of both the park and campus functions.

However, it is still more about parallel projects and visions / initiatives that only partially consider the integrity of one or the other part, and not both parts in Bishop Haulik's 'big picture' manner. In the near future, there is a chance to use education, in the widest sense of the word, as the main connecting element. ©

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ZÁGRÁB, MAXIMIR PARK. 19. SZÁZADI PÜSPÖKI BIRTOKBÓL 21. SZÁZADI EGYETEMI CAMPUS

A cikk a Maksimir-park fejlődését ismerteti és elemzi a 18. század érseki erdejétől és majorságától kezdve az első városi park és püspöki mintagazdaság megalakulásán át napjainkig.

A Maksimir-park létesítése Vrhovac püspök nevéhez fűződik, fejlesztését később Juraj Haulik érsek folytatta. A Maksimir-park végleges kialakításán túl Haulik egy korának kiemelkedő mezőgazdasági vívmányait felvonultató mintagazdaságot is kialakított. Amellett, hogy élelemmel látta el a Zágrábi Püspökséget, a birtok a városiakok és látogatók előtt is nyitva állt. A városon kívül „Zágrábtól nem messze” fekvő park egyaránt szolgálta a környékbeli földművesek és a városi polgárok képzését, ismereteinek bővítését. A birtokot a 20. század elején vásárolta meg az állam a mai Mezőgazdasági és Erdészeti Karok számára, amelyek azt jelenleg is hasznosítják és igényeiknek megfelelően alakítják.

A cikk célja, hogy áttekintést adjon a Maksimir-park és birtok kezdetektől fogva elismert oktatási szerepéről, a

karok fejlesztése nyomán bekövetkezett változásokról, és legfőképpen, hogy meghatározza a jövőbeli fejlesztés lehetőségeit. A park felújítása és a jelen kor igényeinek megfelelő átalakítása, mindennek előtt az egyetemi campus kortárs megoldásokra nyitott fejlesztésével, a klímaváltozás kihívásainak kezelésére, a fenntartható ökológiai gazdálkodás megteremtésére, a csapadékvíz gyűjtésének, tisztításának és hasznosításának megoldására, a park megjelenésében pedig kortárs elemek alkalmazására irányul. Az intézménynek az érdeklődő mezőgazdasági termelők és a szélesebb városi közönség számára történő újbóli megnyitása jelentős oktatási és szemléletformálási lehetőségeket rejt magában (nem csupán helyi, hanem országos szinten is), amelyre a karoknak a jövőben fel kell készülniük. ©

SPATIAL THEORY ANALYZIS ON THE BORDER OF PRIVATE AND PUBLIC SPACE TÉRELMÉLETI ELEMZÉS A PRIVÁT TÉR ÉS A KÖZTÉR HATÁRÁN

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ABSTRACT

One of the foundations of the liveable downtown areas is the well-functioning ground floor zone on the border of private and public space. The aim of the study is to get to know the “urban ground floor” and to summarize the domestic and international technical literature of the topic. In addition, the establishment of a multi-scale typology of the characteristics of the ground floor zone on the basis of the contemporary urban planning literature.

The analysis provides a historical overview of the urban ground floor from the perspectives of spatial, space use and space management from the Middle Ages to the present. It then groups the existing urban ground floor concepts according to the focus of the approach, based on the domestic and international technical literature. Finally, based on spatial, space use, and space management perspectives it explores the criteria of the

human-scale urban ground floor grouped on the scales of the “neighbourhood,” “street,” and “building”.

The study explores the diversity of urban ground floor structures. Nevertheless, it highlights that the interpretations of the urban ground floor by thinkers opposed to modern architecture still provide a stable foundation today. Exploring the criteria of spatial theory, space use and space management on the urban ground floor helps to formulate theoretical and practical, complex development responses. The study draws attention to the importance of continuous monitoring of the changes in space usage concerning the ground floor and the use of progressive tools of urban development and space management. It emphasizes the importance of a foresight strategy for the development of the ground floors, based on emerging local needs, existing functions, and, in addition to social and environmental aspects, management and economic aspects leaves scope.

INTRODUCTION

Liveable urban open spaces¹ and the living ground floor zone² of the connected buildings gain importance in contemporary urban areas. In the study, we examine the border zone occurring on and overlapping the boundaries of external and internal space between private and public areas.

The purpose of the spatial theory analysis is to summarise and approximate the concepts of the “urban ground floor” of the domestic and international technical literature and to draw the attention to the importance of the urban ground floor zone existing as an individual entity in the urban fabric. The introduction to the analysis overviews the changes in the boundaries of the private and public areas and the structures of the transforming urban fabric during history, where it also focuses on the characteristics of space use in addition to the spatial changes of the ground floor zone. It then groups the concepts of the urban ground floor based on the technical literature determining today’s urbanism. The key objective of the analysis is to establish a multi-scale typology about the features of the liveable urban ground floor on the scale of the “neighbourhood”, the “street” and the “building” about the technical literature, where the features of urban space management can also gain ground besides the presented spatial and space usage criteria.

THE BORDER OF PRIVATE AND PUBLIC SPACE

The quality of the border between private and public areas and the process of its changes in the urban landscape says a lot about the given culture, age or society. We will review the structures of the European urban ground floor historically forming on the border of private

and public areas and its structures characteristic of the given era. The historical overview focuses on the spatial theory and space usage changes of the urban ground floor and the appearance of the space management features.

The urban fabric is structured as an intertwined chain of public and private areas, which we can also characterise with the changes of space usage. The streets and squares, spaces accessible for the public without limits, are the venues of public life while public access to the buildings standing on the connecting plots is partly or fully limited as they are areas of public life. Between the public and private spaces, there are border spaces or transient spaces, where the scale of public access regulates to what extent the space is open or closed to the city dwellers.

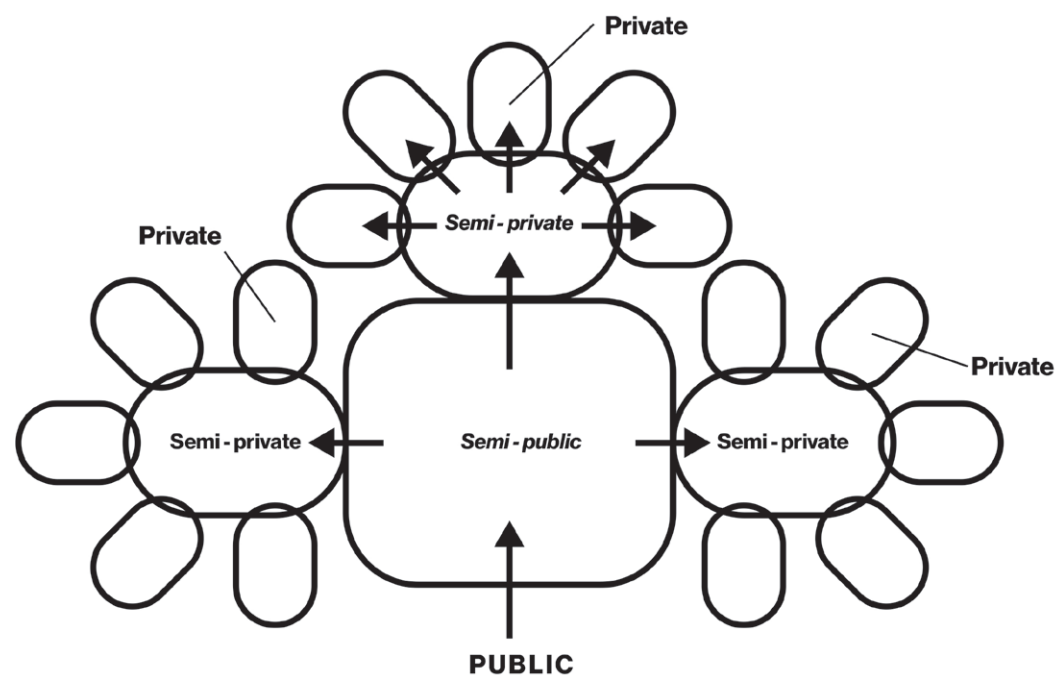
In Newmann’s figure and in his definition regarding space usage, we can see how spaces of private and public use are intertwined, inclusive of transient spaces, which delimit safe semi-private and semi-public spaces (figure 1). This is what Melinda Benkő writes about the topic in her thesis: “The transition itself often becomes a space, delimiting and, at the same time, connecting the areas of varying function and supervision as a kind of threshold. It is a surplus in space with extra functionality: it prepares you for the change, helps communication between community and private areas, and, at the same time, filters the interacting effects of ‘in and out’”. (Benkő, 2005, p. 39.)

The medieval city

Several factors affect the spatial theory features of the medieval European city. The expansion of commerce is favourable for the development of the cities lying along rivers, seas or trade routes, while it also provide base materials for the evolving artisanal industry, guilds and manufactures. The medieval cities are protected against enemy interventions

¹ Urban open space: the (“empty space”) parts of the unbuilt space in the settlement, formed with landscaping tools and opened up for human use. (Balogh, 2004, p. 9.)

² Ground floor zone (plinth): ground floor of the buildings (Krassenberg, 2016, p. 15.)



with defensive walls, which also set limits to the growth of the city and is responsible for the densely built-up urban fabric. In his famous book,³ architect and art historian of Viennese origin, Camillo Sitte, emphasises the beauty of medieval urban spaces in addition to the ancient agora and forum. The appearance of the streets in the walled medieval cities is affected by the fact that the city functions as a kind of work organisation where the division of labour is advanced. In the organically developed narrow city street, the shop of the merchants and artisans were located on the ground floor, while the upstairs area played the residential function. The boundary of the private and social spaces is blurred; the space of the downstairs shop or workshop forms the semi-private zone within the building, which is periodically open to the general public as well. The semi-public transient space, or human zone, in the street outside the shop is adapted in accordance with the given function and a number of trade signs, boards, shop-windows and shop fronts appear in the streetscape. According to today's determining Danish architect and urban designer, Jan Gehl, the urban open spaces of the medieval city are genuinely of a

human scale and they still offer suitable urban living space for today's people. Giambattista Nolli's map of Rome from 1748 depicts the public and semi-public spaces accessible for city dwellers without or with limitations in white colour, regardless of whether they are public spaces or semi-public spaces in the ground floor area of buildings, while the private spaces are shown in black on the map (figure 2). "Such a representation reveals internal and external relationships that are important to us when they present all the "spiritually open spaces" (Balogh, 2004, p. 9). Nolli's map of Rome and his depiction of the urban fabric is really progressive and it is still a reference basis; the mindset it conveys helps us understand the complexity of the urban ground floor and drives us to examine the relationships of space usage. Regarding the space usage features of the medieval city, it has to be emphasised that the population in certain cities⁴ had general freedoms, which means progress compared to the antiquity and it is reflected in the unlimited use of public spaces. The representation of the ecclesiastical and secular power takes place in the main square, where the space is surrounded

³ Sitte, C. (1889): *Der Städte-Bau nach seinen künstlerischen Grundsätzen*, Vienna, 216 pp.
⁴ *In the free royal towns in the territory of today's Hungary.*

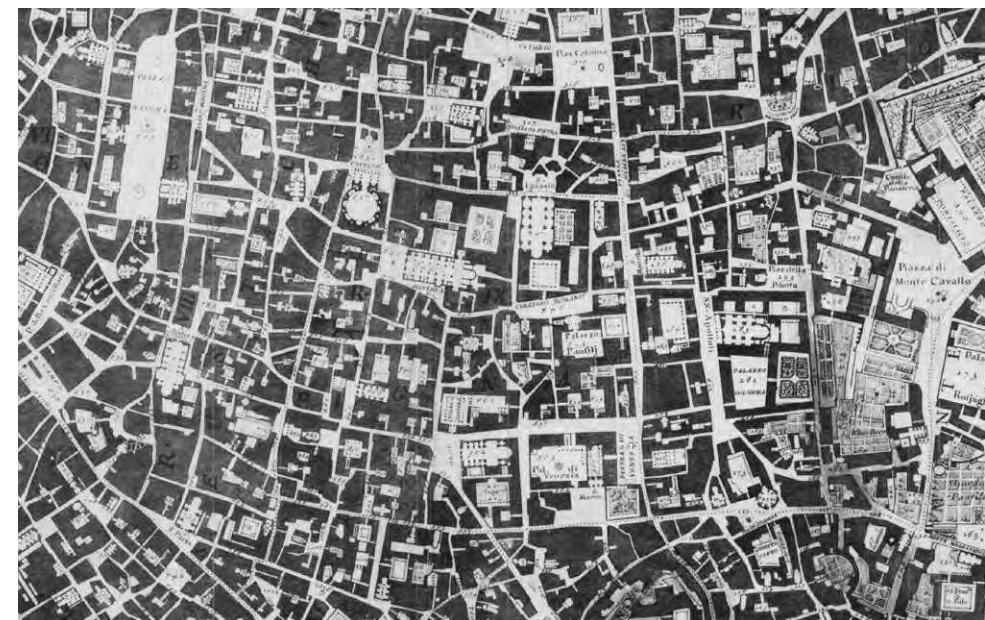


Fig. 1: The system of private spaces and spaces open to the public (Newmann, 1972, p. 41.)

Fig. 2: Giambattista Nolli – Map of Rome (1748)

by the church, the town hall and the aristocratic palaces. Space usage is thematised by the religious events, celebrations and the weekly organised fairs. The power is concentrated and the weight of public life and politics is shifted from the public spaces to closed buildings, such as aristocratic and religious institutions. (Carmona, 2008, p. 25.) Siena's Piazza del Campo well represents the features of the medieval city, providing a good example to this day for the planning of public spaces of a human scale. The main square, faithfully presenting vivid medieval urban life, was originally built to be a market area and a main square representing secular power. The square is dominated by the Palazzo Pubblico, the town hall, with its prominent belfry and the square is bordered by the palaces of wealthy citizens and these days the ground floor areas are vitalised by commercial and catering premises. The square continuously slopes towards the town hall, which still influences the way the space is used: people like to sit down in the square covered in bricks even without any benches while the restaurants and cafés operating along the edges of the square make visitors stay in the "living-room" open to the public. (Gehl, 2011, p. 41.)

Industrial revolution and the post-liberal city; intervention by the power
 Today's European cityscape is predominantly determined by the urban fabric that formed in the 19-20th centuries and its spatial theory features. During the industrial revolution the crowds flowing into the cities and the technological development posed new challenges to the decision-makers of the era. In 1852-70 the prefect of Paris redesigned the medieval urban fabric; the reasons included the necessity of meeting the requirements of the era, representation, a city that is easier to control and keep clean by revealing the densely built city centre with avenues. The reconstructions in Paris and Rome were followed by Vienna and then Budapest. The avenues cut into the organically developed urban fabric are partly lined by mansions with the shop fronts of elegant stores, catering establishments and cafés in their ground floor areas, serving the aristocracy and the citizenry, creating new urban quality on the boundary of public space and private space. The scale change of the cities greatly influences the usage of the public spaces as traffic for transportation grows on the roads and track-based traffic appears.

There are typically no limitations for the population to use the public spaces, the operation of which is supervised by the local authorities. Large parks are established in order to satisfy the recreational needs of the growing population. The transformation of the society and the spirit of the age is well reflected by the way the London parks,⁵ previously exclusively used as royal hunting areas, are opened for the general public while a number of public urban gardens are only accessible for the aristocracy for a long time to come. (Carmona, 2008. p. 29.)

At the turn of the century passages⁶ and covered streets are built everywhere in Europe and the semi-public space, accessible with limitations in time, once again evolves the boundary of private and public spaces, primarily playing a commercial role and acting as a determining socio-cultural venue of the city centre of the era. The covered passage imitates the urban street but, in reality, it is an artificial structure created inside the building, which cannot provide the same level of functional diversity and urban experience as a spontaneously developed historical street. "The passage is originally a part of the city, creating alternative connections separated from the streets between the city's various spaces. It is a secondary urban street network, which encourages exploration, invites to have adventure and can be used only on foot, thus providing protection not only from weather but also motorised traffic. It is the ideal venue of walking, commerce and meetings. (...) The space of the passage is a transition between both internal and external, and between private and public spaces." (Benkó, 2005, p. 89.)

Modernism - The Athens Charter and Team 10

The space theory features of the urban ground floor evolved along the following criteria. They subjected everything to the physical wellbeing of the individual

by creating a healthy living and working environment, which has sufficient exposure to sunlight and ensures a breezy green living space. The Athens Charter of 1933 encouraged the separation of the urban functions: residence, work, recreation and transport. The goal of Le Corbusier, one of the authors of the Charter, is to rescue the city from the "tyranny of the street"; in his plans, he erects the buildings from the urban ground floor, separates the functions by directing the pedestrians to the connecting hallways and flyovers so that motorised traffic can have enough space in the ground floor areas. He does all this in order to achieve more exposure to sunlight and larger green areas, creating the "liveable city", only forgetting in the meantime that this way the venue of urban interactions, the urban ground floor becomes completely empty. In the modern city of Le Corbusier, as a result of the separation of functions, the private and public spheres are once again separated; the transition between them ceases to exist on the scale of the "neighbourhood", the "street" and the "building" as well, thus the size and number of transient spaces making the urban fabric diverse decrease. The ground floor areas of the prefab housing estates turn their back to the city; the boundary of external and internal spaces disappear in case of houses standing on poles; the arcades and passageways become emptied and, as such, dangerous locations of the ground floor area of housing estates. (Benkó, 2016. p. 326.)

The detachment of functions also appears in the open-air areas and their usage; the spontaneous layering of the city becomes impossible as a result of the separation of pedestrian and motorised traffic, and the separation of residential and city centre areas. The urban functions of the housing estate appear like islands in the urban fabric; nevertheless, they are often built only subsequently and inadequately. As a

⁵ Hyde Park, St James's Park, Green Park, Kensington Gardens (Carmona, 2008. p. 29.)

⁶ For example: Galleria Vittorio Emanuele II Passage was built in Milan in 1865-67 based on the plans of Giuseppe Mengoni, applying a glass roofing supported with a steel structure for the first time during its construction.

result of the spontaneous process that started in the 1980s and 1990s and reflected the social changes of the era, the missing commercial and servicing functions appeared on the edges of the housing estates, in the ground floor area of the buildings and in the nearby pavilions in public spaces.

The urban principles of modernism and the inversion of the urban ground floor are denied by Lijnbaan of Rotterdam, which is progressive from the aspect of urban ground floors as the first pedestrianized built shopping street. The Rotterdam city centre, damaged by World War II, is rebuilt in 1953 based on the plans of Jo van den Broek and Jacob B. Bakema. Broek and Bakema are present at the CIAM⁷ congresses; however, they are members of Team Ten, which argued against the Athens Charter in 1953. In their opinion, the essence of the real city does not lie in the separation but in the integration of the functions and urban life is rooted in the community zones, which are embodied by the urban street. Reviving the Rotterdam city centre, Lijnbaan is an artificially created urban street for pedestrians. There are shops along the shopping street, altering with transient spaces arcades and terraces. On the humanised urban ground floor, the public and semi-public spaces are interwoven, thus the boundary of "outside and inside" becomes almost completely blurred. (Figure 3) (Van der Broek, Bakema, 1956, p. 24-25.)

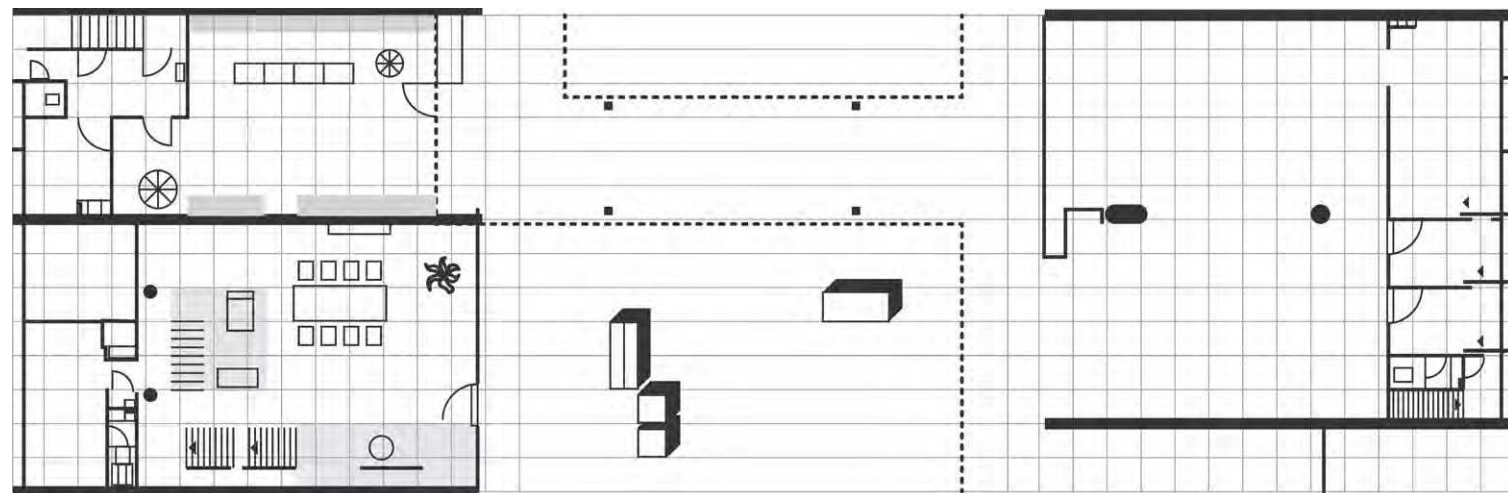
Shopping centre

The Vienna-born architect Victor Gruen is primarily recognised as the "father" of the modern shopping centre; however, another aspect of his work also merits mention. We examine Gruen's activity in detail because his works influenced the development of the structures of the urban ground floor from several directions. His early Viennese shop designs are progressive as they

facilitate the establishment of contacts between public areas and the private sphere. His outstanding works include the shop premises and shop front he designed for Singer textile store in 1936, where he humanises the ground floor area by retreating the entrance, positioning the lighted product presentation display case in focus, and presenting the shop-windows like theatrical scenes, thus trying to draw pedestrians' attention. Escaping from the adversities of the war to America, Gruen designs a boutique for Lederer in Manhattan, where he perfects his concept about the "shopper looking for a haven in the jungle of the metropolis". After its opening in 1953 Gruen visits the Lijnbaan in Rotterdam and describes it with great enthusiasm. Magnifying his earlier "haven concept" thousandfold, in 1954 he designs his first shopping centre, which opens in Detroit under the name Northland Centre. Gruen's goal is to adopt the classic European city centre in the spreading overseas garden city of the fifties. In addition to the commercial spaces, socio-cultural spaces are present with the same weight in the first shopping centres. (Baldauf, 2008, p. 5.) Yet the social and economic conditions after the war distort the balance in favour of the commercial functions, where the main objective is to increase business competitiveness and profits while encouraging consumption so many of the social and cultural functions originally designed by Gruen are not realised in the shopping centres. The planned shopping city is originally meant to recreate the functional richness of the Viennese inner city but it results in a completely different, new artificial structure.⁸ On the boundary of external and internal space, the shopping centre creates the concept of the privately owned space, open for the public to access with limitations, thus "privatising" the public space. Private operation, filling the spaces artificially with life, and appropriately

⁷ *Congres Internationaux d'Architecture Moderne: International Congress of Architects*

⁸ Environmental psychologist Andrea Düll explains the duality of shopping centres from the aspect of environmental psychology as follows: "In their strictly controlled semi-public spaces artificially simulating the urban environment, where the goal is to provide comfort and delight our "senses", malls still have a dual effect on people. While there is an overwhelmingly huge choice that stimulates consumption and entertainment, typical features include artificial freedom, security guards on every corner and strongly controlled social contact. The mall is practically a city without the deviant and spontaneous elements of the latter; it is a city-like and largely controlled environment, only it is not as dangerous as real cities." (Düll, 2009, p. 40.)



compiling the tenant mix raises new types of spatial management tasks.

Returning to Vienna in the late sixties, Gruen comes up with the model of the compact pedestrianised city centre but it does not receive positive feedback as the operation of cities are in the process of being reshaped according to car traffic and the shopping centre concept adopted from overseas throughout Europe at the time. In 1973 he defines the Vienna Charter with the aim of taking a position against the Athens Charter. According to the Vienna Charter, the goal is urban design of a human scale in order to create a city tailored to pedestrians that is liveable for people. (Zuccaro, 2017, p. 81.)

REDISCOVERY OF CITY CENTRES, THE CRITICISM OF MODERNITY AND THE URBAN GROUND FLOOR

Postmodern urban architecture criticism accuses modernism of destroying the millennial tradition of streets and squares, thus endangering the heritage of our historical cities. The thinkers defining the criticism of modernism set the focus on the space between houses and the space usage patterns of the

society. This era is of determining significance for us as the writings praising the values of the traditional city centre and the urban ground floors full of life still form the basis of the professional discourse. In the next chapter, we will provide an overview of the works of the era on this topic⁹ and the interpretations of the urban ground floor based on the international and domestic literature and following the focus of approach: grouped according to spatial, space usage and space management.

Space usage approach

The human point of view puts the focus on the individual using the urban ground floor; its main representative is the urbanist writer Jane Jacobs, who writes critically about modernism in her book titled *Death and Life of Great American Cities* in 1961. She mentions the organically evolved urban ground floor as a quality determining urban life and place identity, emphasising the importance of ground floors rich in functions and the role the “pavement” plays in the city. Besides, Jacobs casts light on the connections between the space usage of the urban population and the safe urban spaces. Like Jacobs, architect and urban planner Oscar Newman also stresses

⁹ Highlighting the authors and their works in the text is justified by the main objective of the analysis: the summary of the concepts of the urban plinth and the multi-scale typology set up in the next chapter about the criteria of the “urban plinth” are both built upon these works.

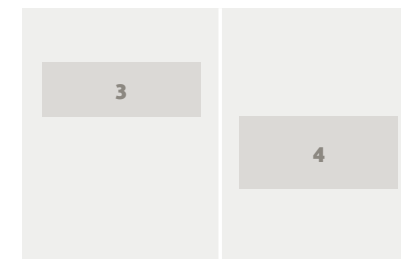
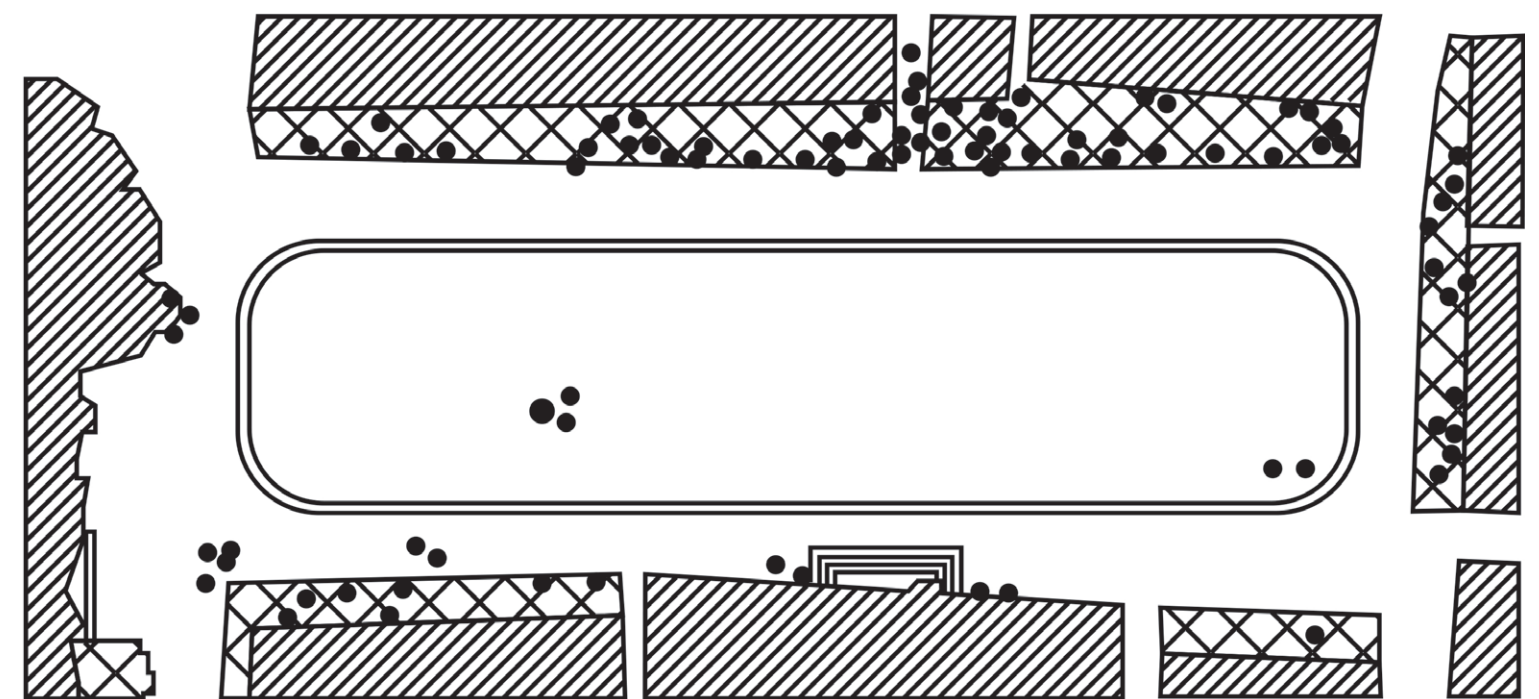


Fig. 3: Lijnbaan ground floor detail (Van der Broek, Bakema, 1956, p. 25.)

Fig. 4: “Edge effect” (Gehl, 2011, p. 148.)



the relationship between the role of the urban communities and the safe urban spaces. Newman was driven to write his book titled *Defensible Spaces* in 1972 by the examination of the community spaces in the Pruitt-Igoe housing estate built in the sixties – and later to be demolished first. In accordance with the planning principles of modernism, the ground floor and first floor areas of the buildings were left free for community activities. The impersonal “flowing” spaces, staircases and ground floor areas lacking any identity soon fell prey to

vandalism. In Newman’s explanation, the phenomenon occurred because, besides the private spaces and public spaces the housing estates of the modernist movement lacked the transient semi-public and semi-private spaces, which are identifiable and belong to a certain community, thus users regard them as their own.

Sociologist and urbanist William H. Whyte also approaches the topic from space usage. In his 1980 book *The Social Life of Small Urban Spaces*, he presents his research titled “Street Life Project”, in which he studies the behaviour and

space usage patterns of citizens in the crowded public spaces of New York. Whyte considers it especially important that diverse functions appear in the ground floor areas of the buildings and in the public spaces. The point of view of the urban population using ground floor areas, their space usage habits and the environmental psychology aspects related to spaces are emphasised in the works of Jan Gehl, architect and urban planner. In his books *Life Between Buildings* from 1970 and *Cities for People* from 2010, he studies the criteria of spaces of a human scale. In his publications and in case of his urban rehabilitation works, the vitality of the urban ground floor is one of the fundamental premises as he mentions it using various terms like “human zone”, “street level” or “edge”. Gehl refers to the “edge effect”, according to which city dwellers prefer to group along the space walls turning towards the space as visible in figure 4, forming groups along the arcades, by the columns and the façades of the buildings. Thus they are protected by unexpected effects from one side and it is also much more comfortable to wait and talk this way or just watch city life go by. (Gehl, 2011, p. 148.)

Spatial approach

In his book titled *Townscape* published in 1961, Gordon Cullen, architect and urbanist, approaches from a spatial theory point of view that puts the focus on the perception of the external space. He lays the foundations of the science *promenadology*¹⁰ with the method of sequential sight analysis and enriches the approach viewing the city statically with the aspect of spatial perception in movement. According to Cullen, external space in the city does not only represent an architectural value but it is also an important basis of the urban population's identity.

In his 1977 book titled *Pattern Language*, architect Christopher

Alexander tries to free humans and encourage them to build for themselves. According to Alexander, everybody can create their own personal space and city to fit their culture using the expounded 253 “patterns”. In the patterns, we can find a number of references to the role edges play in the cities, as well as the significance of the transient spaces and the streets full of functions. Alexander believes that in order for a public city square to get filled with life it is indispensable to have urban activity along the ground floor edges¹¹ as these stories and events will then radiate to the whole of the public space, filling it with purpose and content. (Alexander, 1977, p. 600.)

Urban planner Allan Jacobs analyses the historically evolved significant urban street spaces in his book titled *Great Streets* published in 1995; he claims that the street is the most important medium of vivid urban life and he regards the semi-public spaces occupying the ground floor level of the buildings as part of the urban street in his richly illustrated book. (Figure 5)

Spacial and space usage approach in the Hungarian technical literature

In the domestic literature, István Schneller, urbanist architect, addresses and lays the foundations of the term “urban ground floor”, we are using, in his 1986 study titled “Ground Floor of the City” from a point of view of spatial theory and space usage. He stresses the importance of the border spaces in the urban fabric; as he explains, the urban ground floor is a sort of border space that helps us to make the segmentation of the urban space more perceivable.¹² Architect Gyula Hajnóczy J. mentions the urban ground floor from a spatial theory and space usage approach in his book titled *Vallum and Intervallum* published in 1992. He creates a new term when he calls the space forming between the street and the building and accessible

10 *The 1971 publication had the title The Concise Townscape*

11 *“If the edge fails, then the space never becomes lively”.* (Alexander, 1977, p. 600.)

12 *This is what Schneller writes about the plinths of the urban body in Budapest: “Moving from the overall macro environment – and from the plinth elements determining the image of the city – to the level of micro environments, we can say with slight generalisation that the plinths of the traditional urban body in Budapest are determined by the different types of traditional closed-block layout of blocks and streets with varying levels of built-up density, intensity and height. With its streets and squares as the external public sphere; with its houses and buildings as the border elements separating the external from the internal; and, finally, with the inner yards between the houses, this traditional urban form of development establishes a very simple but well-useable space segmentation model, while naturally turning the plinth areas of the houses into a transient (border) zone that adopts the various urban functions.”* (Schneller, 1986, p. 37.)

for people a fundamental space.

According to Hajnóczy, the “parabolic” space that forms in the space outside the houses between the street and the building attracts people, following from the laws of nature and space creation: it makes them stay, walk across, and sit down, providing the space for the events of everyday life and holidays of the urban existence to take place here.

Spatial theory, space usage and spatial management approach

The British urban planner Matthew Carmona and his colleagues tackle the topic applying a complex vision and a spatial theory, space usage and spatial management approach in their 2008 book, titled *Public Space: The Management Dimension*. In the definition of the public space and as part of it, they highlight the external spaces free to access for the urban residents and the internal spaces owned privately and by the community in the urban ground floor zone. They consider the operation of proper spatial management a key issues of liveable community spaces.

The study titled *The City at Eye Level*¹³ started in 2012 by TU Delft follows the approach that puts the focus on the critical thinkers of the post-modern and the needs of the urban dweller. They form a new term, the “plinth”¹⁴ to embrace the urban ground floor, marking the semi-public ground floor row of premises in the buildings connecting to the public areas. Under the term “the city at eye level”, the study mentions the ground floor row of premises in the buildings and the connecting public area, similarly to Allan Jacobs' approach. (Figure 6)

The technical literature assigns slightly different meanings to the term. In some cases, it only signifies the ground floor zone of the buildings and sometimes it only means the public area located directly in front of the buildings. However, we can claim that all the

interpretations approach the same urban phenomenon, the “urban ground floor” forming an individual urban entity, from a certain point of view. Our approach is that the urban ground floor forms at the meeting point of the building and the street: one part of it is constituted by the semi-public premises located on the ground floor of the building and opening onto the public area, inclusive of the façade of the building, the gate, the entrance, the outside appearance of the shop front, the pavement section outside the building, the terraces and trees as well. This transient filtering space or edge is partly a public area and partly an internal space accessible to the public with limitations, to be interpreted as one unit on an urban scale and regarding its operation.

CRITERIA OF THE LIVEABLE URBAN GROUND FLOOR – ON THE SCALE OF THE “NEIGHBOURHOOD”, THE “STREET” AND THE “BUILDING”

According to William H. Whyte, “people are primarily interested in and attracted by the presence of the other people in a given city.”¹⁵ While Jan Gehl claims that the criteria of the good urban public space can be measured by the number of people visiting it and the types and quantity of the activities that take place there. People are attracted by the presence of the other people and watching others' activities has a stimulating effect in itself. According to Zeisel (1981),¹⁶ the “basic urban needs” that the urban environment must satisfy are as follows: the need for security, the need for orientation, the need for private sphere, the need for social interactions, the need for comfort and the need for identity.

In the next chapter, we will overview the spatial, space usage and spatial management criteria established about the liveable urban ground floor, grouped on the scales of the “neighbourhood”,

13 *Krassenberg (Et al.)(2012, 2016): The City at Eye Level, Lessons for Street Plinths, Amsterdam, Eburon pp. 338*

14 *“ground floor of buildings”*

15 *“What attracts people most, it would appear, is other people.” Whyte (1980, p. 19)*

16 *In: DÜLL A. (2007): Lakótelepek közterei környezetpszichológiai megközelítésben, Environmental Psychology Workshop, Faculty of Cognitive Psychology, ELTE PPK, Lecture notes*

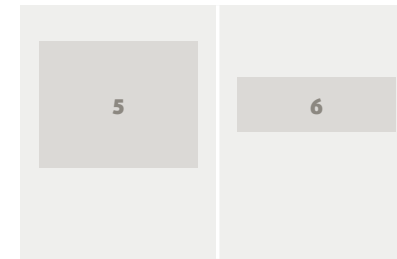
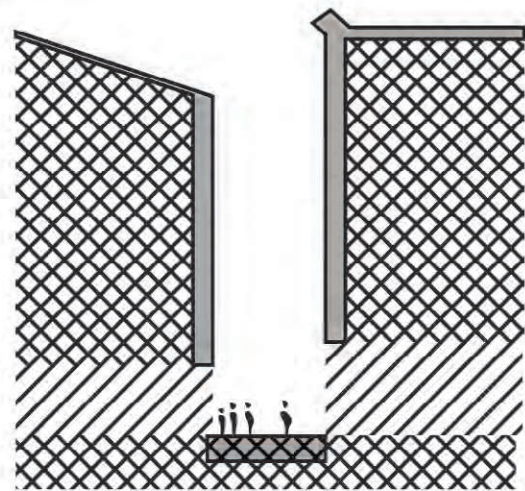
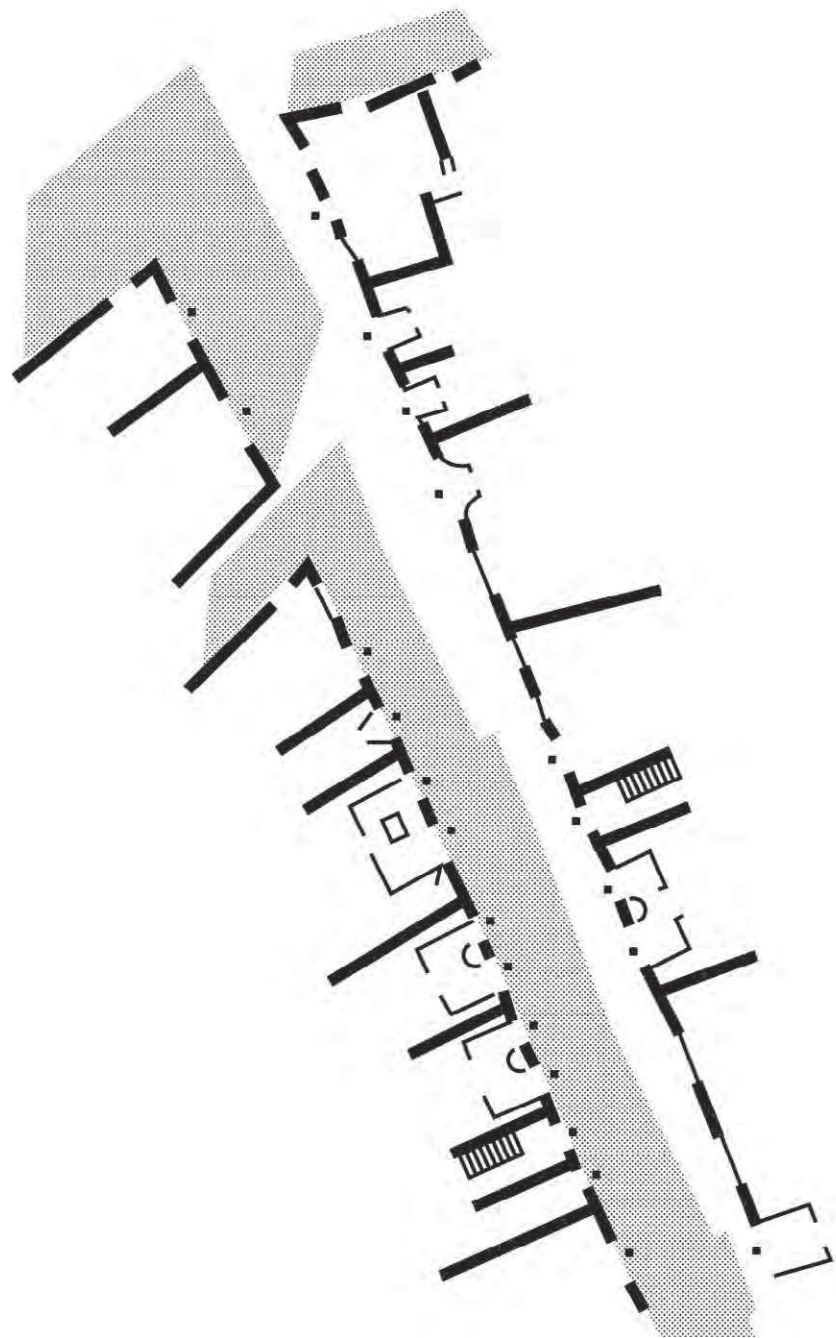
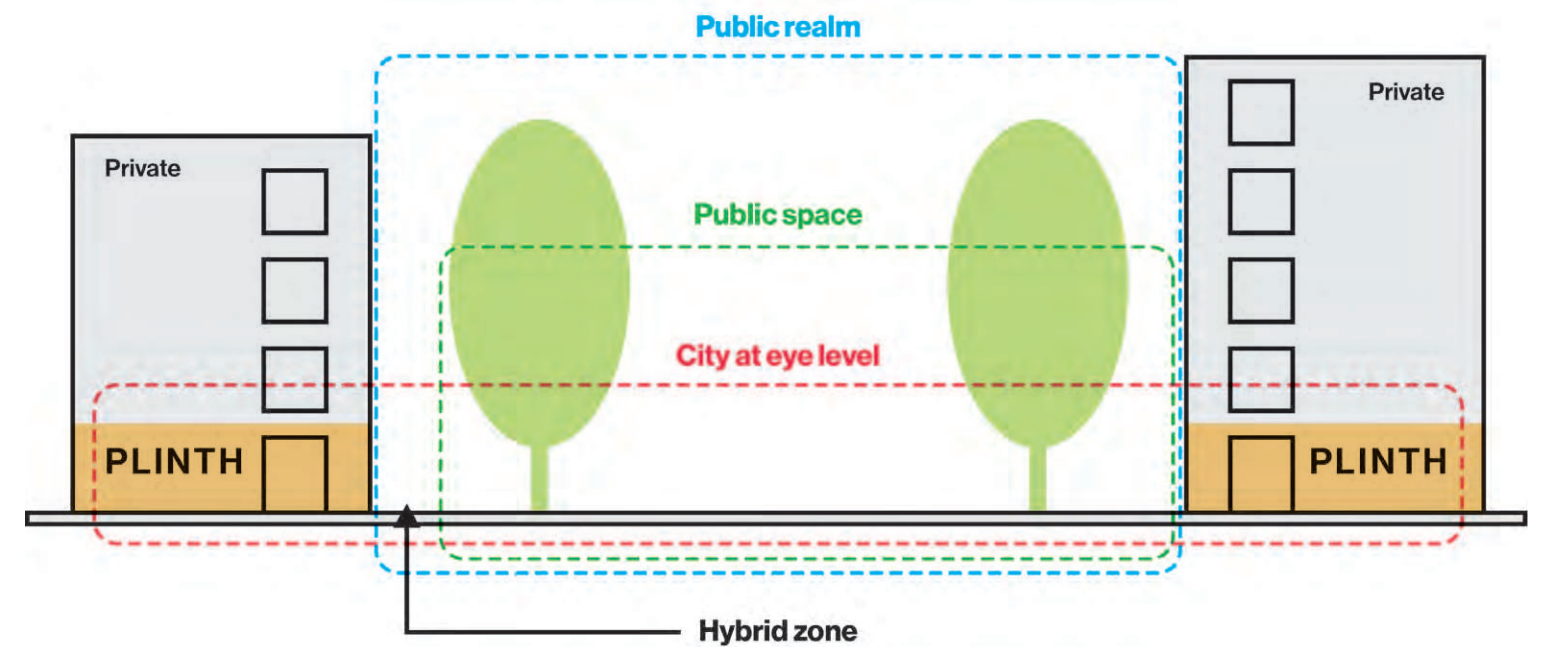


Fig. 5: The street and the connecting semi-public spaces (Jacobs, 1995, p. 23.)

Fig. 6: Interpretation of the urban ground floor and the "plinth" (Krassenberg, 2016, p. 15.)



the "street" and the "building". The body of the technical literature is formed by the writings cited in the previous chapter, including mostly the literature thinking critically about modernism and building upon it.

Neighbourhood level

Starting with the spatial theory and spatial structure criteria: in order to talk about ground floor areas filled with life, it is important that the neighbourhood be situated centrally, where the city has a certain level of density

regarding both built-up density and the population (Cullen, 1971, Alexander, 1977). It is an advantageous feature if the neighbourhood is well connected to the urban open spaces and the green infrastructure system (Cullen, 1971, Alexander, 1977), as well as the urban pedestrian and cycling networks (Gehl, 2011). The presence of a centre with social and business functions in the neighbourhood is an advantage.

To continue with the factors of space usage, it is mentioned by both Alexander and Whyte that the well-functioning

neighbourhood requires the existence of a local population using the functions present in the ground floor premises. They do their shopping at the grocer's on the corner, regularly drop in at the local greengrocer's and florist's, and meet their friends in the nearby café. These days if we walk the streets of Újlipótváros in Budapest, we can see such ground floor shops including functioning businesses of tailors, hatters or made-to-measure suit-makers whose presence indicates that the local population gives preference to these shops. Jacobs often writes about the vivid urban neighbourhoods and the role of the street in the city, including the various factors that determine the liveability of the street. In her opinion, one of the most important tasks is to have "watchful eyes" over the street. By saying this, she confirms the number one basic urban need mentioned by Zeisel (1981), the need for safety: "We are the lucky possessors of a city order that makes it relatively simple to keep the peace because

there are plenty of eyes on the street. But there is nothing simple about that order itself, or the bewildering number of components that go into it. Most of those components are specialized in one way or another. They unite in their joint effect upon the sidewalk, which is not specialized in the least. That is its strength" (Jacobs, 1961, p. 54.)

The theme of spatial management concerns the players and systems lying behind the operation of the neighbourhood and the urban ground floor. The basis of the future of the liveable urban neighbourhood is whether it was an "owner"; whether the local government has a vision regarding the development of the area and if it has such an organisation whose dedicated task is to develop and maintain the vivid life of the neighbourhood. It is progressive if there are interested and willing partners, civil organisations, communities and business enterprises that care about the future of the neighbourhood as all this

promotes the strengthening of the local identity (Whyte, 1980, Krassenberg et al, 2006, Carmona et al, 2008).

Street level

We introduce the spatial criteria with the thoughts of Tamás Meggyesi, architect, who discusses the street as follows: “The street is the form of communication institutionalised in space. (...) When we talk about the street later on, we never mean the street as a “channel” of transportation but the wider zone of space formed by the rows of plots and buildings lining the two sides of the street, as well as the social life evolving around them. The street interpreted this way can also be understood as a group open on its two ends that has a narrow and elongated yard. Unfortunately, we do not have a word to mark this complex formula so henceforth we must take care that the word STREET means something else to us than for traffic planners.” (Meggyesi, 2006, p. 30-31.) According to Cullen (1971) and Alexander (1977), it is an aspect to be stressed that the entrance and end of the street should create a clear and obvious space situation, making it clear where it starts and where it ends. Ensuring comfort depending on the adversities of wind, noise, sunshine and shadow, is a fundamental need, which is emphasised in the literature by Cullen (1971), Alexander (1977), Whyte (1980), Jacobs (1995) and Gehl (1971, 2011). Cullen (1971) and Gehl (2010) write about the importance of the proper ratio of air space, stating that the height of building façades should be at least half of the street width. Krassenberg (et al 2016) considers the proper emphasis of gates, passageways and hubs important, while others highlight the diversity of buildings (Cullen 1971) and the architectural quality (Cullen 1971 and Alexander 1977).

From the aspect of space usage, it is an important criterion to be stressed that the street should make people walk, which is considered crucial by Jacobs

(1961), Cullen (1971), Alexander (1977) and Gehl (2011). According to Whyte (1980), minimum 7 pedestrians should pass by each metre of the street per minute to make the street suitably excellent for the passers-by. Gehl (2011) states that this figure is 10-15 pedestrians/metre/minute and this difference indicates the contrast between the European and American metropolitan milieu. In his works, Gehl (2011) emphasises the negligence of motorised traffic in the crowded and dense urban fabric and the preference given to pedestrian traffic. Cullen (1971) and Gehl (2011) write about establishing a balance between the pedestrian surfaces and the parking facilities. According to Whyte (1980), the criteria of “good places” is that there should be at least “ten” reasons for you to be there, such as: the possibilities of eating, drinking, services, commerce and meeting in one place. He calls this criterion the “Power of ten”¹⁷ and claims that it is important to have 50% of commercial function in the ground floor areas of the buildings. Jacobs (1961) is another ambassador of “mixed use”,¹⁸ who sees the power of the street in the functional diversity present in the ground floor areas. According to Alexander (1977), the appearance of a “new attraction” is necessary in every 45 metres in the street. Krassenberg (et al 2016) believes that 100 metres of building façade should have minimum 10 entrances and a new function in at least every 10 metres to ensure an interesting street. According to Gehl (2011), this figure means 15-25 ground floor functions in every 100 meters so he describes much denser ground floor functions. All the referenced sources mention the possibility to sit down and the importance of benches, street furniture and trees in the public spaces. According to Whyte (1980), a street with ideal tree coverage should have a tree of 8.7 cm diameter in every 7.5 metres.

Regarding the street level, too, it is important to emphasise spatial

¹⁷ “10 mutually reinforcing functions”
¹⁸ “mixed usage”

management criteria, the organisational background and the players whose presence may greatly influence the success of the street. Landscape architect Kathy Madden, one founder of Project for Public Spaces, claims, “The crowded and vivid area situated near the public space is at least as important for success as planning itself and maintenance.” (Madden, 2008, p. 25.) According to the study titled High Street UK2020 (2016)¹⁹ performed at Manchester Metropolitan University and Madden (2008), the successful operation, maintenance and development of the main street all necessitate proper management, the adjusted activities of the actors responsible for the operation of the street, and planning with community participation. The importance of a suitable society for street management is stressed by Gehl (2011), the team of Projects for Public Spaces and High Street UK2020 (2016), and Krassenberg (et al 2016). Gehl (2011), Projects for Public Spaces (2017) and Krassenberg (et al 2016) propose planning seasonal usage, financing that consists of multiple sources and a well-designed rental policy. The organisation of Vienna’s Chamber of Commerce and Industry managing the shopping streets sets an example to follow in this respect with their decades-long work.

Building level

Arriving at the scale of the building, Cullen (1971), Alexander (1977) and Gehl (2011) all highlight the presence of the smaller shop premises or “narrow units” and the importance of vertical façade segmentation among spatial criteria. The presence of transparent active ground floor façades helps the formation of a ground floor zone that is exciting and safe for pedestrians. Cullen (1971), Gehl (2011) and Krassenberg (et al 2016) highlight details that can be perceived while moving at the pace of 5 km/h and the use of architectural solutions adapting to the environment and applying high quality

materials. On the other hand, we should also emphasise the use of not too large glass surfaces because they reflect light and strengthen the noise at the same time (Krassenberg et al 2016). The existence of appropriate signs and inscriptions (Krassenberg et al 2016) help satisfying the needs for orientation, comfort and safety.

As a criterion of space usage, great emphasis is placed on the importance of the well-functioning “hybrid zone” forming on the border of private and public spaces, which is equally stressed by Cullen (1971), Alexander (1977), Whyte (1980), Jacobs (1995), Gehl (2011), and Krassenberg (et al 2016). The border between the building and the open-air area shows a different face in cities depending on the climate, the given season or culture. The main goal for the well-functioning transient zone is to maximise the time spent with various activities along the edges of the ground floor areas, where, according to Gehl, the important thing is: “Easy access in and out. Good staying areas directly in front of the houses. Something to do, something to work with, directly in front of the houses.” (Gehl, 2011, p. 184)

One of the spatial management aspects and an indispensable factor on this scale, too, is that the building should have an owner and the ground floor rooms should be in use. The flexible height of the rooms, which is ideally around 4 metres according to Krassenberg, makes it possible to satisfy various tenant needs. Flexible area usage, the possibility of occupying the terraces and adjustable regulations all facilitate the evolution of functional diversity (Whyte, 1980). Developments suiting the needs of the different players, owners, tenants, the municipal government and the local population, can be helped by the formation of a local organisation of street and space management and the establishment of mutually agreed opening hours, the appropriate tenant mix and functional composition.

¹⁹ High Street UK2020 study: In: PARKER C., NTOUNIS N., QUIN S., MILLINGTON S. (2016): Identifying factors that influence vitality and viability, Institute of Place Management, Manchester, Manchester Metropolitan University

SUMMARY

The urban ground floor filled with life was an essential element of the urban landscape in case of the ancient agora, the medieval market squares and the streets between the houses that lived together with the external space, at the time of the classical European city renewals, and it still is these days, we must admit. The historical overview of the changes in the relationship between private and public space helped reveal the complexity of the structures of the urban ground floor. The interpretations of the urban ground floor by the thinkers who protected the historically evolved urban ground floor and the system of streets and blocks while taking a position against modern architecture still mean a stable foundation. Based on the works of urban architectural criticism, the analysis has outlined a complex system of criteria about the features of the liveable urban ground floor. Grouping the criteria according to spatial, space usage and spatial management helps the formulation of social, economic and environmental development proposals both in theory and practice. For the urban ground floor to function well in the cities of the future and keep serving the benefits of the urban dwellers, we must continually monitor the changes in space usage concerning the ground floor and we must apply the progressive tools of urban development and space management. It is important that the distinct areas belonging to the identity of a given street or square should have a foresight strategy regarding the development and operation of the ground floor areas, which builds upon the composition of the population in the given location and the existing functions, considers the occurring needs, and leaves scope for management and economic aspects in addition to the social and environmental ones. ©

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TÉRELMELETI ELEMZÉS – A PRIVÁT TÉR ÉS A KÖZTÉR HATÁRÁN

Az életteli telis városközponti területek egyik alapja a jól működő földszinti zóna a privát tér és a köztér határán. A tanulmány célja a városi földszint megismerése, a témában feltárt hazai és nemzetközi szakirodalom összegzése. Mindemellett, a földszinti zóna ismerveiről többléptékű tipológia felállítását a jelenkori urbanisztikát megalapozó, illetve kortárs szakirodalom alapján.

Az elemzés a városi földszintről térelméleti, térhasználati és természetment nézőpontok alapján ad a középkortól napjainkig ívelő történeti áttekintést. Majd a nemzetközi és a hazai szakirodalom alapján, a megközelítés fókuszusa szerint csoportosítja a meglévő városi földszint fogalmakat. Végül, térelméleti, térhasználati és természetment nézőpontok alapján, a városi „környék”, az „utca” és az „épület” léptékében csoportosítva tárja fel az emberléptékű városi földszint ismerveit.

A tanulmány feltárja a városi földszint struktúráinak sokrétűségét.

Mindemellett, rávilágít arra, hogy a modern építészet ellen állást foglaló gondolkodók városi földszint értelmezései napjainkban is biztos alapot jelentenek. A városi földszint térelméleti, térhasználati és természetment ismerveinek feltárása segíti az elméleti és gyakorlati, komplex fejlesztési válaszok megfogalmazását. A tanulmány felhívja a figyelmet a térhasználati változások folyamatos megfigyelésének fontosságára, a természetment előremutató eszközeinek alkalmazására. Hangsúlyozza a földszintek fejlődése szempontjából az előremutató stratégia fontosságát, mely alapoz a fellépő helyi igényekre, a meglévő funkciókra, és a társadalmi, környezeti szempontok mellett a természetment és gazdasági szempontok is teret nyernek. ©

THE METHOD OF DEFINING THE FRAME OF THE STREET

AZ UTCA TERÜLETI MEGHATÁROZÁSÁNAK MÓDSZERE

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ABSTRACT

The paper is about defining the boundary of the street. Most of the literature define the facades of the buildings as the boundary of the street dividing the space into internal and external, separating the private from the public area. Furthermore, reduce the street only to the public areas.

The paper analyzes if the street is strictly limited to the public areas or it includes more. It is ascertained that the area of the street extends beyond the physical frame. To determine the exact area of the street the different ways of experiencing the environment were analyzed. It is said that including the human factor into the street analyzes is necessary. Therefore, different

perception methods are used. These are dynamic, static, objective or subjective method. Thereby it is established that the frame of the street goes beyond the physical boundary and contains the areas that observer perceives.

To sum up the paper is giving a base for establishing a new methodology of urban-architectural researches saying, that the subjective perception of the street gives even more relevant facts about the settlement as with traditional research can be achieved. It includes the human factor, making possible to involve subjective experience into the research.

Defining a new method of urban-architectural analyzes of the main streets, but at the same time finding a framework which will allow that research become effective, is the fulcrum

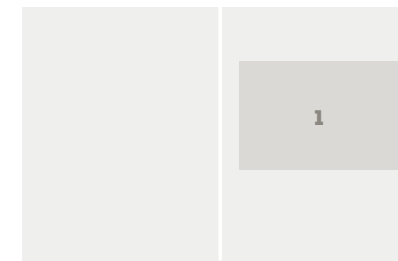
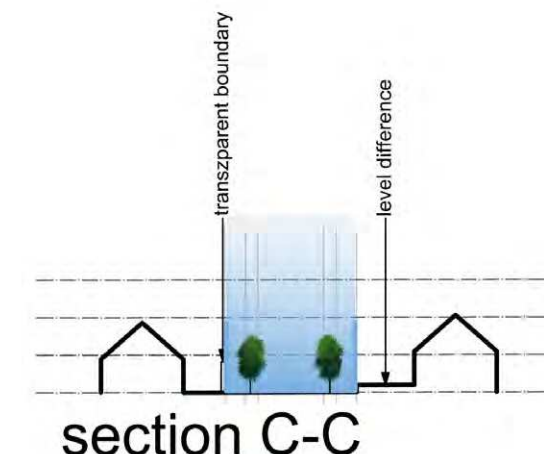
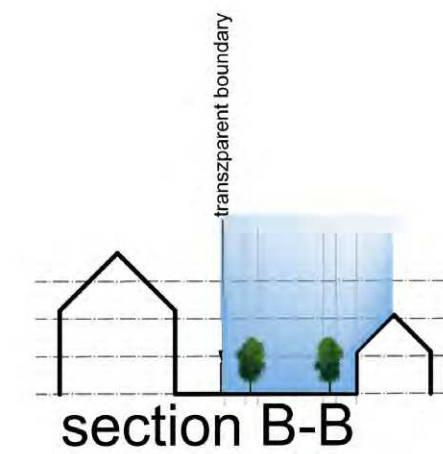
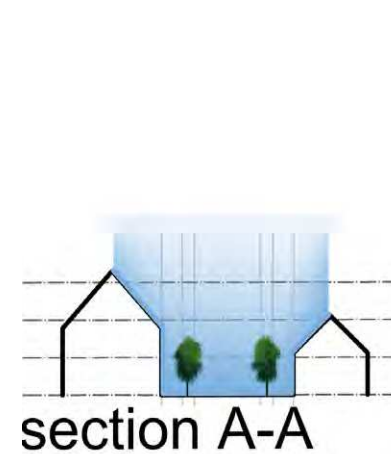
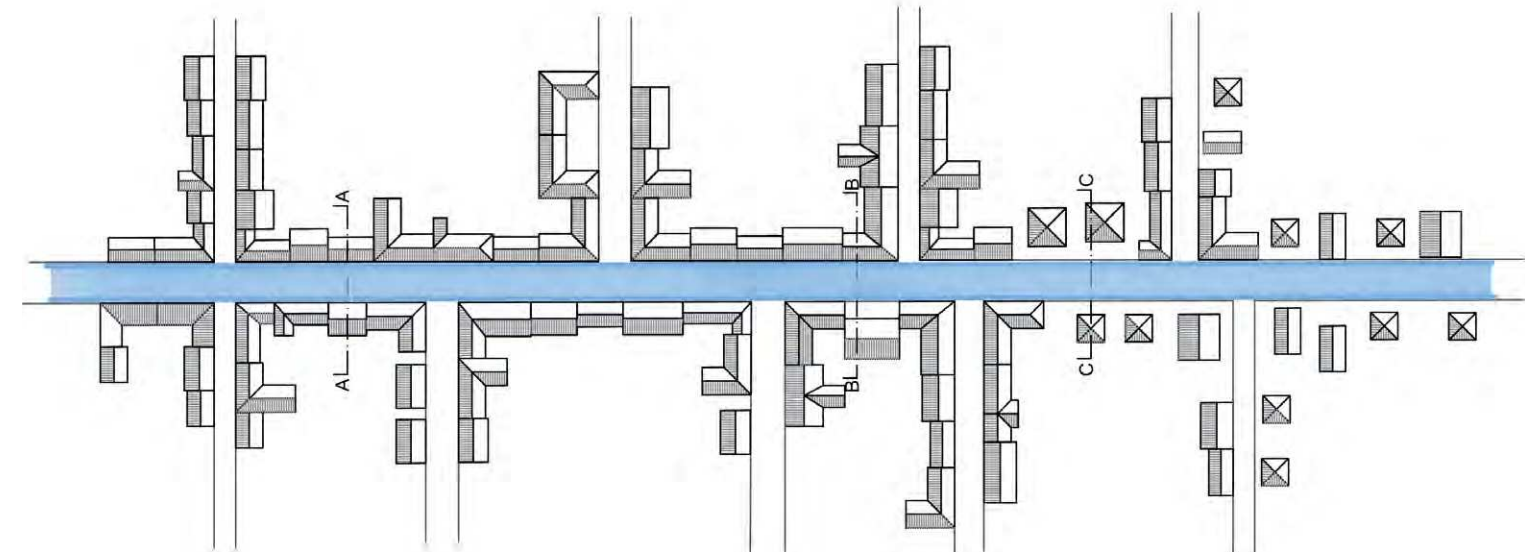


Fig. 1: The physical boundary of the street
(MADE BY AUTHOR)



of this paper, which will be elaborated in the Ph.D. in progress of the author.

Keywords: main street, perception, subjective experience of the surrounding, senses

1. THE AREA OF THE STREET

Defining the area of the street is a complex process. The literature defines the street based on different theories.

According to Tamás Meggyesi, the street is a wider space, bounded by a row of buildings on both sides.¹ Jan Gehl in his book *Cities for People*, writes that the street is bounded by borders, separating the outdoor and the indoor, the private and the public.²

"The streets, like squares, need walls..."³ to differentiate the original, infinite space into internal and external space.

To sum up, according to most literature, the street is framed by elements that define the outer and inner space, separating the private from the public space. These are mainly the walls that surround the street, namely the facades of buildings.

That kind of definition of the area of the street is not completely complete. Gordon Cullen in his book *The Concise Townscape* defines different physical boundaries that differentiate the space which are linking and joining the different characters of space. Cullen defines these boundaries as hazards, despite of differentiate the spaces of different character they maintain the

¹ Meggyesi Tamás (2006): *Városépítészet, Egyetemi jegyzet, Budapest*
² Gehl, Jan (2010): *Élhető városok, TERC, Budapest*
³ Tóth Zoltán (1997) *A települések világa, Ponte Press Kiadó, Pécs, 116*

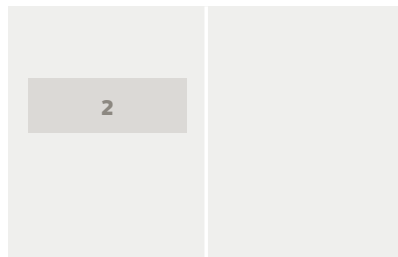
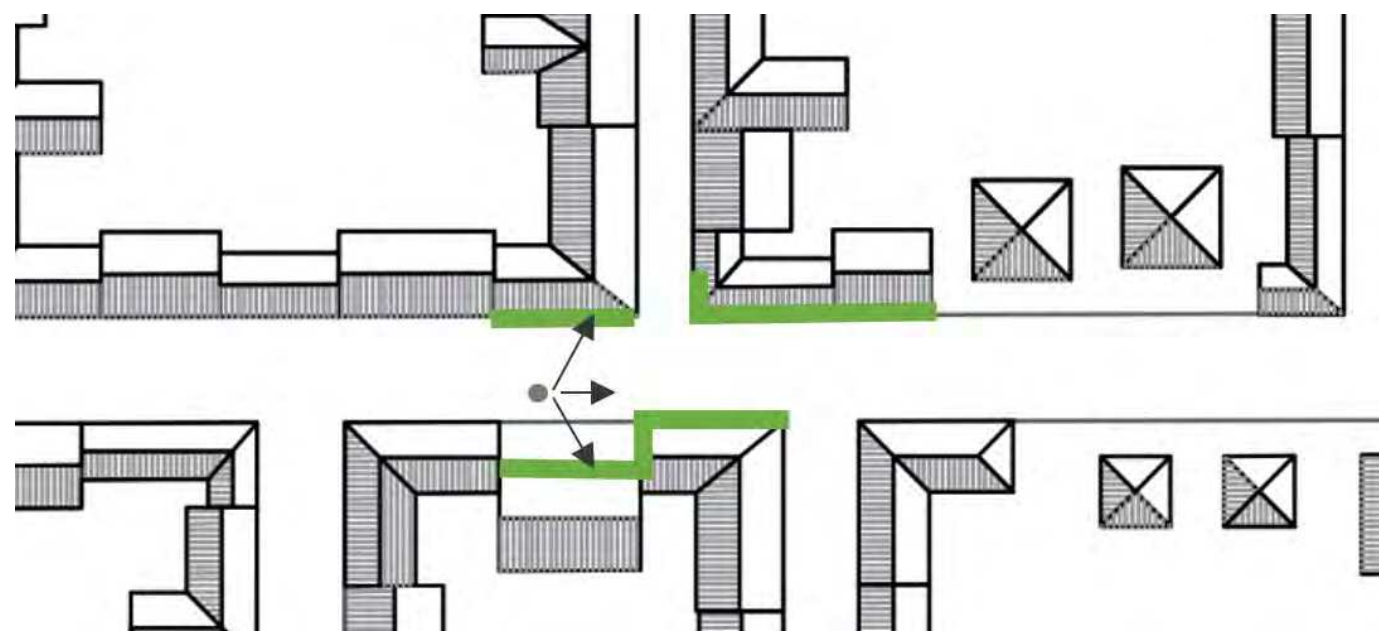


Fig. 2: The way of experiencing the street from one point
(MADE BY AUTHOR)



visual connection. Cullen lists the following elements: grid, vegetation, hidden obstacle and level difference.⁴

A question appears if the street is strictly limited to the public areas or it includes the areas that have only visual connections with it. In order to find the answer, the research analyzes the different ways of experiencing the environment in order to include the human factor into the street analyzes.

2. THE DIFFERENT WAYS OF EXPERIENCING THE ENVIRONMENT

Edward Hall in his book, *Hidden Dimensions* studies the relationship between the person and the environment on a physiological, social and cultural level,

as the relationship between the person and the environment is largely determined by their culture and education. He writes that "... people of different cultures speak not only different languages but ... perceive the world in a different way."⁵

In the process of sensation information are taken by sensory organs: skin, eyes, nose, mouth, and ear. Juhani Pallasmaa in his book *"The Eyes of the Skin"* emphasizes the importance and domination of understanding the environment by touching. He says that vision is a kind of scanning or touching the surrounding with our eyes. The relationship between people and the environment was also studied by Pallasmaa. He came to realize that one of the strongest connection between the people and their environment come from the nature of the

⁴ Cullen, Gordon (1961): *The Concise Townscape*, The Architectural Press, Oxford (Serbian Edition: 2007); 123

⁵ Hall, Edward T. (1966): Anchor Books, Doubleday, New York; 25

peripheral vision. For example, "a forest or a detailed building provides a sufficient stimulus for peripheral vision and thus places us in the center of the space."⁶

From Pallasmaa's point of view vision is the most complex and most sensitive information provider from the human senses.

Pallasmaa defined the relationship between the observer and his environment as: "I come into contact with the city through my body; my steps measure the length of the arcade and the width of the square; ... the mass of my body crashes in the severity of the cathedral gate and my hand seizes the large handle before going into the dark silence that lies behind it." (Pallasmaa, 2018; 56)

One of the biggest deficiencies in urban research is the fact that it is analyzing the settlement from outside, focusing only on the sighted ones. That is why it does not really reveal to the subjective part of it. It does not analyze the spirit of space, how people live and how they are related to their environment.

To sum up, to understand the environment means not just gathering informations but a real experience of the surrounding, by skin, eyes, nose, mouth, and ear. Thereby a complex picture of our environment can be received. Since vision is the most complex and most sensitive information provider, it does not surprise dominating the other senses. But vision cannot substitute, for example, the information that can be obtained by touch or smell. With

the information got only using the eyes the personal contact and attachment to the environment is going to be lost. Thereby instead of experiencing our surroundings and becoming part of it, we look at it from the outside, degrading ourselves as a mere viewer.

3. TYPES OF PERCEPTION

The aim of the research is to include the human factor into the analyzes. Since each person senses the surroundings in a unique way. It is necessary to involve subjective point of view, which the research calls the subjective aspect. The way we perceive our environment is always subjective, always personal.

According to professor Meggyesi, our environment exists in three ways: "Firstly, it exist as an independent reality, as objective, scientific research and description. Secondly, it exists during the course of the journey, in the time of the experiences, ... and finally, for the third time, in our memories as a mental image that can be recalled at any time."⁷

Since the environment exists in three different views, three ways of analyzes exists, too. It is determined that the objective reality of the environment cannot be completely defined by one observer, on the other hand it excludes the human factor the research is not analyzing it.

The research is focusing on the other two views of perceiving the environment

⁶ Juhani Pallasmaa (2018): *A bőr szemei: Építészet és érzékek*, Typorex, Budapest; 15

⁷ Meggyesi Tamás (2011): *Promenadológia: Fejezetek a séta és a lineáris látványelemzés elméletéhez*, Budapest; 5

that are including the human factor. In other word, the research analyzes the so-called soft aspect of the environmental studies, that are based on the fact how the person feels the environment.

The soft aspect has two types. The static and the dynamic aspect of experiencing the environment.

3.1. THE STATIC ASPECT OF EXPERIENCING THE ENVIRONMENT (PERCEPTION)

By perception taking up stimuli through the receptors in our senses and turning them into a stimulus, namely into an electrical impulse is meant. "The process of perception is the mechanism by which the sensory organs transform environmental information into the experience of objects, events, sounds, tastes, and more."⁸

There are two main types of perception: constructive perception and direct perception.⁹ According to direct perception, the subject obtains information from the surrounding world in a way that is optimal, without time for complex cognitive processes.

According to the constructive perception theory, "perception is not objective because the perceptual person builds up the perception based on the perceived stimuli ... add their own experiences and expectations".¹⁰

During the perception process, the stimuli are picked up by the senses: skin, eyes, nose, mouth, ears. In Juhani

Pallasmaa's book, *The Eyes of the Skin*, the tactile perception as we experience our environment is emphasized. Pallasmaa states that "all our senses, including the vision, are an extension of the tactile sense; our senses are the branches of the skin tissue, and any sensory experience is a form of contact, that is to say, touch. This sense is the starting point from which others have differentiated."¹¹

One of the greatest results of the method described by the research is that it does not look at the settlement as an outsider, it focuses not only on what has been seen, but also on the internal relationships that make the settlement unique.

Merleau-Ponty's philosophy puts man at the center of the world. He claims that experience is unified through the body. "To some extent, every place can be remembered, partly because it is unique and partly because it affects our body and evokes enough association to be preserved in our personal world."¹² So, in order to get a real image of the environment, the interaction of the senses is required. The senses are not only used to convey information, but also to activate the imagination and thinking.

However, the image of our environment changes in our heads based on the person's individuality. This kind of experience of the environment changes by time in our head. Exactly the time is that makes the subjective aspect of perception really important.

⁸ Roth, Ilona, Frisby, John (1986): *Perception and Representation: A Cognitive Approach (Part II: An introduction to object perception)*, Open University Press, Michigan IN Oláh and Bugán: *Fejezetek a pszichológia alapterületeiből*, ELTE Eötvös Kiadó, Budapest, 2006; 38

⁹ Oláh and Bugán: *Fejezetek a pszichológia alapterületeiből*, ELTE Eötvös Kiadó, Budapest, 2006

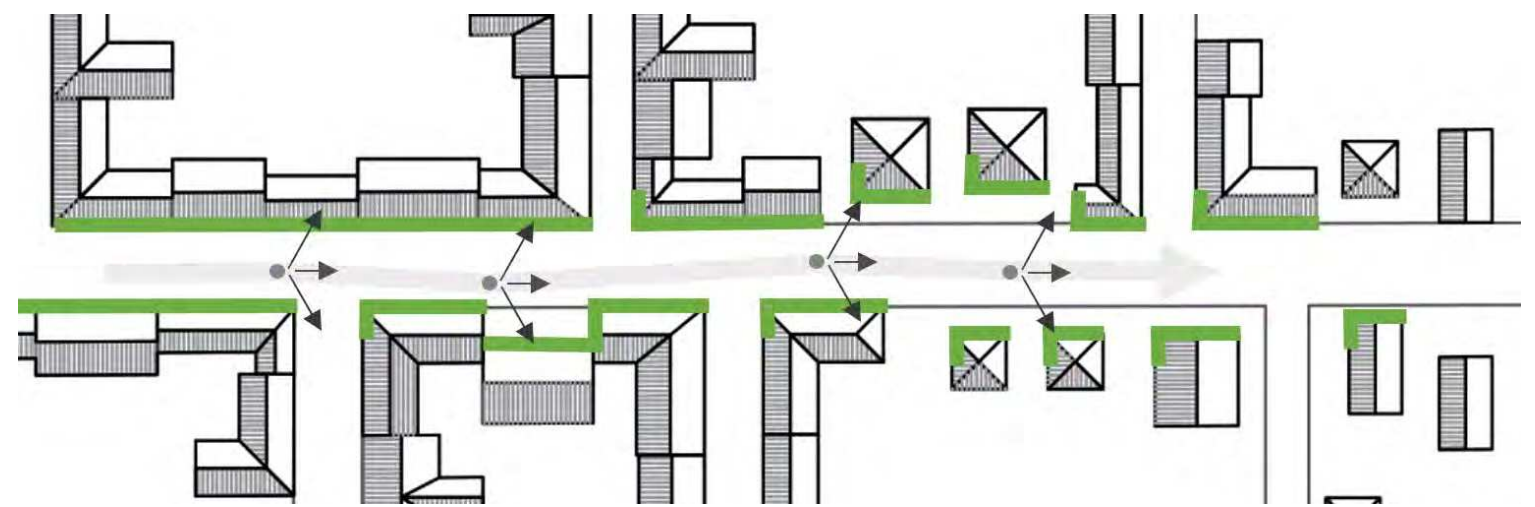
¹⁰ Oláh and Bugán: *Fejezetek a pszichológia alapterületeiből*, ELTE Eötvös Kiadó, Budapest, 2006; 51

¹¹ Juhani Pallasmaa (2018): *A bőr szeméi: Építészet és érzékek*, Typorex, Budapest; 12

¹² quoted in Bloomer, Kent (1977): *Body Memory Architecture*, Yale University Press; 107



Fig. 3: The way of experiencing the street during a walk along the street (MADE BY AUTHOR)



It is always formed by person added extra informations (emotions) or not.

To sum up, it can be said that the individual's personality and social position have fundamental impact on the image of the environment.

The view of the environment is not only the aesthetic experience but the image of our identity and relationship with the place. This is what we call the genius loci.

In order to interpret the concept of the genius loci, the difference between space and place must be determined.

3.2. THE DYNAMIC ASPECT OF EXPERIENCING THE ENVIRONMENT (PROMENODOLOGY)

Promenadology is the rediscovery and interpretation of the urban image by moving. The "precursor" of the method is serial vision which concept was made by Gordon Cullen in 1961. Serial vision formes connection between

dynamic and static perception as it consists static views of a moving person along a given path. Cullen said that should "apprehend urban environments through kinesthetic experience"¹³

Dynamic experience of the surrounding requires the concept of distance to be experienced. There is nothing better than walking. After all, "our body and movement are in constant interaction with the environment".¹⁴ On the other hand, the sense of space and distance is not static. "... The perception is dynamic because it is bound to actions, that is, what can be done in a given space, not what can be seen through static viewing."¹⁵ Lucius Burckhardt, urban sociologist, is considered the founder of the new "science". Since then, several conferences have been held on the topic, and university courses have been launched. In Hungary it is familiar as sightseeing or walking tours.¹⁶

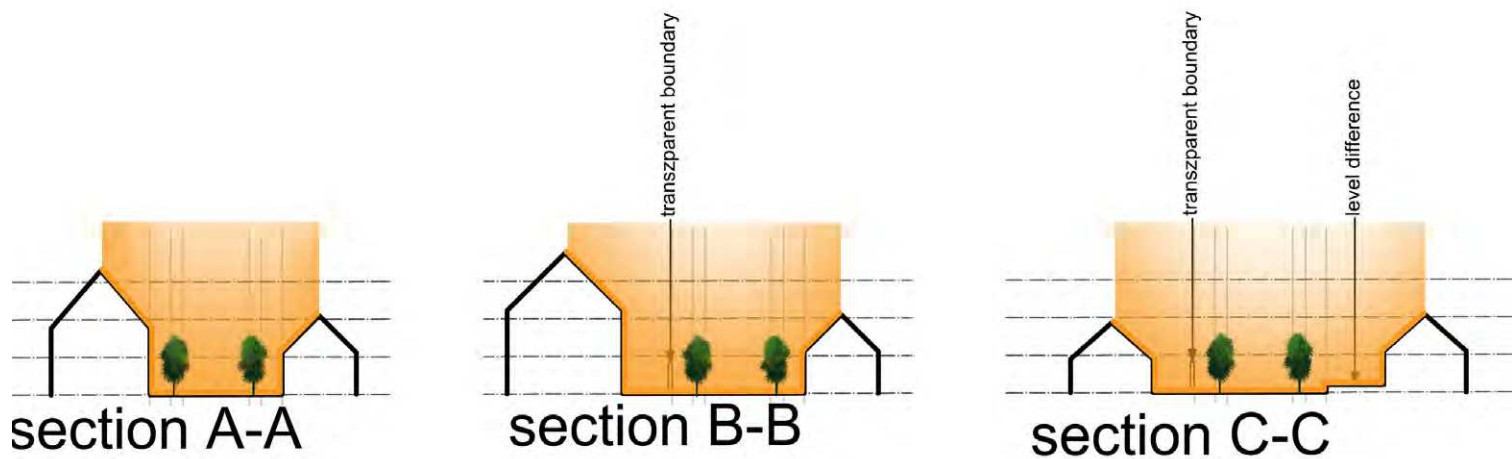
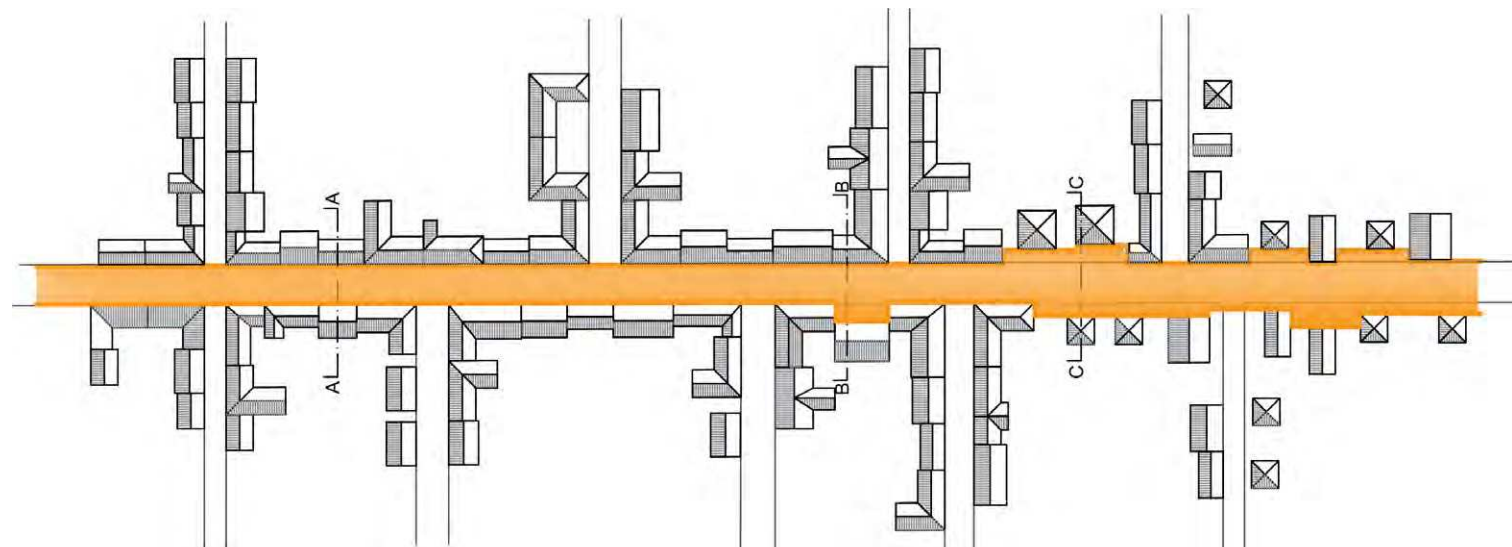
Rediscovering the walk is the key because the speed has blocked us from experiencing space and landscape. This

¹³ Cullen, Gordon (1961): *The Concise Townscape*, The Architectural Press, Oxford (Serbian Edition: 2007), 118

¹⁴ Juhani Pallasmaa (2018): *A bőr szeméi: Építészet és érzékek*, Typorex, Budapest; 56

¹⁵ Hall, Edward T. (1966): *Anchor Books*, Doubleday, New York; 162

¹⁶ Burckhardt, Lucius (2006): *Warum ist Landschaft schön?*, Martin Schmitz Verlag, Berlin



is what promenadology deals with, it can also be called the "science of walking".

"For now, promenadology is not a science, but an approach."¹⁷ Its aim is the focused and conscious perception of the environment, and to transforming mere vision into perception.¹⁸

The promenadological approach has only qualitative expectations, the goal is to analyze the whole view and in the light of this, identify the identity of the place. The biggest disadvantage of a static street view is that it is presented from one perspective. Even if multiple images are taken from different perspectives, they remain only mosaic pieces. The complex image of the surrounding cannot be got.

According to Lucius Burchardt, only walking gives direct sense of the

environment. Promenadology can be a spatial experience not only for the sighted but also for the blind - although they use a completely different sense to understand their environment. For them, space is perceived through the sensation of touch, sound and its reflection, sense of heat, and fragrance. This creates a dynamic picture of the environment.

Walking can be seen as the source of the spatial experience. The usual static street views highlighting just a few moments, but the person is moving constantly, stop only stations that must be surpassed sooner or later. For this reason, it is essential to involve movement in settlement research.

During the walk people get in direct contact with the environment. If you are in a settlement for the first time,

¹⁷ Meggyesi Tamás (2006): *Városépítészet, Egyetemi jegyzet, Budapest*; 2

¹⁸ Burchardt, Lucius (2006): *Warum ist Landschaft schön?*, Martin Schmitz Verlag, Berlin; 87

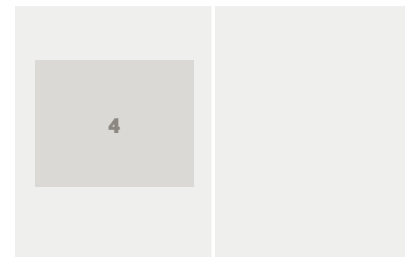


Fig. 4: The perceptual boundary of the street
(MADE BY AUTHOR)

perhaps your first impressions are the most important: then all our senses are active, and our impressions leave a lasting imprint in our memory.

To sum up, one of the key points in the experience of space is the relationship between space and time. To understand the essence of a dynamic spatial experience, we need to clarify the relationship between time and space. In order to experience the time, we have to move around in space.

According to Szentkirályi, the length of the route is not calculated in meters, but in time "... we perceive a space as the sum of the motions; a distance between objects is required, measured by the content of a motion overview or the amount of time that can be experienced."¹⁹ In other words, continuous motion involves the change of the environment by the time, that is, the subjective realization of space: as if we were experiencing the interference of time and space.

In contrast to the experience of a static view during the movement everything changes: the viewer who is walking and the environment through which they pass, while they interact with each other so that the two can no longer be separated. It is nothing more than a lively, moving collage or a piece of music where themes like "acoustic event spaces" unfold over time. But we could liken it to narration: it is no coincidence that we know many literary descriptions of a street.

4. THE METHOD OF USING THE DIFFERENT ASPECTS OF PERCEPTION IN THE DEFINING THE AREA OF THE STREET

The most common way of defining the area of the street is based on dividing it on outer and inner, public and private areas, that in most of the cases means the physical boundary of the street that is created by the facades of the buildings.

As it can be seen in both static and dynamic aspects of experiencing, more from the public spaces of the street can be perceived. According to Giambattista Nolli it can be said that the street as a public area does not stop at the physically enclosed building line. As it is visible on the map of Rome made in 1748 the inner blocks and the semi public spaces, are indeed part of it.

The "urban solid-empty" morphology follows similar approach. The "urban solid" category includes the constructions, that are the border-defining buildings. However, the "urban empty" defines the entrances, the inner blocks, the network of streets and squares, parks, gardens and other linear elements.²⁰

The urban open space is a free from above external space explored and shaped for human use.²¹ In other words the urban open spaces are parts of an uninhabited urban space ("urban empty") that have been explored for human use by landscape architecture.²²

¹⁹ Szentkirályi Zoltán (1980): *Az építészet világtörténete I-II., Képzőművészeti Alap Kiadóvállalata, Budapest*; 190

²⁰ Lukovich Tamás (2001): *A posztmodern kor városépítészetének kihívásai*, Pallas Kiadó, Budapest

²¹ Jámbor Imre (2000): *Kertépítészeti tér, szabad tér, zöld tér - TÁJÉPÍTÉSZEZET* 2000/1

²² Balogh P. I. (2004): *A szabadterek szerepváltozása a nagy európai városmegújításokban*, Doktori értekezés, Budapest

To sum up, it is obvious that the area of the street extends beyond the physical frame. To determine the exact area of the street getting a complete image of it the research involved the different ways of experiencing the environment. Thereby included the observer into the process.

Owing to the new method of defining the frame of the main street it becomes possible to analyze them including the individual factor, how the people feel and understand their surrounding. The result of the new method is visible on the figure below.

5. CONCLUSION

To sum up, the subject of the paper is about defining the area of the street. According to the most of the literature, the street is framed by elements that define the outer and inner space, separating the private from the public area. These are mainly the walls that surround the street, namely the facades of buildings. In this case the street is strictly limited to the public area. However, the observer senses more of the street. The research was made to find the method of defining the boundary of the street including the subjective aspect, the human factor in it.

According to professor Meggyesi, our environment exists in three ways: as an independent reality, and as a subjective image perceived by moving and in our memories.²³ The research is

focusing on the two subjective methods of perceiving the environment that are including the human factor. Therefore, the different ways of experiencing the environment were analyzed. These are the dynamic and static aspect. According to both the area of the street contains all the areas that have visual connections with the observer.

To sum up, the base of defining the frame of the street is given by the different methods of experiencing the environment. It is based on the space that the observer sees being on street or walking along the street.

The paper is giving a base for establishing a new methodology of urban-architectural researches saying, that the frame of the street defined by subjective perception contains much more relevant attributions about the settlement than the public area of the street can give. It includes the human factor, making possible to involve subjective experience and the different social inter actions into the research.

Defining a new method of urban-architectural analyzes of the main streets, but at the same time finding a framework which will allow that research become effective, is the fulcrum of this paper, which will be elaborated in the Ph.D. in progress of the author. Owing to the new method of defining the frame of the main street it becomes possible to analyze them including the individual, subjective factor, how the people feel and understand their surroundings. ©

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AZ UTCA TERÜLETI MEGHATÁROZÁSÁNAK MÓDSZERE

Az utca területének lehatárolása összetett feladat. A legtöbb szakirodalom szerint az utca keretét a külső és a belső teret határoló, a magánt a közterülettől elválasztó elemek képezik. Ezek elsősorban az utcát határoló térfalak, azaz épületek homlokzata. A szakirodalom szerint a szakirodalom szerint az utca fizikai keretét tehát azok az elemek alkotják, amelyek fizikai határt képeznek a különböző karakterű és használatú terek között. Az efféle lehatárolás egyik fő hiánysága, hogy a bejáratok és a földszintek szerepe elvész. Hiszen a magán és közterület határa korántsem egyezik azzal, amit az egyén érzékel az utcából.

Ennek megfelelően ki kellett egészíteni az utca lehatárolásának definícióját.

Meggyesi szerint környezetünk háromféle módon létezik: először az egyéntől független objektív valóságként, másodsor a végigjárás során, harmadszor pedig emlékekben, mentális kép formájában.

Ezek alapján a kutatás az utca keretének meghatározásánál az egyén által érzékelt teret vagyis a szubjektív teret vette alapjául és bevezette az utca percepció kerete fogalmát. Gordon Cullen a *The Concise Townscape* című könyvében a fizikai határokat akadályként (hazards) definiálja, amelyek célja, hogy egyértelműen elválassza a különböző karakterű tereket úgy, hogy a vizuális kapcsolat megmaradjon.

Mivel az ember a környezetet térbeli és időbeli mivoltában érzékeli, két fajta térérzékelési módot különböztet meg a kutatás, az alapján, hogy az ember miként fogja fel a teret és az időt, illetve miként reagál rá: a dinamikus (promenadológia) és a statikus (percepció) érzékelési módot. Ezek az álló helyzetben, illetve a mozgás során szerzett információkat foglalják magukba. Ez azonban nem pusztán az információk begyűjtését jelenti, hanem valódi élményt is, mely által komplex képet kaphatunk környezetünkről.

Összefoglalva, az utca percepció keretének meghatározása során a környezet személyes megtapasztalása kulcsfontosságú szerepet játszik. Az utca percepció kerete ugyanis azt a

területet határolja, amelyet az egyén érzékel az utcából. Ezáltal az utca nem korlátozódik pusztán a szűk értelemben vett közterületre. Magába foglalja a félprivát és privát tereket illetve a köztük lévő interakciókat, ezáltal magába foglalja az utcán zajló életet.

A kutatás alapot biztosít a városépítészeti kutatások új módszertanának kidolgozásához, mely a szerző folyamatban lévő PhD kutatásának témája. A módszer alapja, hogy a szubjektív térérzékelés alapján lehatárolt utca segítségével komplex képet kaphatunk magáról a településéről. Hiszen az efféle lehatárolás magába foglalja az emberi tényezőt, lehetővé teszi a szubjektív tapasztalatok és a különböző társadalmi interakciók bevonását a vizsgálatokba. ©

HISTORIC PUBLIC PARK DESIGN – A CASE STUDY ON COMPLEX LANDSCAPE HISTORY EDUCATION

SÜDPARK KLEINBURG BRESLAU

EGY KÖZPARKPÁLYÁZAT A MÚLTBÓL, MINT ESETTANULMÁNY A KERTTÖRTÉNET OKTATÁSÁHOZ

SÜDPARK KLEINBURG BRESLAU

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The second half of the 19th century was extremely rich in establishing new public parks all over Europe. The urban renewal of Paris, Vienna, Barcelona, the new Gardenesque style of J. Paxton, H. Repton, W. Nesfield, Ch. Barry, C. Loudon, the functional approach of A. Alphand and F.L. Olmsted, and the eclectic forms of the two great German designers P. J. Lenné and G. Meyer¹ all influenced the ways cities looked at their unbuilt suburbs as new potentials for future urban development. There was a successful design competition in

1892 for a new public park, 'Südpark' of Breslau, Kingdom of Prussia (now Poland / Wrocław). The contest was unique in the sense that a part of the competitors' documents were published on the columns of Möller's *Deutsches Gärtner Zeitung*. The park was realised around 1900, and rich historical sources are still available (plans, maps, postcards) on its later phases, too. The park exists today, so one can follow the 120 years of historical development very clearly. This paper has two goals, the first one is educational – to

¹ G. Meyer: *Lehrbuch der schönen Gartenkunst: mit besonderer Rücksicht auf die praktische Ausführung von Gärten und Parkanlagen*, Berlin, 1873.

explain complex sequence of interactive activity for garden-history classes with landscape architecture students (part I). The second goal is analytic: to get deeper understanding of the style and taste (composition, function, form, fabric, planting, details) of the turn of the century park design and the typical planning solutions of the time (part II.)

I. COMPLEX EDUCATIONAL SERIES ON A PUBLIC PARK (ACTIVITY 1-7.)

In this chapter, the structure of activities will be explained and illustrated with original sources. The aim of this series is to advert student's attention to solving functional problems, to design issues regarding forms and planting, and secondly, to develop skills in using historical sources and improve critical evaluation, based on the analytical comparison. "Garden and Landscape History" is a key module in the education curriculum of the MLA (Master of Landscape Art) Program of the Szent István University.² This case study was fitted into the frame of this course. To ground the basic knowledge of students, they heard a 3 hours-long lecture on urban planning of the 19th century as well as about the establishment and development of public parks all over Europe and the USA. A lecture was also introduced on Margaret Island, one of the best-known parks in Budapest, where we also had a field walk on the following day. The complex series of activities discussed below, were done on the 17th of February³ as a long afternoon session (3,5 hours) with additional homework to prepare.

1st activity: The public park design competition – A comparative analysis of 6 winning projects in small groups

In the first phase, the teacher explains (15 min.) the general circumstances

of the 'Südpark'-competition.⁴ The city of Breslau made the call for planning a new public park on the southern outskirts called Kleinburg/Borek, on 30 hectare, in order to increase the future development of public utility services and a new villa-housing. On the south side was the embankment of the railway, and three private grounds were also included (A- long parcel for future housing, B- private plot, C- small cemetery of Kleinburg). Other requirements from the city included: 8000 m² of restaurant and concert area, 2000 m² of parking for carriages max. 250 m far from the restaurant, 1 ha Playground, a pond area; a head-gardener's house with garden. The designers had free hand, except for the following requests: to place the pond close to the restaurant as well as the playground – so that the "parents could keep an eye on their lovely kids, while drinking beer",⁵ the main-hall not to be located close to the train – because of the noise and stream of trains, the audience of the open-air concerts should not face to the sun, the gardener's plot must be far from the villa-zones because that could disturb the wealthy owners. 72 plans were handed in for the competition, but the Möller's Magazine introduced only six tenders in its' issues.

The students formulated small groups (each of 3-5 students) and received the 6 proposals, each printed on A3 sheets. They had to compare them with the following study questions: *What are the similar and the different functional solutions in the plans? What is the logic and system of zoning, circulation, and the hierarchy of pathways? What are the characteristics of planting? How can we describe the style – manner of each proposal? How are the visual links organised in the greater space? How much space is given for decorative-formal, Gardenesque details?*

The student groups discussed the questions and noted their remarks,

² The teacher of the module is Anna Eplényi PhD, associate professor since 2013. The module contains 48 lectures, tests, oral exam, A2-posters and design-sketchbook activity in order to develop various skills in historic knowledge.
³ The exercises were done with Erasmus LA-Students in the spring semester of 2020 – Szent István University, Fac. of Landscape Architecture and Urbanism; within the frame of the course "Public park of Vienna" (teacher: Anna Eplényi PhD): Akin Yesim, Doğan Zehra Betül, Dotto Coralie, Goldenberg Ezequiel Iván, Itak Deniz, Kurasa Kristina, Le Dù Evan, Piccinin Chloé Jacqueline, Janusz Filipiak
⁴ 'Die Entwürfe für den Südpark in Breslau I-VII'. in: Möller's *Deutsche Gärtner Zeitung*, Erfurt, 1892. (VII. Jahrgang), pp. 99-100., 118-121., 154-156., 177-180., 209-210., 221-222., and 452-454. online: <https://digital.lib.tu-berlin.de>
⁵ "Da muss der Spielplatz unbedingt nahe der Restauration liegen, damit die biertrinkenden Eltern die spielenden lieben Kleinen stets unter Augen halten können." in: Möller's, p. 100.

ideas on the plans, marking things as views, roads, functional zones etc. They came up with plenty of conclusions in 45 minutes. In the following part, the authors will describe the 6 plan briefly based on the Möllers Magazin's text and our personal comments.

© The design proposal by Ed. Hoppe, landscape gardener from Berlin:

A main driveway with slender curves runs through the park, allowing easy access to the park from all sides along with many other pedestrian entrances. The restaurant and the concert square are situated along a long axis at the northern part of the park with direct connection to Parkstrasse and the wagon parking area. This focus point is kept far away from the disturbance of the railway on the south, providing a clear view to the rest of the park. The lake has a natural appearance with smaller bays increasing the length of shoreline. The connection to the main water body is accentuated with pedestrian bridges. A Belvedere is located as the highest point in the southern part, making it visible from different parts of the park. Dense, forest-like plantation is used to screen all the built up features and the surroundings in order to create the atmosphere of a truly natural landscape. The southern area is especially condensed with trees to mitigate the disturbance of the close-by railway. There are only 3-4 great vistas, stretching throughout pathways providing interesting experience of alternating enclosed spaces and sudden openings. Longish, exedra and hippodrome forms are used.

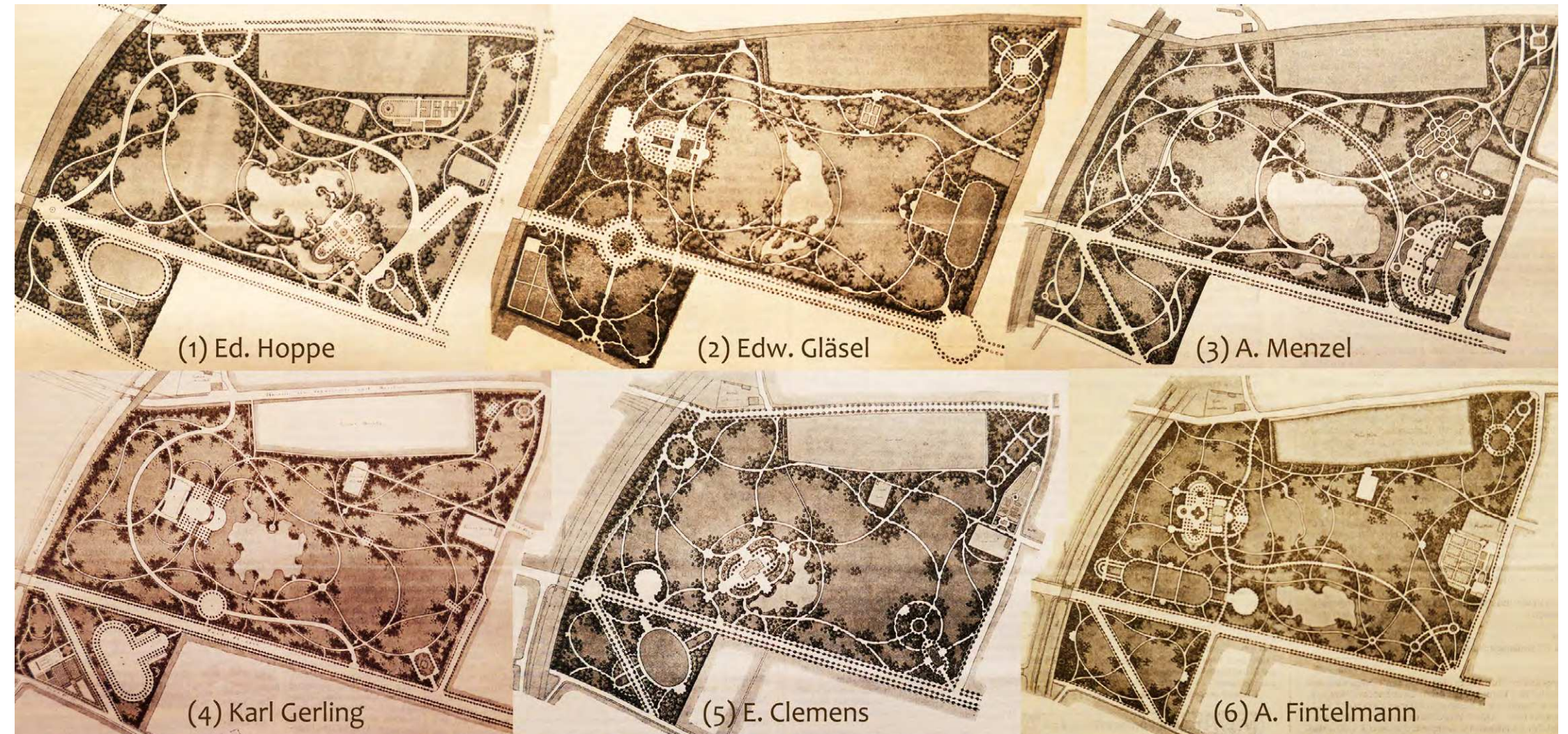
© The design proposal by Edw. Gläsel, landscape gardener from Copenhagen:

A main driveway is planned to allow good access and smooth movement throughout the park. It leads by the cemetery along the western belt to the south, where the park's hall is proposed

to be. The building and the concert square are on a round-arched square, surrounded by fast-growing (conifer) forest to protect it from the train, keeping an unobstructed view of the whole area. The square is designed with a central, rectangular carpet bedding surrounded by a grove planted in fan form. The playground and sports field (10000 m²) is laid out at the northern end of the complex, filled up to a height of 123 m, which means that the visitor of the park can sit at the end of the square and enjoy a nice view over the middle part of the park. The pond (9600 m²) has a water depth of 2 m, and a large part of the excavated soil is intended to fill Parkstrasse. The intersection on the main road is a strong central focus point, with an outer oval route for riding, and carriage joyride. Additional shorter vistas are provided, separated with clumps - while the inner areas are kept almost empty. Suggested plants are native trees: Fagus, Quercus, Acer, Aesculus; Conifers: Abies, Pinus, Larix and some special conifers etc., Park trees and shrubs., Finer shrubs: Rhododendron, Roses and perennials., and Trees and shrubs: Alnus, Salix, Betula, Prunus, Padus, Cornus, Spiraea etc.⁶

© The design proposal by A. Menzel, garden architect from Cologne:

The design principle applied in this proposal is dual and simple: the southern part is more natural, while the northern part is rather eclectic and formal. This is especially true for the design of the concert square, lacking any exaggerated formal luxury. Except for the two music pavilions, there are no other large sheltered halls, since the proposed hall is large enough and designed to be intact during the summer months and in a way that provides a clear view over the park from every aspects. The same principle of simplicity prevails in the elliptic rose gardens. Cosy sitting areas located at various eye-catcher



6 in: Möller's, p. 118.

points invite the visitor for a quiet moment of contemplation. This atmosphere of silence and grandeur harmonizes well with the nearby cemetery, and thus, the solemn silence of the cemetery is not disturbed due to excessive traffic or children playing in the playground. The playground is rather small, and the plan omits the big exedra-lawn for riding, for croquet-playing; so the natural circulation-network appears uninterrupted and fluent, while the pond have relative simple shoreline.

© The design proposal by Karl Gerling, head gardener in Bockenheim-Frankfurt am Main: The restaurant hall occupies a dominant position on the highest point in the south. A wide advantageous view of the park is provided from

the great formal terraced area: more than 100 trees in a grid-layout offering a pleasant sheltered place at any time of the day; while no bedding appear here. The very meandrous shape of the pond (1.20 m deep) is adapted to the natural terrain, immediately next to the concert square - as requested. Two main pedestrian entrances to the park are designed with small eclectic parterres decorated with flowers and leafy plants. A main S-curved road (6 m) connects the 2 side-roads with a crescent (it's function is unclear); other secondary paths running through the terrain with slender sinus-pretzel curves offering a full panorama to the relatively generous spatial system. The designer considered that the playgrounds, sportsgrounds and gardening-plots do not fit into the framework

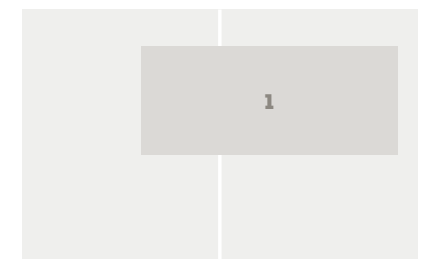
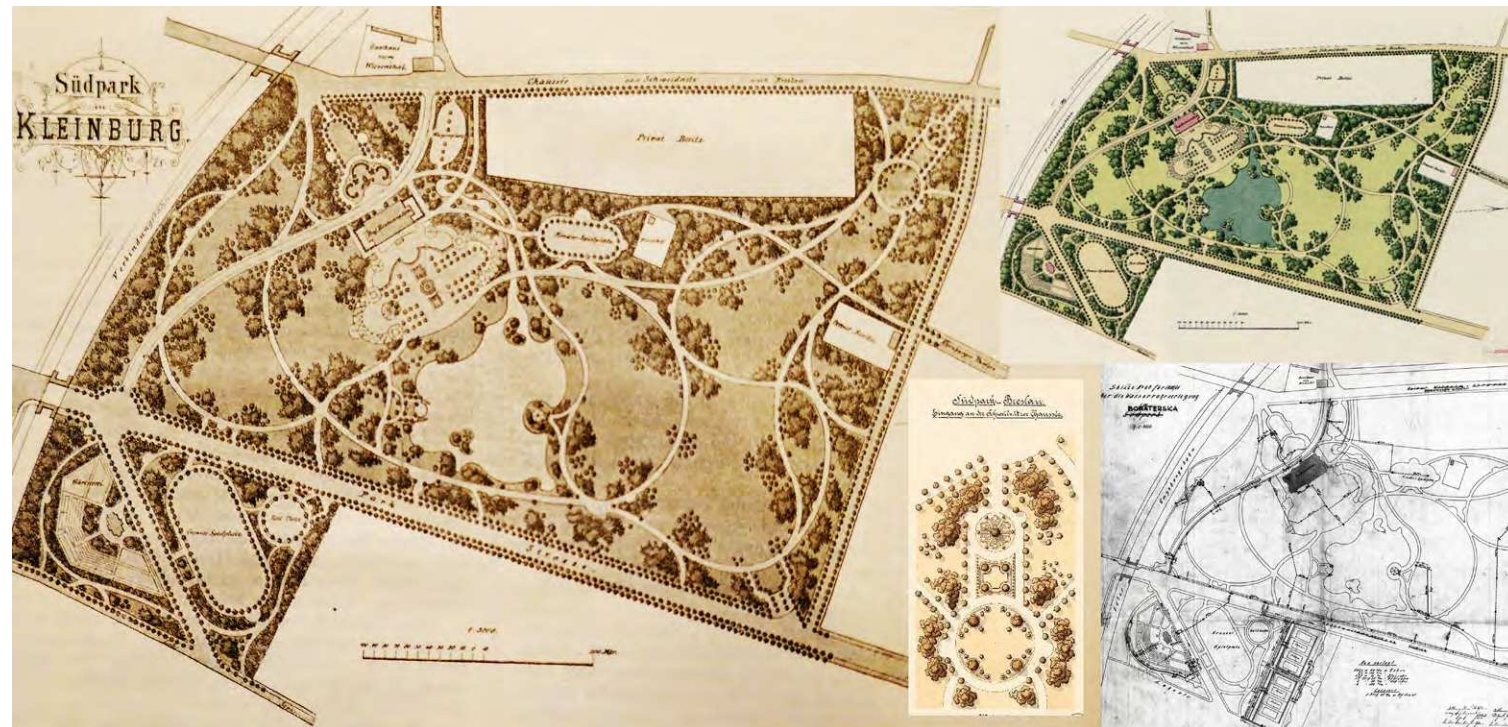


Fig 1.: 6 proposals for Südpark Kleinburg, Breslau introduced in the Möller's Magazine (1892)



of a natural main parkscape, so they located them on the separated triangular part, hidden by planting. Tall and strong trees are planted in large quantities along the rail traffic to screen the view of the steep embankment. Comparing the 6 proposals, we can state, that the ratio of the woody plants is the lowest in this case, and the groups of trees and scrublands are strictly located only around the intersection of paths and on the belt-border of the park.

© The design proposal by E. Clemens, stadt - Obergärtner in Berlin: The proposed arrangement of the whole park was to offer an effective distribution of bright / shady spaces by the means of planting, supported by gentle changes in elevation and a system of paths with smooth continuity. Lawns have smooth, sunken, bowl-like terrain modification offering directed inner views. At the two corner-entrance zones, axial, symmetric spaces are to see with alleys, flowerbeds, surrounded by high-stemmed rose trees. One should note the unique form of a "small bite" into the circular forms, which orientate the visitor's eye to the park vistas. Pretty flowering shrubs like Philadelphus, Syringa, Weigela, Prunus, Cytisus etc. are planted along

the paths and some rare and special trees are to be near the regular flowerbeds and near the restaurant. This central zone has an elevated, simple oval shape with a relatively narrow terrace around, linked with a smaller pond (compared to the other proposals). The hippodrome (1 ha) is placed in the triangular area here as well.

© The design proposal by A. Fintelmann, städtischer Garteninspektor in Berlin: The pond is located in the lowest point of the park - not linked with the main attraction point which sits on the highest point of the terrain. Out of the six plans, the elegant restaurant with its formal open spaces occupies the largest area with a dominant design here. The terrace is 10 times larger than the hall with 1+2 focal fountains, 1 music pavilion, symmetric exedra-pergolas, grid-planted trees and carpet bedding. Note that the whole unit is densely wrapped around with woodland providing views only to the N and S. The playfield stretches also axial, along the road. The gardening area is joint with the private plot - saving space! The little brook leading to the pond gets little more attention here, than on other proposals. The circulation system is not

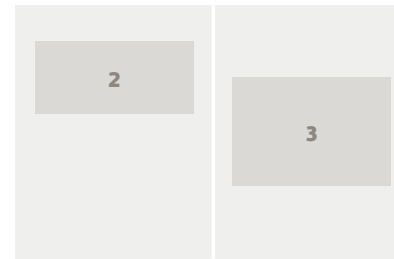


Fig. 2: The finalised plan of 'Südpark Kleinburg' by the City, (SOURCES: MÖLLER'S, P. 452, A DETAIL OF THE NW ENTRANCE, AROUND 1900 [HTTPS://POLSKA-ORG.PL/672817,FOTO.HTML?IDENTITY=](https://polska-org.pl/672817,FOTO.HTML?IDENTITY=)

508994, AND THE WATER-SUPPLY PLAN FROM 1910, [HTTPS://POLSKA-ORG.PL/971839,FOTO.HTML](https://polska-org.pl/971839,FOTO.HTML)) **Fig. 3:** A Postcard Montage of Südpark - Kleinburg around 1900-10,

(ORIGINAL PICTURES: [HTTPS://POLSKA-ORG.PL/508994,WROCLAW,PARK_POLUDNIOWY.HTML](https://polska-org.pl/508994,WROCLAW,PARK_POLUDNIOWY.HTML), MONTAGE BY A. EPLÉNYI)



pretzel shaped here, but provides dense connections in a variety of directions with many crossroads. A direct accessibility is provided for the residents of the private residential area on the west (A).

2nd activity: Students' Evaluation - Oral discussion within the class

After the given 45 minutes, the whole class gave responses on the plans with their remarks. For each plan, 5-10 minutes of group time was available. For each plan, a different group

started the evaluation: *how much the requested goals were achieved in the proposals, what is the main character and style of the design, etc.* - and other groups could add extra comments.

3rd activity: Student 'Jury' voting

After the parallel comparison each group voted for the 1st, 2nd, 3rd prize, results were summarized on the board. The real winners of the past were only disclosed to the students now: No 1st prize was awarded, 2nd prize:

Fig. 4: The Südpark around 1920-25, (SOURCE: [HTTPS://POLSKA-ORG.PL/900322,FOTO.HTML?IDENTITY=3461913](https://polska-org.pl/900322,FOTO.HTML?IDENTITY=3461913))



Ed. Hoppe (1), 3rd prizes: Clemens (5), Fintelmann (6), Gläsel (2), Menzel (3). Comparing to the student result, their finalist was also Hoppe's plan, the 2nd Menzel's and the 3rd Gerling's.

4th activity: The realised final plan of the Südpark Kleinburg – joint discussion (20 min)

Months after the award ceremony, H. Richter, the head gardener of Breslau and other jury members decided to develop a new plan combining the best solutions from all the proposals. They came up with a final solution described in detailed on the columns of Möller's Magazine.⁷ This plan was set according to the original goals mentioned above, but some more objectives were raised by the Magistrate:

- (a) To place the Restaurant on an elevated platform, far away from the railway, guests to be placed on the silent side with nice landscape to see.
- (b) To locate the pond near the terrace.
- (c) To move wagon-parking close to the road and to the restaurant as well.
- (d) To place the small kid's playground so that no traffic should be in-between and that the children's hubbub cannot disturb visitors.

- (e) To place the school kids's sports field (roman circus form, ca.1 ha), the circular riding track and the garden service on the separated part.
- (f) To place the connecting inner roads so that they would not reduce the useful areas of the park.
- (g) To establish a viewpoint by the embankment as a look-out point.

The connecting road through the park has a lane of 7 m, alongside a riding path of 4 m, and a footpath of 3 m wide, the main footpaths are 5m, the others 3-4 m wide. The elongated paths and serve the visitor as a silent driver, showing them the most outstanding spots in the park. A powerful view of wide lawns opens across the pond with natural islands, and dark green foliage. There are two built features by the pond: a terrace with balustrade staircase leading to the water, allowing for boat trips and ice skating; and a little garden-hut on a small peninsula with evergreens on the opposite. All the three entrances are laid out axially with smaller round, rectangular forms, and short alleys of trees. The major longitudinal axis starts from southwest leading to the restaurant and concert area, which can accommodate about 10,000 people. A colonnade-pergola on the two exedra serve

⁷ in: Möller's, 1892. (40) pp. 452-454.

shelter in sudden rainfalls, while the music pavilion and the carpet bedding is in the middle of a grid of plane trees. There are 3-4 longer, great vistas and 4-5 shorter ones all around the park. The woody planting is more close to the 18th century natural planting style, than in the other proposals: solitaire and small clumps are also planted into the lawn, while the dense, dark green foliage-belt is planned on the south and west border. A future desire was to create an underpassing tunnel across the train embankment for better urban connections.

Finally, it can be concluded that this plan fits to the design style of the other proposals, choosing the best zoning and functional arrangement out of them. The attractive form of the lake-shore, islands and the small brook with bridges recalls the classical landscape style, while the eclectic, Gardenesque mood only appears around the main-building and at the entrance zones.

5th activity: Creating a postcard montage – discussing the historical development (30 min)

After the discussion of the design, the students received plenty of old postcards (1900-1910) of the park realised. Using the historical images, they could analyse the changes of open spaces, the visual dynamics in space and time. They had to rank them by time. The 'postcard montage' is a useful (digital) graphic exercise to re-create the atmosphere and character of a place: selecting 10-12 pictures and cutting out the most significant, typical features; mixing and collating them into a single image. Regarding historical development, let us quote just an example here. The aerial photo shows all the discussed items.

Note the realised tunnel under the railway, the nice dense conifers along the embankment, the canopy-grid with the round colonnade on the terrace. We can observe little parcelled allotments in the lawn, most probably a consequence of

the First World War, while the projected villa-housing area (left) is still unsold.

The length of the article does not allow to discuss the park's present in details. Observing the layout⁸ of today, we can emphasise that 90% of the original layout of pathways, lake-form and features are still in their original state: the forecourt of the Hall and the other 2 entrance zones are in their formal-circular layout, the terrace is in its original size, unfortunately without the trees, and the Restaurant of Georg Hasse (1859-1931), well-know brewer enterpriser, and the Lookout-pavilion by the lake was demolished in WW II. The balustrade terrace and the iron bridge over the brook is still there, and the woody and decorative planting is also in accordance with its authentic character.

6th activity: The "Ten Commandments" of turn of the century parks

To focus student's attention to planning principles and deeper aims and goals of landscape architecture, written activities are also useful. Within this exercise they were asked to articulate 10 statement sentence on public park design of the time. *What are the important functional, social, management issues? Forms and design principles?* Formulating key-principles with a short explanation can serve as a guideline for one's future design concepts, because these are based on a long series of personal activities and empirical experiences. Read some examples in the footnote.⁹

II. VISUAL VOCABULARY OF PARK DESIGN ON THE TURN OF THE 20TH CENTURY (7TH ACTIVITY)

After the complex set of activities, the students had to continue the individual work at home. The goal of this exercise was to get insight into park-design principles: styles, forms, function, planting issues etc. to conclude

⁸ Plan of the park today: <https://old.orienteeing.org.pl/index.php?w=mapy&pocz=800>

⁹ Examples from Student C. Dotto: (5) Public parks also enable economic development: they make the surroundings more noble and offer new services. The creation of public parks allows for the development of properties in the surrounding area. This adds value and makes them more noble. Also, new services are offered inside the parks: cafes, restaurants to serve the special needs of visitors. In addition to this, public parks offer a space for relaxation and recreation for the working classes who work in difficult industrial conditions and need motivation. (6) Public parks of 19th century are made up of a variety of shapes: a mix of formal and informal forms: Indeed, we find a hierarchical system with separate roads according to the uses: wide and strict "avenue-like" alleys, with lines of trees, for the arrival on horseback or carriage. But it is also the beginning of informal lines with curvy and serpentine paths, minor ones for pedestrians. There are often many of them, which leaves various opportunities for pedestrians. Layouts include geometrical elements: circles, crescents, rounds etc. (7) The public parks of the 19th century were inspired by several historical styles: We find the influence of Renaissance and Baroque gardens: use of complex, very picturesque and representative forms. The design is very formal and symmetrical in some places, especially at meeting places, road junctions and near buildings. The general objective is to make the space useful, convenient, ordered, simple and graceful. In many public parks of this period we find the influence of Art Nouveau with polychrome ornaments in connection with the new buildings of the cities.

a “visual-design vocabulary”; an “icon collection” or in other words a “drawing repository”¹⁰ on a simple A4 sheet. This should conclude main park-features in a systematic order: small details or stamp-size images with titles or short texts. The other aspects of selecting features was the nomenclature by C. Dee.¹¹ Task: *What are the typical functional elements? - circulation issues? - design solutions? - planting forms? - details of the proposals? Crop 16-20 details of the plans or postcards, group them into logical units and give short title and interpretative text to the stamps size image!* On Figure 5 one can compare some of the students’ works, while in the following part authors will list 16 visual vocabulary expressions relevant to the public park design on the turn of the century.

Visual vocabulary: design elements
Stretching axial symmetry – based on the facades of the main building (people’s hall) a long axis is stretching through the space, which creates symmetrical composition on both sides; the symmetrical features are smaller or larger vanishing finally into the natural vistas.

Formal entrances – At the entrances or arrival zones the design is formal with smaller round/oval shaped spaces, or rectangular planting forms; this creates a transitional zone between the built rhythms of the city and the natural planting of the park.

Formal intersections – “Like a pendent on a necklet” – At the junction points of the pretzel-shaped pathway network, little formal spaces appear with oval, round shape; they create a one-minute-rest point while deciding which way to go on.

Curvy lakeshore – The forms of the lakes are rather compact (not longish, serpentine), but the shoreline is very varied creating various bays and peninsulas, the grouped planting increases this effect.

Visual vocabulary: functional solutions
Nursery areas needed – Nursery areas are always designed as an integral part of the park, usually on outskirts of the park, or on other locations, which were hard to integrate.

Border planting against noise – Attention was paid on urban conflicts, such as noise pollution or visual screening: here a dense woodland with conifers and raised terrain were designed to reduce the unpleasant effects of the bypassing trains. Also dense planting can be seen around the A, B, C – restricted private areas.

Hippodrome gym grounds – For sport activities (which was mainly horse riding, croquet, running, gym or other athletics) simple, tree-framed hippodrome grass areas were designed originating from P. J. Lenné’s and G. Meyer’s Neo-Roman garden designs; rondos or little curvy cropped rectangular spaces were also combined along the two axes.

Lookout points by the water – Following landscape garden traditions, the viewpoints (pavilions or circular seats) are very close to the lakeshore, on little peninsulas or rock formation; this water feature will become one of the most significant visual element of the parkscape from both perspectives: as a pathway destination and a focus point of the lake panorama.

Visual vocabulary: forms, fabrics
Hierarchy of road network – For safety reasons, the various means of traffic of the park required a well-planned route network (carriageways: 7-12 m, horse riding ways: 6-4 m, pedestrian ways: 5-3 m). The roads are mainly pretzel-shaped with a waving, bypassing road with lines of trees planted. The pathways are more undulating, providing opportunities for personal choice of ways.

Directed vistas – Formal planting (shrubbery or flowerbeds) was required next

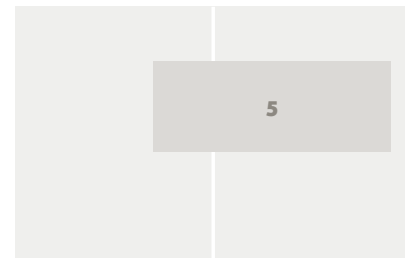
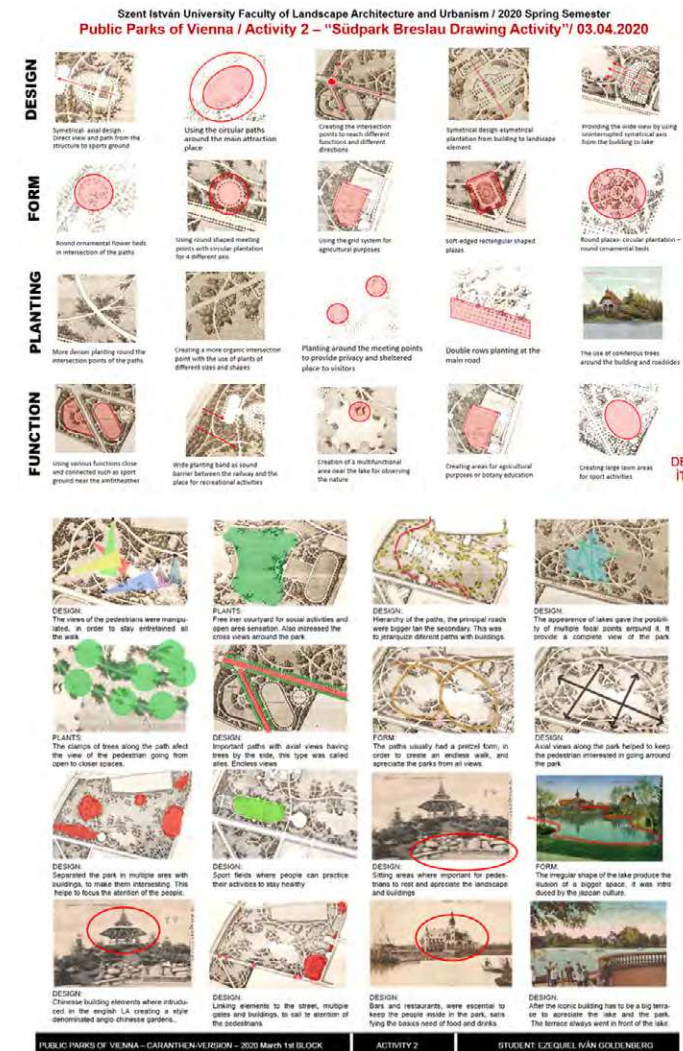


Fig. 5: Students’ works: Icon-vocabulary of the turn of the century park design: Itak Deniz, Janusz Filipiak, Dotto

Coralie, Goldenberg Ezequiel Iván, Le Du Evan, Akin Yesim. February 2020, SZIE



to geometric elements of the park. In this case, the 3 fan-like views by the sportfield are determined by 4 decorated forms and clumps of trees.

Formal, central design – As we can see, on all of the concepts there is a geometric, symmetrical design around the restaurants, cafés: the elevated terraces are round-arched, with fountains and carpet bedding in the middle, with 1-1/ 2-2 pavilions on the focal points, pergolas on the exedra. The pathways departing from this central areas are also symmetric for a while, then melting into the pretzel-naturalness.

Neglected naturalness – The real, native natural scenarios (rocky creek banks) or picturesque views are not really articulated in the public park design

as before. Brooks get less attention, sometime passing invisible, through dense woodlands.

Visual vocabulary: planting
Dense, woody crossroads – The 6 proposals are very similar in the way of planting of bushes and trees: getting closer to the intersection of paths the vegetation is getting denser and thicker. 90% of these junctions are hidden by greenery. This created a special atmosphere of mysterious discovery, to find one’s way by choosing the new pathway to the light.

Loose open lawns – Unlike the solitaires and clumpy, semi-open fields of the 18th century landscape parks or arboretnums, here almost all the public park proposals suggest absolute loose,

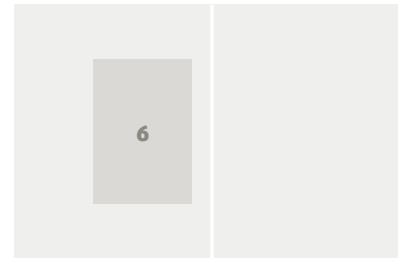


Fig. 6: A visual vocabulary of park design on the turn of the 20th century (MONTAGE BY A. EPLÉNYI.)

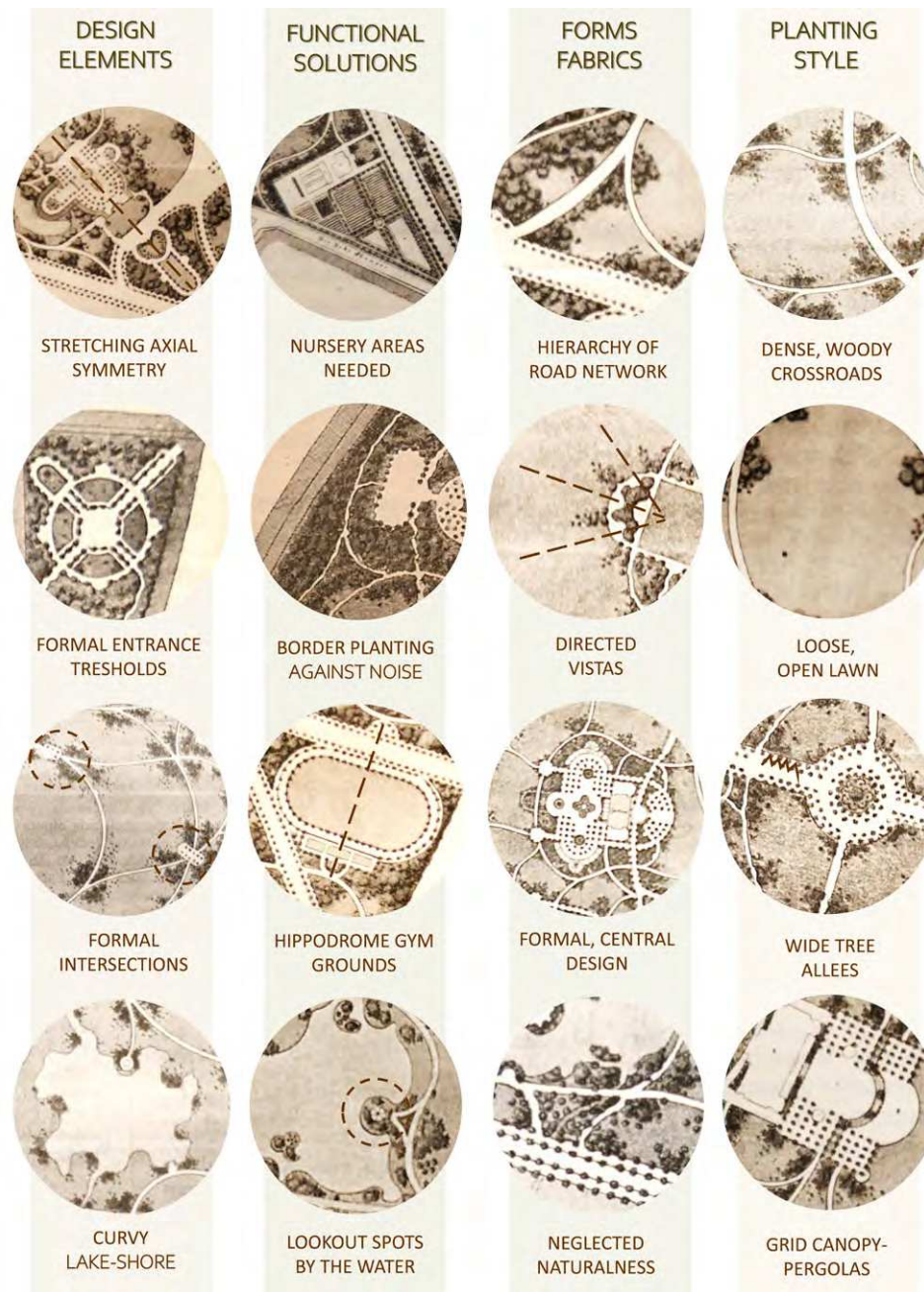
wide open fields. They are stretching until the woody cross-roads without a single-tree or any canopy of bushes, scrubland.

Wide tree alleys - The alleys of trees are essential along the wide, transit roads. They were planted in double rows: the 1st inside, and the 2nd along the green area, or in slipped zig-zag style. The (double) line of trees followed the forms of crescents, hippodromes as well.

Grid canopy-pergolas - Looking at the postcards from the turn of the century, we can see that at the front of the restaurants and cafés trees were planted in a grid, or bit radial structure. This created a continuous shelter above the tables against sunlight.

CONCLUSION

The article pointed out that an interesting historical source can become a key to a good methodological exercise. In this case, the subject of one park (unknown for Hungarian or Erasmus students) could be discussed in a very complex way so that to focus student's attention far beyond the case study. Thanks to the very rich sources of plans, texts, postcards etc. they could understand the historical development of an everyday park design even without site visit, and also develop far more conclusions related to the design issues of the turn of the century. The observation skills of the students were sharpened; comparison and critical analysis, historical data-use and (con)sequence-ranking were also promoted. Even if the style of park design is changing from time to time, the main aims of functional spaces and their design remain the same! That is how there is a lot to learn from the turn of the century documents! ☉



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EGY KÖZPARKPÁLYÁZAT A MÚLTBÓL, MINT ESETTANULMÁNY A KERTTÖRTÉNET OKTATÁSÁHOZ - SÜDPARK KLEINBURG BRESLAU

Ez az oktatás-módszertani cikk egy poroszországi park történetének, tervezésének és kivitelezésének állomásait mutatja be olyan módon, hogy a tárgyalt témához pedagógiai aktivitásokat, órai csoportos és házi-feladatokat, kompetencia-fejlesztéseket rendel. A cikk első készében az interaktív feladatsor hat lépését mutatjuk be; a másodikban a 7. feladat került részletesen kifejtésre, amely egyúttal egy vizuális, századforduló korstílust is szemléltető, rendszerezett kép- és szövszedet.

A feladatsor létrejöttét egy különleges forrásdokumentum teszi lehetővé, miszerint az 1892-es breslauer Südparkra kiírt tervpályázat anyagát a Möller's Deutsche Gärtner-Zeitung igen alapos terjedelemben közölte tervekkel és szöveggel. A feladat első lépéseként a diákok megismerték a tervezési kiírást, majd a jelen cikkben bemutatott hat pályamunka tervanyagát hasonlították össze kis csoportokban, öt tematika szerint (funkcionális egységek, formavilág, térrendszerek, tervezői formanyelv, növénykiültetés). Az egy órás rajzos, kritikai elemzés után a hallgatók bemutatták a terveket, véleményezték azokat, majd szavaztak a 1-3. helyezést illetően – amely hasonlóan alakult, mint a múltban.

A Südparkot a breslauer városvezetés újratervezte a legjobb ötletek alapján, amelyet szintén bemutat az újság. A 4-6. feladatok már az ~1900 körüli megvalósuláshoz tartozó térképes elemzéseket, képeslap-montázsokat, 'közpark-10-parancsolatot' dolgozzák fel. Mivel az online adatbank igen gazdag, és a park 90%-ban ma is eredeti arculatát őrzi, így még virtuálisan is nagyon tanulságosan nyomon követhetőek a kerttörténeti változások.

A cikk második fele summázza a századforduló közpark-tervezésének formai, funkcionális, stílári és izlésbeli, valamint növényalkalmazási jellemzőit kis kép-ikonok, interpretációk segítségével, amelyen erősen tükröződik G. Meyer féle tervezői irányvonal. A diákmunkák alapján a szerzők szerkesztették a 6. összefoglaló ábrát, amely formavilágát tekintve a Råde-féle közpark-stílusban nálunk ugyanígy visszaköszön. A közparkok éppúgy követik a tájépitészeti ízlésváltozásokat, mint a kertek, utcabútorok, ugyanakkor számos funkcionális, térszerkezeti megoldás örökérvényű. A feladatsor segítségével a diákok maguk elemezték, figyelték meg, összegezték empirikus tapasztalataikat, és így következtetéseik is tartósabbak lettek, miközben több grafikai képességfejlesztő technikát sajátítottak el. ☉