LANDSCAPE ARCHITECTURE AND ART

SCIENTIFIC JOURNAL
OF LATVIA UNIVERSITY
OF AGRICULTURE

VOLUME 7
NUMBER 7

ISSN 2255-8632 print
ISSN 2255-8640 online

SCIENTIFIC JOURNAL OF
LATVIA UNIVERSITY OF AGRICULTURE

LANDSCAPE ARCHITECTURE AND ART

VOLUME 7
NUMBER 7

JELGAVA 2015

ADDRESS OF THE EDITORIAL BOARD

Faculty of Rural Engineers
Latvia University of Agriculture
19 Akademijas iela, Jelgava, Latvia, LV–3001
Fax: + 371 63021397
Phone: + 371 29185575
E–mail: una.ile@llu.lv

Abstracted and indexed*
AGRIS; CABI PUBLISHING CAB ABSTRACTS; EBSCO Art Source
(*) – Attention! The data bases select the articles from the proceedings for including them in their data bases after individual qualitative examination. All scientific paper was reviewed by two independent reviewers. Every author is responsible for the quality and the information of his article.

Read our scientific journal in on-line:
http://llufb.llu.lv/Raksti/Landscape_Architecture_Art/
http://llufb.llu.lv/db.html?i=llu_izd_arz.html
http://www.le-notre.org/public_lni/news_show_details.php?news_id=514
https://scholar.google.lv/scholar?q=%22Landscape+architecture+and+art%22+latvia&btnG=&hl=lv&as_sdt=0%2C5
http://www.theeuropeanlibrary.org/tel4/record/3000059529403?classification-cerif=T000&count=1000&locale=uk&link-level=DIGITAL_OBJECT&collection-id=a0163

Scientific journal cover photo: Andris Tomašūns

INTRODUCTION

Our current edition of the scientific journal Landscape Architecture and Art of the Latvia University of Agriculture again comes to you. This time the studies and their results are summarized in a geographically very large area. From the historical gardens of the area of Sankt-Petersburg and the Nordic natural beauty of Norway to the south of Spain, where under the effect of the modern technology not only the opportunities of the engineering solutions are studied, but also the criteria of the compositional quality of the landscape space are assessed. In the published studies, the emphasis is laid on the measures of identification and revitalization of the cultural heritage of the landscape space that is important both for the urban building space and the rural landscape space. One of today's most important problems is the creation of a qualitative plantation system in the center of the city, which usually has the highest building density and traffic volume. Analyzing the role of the street plantation in the historic centers of cities, it is found that a large portion of ligneous plants is not properly managed and substantially hide buildings of the cultural heritage. One of the studied cities is Daugavpils, the cultural heritage of the historic center of which convincing characterizes the belonging of the city to the European culture - as a spiritual symbol, a set of architectural forms and a remarkable example of the city's identity.

In turn, around 200 km distant region of Narva from Daugavpils, also preserves the identity of the cultural heritage, where the Baltic German management trends are clearly readable. Highways with picturesque tree alleys, front yards, management in manors.

The time of the German nobility until the start of the 20th century in Kurzeme, Livonia and Estonia has given a contribution to the economic growth and the heritage of cultural values. The balance and progress of the economic policy also promote the growth of the cultural environment. As soon as the political situation is destabilized, the values of the cultural heritage have the hardest close. This applies to both world wars in the 20th century, sweeping away unique art and architectural values.

In turn, the 21st century announces itself with a high possibility of recreativity in cities. "Create Riga!" Showcases of the latest technologies, as an "overlay" in the environment of the cultural history, can create an emotional uplift and delight to the viewer. Modern technologies in construction, extensive glazing, forming illusory ease of the building, allow for indoor and outdoor blend, sometimes unaware of the margin line of these two spaces. The compiled studies prove once again that the geographic location of a specific place and the character of the climatic zones are additionally capable to compositionally enrich both the urban building space and the rural environment of the cultural heritage.

PRIEKŠVĀRDS

Kārtējais mūsu Latvijas Lauksaimniecības universitātes zinātniskā žurnāla izdevums *Landscape Architecture and Art* atkal dodas pie Jums. Šoreiz pētījumi un to rezultāti ir apkopoti ģeogrāfiski ļoti plašā telpā. No Sankt-Pēterburgas apgabala vēsturiskajiem dārziem un Norvēģijas ziemeļnieciskās dabas skaistuma līdz pat Spānijas dienvidiem, kur moderno tehnoloģiju ietekmē tiek pētītas ne tikai inženiertehnoloģisko risinājumu iespējas, bet arī tiek ievērtēti ainavtelpas kompozicionālās kvalitātes kritēriji. Publicētajos pētījumos akcents ir likts uz kultūrvēsturiskās ainavtelpas apzināšanas un revitalizācijas pasākumiem, kas ir aktuāli gan pilsētbūvnieciskajā telpā, gan lauku ainavtelpā. Viena no mūsdienu svarīgākajām problēma ir kvalitatīvas apstādījumu sistēmas izveide pilsētas centrā, kur parasti ir visaugstākais apbūves blīvums un satiksmes intensitāte. Analizējot ielu apstādījumu nozīmi pilsētu vēsturiskajos centros, konstatēts, ka liela daļa kokaugi netiek pareizi apsaimniekoti un būtiski aizsedz kultūrvēsturiskās ēkas. Viena no pētītajām pilsētām ir Daugavpils, kuras vēsturiskā centra kultūrvēsturiskais mantojums, pārliecinoši raksturo pilsētas piederību Eiropas kultūrai – kā garīgs simbols, arhitektonisko formu kopums un izcils pilsētas identitātes piemērs.

Savukārt, ap 200 km attālais Narvas reģions no Daugavpils, arī saglabā kultūrvēsturisko identitāti, kur skaidri ir nolasāmas vācbaltiešu saimniekošanas tendences. Lielceļi ar gleznainām koku alejām, parādes pagalmi, saimniekošana lauku muižās.

Vācu muižniecības pastāvēšanas laiks līdz 20.gs. sākumam Kurzemē, Livonijā un Igaunijā ir devis pienesumu ekonomikas izaugsmē un kultūrvērtību mantojumā. Ekonomiskās politikas līdzsvars un progress sekmē arī kultūrvides izaugsmi. Destabilizējoties politiskai situācijai, vissmagāk ciešs kultūrvēsturiskās vērtības. Tas ir attiecināms uz abiem pasaules kariem 20. gadsimtā, aizraujot postā unikālas mākslas un arhitektūras vērtības.

Savukārt, 21. gadsimts sevi pieteic ar augstu rekreativitātes iespēju pilsētās. „Radi Rīgu!" Jaunāko tehnoloģiju paraugdemonstrējumi, kas tiek „uzslāņoti" vēsturiskajā kultūrvidē spēj radīt skatītājā emocionālo pacēlumu un sajūsmu. Modernās tehnoloģijas būvniecībā, plaši stiklojumi, kas veido būvkonstrukciju iluzoru vieglumu, ļauj saplūst iekštelpai un ārtelpai, reizēm pat nenojaušot šo abu telpu robežlīniju. Apkopotie pētījumi vēlreiz pierāda, ka noteiktas vietas ģeogrāfiskais novietojums un klimatisko joslu raksturs spēj papildus kompozicionāli bagātināt gan pilsētbūvniecisko telpu, gan lauku kultūrvēsturisko vidi.

Aija Ziemeļniece
Editor in Chief

CONTENTS

The quality of landscape in Daugavpils historical centre

Kintija Cirse, Vilnis Šlars, Una Īle, *Latvia University of Agriculture*

Abstract. Landscape quality is one of the factors that influences a person's choice of residence and forms a visual image of the city. Rapid population growth in the city reflects the increased search for new places of residence; therefore, the quality of urban landscape becomes a topic issue. Urban development depends on the geomorphological, economic and political conditions, which, in the historical centre of the city of Daugavpils, have been substantially transformed over the last 100 years. Daugavpils takes pride in its great cultural and historical heritage. There are various buildings of different architectural styles and different historical time periods which have conserved the specific nature of the urban environment and thus improve the quality of landscape.

The main problem today is to create a qualitative greenery system in the centre of the city, which usually has the highest housing density and traffic volume. The negative impact of the environmental stress mostly affects the trees located along the streets. The present greenery system in Daugavpils historical centre does not meet the criteria for the sustainable development of the city, because of the decreasing amount of areas covered with greenery, plant quality and functionality. Daugavpils city has not developed guidelines for the creation of street greenery, thus, it has contributed to the degradation of the street landscape.

Keywords: cultural heritage, landscape quality.

Introduction

The subject of the research is the quality of currently ongoing street transformation of the Daugavpils historic center spatial environment. In the research the Daugavpils's historical center is considered the part of the city center with the most functional and visual importance that fits into the protection zone of the historical center of Daugavpils with distinct borders. The study does not reflect the sceneries of all streets in the historic center of Daugavpils, only the most important, in order to establish and reflect their general quality. The study is focused on the lifestyle philosophy that fits the quality of modern human life and aims at instilling an appropriate attitude in people towards the historic center. When analyzing the importance of street greenery in the historic center, it was established that a significant role in held by the trees that are not properly managed and, thus, obstructs the view of the cultural and historical buildings.

During the European Landscape Convention it was emphasized that all the Member States of the European Landscape Convention, are required to identify landscapes throughout their territory and evaluate them considering the particular values assigned to them by stakeholders and society. One of the solutions for landscape evaluation is to assess their uniqueness and typicality. That type of assessment is commonly used in urban or rural areas for displaying the uniqueness of their landscape, for example, for tourist and population attraction purposes, as well as when planning the urban development, in order to prevent changes during the transformation process in the quality of the constituent elements that hold the value of this historical landscape [8]. Daugavpils is one of the few Latvian cities that can take pride in such a unique city center, which until today has remained a unified ensemble [5]. The historical center is an urban monument under state protection, which houses many individual architectural monuments and important cultural and historical sites. The protected cultural monuments are bound by the following borders: Rīgas Street from the Daugavas Street to the Cietokšņa Street, Cietokšņa Street to Sakņu Street, Sakņu Street up to Stacijas Street, Stacijas Street to Lāčplēša Street, Viestura Street till Raiņa Street, Raiņa Street to Alejas Street, Alleys Street till 18.Novembra Street, 18.Novembra Street up to Daugavas Street, and Daugava Street up to Rīgas Street [3], see Figure 1.

Today the historic center is a modern urban neighborhood, where the old buildings are still preserved, with ongoing restoration works, and new idea planning and implementation. The area is to be preserved and developed as a multifunctional city center (administrative, public, residential, cultural, educational, scientific, tourism, and commercial).

Fig. 1. The boundary and protective aisle of the Daugavpils historical centre urban construction monument of national importance [Source: constrution by author's, 2014]

In perspective, for repairing, restoring and reconstructing buildings and adapting them to modern function, it is necessary to incorporate historical materials in order to achieve effective preservation of cultural heritage, preferably in unaltered form [3].

Therefore, the objective of the study is to define the relationship between the main formers of the cultural, historical and modern building architecture, and the "green" architecture of the housing of the historic centre.

Materials and Methods

The study of the landscape quality of the Daugavpils historical center was carried out in the period from December 2014 to October 2015. To reach the aim of the research a scientific research literature was studied – analyses of publications and electronic resources, analysis of cultural and historical sites, street greenery parks, squares and green spaces in the historic center of Daugavpils, surveys on Daugavpils historic center and its present condition. The research includes an interview with an expert and materials derived from the architect Ģertrūde Rasnače, who has been the main architect of the city of Daugavpils in the period from 1988 to 1992.

Upon studying the urban planning documents of the Daugavpils city, it was established that the value of the street landscape in the Daugavpils city centre it is not amply identified and exhausted. In the modern human perception, it is losing its historical authenticity, and the landscapes of Daugavpils historical center street can be attributed to the typical town landscapes. A typical landscape is characterized by a certain type of landscape, which reflects a certain city development process, era, architecture, urban planning solutions, and natural conditions. The goal for retention of the typical landscape is to preserve the historical authenticity of the landscape during the city development.

Consequently, based on the experience of other countries, as well as the analysis of Daugavpils and the Daugavpils city historical center development, the study established the following criteria: aesthetic evaluation and cultural assessment, which are reflected in this article. Other criteria, such as the ecological, socio-economic assessment, etc., which were also raised in the research process, need further study. According to the criteria of the study, analysis was carried out on the following areas of the Daugavpils historic center: Rīgas Street, Saules Street, Lāčplēša Street, Raiņa Street, 18. Novembra Street, Imantas Street, Kr.Valdemāra Street, Teātra Street, Ģimnāzijas Street, Mihoelsa Street, and Alejas Street, see Figure 2. To gather and define the results, a monographic or descriptive method was applied, which was based on the study of acquired scientific knowledge and the findings regarding the analysed area.

Fig. 2. Daugavpils Street network
[Source: constrution by author's, 2014]

Results and Discussion

Almost every city of Latvia has a street named Rīgas Street, as a peculiar road sign indicating in which direction the capital city can be found. Rīgas Street in Daugavpils finds its beginnings in the history's olden times. During the Livonian War, Czar Ivan the Terrible with his troops took over the Dinaburg castle. When he saw that the castle is in a convenient location, he commanded to ruin it and then laid the groundwork for the little fortress [7]. In 1577 was built a fortification, which still remains at the tram stop near the railway bridge. The city was built around it; in the beginning - the old suburb, later - the new center of Daugavpils. One of the first streets was the Rīgas Street. It began at the river, which had a pier a long time before. In 1829, during floods, the river overflowed and flooded the entire city. After that the construction of the dam began. It was completed in 1841. In the dam slope, at the beginning of the street, was set up the way to the pier. At the beginning of Rīgas Street is the oldest park of the city, which opened in the summer of 1822 and was named Dubrovin Park - in honor of the city mayor P. Dubrovin, who himself took part in the planning of the garden.

Soon Rīgas Street became the city's commercial center where there were plenty of shops, hotels, trading houses, railway-men club, and bakery. In 1980s several commercial places were built. Near them used to be a square with many boutiques and a newly-built hotel. New accent in Rīgas Street was added by the Unity House built in 1936-1937 [9]. The greenery of the Rīgas Street stretch between Parādes Street and the Unity Square consists mainly of lime tree row on one side and Dubrovin Park on the other side. The old lime tree row has survived until today. Courtyards of the Rīgas Street adjoining areas are well organised and clean, while the existing lime tree crowns and trunks are asymmetric and dysfunctional. The lime tree alley is obsolete and does not fulfill its original function. Street greenery needs to be restored, so the building facades could be transparent, and the architecturally

Fig. 3 Riga Street in 1900
[Source: material from Ģ. Rasnače's personal archive]

Fig. 4. Section of Riga Street in 2014
[Source: photo by K. Cirse, 2014]

Fig. 5. Fire station in 1900
[Source: material for Ģ. Rasnače's personal archive]

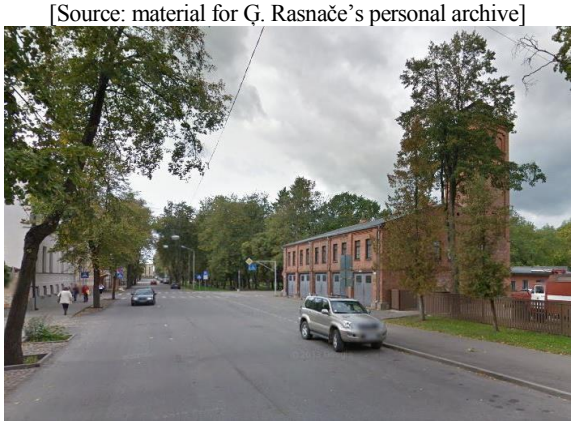


Fig. 6. View of the Fire Station in 2014
[Source: from author's private archive]

valuable heritage is not hidden behind the tree barrier. Rīgas Street is mainly dominated by two-story buildings. Historical photos reflect that buildings on Rīgas Street are not obscured by lime tree lines, the building architecture is exposed, see Figure 3.

Daugavpils Local History and Art Museum is one of the oldest and largest museums in Latgale. It was founded in 1938. Located in one of the most beautiful buildings in the city - Art Nouveau building constructed in 1883, which is a cultural monument of architecture, see Figure 3. The building has a very complex and diverse facade decoration and tectonics. Profiled clay brick, glazed ceramic tiles, crosses with chopped granite chip finish - such a large variety of materials. A variety of window shapes, a reference plane protruding from the front porch, wooden doors with sophisticated patterns, balconies, entrance canopies with glazing – it is only a part of all facade elements [2]. Nowadays the architecture scenery is obstructed by existing trees, which are in a bad condition and their crowns are not tidily shaped, so they would smoothly integrate in a particular street area, see Figure 4.

The study found another historical view of the Rīgas Street - from Aleksandra Ņevska (Vienības) Street up to the dam side- on the right hand there is the city firefighter building with an observation tower (built in 1876), behind it is a Dubrovin Park and the main entrances to the park [6]; see the historical photographic material in comparison to the contemporary situation in Figures 5 and 6. Dubrovin Park was the most popular place for time spending. On the summer stage used to perform brass bands and variety of artists, and people strolled through the alleys and rested at the fountain.

During World War I and the Civil War the garden turned into a bog, overgrew with weeds and all existing buildings gradually dilapidated. In 1935 it was radically reconstructed; the pond was renovated, a new fountain was built, additional drainage systems were built, new trees and greenery were planted [2], see Figure 7 and Figure 8 for present situation.

Rīgas Street is one of the most important streets of Daugavpils infrastructure development, which at all times has been the center of attention. Addressing Daugavpils development plans for different periods of time, it must be concluded that its function has remained unchanged. Since the construction of the historic city center, Rīgas Street has been a commercial and heavy traffic street. Mainly, Rīgas Street connects two important points - Daugava freeway and Daugavpils railway station. In earlier detailed plans, Rīgas Street was supposed to be constructed as the main street, but for various

Fig. 7. Dubrovin Park garden around 1935
[Source: material from Ģ. Rasnače's personal archive]

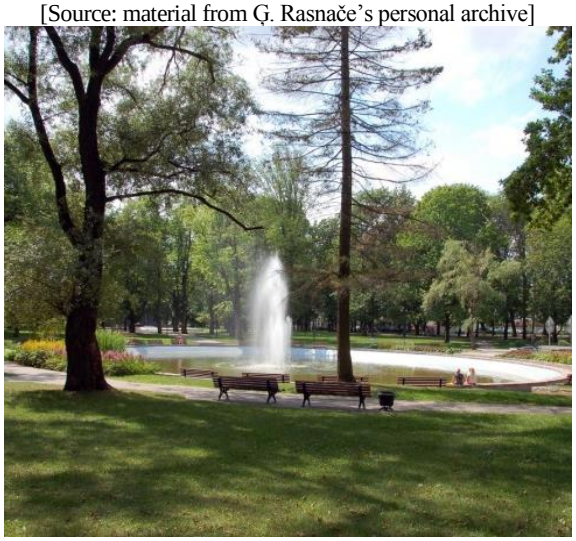


Fig. 8. Dubrovin Park in 2012
[Source: photo by K. Cirse, 2012]

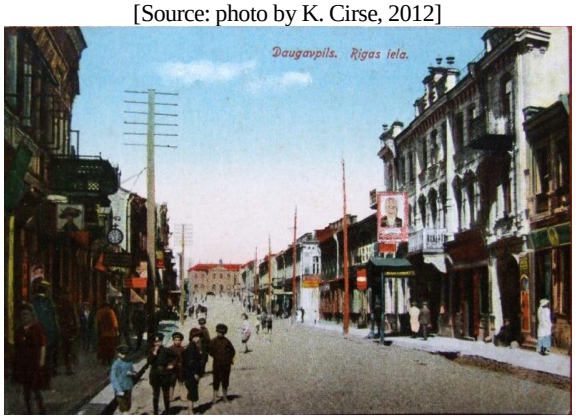


Fig. 9. Riga Street section used as a pedestrian street
[Source: material from Ģ. Rasnače's personal archive]

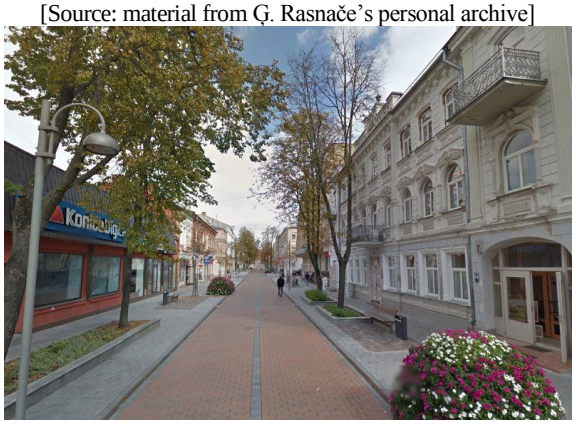


Fig. 10. View of the Riga Street from the Alejas Street intersection [Source: photo by K. Cirse, 2014]

political reasons, its construction was not realized. Presently, Rīgas Street from the Cietokšņa the Stacijas Street is considered a pedestrian street [15], see Figures 9 and 10. Today, the fully landscaped Rīgas Street is equipped with perennial flower tubs, rectangular flower beds and neglected chestnut alleys. The study found that the chestnut trees significantly obscure the cultural heritage of the street.

With the onset of the World War I, Pēterburgas (Saules) Street was renamed Petrogradas Street due to the name change of the Russian imperial capital. Initially the street was built from single-storey and two-storey wooden houses. In the second half of the 19th century the first two-story and three-story stone houses were built; this type of construction lasted until the 20th century. From 1856 until 1864 a construction of Alexander Nevsky Cathedral took place on Alexander Nevsky Square. The cathedral was located in the middle of Pēterburgas (Saules) Street and was visible throughout the whole length of the street. There used to be a synagogue on Pēterburgas (Saules) Street, but it was blown up in 1941, the same as the Alexander Nevsky Cathedral in1969. Pēterburgas (Saules) Street became one of the central streets of the city, which, with only few changes, has survived until today.

The street went bankrupt during World War I and was renamed the Pēterburgas Street; later the street names changed unevenly. From 1924 it was called Saules Street, from 1952 its name was Gogoļa Street, and finally in 1991 the street was renamed Saules Street again - name that exists to this day. The street located different school institutions - in the 20th century there was men trade school, a Jewish secondary school, and a Russian secondary school. At the beginning of the 20th century two magnificent Art Nouveau buildings were constructed (building No. 41 and No.55) whose facades were decorated with bay windows, cornices and pediments. These buildings have survived to this day. After the construction works in 1930s, during World War II, the street suffered immensely - countless blocks full of building ruins that were not reconstructed [11]. In whole, the landscape of Saules Street, which characterizes the historical diversity of the city, was transformed relatively little. The street has maintained and successfully reflects the perimetral masonry construction. Existing street greenery requires participation of landscaping professionals for qualitative tree crown formation, see Figures 11 and 12.

The red brick architecture is characteristic of Daugavpils scenery since the 19th century, with the beginning of town's historic center. Most of the red brick buildings reflect one of the types of eclecticism, but not all of them can be attributed directly to the eclecticism. The traditions of

Fig. 11. Saules Street and Institute Street intersection
[Source: from author's private archive]

Fig. 12. Saules Street greenery, 2014
[Source: from author's private archive]

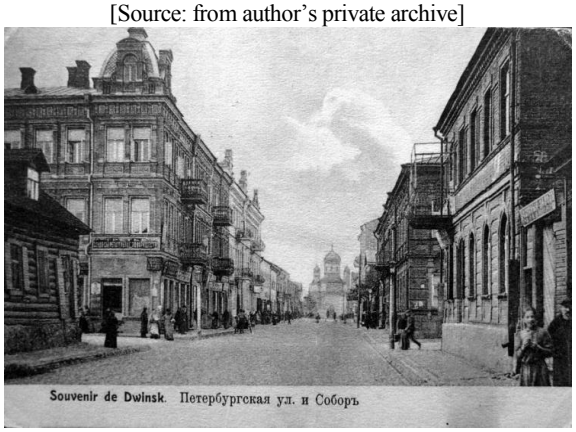


Fig. 13. Saules Street in 1900
with Alexander Nevsky Cathedral in the background
[Source: material from Ģ. Rasnače's personal archive]

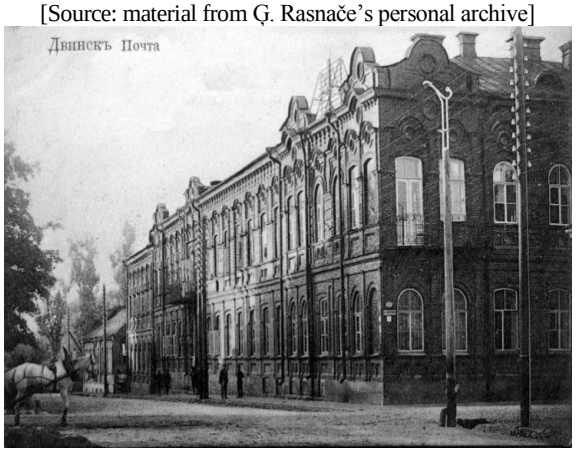


Fig. 14. Brick housing on Saules and Institūta Streets in 1904
[Source: material from Ģ. Rasnače's personal archive]

construction can be divided into several stages - historical and post-war. Many buildings can be attributed to historic, including Daugavpils City Hall on Kr.Valdemāra Street, Polish State Gymnasium etc. One of the brightest examples of eclecticism is the building on Saules Street 1/3, which houses Daugavpils University Faculty of Music and Arts. The façade of this building has rich red brick plasticity, with straight and curved eaves, cornice, arches and consoles. In this building, formerly known as Livsic House, was the first telephone exchange in Daugavpils, later, from 1921 - Teachers Institute. In Daugavpils and Latvia the eclecticism type, referred to as "red brick style" became popular around 1907, when the bricks began to be used not only for building materials, but also as a decorative element. Many buildings of red brick were built after World War II, based on pre-war traditions. At that time a lot of production facilities appeared. The red brick style was used in construction of industrial buildings and warehouses. In 1950's the last red brick buildings were constructed, later followed by Soviet-era architecture [1], see Figures 13 and 14.

Lāčplēša Street originally was called Oficieru Street, which first appeared in the first half of the 19th century. The street stretched from the dam to the Riga - Orlov railway line. Different types of entertainment institutions were located on the street from the dam up to Aleksandra Ņevska (now Vienības) Street. The only thing that makes Lāčplēša Street special and unique, with a rich past, is the street cobblestone flooring, which still exists. There a no more streets like this in the city [18].

There used to be eight working synagogues on the Oficieru (Lāčplēša) Street. The first synagogue was built in 1849. Almost all of the synagogues were burned down during World War II. The debris was completely demolished and removed only in 1960. The Great public synagogue used to be located in the house No. 39, which was built in 1840, but in 1980 the building was rebuilt. Synagogue No. 33, which was located on the corner of the Cietokšņa Street building No. 38, which was built in 1870, intermittently operates until present. In 1980, in connection with the building of the new bridge across the Daugava, Lāčplēša Street was shortened up to the Muzeja Street. The Lāčplēša Street has preserved several historical buildings, which are currently the state's cultural monuments - No. 6/8, 10, 20, 22, 24, 39, 42 [18], see Figures 15 and 16.

Hotel "Lielā viesnīca" (The Great Hotel) was built in the second half of the 19th century on the Virsnieku (Lāčplēša) Street 10 with the side facade facing the Teātra Street. It completely corresponded to its name and was the largest hotel in the city. It functioned until World War I. View at the

Fig. 15. Lāčplēša Street scenery in 1900
[Source: material from Ģ. Rasnače's personal archive]

Fig. 16. Lāčplēša Street scenery in 2014
[Source: from author's private archive]

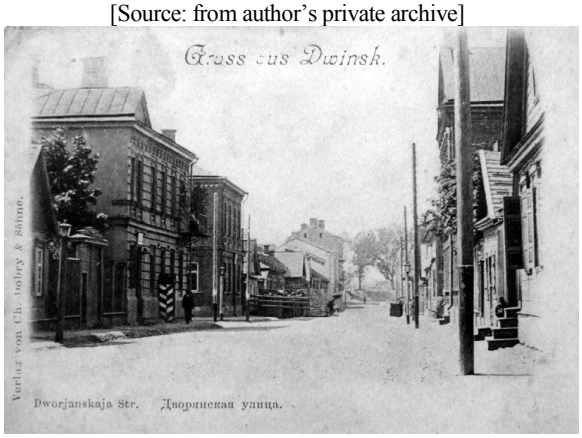


Fig. 17. Raiņa Street view in 1900
[Source: material for Ģ. Rasnače's personal archive]

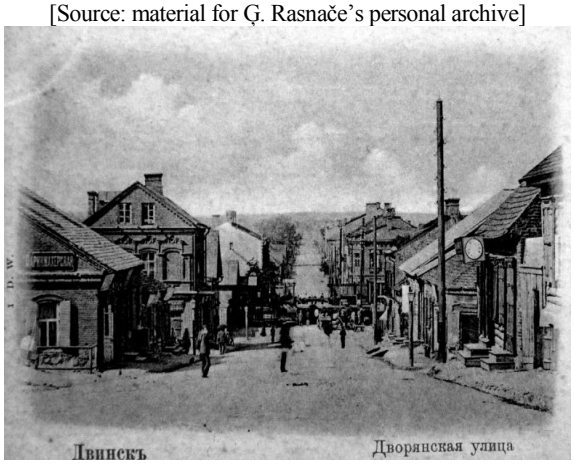


Fig. 18. Raiņa Street view in 1900
[Source: material for Ģ. Rasnače's personal archive]

Virsnieku (Lāčplēša) Street houses. Corner house is the Dvinsk Volunteer Firefighter association's First column station. The neighboring building, which was built in 1820s by architect A.Štaubergs' project, was housing the Treasury (State Court) since 1860, which was responsible for the treasury budget [6]. The landscape is publicly available and heavily utilized. Today it is mainly used for traffic, but in perspective, it could also have a significant tourist attraction.

Muižnieku Street (Raiņa Street) first appeared in the first half of the 19th century. The street stretched from the dam at the River Daugava to the Varšavas Street. In 1850 the street was divided by Riga - Orlov road, but the two parts were connected by the railway line. In 1924 the name Muižnieku Street was changed to Jāņa Raiņa Street. Since then the street has not been renamed. The street name is given in honor of the famous poet and playwright. This Street was notable for the variety of different pastry and coffee shops, as their fragrance travelled across the whole street. At the beginning of the 20th century Muižnieku (Raiņa) Street rapidly revived, with the opening of a number of shops and entertainment institutions [12]. The street was built from small and simple single-storey to two-story wooden houses, which did not correspond at all to the Muižnieku (Raiņa) Street name. From a three-story stone building No. 2/4 opened a wonderful view of the Daugava, which to this day is still preserved as an architectural monument. From 1863 to 1865 on Muižnieku Street No.5 took place a construction of a beautiful stone building, which unfortunately burned down during World War II. The Street was embellished by red brick buildings No.13 / 15 [12], see Figures 17 and 18.

After World War II, the street was rebuilt using the Soviet-style architecture. Existing tree plants have reached their physical age and they are no longer able to function, thus creating a dysfunctional public landscape. Dvorjanskaja - Muižnieku (Raiņa) Street view from the new construction side. In the background is a railway level crossing, which was located in Riga - Orlov railway station area. Across the level crossing, which crossed nine railway lines, almost three thousand wheel carts used to drive per day [6].

The study found that 18. Novembra Street, which crosses Daugavpils from west to east, is the longest street in the city. Its length to city border in Vecie Stropi is about 10 kilometers, but from there the street stretches another 2-3 km long. 18. Novembra Street has one of the main Latvian southeastern freeways, which led to St. Petersburg [19]. Until 1917 its name was Šosejas Street and it served as the dam, protecting the central part of the city from the spring floods. In 1920s the Šosejas Street

Fig. 19. 18.Novembra street in 1908-1904
[Source: material for Ģ. Rasnače's personal archive]

Fig. 20. 18. Novembra street in 2014
[Source: from author's private archive]

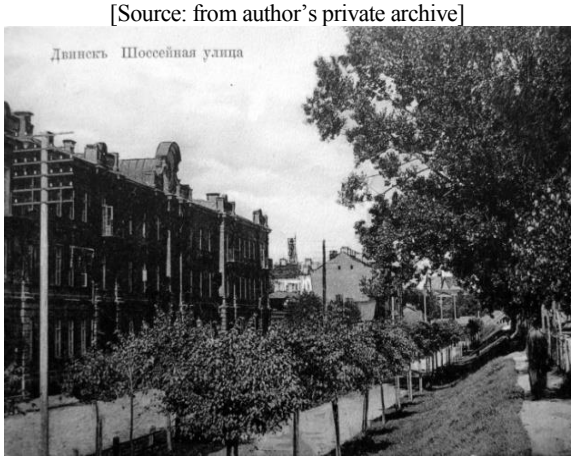


Fig. 21. 18.Novembra street in 1908-1904
[Source: material for Ģ. Rasnače's personal archive]

Fig. 22. 18.Novembra street in 2014
[Source: from author's private archive]

was given another name – 18.Novembra Street. The street held this name until 7 September 1944, when the Soviet Union changed the "bourgeois" name to the Sarkanarmijas Street (Red Army Street). In 14 November 1991, the street's former name was returned [9].

18.Novembra Street in Daugavpils is unique. Many important objects are located on this street. It is no coincidence that exactly fifty years ago this street opened the first tram track [19]. A lime tree avenue has been preserved since the beginning of dam construction. It is necessary to restore the adjoining green areas along the street so that they do not obstruct the view of housing facades; thus, preventing hiding the architecturally valuable cultural heritage behind the trees. The spacious green area, which lies along to the tram rails, should be studied and reconstructed into a resting and walking area, as it has previously similarly been done with the low-altitude lime tree alley. The existing tree alleys require participation of professionals in the tree crown shaping. Most of these areas are no longer pleasant outdoor scenery, where the most important role, besides the infrastructure construction and other aspects, was delivered directly by greenery [4]. On the right side is immortalized a house that has survived to the present day on the Šosejas (18.Novembra) Street 45. On the left side lies the then existing exit from the dam (view from the railway in the direction to Daugava). The three-storey house on the Šosejas (18.Novembra) Street 37 is one of the houses that belonged to a local businessman Vaclav Mols. In 1926 the building, which was built at the turn of the 19th and 20th century, was reconstructed and utilized as the district court. In the beginning of the 20th century a lime tree alley was planted in two rows with benches placed beneath the trees. Opposite the alley were two-story and three-story stone buildings, which were adapted as durable housing. Here lived highly reputable tenants of the highest rank of honor - doctors, lawyers and engineers [19], see Figures 19, 20, 21 and 22.

The Postojalaja (Mihoelsa) Street began its existence in the first half of the 19th century. The street stretched from the Rīgas Street up to the 18.Novembra Street, which to this day has not changed its function. It is characterized by a disorganized greenery system, which does not create a uniform street landscape. There are multiple non-landscaped green spaces - the building front yards and green areas on the corner intersections, see Figure 23. The 75th Cultural and historical landscape evaluation was high. The buildings are national cultural monuments, which is an important element of the cultural and historical landscape. They present valuable historicism style architecture [13]. The Vladimira (Ģimnāzijas) Street

Fig. 23. The Building of National Bank on Ģimnāzijas Street in 1908-1914
[Source: material from Ģ. Rasnače's personal archive]

Fig. 24. The Building of National Bank on Ģimnāzijas Street in 2014
[Source: from author's private archive]

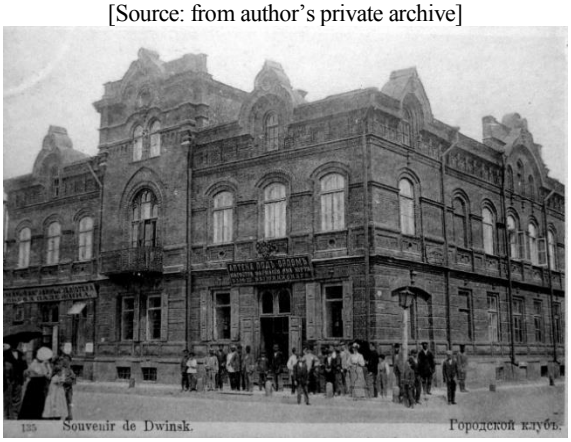


Fig. 25. Imantas street in 1904.-1908
[Source: material from Ģ. Rasnače's personal archive]

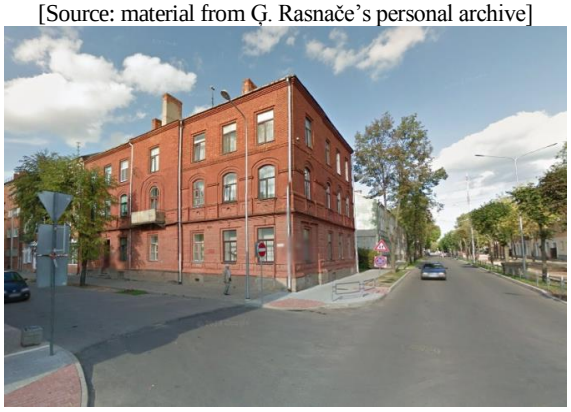


Fig. 26. Imantas street in 2014
[Source: from author's private archive]

was the first street in the city where cobblestone pavement was replaced by asphalt pavement and the sidewalk was widened. At the end of the 1930s it became a popular walking street - citizens called it the Champs Elysees of Daugavpils. The street was decorated and landscaped. After World War II the street and its buildings were demolished. The Street gradually took a new look with the beginning of modern building construction [17]. At Vladimira (Ģimnāzijas) Street Alexander Square was created, which mostly located a variety of shops, storage sheds, warehouses and restaurants. During the Great fire in 1862 the market burned down, and in the old market place was built the first most beautiful city park - Andrejs Pumpurs Public Garden. The garden was surrounded by an ornamental metal fence. Exotic trees, shrubs and flowers were planted in the garden. It nestled a beautiful fountain and a sundial. In 1850 the building No. 22 was built, which was the first town bookstore - the largest in the Vitebsk province. The building also housed the oldest city pharmacy "Zem Ērgļa." At the beginning of the 20th century there used to be the town hall, and after that - the town club. During the World War I the house burned down, but a part of it was restored as a residential house. On the street there used to be various kinds of musical instrument and firearm shops, as well as, at the turn of the 19th and 20th century, in a specially built building was a department of the National Bank of Dvinsk. Bank surroundings were a beautiful cultivated plantations that presently have lost their original function, see Figures 23 and 24.

Teātra Street, from 1948 until 1991, used to be named Komjaunatnes Street. At the end of the 19th and the beginning of the 20th century the street was assigned a significant governmental and business city function and character. In 1856 a drama theater was opened on Teātra Street, which was located not far from the Daugava River, between s courtyard garden and a one-storey wooden building. The origin of Teāta Street: the street was named after the first theater built on the current territory of Latvia, which was opened in 1856. The theatre was introduced by the engineer of Dinaburg fortress N. Hagelstrom, who later became the head of the town. On the Teātra and Pēterburgas (Saules) street in the 20th century in the Bītenberga house was open an Illusionist club "Grand-Elektro". After World War II its place was taken by the cinema "Kolizejs", but unfortunately the building was demolished in 1950, when the Pedagogical Institute (University of Daugavpils) was constructed. The main entrance in the Dubrovin Park was located at the end of the Teātra Street [14].

In contrast, during power shifts, Imantas Street was renamed several times. The origin of Imantas Street name is not known. Perhaps the name of the

street comes from the title of the Green Market Square, at the time. Initially, the street was called Zaļā (Green) Street, only in 1934 it was renamed the Imantas Street. The beginning of Imantas Street existence dates back to the first half of the 19th century, see Fig.25 and 26. The street stretched from the bank of Daugava River up to Riga - Orlov railway line. Among the Mihoelsa, Viestura and Kr.Valdemāra Streets there used to stand closely built wooden houses with shops and warehouses. On the Imantas Street was a fish and vegetable market. The residential buildings were located in the northern part of the street, but in 1870 the houses were demolished and in their place new meat shops were built. For 70 years Zaļā (Imantas) Street was especially notorious because of the distinct unpleasant odor that came from the meat store. The market occupied most of the quarter's territory and was mainly built up with one-storey stone houses. The building layout of the area formed a "U" shape. In turn, in the middle of the center was located a red brick well, which supplied the stores with hot water. Unfortunately, during the World War II 80% of these shops were burnt down and the ruins were cleared off.

The present Imantas Street is significantly shorter than Zaļā (Imantas) Street. Upon the city renovation, the city authorities, in place of destroyed blocks that were located at the end of Zaļā (Imantas) Street, proposed to set up Railway and Culture Park (now Central Park). The road construction was granted the Council building status and after few years, Imantas Street reminded nothing of its history. Currently Imantas Street ends at the Railway and Culture Park (Central Park) borders. During the new construction period the driveway was extended, dividing opposite driveway lines with tree alleys. Imantas street is one of the liveliest streets of the city, where buses go to and from the bus station, because it is the main exit from the city [16]. The street characterizes the development of street landscape of the city in the middle of the 20th century. Its landscape is represented by a wide open space where the housing has retreated, disrupting the historic structure of the street. The landscape is made up by the street itself and the relatively dense and perimetric constructions of brick buildings. The lime trees add variety to the street space character. The main frame makers of the Imantas Street is the lime tree alley with 2 m wide green zones on both sides of the street, and lime tree row separating the driveway traffic in both directions. The lime tree alley, which is located closer to the building facades, was planted around the middle of the 20th century, while the lime tree row in the middle of the driveway was planted at the end of the 20th century with a 2.5 m wide green strip. The structure of trees along the driveway sides

Fig. 27. Alejas street in 1960
[Source: material form Ģ. Rasnače's personal archive]

Fig. 28. Alejas street in 2014
[Source: from author's private archive]

is in bad condition, it disrupts the prevailing rhythm of the street greenery. The street greenery needs to be renovated so that the housing facades are not hidden behind the 'spindling` tree trunks and unsymmetrical tree crowns. The densely growing trees overshadow the street territory, narrowing the viewing angle on the architectural heritage. Consequently, it would be desirable to expose the current state of the area to a successful rearrangement and restoration processes, considering the experience of other countries [4].

The construction of Silverovska (Kr.Valdemara) Street dates back to the first half of the 19th century. The street stretched from the dam to Stacijas Street. After World War II, a great part of the city was destructed and many of the buildings were not renewed. In their place was built a park, which still exists to this day. When constructing the park, Kr.Valdemara Street was shortened up to the Central Park - Viestura Street [18]. The garden houses centenarian conifer and leaf tree plants.

Purva (Alejas) Street appeared in the first half of the 19th century. It started at the dam (near secondary school No 9) and ended at the Esplanade. Alejas Street was the lowest area of the city center; therefore, the street was built wide with a deep sewage ditch in the middle. Poplar trees were planted in the beginning of the 20th century. In 1924 Purva Street was renamed Alejas Street [10]. Ditch, which was

located on the Alejas Street, was widely utilized as a water body. It was always full of water, because it was the lowest place in town, where all the rain waters gathered; therefore, in the summer children played with toy boats and skated on it in the winter. After World War II Alejas Street was divided into two parts - Alejas Street stretch from the dam until Raiņa Street, and the other part – stretching from Lāčplēša to Kandavas Street. The street was divided by the newly constructed park. On average, houses on Alejas Streets were mainly two-story houses built of wood, but on the cross point of Riga Street and Alejas Street stood stone two-story houses. The beautiful wooden houses and Alejas Street were burned down from the dam to Lāčplēša Street [10]. For comparison of Alejas Street's historical and contemporary perspective, see Figures 27 and 28.

Conclusions

The cultural heritage of Daugavpils historic center, emphasizes its strong relation to the European culture – as a spiritual symbol, an ensemble of architectural forms and a remarkable example of the town's identity. The greenery has not experienced any drastic changes; there are distinct aesthetic quality features in the diversity of the greenery. An important role in the street greenery protection, reconstruction, development and creation carries the monitoring that can be carried out at the municipal level. The city should be united in its greenery nature, trends and colors. It is necessary to create a unified greenery system that would interweave the entire city, and link it with the existing urban green infrastructure, which would include parks, squares, and green lanes of streets, alleys and neighborhoods with new high quality or renovated plantation systems.

References

1. **Baranovska, I.** Daugavpils bagātība – sarkano ķieģeļu arhitektūra, Latgales laiks, 2009, Nr.34, februāris, 21-22. lpp.
2. **Cirse, K.** *Daugavpils pilsētas parki un skvēri*, 2013.
3. Ekskurss Daugavpils pilsētas vēsturē [tiešsaiste]. [citēts 22.12.2014.]. http://www.visitdaugavpils.lv/lv/turisms/ekskurss-daugavpils-pilsetas-vesture
4. **Īle, U.** Principles for planning residential area greenery. *Research for rural development 2011: annual 17th international scientific conference proceedings*. Latvia University of Agriculture. 2011, pp. 182-188
5. **Kudiņa, Ģ.** Daugavpils centrs. Latvijas arhitektūra, 1998, Nr. 15-89, februāris, 14.lpp. Novembra iela, Latgales laiks, 2008, Nr.55, maijs 18.lpp.
6. **Kudiņa, Ģ.** Materiāli XX sasaukuma Daugavpils Tautas deputātu padomes 5. sesijai. *Daugavpils.* Daugavpils: Daugavpils tipogrāfija, 1990.
7. Rīgas iela – vissenākā Daugavpilī, *Latgales laiks*, 2001, Nr.63, 17. augusts, 15. lpp.
8. Rīgas pilsētas ainavu teritoriju izdalīšanas, analīzes un novērtēšanas pārskats [tiešsaiste]. Latvijas Universitātes Ģeogrāfijas un Zemes zinātņu fakultāte, Rīga, 2009. [citēts 01.12.2014]. http://www.sus.lv/sites/default/files/media/faili/ainava_atskaite_riga.pdf]
9. **Škirmants, J.** Daugavpils 1940. gadā. *Dzeive*, 1972, Nr. 111, janvāris, 6. lpp.
10. Болото и аллея в центре города, *Сейчас,* 2006, Н.15, апреля., 10 страница
11. Дорога б Крепостъ, Сейчас, 2007, Н.17, апреля, 17 страница
12. Имени великого поета, *Сейчас*, 2013, н.32, сентября, 10 страница
13. Капаванная улица старого двинска, *Дунабургвести*, 2009, Н.24, окт., 12-15 страница
14. **Кирилоба.** Улица Даугавас ждут перемены, *Сейчас,* 2005, Н.12, апреля, 19 страница
15. Посвящение улице Ригас, *Сейчас*, 2014, н.37, сент., 15 страница
16. **Романовская.** Вдолъ но Зеленой, да но Имантас, *Сейчас*, 2006, Н.39, сентября, 8страница
17. **Романовская.** Елисейские поля Даугавпился, *Сейчас,* 2006, Н.22, июня, 6 страница
18. **Романовская.** Улица радости, слоз и молитв, *Сейчас*, 2006, Н.24, августа, 12-15 страница
19. Шоссе, неподвастное времени и бойнам, *Сейчас,* 2010, Н.18, марта., 22 страница

INFORMATION ABOUT AUTHOR:

Kintija Cirse, Landscape Architect in Ltd. "Veido vidi". Master student (since 2015) at the Faculty of Geography and Earth Sciences, Department of Geography, Laboratory of Regional Planning. E-mail: kintija.cirse@gmail.com

Vilnis Šlars, Architect in Ltd. "Arhitektu birojs ARTEKS", Mg. arch., PhD student (since 2015) at the Faculty of Rural Engineers, Department of Architecture and Construction of the Latvia University of Agriculture, 22 Liela iela, Jelgava, Latvia, LV-3001. E-mail: vilnis@arteks-ab.lv

Una Īle, Dr. arch., Assist. Prof. (since 2012) at the Faculty of Rural Engineers, Department of Architecture and Construction of the Latvia University of Agriculture, 22 Liela iela, Jelgava, Latvia, LV-3001. E-mail: una.ile@llu.lv

Kopsavilkums. Ainavas kvalitāte ir viens no faktoriem, kas ietekmē cilvēka dzīvesvietas izvēli un veido pilsētas vizuālo tēlu. Strauja iedzīvotāju skaita palielināšanās pilsētā liecina par jaunu dzīvesvietas meklēšanu, tādēļ aktuālāki kļūst jautājumi par pilsētas ainavas kvalitāti. Pilsētu attīstība ir atkarīga no ģeomorfoloģiskā, ekonomiskā un politiskā stāvokļa, kas 100 gadu griezumā Daugavpils vēsturiskajā

centrā ir būtiski transformējusies. Daugavpils var lepoties ar lielu kultūras un vēstures mantojumu. Pilsētā atrodas dažādu arhitektūras stilu un laiku ēkas, kas pilsētvidei piešķirt īpašu raksturu un ainavai piešķirt augstāku kvalitāti.

Mūsdienās aktuāla problēma ir kvalitatīvas apstādījumu sistēmas izveide pilsētas centrā, kur parasti ir vislielākais apbūves blīvums un satiksmes intensitāte. Vides stresa negatīvajai ietekmei visvairāk pakļauti ir ielu malās augošie koki. Mūsdienu Daugavpils vēsturiskā centra apstādījumu sistēmas attīstība neatbilst pilsētas ilgtspējīgas attīstības kritērijiem, jo samazinās ar apstādījumiem aizņemtās platības, apstādījumu kvalitāte un funkcionalitāte. Daugavpils pilsēta nav izstrādājusi vadlīnijas ielu apstādījumu veidošanai, kā rezultātā veidojusies degradēta mūsdienu ielu ainava.

Pētījums par Daugavpils vēsturiskā centra ainavtelpas kvalitāti veikts laika posmā no 2014. gada decembra līdz 2015. gada oktobrim. Mērķa sasniegšanai izmantotas zinātniski pētnieciskās literatūras – publikāciju un elektronisko resursu analīzes, analizēti kultūrvēsturiskie objekti, ielu apstādījumu parkiem, skvēriem un zaļās zonas Daugavpils vēsturiskajā centrā, apsekots Daugavpils vēsturiskais centrs, fiksēta esošā situācija. Pētījuma procesā veikta eksperta intervija un iegūti materiāli no arhitektes Ģertrūdes Rasnačes, kas ir bijusi kā galvenā arhitekte Daugavpils pilsētā laika posmā no 1988. līdz 1992. gadam.

Pētījuma priekšmets ir Daugavpils vēsturiskā centra arhitektoniski telpiskajā vidē notiekošās ielu ainavas transformācija kvalitāte. Par Daugavpils vēsturisko centru, pētījumā tiek pieņemta funkcionāli, vizuāli un pilsētbūvnieciski nozīmīgākā pilsētas centra daļa, kas iekļaujas Daugavpils vēsturiskā centra aizsardzības zonā, ar noteiktu tās robežu. Pētījumā netiek atspoguļotas visas ielu ainavas Daugavpils vēsturiskajā centrā, bet tikai būtiskākās, lai kopumā konstatētu un atspoguļotu to kvalitāti. Pētījums ir orientēts uz mūsdienu cilvēka dzīves kvalitātei un filozofijai atbilstošas nostājas un attieksmes veidošanu pilsētas vēsturiskajā centrā. Analizējot ielu apstādījumu nozīmi vēsturiskajā centrā, konstatēts, ka būtisku lomu ieņem kokaugi, kas netiek pareizi apsaimniekoti un būtiski aizsedz kultūrvēsturiskās ēkas.

Daugavpils vēsturiskā centra kultūrvēsturiskais mantojums, pārliecinoši raksturo pilsētas piederību Eiropas kultūrai – kā garīgs simbols, arhitektonisko formu kopums un izcils pilsētas identitātes piemērs. Apstādījumi līdz mūsdienām nav piedzīvojuši krasas pārmaiņas, pastāv atšķirīgas estētiskās kvalitātes iezīmes apstādījumu daudzveidībā. Svarīga loma ielas apstādījumu rekonstrukcijas aizsardzībā, attīstīšanā un veidošanā ir monitoringam, ko iespējams veikt pašvaldības līmenī. Pilsētai vienoti jāveido savs apstādījumu raksturs, tendences un krāsas. Nepieciešams veidot vienotu apstādījumu sistēmu, kas caurvītu visu pilsētu, veidotu saikni ar esošo pilsētas zaļo infrastruktūru**,** kas ietvertu parkus, skvērus, ielu zaļās joslas, alejas un kvartāli ar procentuāli augstu jaunu vai atjaunotu apstādījumu sistēmu.

Estates in the Western region of Leningrad oblast and an example of the possible use of one of them in the future (Manor Velio on the historic Narva tract)

Kishchuk Alla Afanasyevna, *Nevsky Institute of Management and Design, St. Petersburg*

Together with the foundation of the city of Saint Petersburg at the mouth of the river Neva, the development of the area around the city was going on. Exclusive countryside estates of the Emperor and his court were originally intended only for leisure, however, already in their complexes, selected economic sectors for vegetable gardens and fruit orchards were found. In the city, the area of parcels of land in the territory, intended for the construction, depended on the number of the peasant households owned by the nobility. The houses were erected on the red line or with a small inset from it in accordance with exemplary projects of the architects Trezzini and Leblond [1]. "The places under the construction in St. Petersburg were assigned depending on the economic situation of the inhabitants. The nobility, merchants got the best places (on big streets, embankments, etc.); the labor force population lived on secondary streets (on the furthest lines).

The necessary regulation of the construction of the city, indicated by Peter I, led to the execution by the architects not only projects of individual sections, but the master plan of the entire city. The undeveloped territory of the urban estates in it turned into a park or in a subsidiary farm or a combination of both. On such parcels of land, beds, greenhouses, hothouses, conservatories were also arranged, fruit trees and bushes were planted. The picture of such use of the parcels of land for the construction of the capital city can be seen even on the plans of Saint-Hilaire in the 70s of the 18th century [2]. All these subsidiary households provided their owners not only with food, but were also the subject of trade in the growing city.

Gradually, with the expansion of the city and related compaction of the construction, i.e., the emergence of all sorts of new buildings on the former areas of the free parcels resulted in the fact that the subsidiary households, one way or another, ensuring food supply for the city's population, became displaced out of it outside the city's boundary. Over time, independent household estates of various directions started to appear near the Russian capital city and the products were delivered to the city for sale.

Already in the 19th century, the number of household estates spreading around the capital city, strongly increased. Among them, it is possible to highlight the estates, manors or half-manors, which were mostly grouped in one way or another, on the Narva tract, connecting St. Petersburg with Estonia. This area belonged to the Yamburg, Peterhof and Oranienbaum counties, which because of their proximity to the border and to their ancestral possessions in Estonia and Livonia, attracted the Baltic Germans. As it is written in the book of I.V. Murasheva and L.P. Myslina, the estates of the nobles of St. Petersburg province about the Kingisep area," The landlords – the Germans ensured the economic prosperity of the province, transferring here from their homeland new ways of farming" [3]. Further, they noted, "Practicality, the rationality of landowners, descendants of the Baltic States, also affected the device of the estates: household courtyards, stables, coach-houses, forges, cattle-sheds, dairies, threshing barns, granaries, cellars, ice-houses, etc., and were constructed of rubble jointed together by fine lime (cement), collected on the fields, clearing them away for the crops to be grown."

Among the industries, quite common in these parts were: sawmills, brick plants, fish plants for trout, flour mills, poultry houses, cattle yards, cow-sheds, gardens, orchards, fruit plantations, distilleries, breweries, apiaries, conservatories, factories, oil mills. In order to increase the profitability of their estates, the owners of the estates built villas for rent, as well as separate settlements for tenants, but on the Petersburg-Narva tract or beside it built boarding houses, taverns or inns. Mostly, in these parts, household estates were primarily built and rarely estates as villas for recreation were met.

All the owners of these estates were not only the Baltic Germans, but also the Russians, who intensively moved their peasants from inland provinces of Russia to the new lands. It was a

reward for their service or for any services to the fatherland. They were military officials, statesmen, mariners and engineers. Almost all of them served or lived in St. Petersburg, and the estates gave them additional income. There were somehow stable family ties among the owners of these estates. This is reflected in the names of the owners of different estates, demonstrating the expansion of their holdings over time thanks to the members of the family or the branched family - for example the names Baron Korf, Baron Wrangel, etc. [4].

As an example of one of the owners of the household estates, we can note the family of the world famous Russian artist Nicholas Konstantinovich Roerich. In the translation from the old Norse, the surname Roerich means "rich of fame" and has a Danish-Norwegian roots, going up to Ruriks. The ancient Roerich genus moved to Russia from Latvia during the times of Peter I [4]. The future artist spent his childhood and teenage years in the estate of his parents Izvara (Volosovsky district). In the village Izvara, the manor house is still preserved, converted into a museum of the artist, and on its territory - natural ponds where the Roerichs cultivated trout.

The high profitability of the household estates in this region not only by the Germans, but also by the Russians, as well as other foreigners, faithfully serving their new motherland - Russia, ensured some prosperity in the province. After 1917, it also allowed the new country, based on these household estates to create collective farms, State farms, and now with their direction: dairy farming, cattle breeding, stud farms, etc..

As another and a shining example of the household estates on the Narva tract, Velio Manor with its rich past and modern history, as well with the opportunity to present the conservation, adaptation and use of it in new modern conditions can be mentioned.

Gomontovo Manor (Khomutovo) originated near the Narva tract in the second half of the 18th century, no earlier than in the 1770s. Later, its name became pronounced as **Gamutova, Gomantova, Gomantovo, Gomontovo.** Chomutova Manor was located at some distance from the tract from its northern part and near the road to Koporye. For the first time it is shown on the general survey plan of the Oranienbaum county in 1788 [5].

In the last quarter of the 18th century, Gamutova Manor (Gomontovo) belonged to the **Talyzins,** at first, to the Adviser **Ivan Lukyanovich**, then to his son - Brigadier Lykyan Ivanovich. The manor occupied an area of 5 desetines = 5.46 hectares.

From the beginning of the 19th century, the territory was owned by Countess **Varvara Lvovna Fermor**, née Albrecht [6]. Not only the manor belonged to her, but also 4 villages. By her will, in 1838, she handed over her lands and Gamutova (Gomontovo) Manor to her nephew - Major-General **Karl Ivanovich Albrecht** (1795-1884), who already owned the estate Kotli, located almost on the border with Estonia.

In 1838, Velio Ekaterina Ivanovna (1795-1867) bought the estate (villa) Gomontovo from her brother K. I. Albrecht. On the basis of the pre-existing manor, the spouses Velio built their own one [7].

The first detailed plan of the manor - a small estate Velio, built in 1841, does not reflect the new developments in the estate, but captures what was already done before buying it by E.I. Velio. This is evidenced in the manor area of 5 hectares, which the Talyzins had when selling the estate. On the plan, it can be seen that the access road from the Narva tract leads to the central part of the estate, forming an elongated loop. From it to the west, wooden and stone household buildings, as well as service buildings were located. Even further, behind them an orchard, vegetable garden are arranged and four extensive artificial ponds are dug as well. From the south of this part of the manor, the park planting can be seen on the plan, but from the east of the center of the estate and around the manor house the park itself is shown, on the edge of which a small rectangular pond is placed. North of the park there is a household zone, from the west restricted by a linear planting of trees, and from the east - by a road. At the eastern border of the household zone, an elongated building of the stables was located. In the north, the territory of the manor became isolated by a small grove, individual pine trees, which have survived until our days. Gomontovo Manor was primarily an economic estate, generally typical for estates, located along or near the Narva tract. Cattle and horses were bred on the estate.

By 1855, as evidenced by the respective plan, the former driveway to the manor had turned into an alley. It was formed by double rows of plantings: the internal one from linden trees and the external - from fir trees [8]. Considering a fragment of this plan, it can bee seen that the alley plantings continued behind the Narva tract along the road to the estate of Kikerino (one of the barons Wrangel) in the direction of Volosovo. The Narva tract was also partly turned into an alley [9]. By this time, the increased boundary of the manor was finally corrected. It is marked by ramparts, ditches, line plantings of trees, preserved up to the present time. This form of registration of the boundaries of the estates themselves or their parks in the form of ditches and ramparts, entrenched in the estate building near St. Petersburg ever since the days of the creation of the first Peter's estates around the

capital city. This is evidenced by the boundaries of the park "Nizhnije Dubki" near Fox Nose in St. Petersburg, as well as the boundaries of a number of such manors as Dylicy in Elizavetino village of the Gatchina district, Torosovo in the Volosovsky district, etc. [10].

The historic plan shows that the manor with its compact green areas historically was, as already mentioned, surrounded by open spaces - fields and pastures. The forest band has survived in the distance, on the old Koporye road, as well as behind the Narva tract. In the plan of 1855, a tavern and a pub are marked near the Narva tract, which belonged to the owners of the estate and traditionally they were rented.

In general, in the middle of the 19th century, the estate had a compact and clear space-planning composition, a large part of the elements of which have been preserved up to the present time. Thanks to the geometrically clear volume of the park plantings and framing of the boundaries of the estate by ramparts, ditches and linear high-growing plantings, now it, as in the mid-19th century, stands out from the surrounding flat landscape.

Created thanks to the efforts of the family Velio, the household estate, based on the original small manor remained in the possession of the family until the revolution of 1917. After the nationalization of their property in 1918, in the territory of the estate, there was established a "Soviet collective farm" with the same name - Gomontovo, the economic base for which was the estate household of the former owners. Based on this and also on the neighboring estate, owned by the same family, a stud farm was founded, which is existing even now. A dairy farm has survived as well. In the State farm Gomontovo, as before the revolution, cows, sheep and thoroughbred horses were kept, for which the old manor farm buildings, repeatedly subjected to repairs, were used [12].

In the stud farm "Gomontovo", Velio Manor or the alley of Gomontovo should be distinguished in its preservation of the composition. In order to save this manor, unique in its planning and the volume-dimensional composition from complete destruction, having joined around the interests of the preservation of the manor, the initiative group of people praising it as a site of the cultural heritage, has made appropriate scientific research work to reveal its value. Two State historical-cultural expertises of this site of the cultural heritage, the last of which was performed even by a court decision, have proved the high importance of this manor in the history and culture of our country and, in particular, of the region.

As a site of the cultural heritage of the regional importance, Velio Manor – the alley Gomontovo should continue to exist, and its modern adaptation to the changed conditions of life of our society, as the representatives of the same initiative group of people think, can breathe new life into it. For this reason, the author of the article was asked to perform a project-presentation, turning this historic manor in an **equestrian -sports and tourist complex** on the Narva tract, while retaining its part, which is the site of the cultural heritage of the regional heritage.

The equestrian- sport and tourist complex is expected to be created mainly on the territory which is outside the boundaries of the site of the cultural heritage. The monument, which includes, in addition to the park, alleys and border plantations, building of the historical stable near and the territory around it, will be an important part of the new complex, creating its center. The territory of the monument will be appropriately landscaped. According to the project, the total area of the complex is 38.8 hectares, but of it - 7 ha fall on the territory within the boundaries of the monument. The northwestern boundary runs along the existing road of a historical local significance, linking the new sports complex with the historic Starokoporsky road, lined with pine trees. It runs from the Narva highway in the direction to the northwest. The southeastern boundary of the complex is created by the Narva highway.

The main area of the complex is made up by the territory of two levadas. The smaller size of them is 6.6 hectares, and the larger one - 17.6 hectares. The levadas are open spaces for grazing of horses and ponies. They have fences, but do not close views on the grazing animals. Between the two levadas, a road of local importance runs, connecting the Starokoporsky road, and behind it also the village Begunitsy with the Equestrian Sports Center of the complex that is being built. According to the project, it becomes one of the main roads of the complex.

The center of this complex is the historic stable, supplemented by new buildings. It is adjacent to the stable yard with its relevant household, different in the size and configuration open riding rings and a stadium with covered stands for equestrian competitions. The existing indoor arena looking like a concrete shed is replaced by a new one in the proposed project. It should correspond to the modern requirements and standards. A good addition to this center can be an indoor swimming pool to be built in the northern territory of the projected complex. According to the project, to the right of it, it is intended to have a parking space, but to the left - in the small new park space, it is possible to have outdoor swimming pools in the summer time.

According to the project, along the north-eastern boundary of the historical park it is envisaged a new elongated park area, where children's playgrounds, recreation spots for adults and small pavilions will be placed.

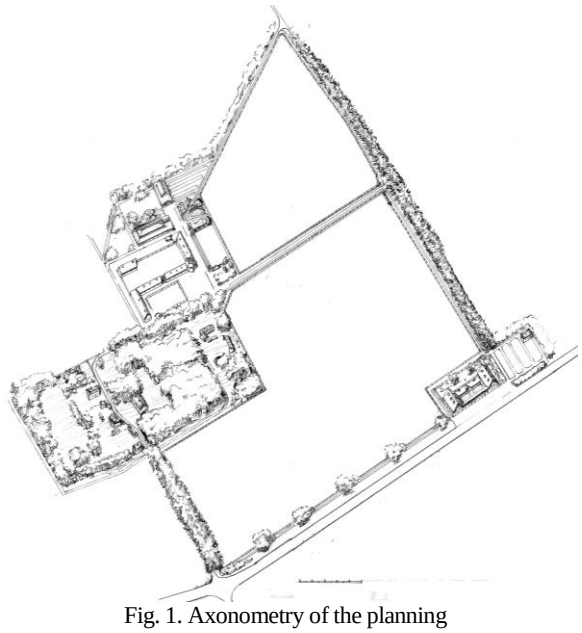


Fig. 1. Axonometry of the planning
of the Equestrian- Sport and Tourist Center
[Source: material from author private archive]

In the park of the Velio estate, using the preserved historical foundation, a manor house will be restored. The project is made by the author and engineer Trofimova I. T. The house was wooden, two-story with a mezzanine and in the roof volume of the building dormers were built in [13]. In its decorative design, eclecticism features are present with elements of Art Nouveau. The house had a high plinth, board lining of the walls and beautiful wood carvings in the decoration of the windows and eaves. Before entering, there was a large terrace, side apertures, a conservatory with a lattice fence for vertical greening, as evidenced by the picture of the manor house.

According to the project, in the newly built manor house, it is proposed to place the appropriate services associated with the demonstration of the historical materials about the province and the organization of tourist routes around it. In the park near the house, it is possible to accommodate varying expositions relating to the advertising of the historic site of the cultural heritage - the monument of history, culture and landscape art - the Velio estate.

According to the project, near the Starokoporsky road on the Tallinn highway, where once a tavern stood, it is planned to build an inn. As in the historical times, it will combine primarily the function of a hotel on the historic Narva tract. Besides, in its main one-story block - the hotel services, also reception rooms for various events of the whole complex and the organization will find their place.

The inn project is developed by the author and I. T. Tarasova. As a sample of the construction is taken the Russian izba once located in the Ekateringof park built by the project of O. Montferrand [14]. In turn, as a model for his project of the inn in the park the architect took the complex of buildings for the household of prosperous, in most cases, sovereign peasants [15].

As in the compositions of the peasant farmsteads, where the household and the dwelling houses from three sides formed an open courtyard, but from the fourth side the yard was hidden by a fence with an entrance gate, so for the projected inn the central courtyard from three sides is flanked by the buildings of hotels and services. From the fourth side, facing towards the Tallinn highway, over the fence with the entrance gate at the level of the second floor stretches a covered gallery - an open arcade. From the courtyard side, symmetrically along the fence a staircase rises to the second floor.

Near the administrative part of the complex, elevators and stairs are provided on all the three floors, including the attic floor as well. From the second floor to the third floor, it will also be possible to get in the southwestern ends of the hotel rooms of the buildings in the complex.

According to the project, next to the inn building behind the Starokoporsky road and along the highway a parking lot will be built, part of which can be transformed into a skating-rink in winter.

Along the fence of the large area of the levada on both sides of the inn there are projected roads for the local transport: scooters, bicycles, different types of cars to ensure rapid movement from the inn to the center of the complex – the stables and to the manor house. From the Tallinn highway, part of the levada is hidden by groups of trees and bushes, but it is open for viewing from the side of the track and it is constantly possible to enjoy the beautiful animals, grazing in their fields.

The conservation of the estate park, the open space the levadas, the boundary northwestern band of plantings at the plough field and the alleys will continue to emphasize and identify the unusual volume-spatial composition of the manor. The reconstruction of the park space, alleys and the boundary plots of the manor will contribute to it as well. The implementation of this project will give the third life to this extraordinary site of the cultural heritage of our country and our region.

References

1. **Luppov S.P.** The history of the construction of St. Petersburg in the first quarter of the 18th century. M. L. 1957, pp. 36, 38-44. Andrea Trezíni (around 1670-1734), an architect and engineer. Jean-Baptiste Alexandre Le Blond; (1679 - 1719) - a French architect and master of the landscape architecture. The Wrangel family came from a family of the Baltic Germans, who lived in Estonia since the thirteenth century and, possibly, of a Lower Saxon origin. Other

branches of this family name settled in the 16th-18th centuries in Sweden, Prussia and Russia. Several representatives - De Saint-Hilaire, A. Gorihvostov and V. Sokolov, etc.. Axonometric plan of Petersburg 1765-1773. Ed, Publishing House "Kriga". 2003.
2. **Murasheva I.V., Mislina L.P.** The estates of nobles of of St. Petersburg province. Kingisep district. Ed., Information Center "Vibor". 2003.
3. Korf Ivan Osipovich (1763-1842) started dairy farming in the estate, built cattle yards, a windmill. The von Korf genus appeared in Livonia in the fifteenth century. The baronial title of the representatives of this family was obtained in the sixteenth century.
4. The Wrangel genus distinguished in the service of the Swedish, Prussian kings and Russian tsars. lotus-skh.narod.ru›Spisok1/st22_r.htm; tellis.ucoz.ru›Каталог; rushist.com›index.php…vrangel-petr-nikolaevich…
5. The general survey plan of the Oranienbaum, Peterhof counties of 1788. *Fragment.*
6. Description of the province of St. Petersburg by counties and precincts. St. Petersburg, Printed by Provincial Printing House.
7. The former estate of M. V. Velio in the Gomontovo alley derives its name from the last owners of this manor house - two generations of Velio - coming from Portugal, serving faithfully in Russia.The first owners of the manor were two generations of the Talyzins, then the Fermors and Albrechts, they all in one way or another, had a relationship with each other and with the family of Velio. All the owners of the manor held special positions in the civil service of Russia. For example, the senior Velio - (Osip) Petrovich Velio (Velgo) (1755-1802) was appointed as a banker of the Russian Imperial courtyard Jose-Pedro-Celestnio_ Russia His son Josip Iosipovich Velio was a military, party of the war in 1812, the commandant of the fortress of Narva. At the end of his life, he was the commandant of Tsarskoye Selo. In 1856, promoted to a general of cavalry; awarded for his service with a number of the highest Russian orders up to the order of St. Alexander Nevsky, inclusive.
8. The estate of Gomontov. Plan. 1841. Murashova N.V. One hundred noblemen estates of the St. Petersburg province: a historical guide. Ed. 2005. Gomonotovo Manor. Plan. 1855.
9. Plan of St.-Petersburg province of 1855. -*CENTRAL NAVY F. 3. Op. 25.* storage un.*1979. L. 1. Fragment.*
10. **Kishchuk A.A.** Estate Velio in Volosovsk district of Leningrad oblast. 2013
11. Russian State Archive of Navy, F.3, descr. 25.1979. L. 1. Fragment: Gomontova Manor.
12. Central State Archive of St. Petersburg. F.5808. Descr.1. D. 9. L. 1; L. 13.; L. 35; D. 24. L. 10, L. 11, protocols, work plans, estimates of the stud farm Gomontovo. Central State Archive of St. Petersburg. F. 7542. Descr. 9. D. 31. L. 17; L. 27.File, 1919. Estates of Gomontovo and Novo-Ivanovskoye.
13. A view of the Velio estate. Royal maneuvers (Peterhof County on Narva highway) of Senator I.O. Velio. From a photo print of. Rashevsky. Magazine "Niva", 1890.
14. **Kormiltseva O.M., Sorokin P.E., Kishchuk A.A.** Ekaterinhof, St. Petersburg. Russia. 2004, p. 74, 124 (in order)
15. This principle of organization of the building complex of the peasant household, but only on a small scale, can be seen in the village of Sheryaevo (Samara oblast, Zhiguli reserve) on the banks of the river Volga, where in due time two Russian painters painted their pictures - I.E. Repin and F.A. Vasilyev, renting a room in a peasant family. Currently, this peasant farm has become a museum of the painters.

INFORMATION ABOUT AUTHOR:
Kishchuk Alla Afanasyevna, Architect, Member of St. Petersburg's Association of Landscape Architects, Professor of Landscape Design at Nevsky Institute of Management and Design, residing at the address: 195027. St. Petersburg, Якорная ул. дом 1, кв. 15. Phone (812) 2277856; cell phone + 7 911 7221670; E-mail: kishchuk-alla@yandex.ru

Kopsavilkums. Velio muižas attīstība Narvas apriņķī. 18.gs.vidū Sankt-Pēterburgas pilsētas neapbūvētās teritorijas pārvērtās par pilsētas parkiem vai dārzu teritorijām ar augļu kokiem un krūmiem, ziedu vai dārzeņu platībām. Pamazām pilsētas apbūvē šādas teritorijas ienesa sadrumstalotības raksturu, taču tās nodrošināja strauji augošo pilsētu ar pārtiku. 18.gs.70.g. pamazām pieaugot apdzīvotības un apbūves blīvumam, zaļās zonas tika izstumtas aiz pilsētas robežas. Jau 19.gs. beigās uzplauka ārpilsētas mazo muižu vai pusmuižu izveide, kas apgādāja pilsētu ar pārtiku. Galvenokārt, tās izvietojās no Sankt-Pēterburgas Igaunijas virzienā, kas bija tuvāk muižu īpašniekiem vācbaltiešiem Līvzemē. Vācbaltiešu saimniekošanas māka un tradīcijas, turot lopus un apsaimniekojot zemi, tika pārmantota arī Krievijas rietumu apgabalos izvietotajās muižās ap Sankt-Pēterburgu. Muižu saimniekošana pamazām attīstīja kokzāģētavu izveidi, ķieģeļu cepļu, dzirnavu, zirgu staļļu izbūvi, šķirnes lopu audzēšanu, augļu dārzu iekopšanu utt. Jauno muižu īpašnieki bija ne tikai vācbaltieši, bet arī krievu muižniecība, kas uz apgūtajām zemēm veda līdzi arī savu zemniekus. Te minami barons fon Korfs, Vrangelis u.c.

Valio muiža (īpašniece J.I.Albrehta) 5ha platībā kompozicionāli ir saistīta ar Narvas lielceļu, kur iebraucamo ceļu akcentē koku stādījumu dubultrinda, kas noslēdzas parādes pagalmā, gar kuru bija izvietotas koka un mūra saimniecības un kalpu ēkas. Ēku aizmugurē plašs dārzs ar izraktiem četriem dīķiem. Līdzās skaists parks ar regulāras formas dīķi. Parka ziemeļu pusē atradās saimniecības zona, kuru rietumu daļā norobežoja koku stādījumu rinda. Netālu gleznaina birzs, kā arī priežu stādījumi. Valio muižas teritoriju norobežoja grāvji, valņi, koku rindas. Šāds muižu teritoriju iezīmējums bija populārs cariskās valdīšanas laikā.

The cultural environment and personalities

Jānis Zilgalvis, *a full member* of *Latvian Academy of Sciences*

Abstract. The cultural landscape, intact of short-sighted modifications, the value of the true meaning of which we have started to sense only in the recent decades through activation of the arrangement of the environment and the development of tourism. The cultural landscape has been formed for centuries and it reflects the traditions, historical developments and people's mentality. It also illustrates the relationship between the society and nature, informing about individual personalities, who in the nation's history are marked with an indelible force. One of such personalities is Rainis (1865-1929), with whose name half-manors and their neighborhood at Birkeneļi, also Birkineļi (Berkenhagen), Tadenava, also Tādinava (Thaenhof) and Jasmuiža, also Jašmuiža (Jasch-Mysa) are associated.

Keywords: architectural heritage, manor architecture, monument protection and preservation, landscape architecture.

Tadenava

In the context of the cultural heritage, the name of Rainis is first associated with the half-manor at Tadenava in Augšzeme, where the poet's childhood years passed – the time from 1865 to 1869. It belonged to the half-manor of Dunava (Podunaj) and in 1863 its owner was Casimir Plater-Sieberg. In that year, extensive riots swept through the country, as a result of which a number of peasants were driven out from their living places, also in Tadenava. The half- manor of Tadenava was formed by combining their land, and Krišjānis Pliekšāns, father of Rainis, started to run it. It is likely that the building was built in 1865, probably, in the place of the old *Skudru* house. Over time, the house built by Rainis is much transformed. The home surrounded by bushy trees is a corner-jointed building, the logs of which differ in some places, and, probably, have been taken from an older building. The porch is also changed – the photofixation around 1912, suggests that it was smaller and its roof was under the roof edge of the building. Under one part of the building, vaulted cellars have remained, which in 1950s as partially collapsed were filled up. It is intended to open the Museum of Rainis in 1945, but after its repurchase from the owners the museum is open only in 1959 (Fig. 1, 2). In 1962, part of the original interior decoration and furnishings was destroyed. In 1967, an exposition was arranged. In the same year, as in many places elsewhere in Latvia, the manor planning structure was disturbed by building a club in the immediate vicinity. In 1970, a reconstruction project of the building is developed, which is not implemented. Later, the Rainis Museum of Literature and Art History again had an intention to restore the dwelling house of the Tadenava half-manor in its original appearance, but the restoration started only from January 2015. From the rest of the structure, the barn built by Rainis father and the foundations of several buildings have remained. The granary was among one of them. On the other side of the rectangular yard, a cow-shed about 40 meters in length was located, the appearance of which is not exactly known today. The spatial solution of the planning of the historical structure of the manor center is revealed by the layout, which before the restoration was exposed in the dwelling house.

In the bent of the river Eglaine, located not far from the museum, a memorial stone is set up, as it is here where the old bathhouse was located, in which the next poet saw the sunlight for the first time. Although, the building is not preserved, thus this important space is marked, and provides information to anyone who is interested in the history of the country and its personalities.

As it suggested by the above, the Museum of Rainis "Tadenava" is lively with its activities today, both in the improvement of the cultural landscape and the preservation of individual buildings. The financial means are being sought to create a new exposition, examine the construction history of the building and improve the infrastructure. One of the objectives of the Museum, as it has been already indicated in the concept of the future development worked out in 1999, is to help discern the beginnings of the childhood as the starting point of the sun- love teaching of Rainis, makes it possible to relax in the primordial silence, to feel the presence of nature of the poet, thereby creating Tadenava as a kind of a shrine [1]. The current cultural environment and landscape completely allow to implement this idea as authentic and little changed. One of the urgent tasks should be pulling down of the club built not in the right place.

Fig. 1. The dwelling house of the half-manor of Tadenava [Source: State Inspection for Heritage Protection of the Republic of Latvia, Monument Documentation Center, 1966]

Fig. 2. The dwelling house of the half-manor of Tadenava [Source: State Inspection for Heritage Protection of the Republic of Latvia, Monument Documentation Center, 1951]

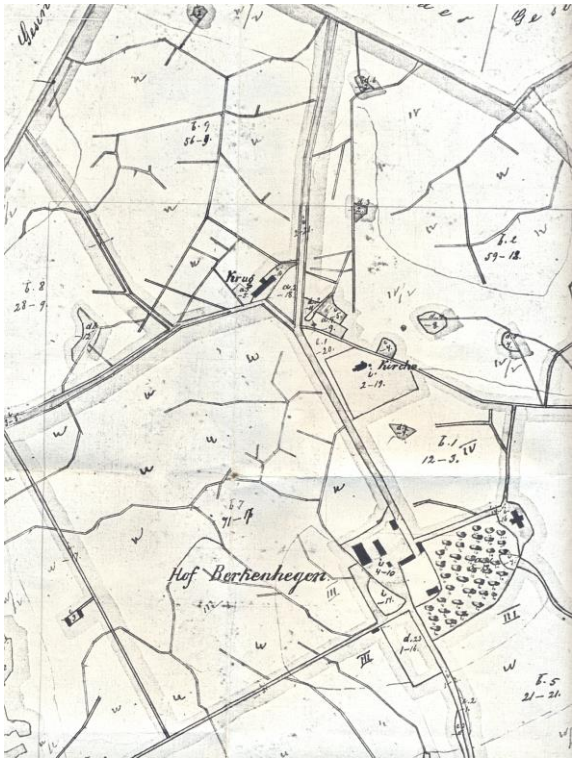


Fig. 3. The land division plan of the Birkeneļi manor [Source: Latvia State Historical Archive, 169, f., descr. 172, p. 98]

Roalds Dombrovskis has figuratively spoken about the role of Tadenava as the home of Rainis and his commitment to the sun, *"The earliest memories of the poet Rainis are associated with Tadenava, with that house, where he spent the first three years of his life... The rays of the sun shed over him and his nanny left impact on him for over sixty years. It always lies at the depth, not even called. But also never contantly mentioned. Let the one who feels annoyed hearing the word "sun", that so often appears in the verses of Rainis, to know: it's not "the sun in general", it's the sun of 1867 or 1868 shining in Tadenava, that warmed up a three-year old boy and his nanny. The boy knew how to suck in the light and warmth, as if he had been a son of the sun. The sun is feminine in Latvian: she. He sucked in the light like breast milk"* [2].

Randene

Randene near Daugavpils is also associated with the name of Rainis, when the property was rented by his father. It was a half-manor of the manor Līksna (Lixna) and its structure was destroyed during World War II. At Randene, the poet lived from 1869 to 1872. The expressive landscape environment is the only testimony of the former economic activity, traditions and the spiritual atmosphere. A memorial sign is set up here, the author of which is sculptor Igors Dobičins. Another half-manor Vasiļova (*Wasilow*) leased by Rainis father has also not survived – it was managed from 1881 to 1891.

Birkeneļi

More fortunate is Birkeneļi, the former property of the barons Foelckersahm and the half-manor of the manor Kalkūne (*Kalkuhnen*) that in our nation's history is mainly known thanks to the parents of Rainis, the tenants of this manor from 1872 to 1881. Right here, in the bushy linden shade, at the hillsides of the banks of the river Laucesa, the childhood of Rainis passed, the impressions of which are reflected in the poems compiled in *"Dagda's Sketchbooks"*. Since 1965, the Museum of Rainis is located in the dwelling house of Birkeneļi. Here the one who cares will find information about the poet's childhood, his studies at the Vilkumiests parsonage, or the so-called Egypt (1874-1875), and at the German school of Grīva (1875-1879).

The dwelling house of Birkeneļi is built around the middle of the19th century. It is a one-story building in its volume from the yard, but on the other side a wide veranda with a roof construction is built in the center of the facade. The ground-level fall also reveals the basement wall. In 1996, the reconstruction of the building was carried out – the roof covering is replaced and the windows with shutters are rerenewed, a fireplace-hall and a small

Fig.4. The dwelling house of the half-manor of Birkeneļi [Source: State Inspection for Heritage Protection of the Republic of Latvia, Monument Documentation Center, 2004]

Fig.5. The dwelling house of the half-manor of Birkeneļi [Source: State Inspection for Heritage Protection of the Republic of Latvia, Monument Documentation Center, 1985]

hotel are open on the second floor. The memorial room of Rainis and the exhibition space are located on the first floor, but, in general, the building is called the Daugavpils District Cultural and Educational Center and the house of Rainis - the Memorial Museum.

At Birkeneļi, there is also a granary characteristic for the manor structure. The corners of the buildings are decorated with rubble masonry hidden under plastering, the pediment is created in a simple fachwerk design that makes the building of the end of the 19th century architecturally expressive. The second outbuilding has also survived – the stable (the second half of the 19th century). Over time, the facades of the two-story building have changed, creating new window openings and removing the arcade, which is still slightly visible. Between the granary and the dwelling house an ice cellar is located, more distantly, at the side of the driveway there was a servant house (19th century). In the direction of the Lithuanian border, a large apple orchard with a flax rettery extended. Judging from the manor land plans of the second half of the 19th century, the garden was quite large and thus its place in the overall landscape was important [3]. The cattle sheds that were located approximately in the place of the present parking lot have not been preserved up to this day. In a special structure, the Lutheran Church bell of Birkeneļi has found its location in the manor yard (1940).

In the context of the cultural landscape and the environment, the center of the Birkeneļi Manor is only a small part. Around it, there are several other important landscapes and environmental elements. The center of the manor was located on the bank of the river Laucesa and the road to it comes in from the Medumi - Daugavpils motorway. At the side of the road before the intersection there was a pub, but after it – the Birkeneļi Lutheran Church, the life of which has been running in the same shabby way as the countless churches of Latvia due to the violent actions of the Communist hordes and their sympathizers [4]. The war undoubtedly affected the fate of these buildings as well. An alley leads to the manor along these sites. On the other side of the church and the cemetery there was another road, at the sides of which there was the so-called Felkerzam Hillock (the owner of the Kalkūne Manor - baron Hamilkar fon Felkerzam is buried in this cemetery), where in his childhood Rainis loved to play. The apple orchard, individual trees and plantations, outbuildings, the river banks – it all adds to the structure in the center of the manor and creates its background. In other words, an extensive neighborhood is subject to the center planning of the manor structure and the spatial structure of the landscape. Every building, construction, park elements have their place – functionally based, with a cultivated landscape and conceptual clearness. In the 19th century, it did not ever came to mind to anyone to transform this cultural environment. People were more tolerant with respect to the performance of the previous generations, perhaps, they were more conservative as well. The today's situation is quite opposite, when a large part of the society with a light hand is willing to destroy or transform all the historical, authentic and culturally valuable.

Jasmuiža

The above, associated with the name of Rainis sites, allows to enjoy the cultural landscape typical to Augšzeme, but Jasmuiža - the land of the poet's youthful days represents Latgale with its hillock and lake interchanges, simple farmsteads and two-turret Catholic churches, which already from a distance interrupt the quiet serenity of the countryside. The archive of the nearby Catholic church tells the story of the ancient times at Jasmuiža, where at the end of the 18th century the first entries appear of the baptized members of the parish. Supposedly later, there were many inhabitants in the parish, as by the support of the landlord - Ksavery fon Schadursky, a new stone church in the place of the old wooden church was built [5]. In 1872, a merchant

from Daugavpils – Grigory Kuznetsov becomes the owner of Jasmuiža, but in 1883 the manor is leased by K. Pliekšāns, Rainis father. The lease contract drawn up in this year reflects the relationship and obligations of the landlord and the tenant of that time. For example, the tenant may not prohibit the landlord and his family to walk in the park and go through the apple orchard, it must undertake to hold no less than 85 cattle, but it is prohibited to keep goats [5]. The Pliekšāni family leased the manor until 1891 [6].

Rainis spent only six school holidays at Jasmuiža, but they still remained in his memory. This is an important time in instilling the world view of the future poet. During this time, Rainis translates Pushkin's "*Boris Godunov"*, writes poems, reads the works of the classics of the world literature and gets interested in the traditions and history of Latgale.

The materials already published give evidence of the cultural environment and atmosphere of Jasmuiža when Rainis lived and was present there. Already on May 12, 1883, Līze Pliekšāne wrote to Rainis, *"I'm writing my first letter to you on the bank of the same river Jaša. The place is so nice, I could say a half-paradise ... all is so familiar to me here, as if I have always been living here ...* [6], or more lines,"*in autumns and in springs, when the water level is relatively high in the river Jaša, in quiet evenings, the sound of the waterfall is heard far away".* In 1885, his sister Dora writes about it,"*Once or twice a day I go to our waterfall. Probably, you don't know anything about it yet. At our old footpath bridge, Pyotr has made floodgates, and now, when there is so much water, it seems quite romantic here, the snoring noise around is just like at the mill"* [6]. The mill was one of the components of the cultural environment. Information has survived about it since 1921 [7]. A photo shows an arranged natural environment – a water body with buildings reflected in it. The mill was not a lonely building. There were mentioned such buildings as a cattle barn, hay barn, roll-in barn, cellar, animal feed shed, outbuilding near the mill building (granary) and technical devices – work and water bridges, dams, etc..

From 1939 to 1949, Jasmuiža belonged to G. Kuznetsov's daughter Klaudija Apsīte. Then, the manor was managed by the local collective farm. In 1959, the building being in a poor technical condition was renewed without deference to authentic values.

In 1964, a museum is opened at Jasmuiža, which is dedicated to the life and creative work of Rainis, as well as the Rainis Museum of Literature and Art History, the present Theatre and Music Museum. At the beginning of the 1970s, wide landscaping works took place – the ancient river bed and its islet, as well as the waterfall of the river Jaša were restored, which judging by the letters especially excited Dora, the poet's sister. In 1971, the grain shed of the manor was restored and in the following year a permanent exposition of Latgale ceramics was opened there. In 1974, the cow-shed of the manor was reconstructed, locating the events hall and the annual exhibition spaces there (Fig. 7, 8, 9, 10).

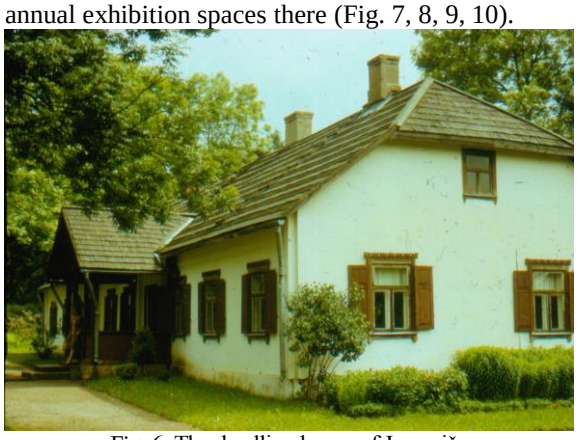


Fig. 6. The dwelling house of Jasmuiža
[Source: photo by author, 1980]

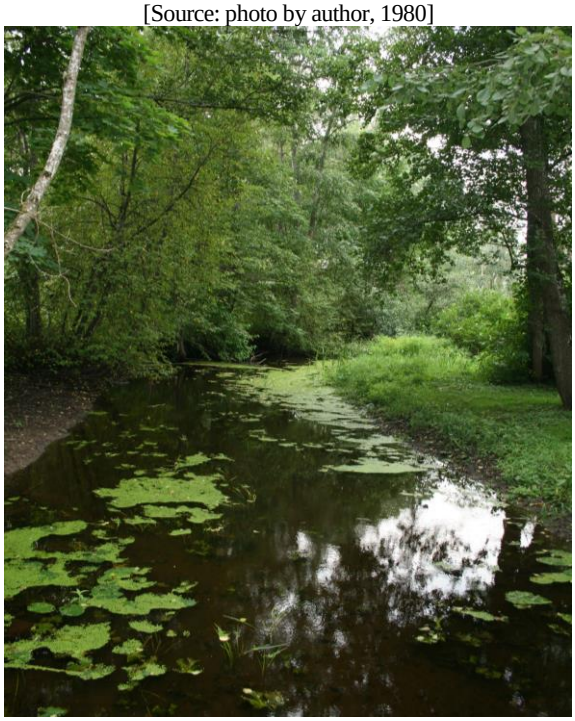


Fig. 7. The banks of the river Jasmuiža
[Source: photo by author, 2008]

Fig. 8. The manor house of the Jasmuiža estate
[Source: photo by the author, 2008]

Fig. 9. The exposition of the dwelling house of Jasmuiža [Source: State Inspection for Heritage Protection of the Republic of Latvia, Monument Documentation Centre, 1986]

Fig. 10. The reconstructed cow-shed of Jasmuiža [Source: photo by author, 2008]

From the point of view of the cultural landscape, the history of the development of the planning of this sizeable Latgalian manor is interesting. The land plan of Jasmuiža for 1873 has survived, showing the layout of all the buildings. In total, in the central part there are 12 sizeable buildings. At the roadside, from the rubble-wall gateposts to the left a stockyard is visible, the two blocks of which intoduce the inner yard. Only one part has survived from it. The manager's house - the present museum can be seen to the right, it restoration was completed in the early 1960s. A masonry grain barn is located closer to the river Jaša, where the permanent exposition of Latgale ceramics has found its place. The manor house, which was located at the side of the central yard next to the manager's house was a wooden building burned before 1873. Opposite to it, at the side of the yard another building had stood, about the use of which information is not available. Several outbuildings had been located away from the yard, but behind them – in the bent of the river Jaša - the mill.

Conclusions

The above mentioned manors of Augšzeme and Latgale are an essential part of the cultural landscape not only visually, but also in the environmental terms. Thanks to the name of Rainis, spiritual energy is encoded here, which is confirmed by the mood specific to the last century. The dwelling houses of these manors are not only museums and exhibition spaces, which store information about the poet's life. They are also cultural centers and places where the meaning and the value of life are sensed in other units of measure. The continuation of the research in various aspects is topical.

References

1. Latvijas muzeju ceļvedis. Rīga, Karogs, Latvijas muzeju asociācija. – b. g. 155. lpp.
2. **Dobrovenskis R.** Rainis un viņa brāļi. Viena dzejnieka septiņas dzīves. Rīga, 1999. 32., 33. lpp.
3. LVVA F.1679., apr. 172., l. 98
4. Mūra baznīca celta 1873. gadā, franču armija veco dievnamu nodedzināja 1812. gadā. Jauna baznīca iesvētīta tikai 1830. gadā. Otrā pasaules kara laikā dievnams izpostīts atkal. Pēc kara draudze dievnamu atjaunota otro reizi, taču piespiedu kārtā 1963. gadā tā bija spiesta savu darbību beigt. Par šo dievnamu tuvāk skat. Mašnovskis V. Latvijas luterāņu baznīcas. Vēsture, arhitektūra, māksla un memoriālā kultūra. Rīga: Due. 2005. 168. lpp.
5. **Djubina G.** Jašmuiža./ Raiņa gadagrāmata. Rīga, Liesma. 1976. 166. lpp Sastādīja S. Viese un J. Upītis.
6. Latvijas muzeju ceļvedis.
7. Valsts kultūras pieminekļu aizsardzības inspekcijas Pieminekļu dokumentācijas centrs. Lieta *Preiļu raj. Jasmuiža.*

INFORMATION ABOUT AUTHOR:

In 1979, **Jānis Zilgalvis** graduates from the Faculty of Architecture of the Riga Technical University. In 1990, he defends his doctoral thesis on the theme "*The Latvian manor architecture from the second half of the 19th century until the beginning of the 20th century.* Since 1995, he heads the Department of Architecture of the State Inspection for Heritage Protection and from 2001 until 2014 - he is the dean of the Faculty of Architecture and Urban Planning of Riga Technical University. Since 2012, he is a full member of the Latvian Academy of Sciences. He has more than 180 scientific and popular scientific publications, and he is the author of 21 books (for some books - a co-author). His main research directions are as follows: manor architecture and history of culture, sacred architecture, protection and utilization of the cultural heritage.

Kopsavilkums. Kultūrvēsturiskās ainavas kontekstā ar Raiņa vārdu vispirms saistās Tadenavas pusmuiža Augšzemē, kur aizritējuši dzejnieka bērnības gadi – laiks no 1865. līdz 1869. gadam. Šajā gadā novadā notika plaši nemieri, kurus apspiežot vairāki zemnieki tika padzīti no savām dzīves vietām, arī Tadenavā. Viņu zemes apvienojot tika izveidota Tadenavas pusmuiža, kurā sāka saimniekot Raiņa tēvs K. Pliekšāns. Domājams, ka ēka celta 1865. gadā, iespējams, veco *Skudru* māju vietā. Ēka laika gaitā ir krietni vien pārveidota. Kuplu koku ieskautā mājvieta ir guļbūve, kuras baļķi vietām redzami atšķirīgi, un iespējams, izmantoti no kādas senākas ēkas. Raiņa muzeja iekārtošana Tadenavā paredzēta jau 1945. gadā, bet pēc atpirkšanas no īpašniekiem muzejs atvērts tikai 1959. gadā. 1962. gadā iznīcināta daļa oriģinālās iekšējās apdares un iekārtojuma. 1967. gadā iekārtota ekspozīcija. Šajā pašā gadā, kā daudzviet citur Latvijā, muižas plānojuma struktūra tika izjaukta, uzceļot tiešā tuvumā klubu.

Ar Raiņa vārdu saistās arī netālu no Daugavpils esošā Randene, kad īpašumu rentēja viņa tēvs. Tā bija Līksnas muižas pusmuiža un tās apbūve gāja bojā Otrā pasaules kara laikā. Randenē dzejnieks dzīvojis no 1869. līdz 1872. gadam. Izteiksmīga ainaviskā vide ir vienīgā liecība par kādreizējo saimniecisko rosību, tradīcijām un garīgo gaisotni. Šeit izvietota piemiņas zīme (tēlnieks I. Dobičins).

Vairāk paveicies ir Birkenelei – kādreizējam baronu Felkerzāmu īpašumam un Kalkūnes muižas pusmuižai, kura mūsu tautas vēsturē pazīstama, galvenokārt pateicoties Raiņa vecākiem - šīs muižas nomniekiem no 1872. līdz 1881. gadam. Tieši šeit pagājusi Raiņa bērnība, kuras iespaidi atspoguļoti *Dagdas skiču burtnīcā* apkopotajos dzejoļos. No 1965. gada Birkeneļu dzīvojamā ēkā atrodas Raiņa muzejs. Dzīvojamā ēka celta 19. gs. vidū.. 1996. gadā veikta ēkas rekonstrukcija. Muižas centrs kultūrvēsturiskās ainavas un vides kontekstā ir tikai neliela daļa. Ap to ir vairāki citi nozīmīgi ainavas un vides elementi. Muižas centrs izvietojās Laucesas upes krastā un ceļš tajā ved no Medumu – Daugavpils šosejas. Pirms krustojuma ceļa malā atradās krogs, bet pēc tā Birkeneļu luterāņu baznīca, kas padomju laikā ir daļēji iznīcināta. Garām šiem objektiem uz muižu ved aleja. Otrā pusē baznīcai un kapsētai ved vēl kāds ceļš, kura malā atradās t. s. Felkerzāma kalniņš, kurā Rainis bērnībā mīlējis rotaļāties. Ābeļdārzs, atsevišķi koki un stādījumi, saimniecības ēkas, upes krasti – tas viss papildina muižas centra apbūvi un ir tās fons. Citiem vārdiem sakot, muižas apbūves centra plānojumam un ainaviski telpiskajai struktūrai ir pakļauta plaša apkārtne. Katrai ēkai, būvei, parka elementiem ir sava vieta – funkcionāli pamatota, ainaviski izkopta un konceptuāli skaidra. 19. gadsimtā nevienam nenāca prātā šo kultūrvēsturisko vidi pārveidot. Cilvēki vairāk izturējās ar cieņu pret iepriekšējo paaudžu veikumu, varbūt bija arī konservatīvāki. Pilnīgi pretēja ir mūsdienu situācija, kad liela sabiedrības daļa ar vieglu roku ir ar mieru iznīcināt vai pārveidot visu vēsturisko, autentisko un kultūrvēsturiski vērtīgo.

Iepriekš minētās, ar Raiņa vārdu saistītās vietas ļauj baudīt Augšzemei raksturīgu kultūrainavu, bet Jasmuiža – dzejnieka jaunības dienu zeme pārstāv Latgali ar tās pakalnu un ezeru mijām, vienkāršām lauku sētām un divtorņu katoļu baznīcām, kas jau iztālēm pārtrauc lauku kluso mieru. Rainis Jasmuižā pavadīja tikai sešus skolas brīvlaikus, taču tie aizvien viņam palikuši atmiņā. Šis laiks ir nozīmīgs topošā dzejnieka pasaules uzskata izveidē. Šajā laikā Rainis tulko Puškina *Borisu Godunovu*, raksta dzejoļus, lasa pasaules klasiķu darbus un interesējas par Latgales tradīcijām un vēsturi.

Minētās Augšzemes un Latgales muižiņas ir būtiska kultūrainavas sastāvdaļa ne tikai vizuālā, bet arī vides izpratnē. Pateicoties Raiņa vārdam, te iekodēta garīga enerģija, kas sevi apliecina pagājušiem gadsimtiem īpatnējā noskaņā. Šo muižiņu dzīvojamās ēkas nav tikai muzeji un izstāžu telpas, kas glabā informāciju par dzejnieka dzīvi. Tie ir arī kultūras centri un vietas, kur dzīves jēga un vērtība apjaušama citās mērvienībās.

Recycling the past: the case of the intensive training programme in urbanism "Radi Rigu!" (Create Riga!)

Helena Gutmane, *Latvian University / University of Leuven, Belgium*
Jan Schreurs, *University of Leuven, Belgium*

Abstract. This paper traces the etymology of the case in continuing professional education (CPE), restoring its historical societal roots, and discusses advantages which an integrative approach offers to planning education, to the urban planning practice and urban development in general. The narrative is drawn from the initiative of a multidisciplinary team of practitioners and scholars in the fields of planning, architecture, landscape architecture and transport engineering. The project RADI RIGU! – a number of innovative workshops undertaken in 2011/2012 - actualized the role of urban public spaces in social revitalization processes and the communicative and procedural character of the urban project. It made an effort to place the idea of spatial strategic planning in post-Soviet mindset as well as to elaborate new, more communicative tools and an emotionally rich language for planning. Finally, it introduced an integrated three-dimensional format of continuing professional education, amalgamating lifelong learning, urban action and implementation-aimed outcome. The methodology of the programme is inspired by a series of workshops on public space on the Belgian coast. It is also based on the reconstruction of the "*talka*" methodology, the popular form of volunteer work in the USSR.
The paper introduces the notion of social heritage and declares its ultimate place in the ecology of planning.

Keywords: public space, planning ecology, urban project, social heritage.

Introduction

Being placed in the centre of urban triangle "real world"– professional education - professional practice, we observe three (evidently) interrelated perspectives. The first - "real world" – is at the moment in the process of crossing the "post-bridge" from not yet fathomed past into unfathomable future. Like in post-colonial or post-dictatorial environments, post-Soviet space is revising its own "socialistic" past: right now an overwhelming revelation of the "historic facts", as well as their reconsideration and interpretation, is taking place. Society is waking up after a twenty-year long "shock therapy" of wild capitalism. Confused collective memory is trying to allocate itself in unknown surroundings, looking for help and answers in the past. All realms of life – art, economics, politics, social life, education – are going through external and internal revision of processes: both "in the wild" and within their own fields. Cinematography shapes the form of „historical memory" (1), endowing "with a poetic value that which does not yet possess it" [1] in order to transfer into present public images of feelings [5].

Searching for new forms of relationship with society, politicians brandishing poetical images of Harmony (2) and Integration are undertaking attempts to restore and apply some tools to collective work used effectively in Soviet time.

Professional education in the realm of human settlements, mirroring the processes "in the wild", nowadays is in search for new, more integrated and interdisciplinary approaches. These approaches strive to reflect the needs of different but overarching fields, growing demand for all kinds of participation, interdisciplinary and interdepartmental collaboration and international co-operation. It is possible to trace similar tendencies in Latvia as well. However, intellectual and structural damages in the system of education, especially high education and research, brought by post-soviet transformation, practically paralyzed this field for last two decades. Recovery probably will require a lot of time and financial resources. Combined with a wild and chaotic urban development caused by the restoration of private ownership, the education and research in architecture have been laying in a coma. City planning as a discipline had died.

Last years' professional practice, unlike the professional education, evidently reacts to the chaos created by intervention of financial capital based on a dogma of holy real estate [11] by alerting people both in everyday city making and professional education about the existing "dead ends". Young professionals in architecture, planning, geography and sociology are successfully experimenting with new creative initiatives, promoting social revival in different ways. Challenging the prevalent black-and-white picture of the Soviet past [11] in the 1990s, when the terms "social" and "collective" were coloured dark black, they create "Socmap" (3), "*Ideju talka*" (4), "*Pagalmu talka*" (5), SPP (6), involving inhabitants, children, students, city departments, real estate developers and politicians in debates and action.

Urbanism as an approach is frequently on the agenda of city makers, but urban activism becomes a form of implementation of urban innovations. New NGOs which promote urbanism are appearing in the Baltic States - *Linnalabor* (7) in Estonia and Urban Institute Riga (founded 2011) in Latvia. There are two significant features which characterize public urban action today. First, it obviously functions on a regional level, building tight and creative cross-border cooperation (e.g. Est-Lat urbanist days 2011 in Kabli, participation of *Linnalabo*r in RADI RIGU! Forum and others). Secondly, it declares and exercises a shift from protest-based action to trust-building action. In this respect the comprehensive RADI RIGU! programme delivered convincing results.

Planning status quo: pre-Soviet, Soviet and present-day Latvia

When trying to understand today we turn towards yesterday and consequently towards the day before yesterday. This "day before" draws some surprising parallels with today. A geopolitical cataclysm throughout the centuries as well as national renaissance shape the "seismic landscape" of the country which at the edge of 19/20 centuries did not yet form own statehood and was a part of the Empire of Russia. Mental environment of nascent national consciousness sensitively responds to the processes in European cultural life and especially to the rise of modernism. We can read this today in the built environment of Riga. At the turn of the 20th century Riga created its own unique ensemble of Art Nouveau, which nowadays has become a spectacular part of the national heritage. The garden city idea enriched Riga's urban space with one of the nicest and earliest (1901) examples of this movement in Europe [2]. One may argue that at the end of the 19th and the beginning of the 20th century Latvia was in the avant-garde of modern planning and architecture developments, following other European cities like Berlin, Munich, Copenhagen or Saint-Petersburg. Some milestones of professional history mark rapid development of and about architecture, synchronized with the building of Latvian national identity in that period. Among them are the opening of the Polytechnic School in Riga in 1862 akin to those of Karlsruhe (1825) and Zurich (1855), and creation of the building department in 1869. There is a remarkable difference between the activities nowadays and those of the first generation of Latvian civil engineers and architects in politics, cultural life and education: the civil engineer A. Anderson became Lord Mayor of Riga (1921-28), professors of architecture founded the new Faculty of Architecture in the University of Latvia (1919) and the Union of Latvian Architects (1924) [8].

The fight for independence following the First World War resulted in the first years of independence in the history of Latvia: in 1918 the Latvian Republic was proclaimed. It was a time of building national identity. After gaining the status of capital city in 1918, Riga started to develop the features of monumental character in architecture and memorials as well as in planning [9].

The reflection on the city favoured the introduction of international knowhow. Urbanism (elaborated by *pilsētu būvniecība*, a copy of the German *Städtebau*), being a discipline taught in Riga since 1917, kept the tradition of the beginning of the century of the cultural exchange between cities. After 1920, the city of Riga, strong in having a heroic and sensible part in European debates on the city, did not renounce urban growth. Riga, convinced of having a national and international exemplary mission, tried to form a „Great Riga", promoted by Latvian architect-urbanist Arnold Lamze [8].

World War II ended for Latvia with annexation to USSR in 1945. That was also a start of intensive economic, industrial and building development as well as a rapid increase in population due to immigrants coming from all Soviet republics. Soviet Latvia was presented as a "model Soviet republic" to the Western world, and the geographic position of Riga determined its position as a "borderland avant-garde", administrative centre of the Baltic region [9]. Three planning events crucial for the present situation were carried out: nationalization of land, followed by organized deletion of the notion of "private property" and the system of centralized planning adapted to the "one landlord".

After the collapse of the Soviet Union in the 1990s Latvia regained sovereignty and established a free market. The effect of an "avalanche-like" transition from a rigid system of central planning to a free market economy in its wildest, uncontrolled form on social as well as emotional and mental environments can be compared to an effect of a military intervention: a significant part of society was not able to adapt to the new unknown, obscure and, more importantly, alien order of rigid capitalism. Not for the first time and not only with us, history "played a bad joke": striving for independence and departing from the "prison" of Soviet Union with an extreme enthusiasm, we found ourselves in the middle of storming water (8) without an appropriate boat or necessary skills. Used to free services and rights guaranteed by the state – work, education, recreation, healthcare and housing - we were not able to understand the new meaning of "my private property" concerning own living place.

The inhabitants' small concerns about their own and common physical environment, low social activity and participation in urban development, explicit apolitical behaviour, inability to act in the urban space, absence of understanding and culture of communication in the new economic conditions were the side effects of the gained freedom. These were the

general feelings of the common people in the 1990s, and it was no different for professionals of urbanism. Knowledge about these aspects of "life of feelings" [5] at that time is crucial for understanding the processes in city development today.

Booming real estate, becoming a major force for urban development, required quick solutions for the conflict zones. Shortly after 1991 an elaboration of the Riga development plan for 1995-2005 started. Its author A. Roze called this time a „time of metamorphoses" which completely changed the art of social life of the last 50 years. Riga had to transit from the industrial type of socialists city to the post-industrial model of spreading agglomeration which consequently led to structural changes. [9]

Professional society met this "time of metamorphoses" without the necessary skills and education in planning. There are two reasons for this. First, the system of centralized planning was destroyed and together with it the Soviet system of planning institutions became obsolete. Second, the few planners who had been active in Soviet times, had started their professional careers after the Second World War, and in the 1990s had reached the age of retirement. [8] Culturally and professionally attached to the Soviet period, they were neither skilled for the planning of a free market environment nor able to communicate with a new type of political leaders. Furthermore, the "volume architects" could not rescue the situation because of their concentration on the aesthetic dimension of architecture.

As a result, the "workshop-kind" and "spot-kind" planning and design became very popular. The well-known foreign specialists (Gehl, Kolhaas, Forster, Meinhard von Gerkan etc.) were invited to consult and to create representative architecture. However, unlike the post-social cities of Central Europe like Berlin, Budapest, Prague or Warsaw, Riga implemented only a few of their projects. A significant number of international workshops, seminars, contests and *plain-airs* were organized to develop large-scale real estates and to provide expertise in urban development.

Despite these activities, their actual impact on the built environment of the city remained insignificant. The weakness of the planning structure, absence of comprehensive approach to city development and political interest in public space, land-use based urban development regulations are the main reasons for the inefficiency of the existing system. The Riga Spatial Plan 2006-2018 is in fact a transition between the Spatial Structure Plan and a land-use-based planning document [4], but strategic approach to public spaces is not present in any form and in any kind of planning documents [6].

Two more reasons of organisational character should be mentioned. One is underdeveloped expertise and extreme shortage of good professionals in project management as well as a lack of understanding of its importance. In the last 20 years Riga has not realized any remarkable public space projects, and each of the few ongoing projects is struggling with the designing process as well as communication within different departments and with inhabitants.

The second is the negative attitude towards any form of participation of city administration and politicians, based on insufficient knowledge about this trust-building instrument. Existing regulations for public discussion provide a legal platform for participation. However, because of the dominating mistrust and fears of negative reaction among politicians and city officials, these regulations usually are fulfilled very formally. Participation and involvement of all relevant actors is not deemed either necessary or very effective for the outcome of the project. Therefore these actors are not integrated into the planning and designing process on a regular basis.

The idea of integration as a two-way process is often stressed as the idea of cooperation and the necessity for both sides to overcome mutual mistrust and a feeling of being threatened [7].

Education: historical "conceptual cross section"

Although implementing modern planning ideas in practice from the beginning of the 20th century until the Second World War, in the realm of education the professional society in Latvia remains focused on the aesthetics of built environment and does not develop its own school in planning. This tendency became a tradition which one could call a "school" of "volume architecture"-oriented look on urban environment in Riga. A comprehensive approach to city development, which requires serious research in the fields related to built environment, is also absent due to the repeatedly mentioned influence of the fall of the Soviet system.

In the Soviet Union the functions of education and research were delegated to different institutions but they were not separated. The dense and multilayered (and also well-financed) network of the Научно-Исследовательский Институт (NII, scientific research institute) ensured development of scientific research in different spheres related both to theory and practice. The realm of architecture and planning had and still has its own scientific organizational body – Российская академия архитектуры и строительных наук (the Russian Academy of Architecture and Built Sciences). A significant amount of work in scientific research was elaborated in high schools. The post-graduate researchers (doctoral candidates) whose research was attributed to the high schools, were the "binding layer" between universities, the NII and the practice. Russia to a large extent has kept this system nowadays, adapting it to the current economic situation [15].

The situation in Latvia after the fall of the system built in the Soviet times was antipodal. After the demolition of industry, the system of field-specific

scientific research and following academic layer of scientific education that had functioned so well before was completely destroyed: research institutions were closed, post-graduate education was left without financing, and demand for scientific research decreased considerably.

All the aforementioned phenomena – transition to a free market economy, collapse of the Soviet planning and education system and traditionally aesthetics-based school in professional education- determined the current status quo in planning education. Despite the fact that the Faculty of Architecture and Planning in Riga Technical University includes the word "planning", systematic knowledge in planning has not been provided.

However, the evident changes in socio-economic situation all over the world and the rising awareness of urgent necessity of integrated approach to urban practice and education do not leave much space for pure aesthetic issues. Global processes are mirrored in everyday local academic environment. Growing quality of education in landscape architecture in the Latvian University of Agriculture provides a comprehensive approach to planning and design of open spaces on a regular basis. Opening alternative programmes in architecture, urban design and planning and active interaction between the students from different universities influence growing interest of young professional generation in social aspects of urban spaces and in public space. Students of architecture organize exhibitions (for example, annual reviews of graduation projects) where the majority of the projects deal with public and open space issues rather than with purely architectural subjects. Although the signs of changes are there one cannot describe local educational system in planning, design and architecture as innovative.

Thus the professional environment in today's Latvia, especially in Riga, seeks to gain skills and knowledge that matches up to nowadays' social and spatial challenges. Professionals with a comprehensive mindset try to adjust their intellectual and practical actions to the rapidly changing environment. However, local academic environment does not provide students with a systematic professional approach and methodologies suitable to tackle the complexity of socio-spatial changes. Practitioners dealing with spatial transformation every day and therefore having more urgent need for appropriate knowledge, are especially "deprived": there is no qualitative system of lifelong learning in urban planning which would give chance to gain information and skills without leaving one's own practice. Continuing professional development (CPD) and continuing professional education (CPE) have to be built in order to change urban research and practice that estrange them from the "real world", vibrant actors and actants, their problems and challenges. Continuing forms of education help professional urban practice that loses its role as facilitators (producer) of physical and social innovations and lacks models, instruments and approaches which can cope with continuous, complex change.

"Subbotnik"– a sustainable form of social co-operation?

Riga's rich cultural heritage (10) forms the basis of the qualitatively built and successfully functioning system of built heritage protection. However, there remains an equally rich social heritage which is currently underestimated, unexplored and therefore not used in urban practice. The history of Latvian society provides us with unique examples of collaborative creation of the built environment already in the beginning of the 20th century. We compare two historical social events in Latvia - one from the times of the Russian Empire in the beginning of the 20th century and another from the Soviet social practices.

The first took place in the area of Riga's garden city *Keiserwald* (germ., old), today's Mežaparks (latv., Wood Park) in 1913 as an initiative on laying out a new public park. The action was organized by the recently founded public organization *Latvijas Izglītības Biedrība* (Latvian Association for Education) which was indented to promote and develop Latvian schools, kindergartens, libraries and reading rooms. The process of building *Saulesdārzs* (Garden of Sun, latv.) was organized as a common action, with the participation of Latvian businessmen, intelligentsia, inhabitants and city officials. The private property was bought with donated money; the design and implementation were created in a participative way [10]. Today *Saulesdārzs* has kept its public function in a reduced form (albeit an attempt of its privatisation was undertaken) as well as its historical composition. However, its most important quality, which nowadays is discussed as an element of sustainable urban development – its significant role as a facilitator of social activity, national identity, collaborative design and economic activity - is completely lost.

A different phenomenon, appearing in recent urban practices, is *Subbotnik* (from *суббота* – Saturday, rus.), the form of volunteer work developed during the Soviet time. This contemporary legend was drawn from Lenin's articles "*О героизме рабочих в тылу. По поводу «коммунистических субботников*", (1919, About heroism of the workers in the rear: the case of communist *subbotniks*) [16] and "*Великий почин*", (The Great Initiative) [16] and was based on the real event of volunteer work on Moscow's railway in spring 1919. The success of the first event and its enormous positive impact on the mood of the people

determined the following systematic development and popularisation of the initiative during the whole Soviet period. Although the form of the event has changed, shifting from the industrial sphere in the beginning of the USSR to the works on public space towards the end, the mental and (one may argue) also emotional positive image of *Subbotnik* has remained deeply rooted in the mentality of the Soviet people.

Under circumstances of general instability and bewilderment in the years of financial crisis Latvia has restored (2008) the initiative of *talka* (Latvian equivalent for *subbotnik*) in its later form – as the "*Lielā talka*" or Big Clean-up Day (one might draw the parallel with Lenin's "Great initiative" in 1919) of outdoor space. Officially *Lielā talka* was initiated by the then-President of Latvia V. Zatlers with an overarching aim of "making nature garbage-free, allowing it to recover and urging people to take care of their environment" [16]. In 2010 the new dimension – that of upgrading public spaces – was added as an initiative of social workers and landscape architects. This new form, gaining more and more popularity by inhabitants as well as by professionals, this year gathered professionals and students of architecture, landscape architecture and art and had huge success as socialization act with visible results of improved living environment. The format of *Pagalmu talka* (Courtyards' talka) includes workshop based student competition, competition based selection of the courtyards and principles of public private partnership in implementation.

CPD [19] as an instrument for urban development

By the year 2010 an international group of professional planners and landscape architects working in Latvia started to explore the possibility to apply the principles of *Talka* to urban planning and design. A scope of several factors worked as the driving impulse: the aforementioned lack of political interest regarding public spaces, insufficient professional knowledge and experience in urban planning and design, passive societal attitude, growing mistrust, aggression and segregation between all social groups – politicians, professionals, inhabitants, city departments and businessmen. A year later an intensive interdisciplinary training program *RADI RĪGU!* (Create Riga!) for practitioners in city planning, architecture, landscape architecture and road engineering was launched with a motto "public space as lever for social revival". The broader aim was to bring to the "round table" as many stakeholders and shareholders taking part in Riga's spatial transformation as possible, in order to activate discussions about an integrated approach to city development and to create trust among professionals, politicians and inhabitants. This aim prescribed heterotopian nature and methodology of the programme. "RADI RĪGU!" has a 3D aspiration – as a professional training programme in urbanism, as an urban action and as a research by design aimed at implementation. All three dimensions of the programme were interwoven with a strongly expressed socially interactive and communicative character applying an approach which initiators formulated as the EAR (educate, act, realize) approach (Fig. 1).

Professional training

The training programme RADI RĪGU! had the intention to provide experience in all stages of planning and design, from project definition to project management, for a multidisciplinary team of practitioners: architects, landscape architects, city planners and road engineers. Despite objective and subjective difficulties – a rather high price for training in a time of economic crisis, the large amount of time required, a very vague idea about the issue of spatial planning, project management, participation and involvement – 25 professionals working in Riga's architectural bureaus, among them in Latvia well-known professionals, responded to the call. A multidisciplinary, multi-aged and international group started training in April 2011 and worked together in nine workshops during one year.

High-level professional expertise was guaranteed by the international team of coaches from University of Leuven (prof. J. Schreurs and prof. Jef Van den Broeck), Free University of Brussels (prof. Marc Martens), Belgium and experts from Copenhagen (Tina Saaby, city architect), Barcelona (Jordi Farrando, architect) and Moscow (Anna Schtetinina, architect, leader of "Arhistojanije") were invited to participate in different phases of the work.

The workshops were organized in three phases, each aimed at a different stage of project processing (Fig. 2).

In order to provide exercises in the beginning stage of an urban project the participants were invited to select cases – spaces in Riga's neighbourhoods. Before the start of the programme the participants decided to work on city neighbourhoods rather than the city centre. They were motivated by the necessity to pay professional attention to the periphery of the city, left out of professional interest for the last 20 years.

From twelve spaces offered for selection they had to choose five according to six criteria defined by the coaches: 1. Strategic character of the neighbourhood, 2. Large involvement of inhabitants, 3. Ownership, 4. In favour of local authorities, 5. Complexity, 6. Shining example.

Selections were made in an interactive role-based way. One of the stages of selection included voting. The interesting fact was that the cases chosen by voting were re-evaluated guided by emotional attitude,

Fig. 1. "Create Riga"! Methodological model
[Source: created by author]

Fig. 2. The format of the professional training programme "Create Riga"!
[Source: created by author]

which was influenced by feeling of social justice or, in other words, social sympathy: mono-social and identity-lacking neighbourhoods built in late Soviet time were preferred to the spatially and socially more diverse ones which were more interesting for planning and design.

Instruments like mental mapping, analysis of different scales ("from space to place" method), visits to the sites, cross-evaluation and diversity games, combined with theoretical information given in the lectures by coaches, helped to receive and to adapt significant amount of new information as well as to apply the principle of integrated approach in the workshops and to own everyday practice.

Urban action

RADI RĪGU! has made an attempt to build trust by bringing public space users and policy makers closer to each other in co-operation under a non-written slogan call "City makers are on the street!". The ultimate task of the intensive programme, disclosed in its title "CREATE Riga", is to make participants assume the role of mediators between decision-makers, stakeholders and the public. The traditional soft PR campaign tools were used: a website (www.radirigu.lv), information in public media and open lectures given by the external experts. Two public conferences were organized during the programme: a mid-review of the results during the second phase and a two-day closing conference in the City Hall, which brought together most of the important actors: politicians, decision makers, inhabitants, professionals, foreign experts and urban activists. An effective tool for getting closer to users and city administration was "moving workshops". Starting in the House of Architects, participants worked in all selected neighbourhoods, in the schools or district administrations, involving the local people. It created a platform for effective communication with inhabitants and local authorities. Between the seminars participants did their "homework" on participative design, organizing workshops for children and involving different departments, real estate developers, NGOs, police and port authorities.

The integrative approach, applied as a methodology to all levels of the programme - aim, structure of the workshops, preparation of the process, selection of the cases, branding and implementation of the results, doubtlessly served as a strong communicative platform. The integrative approach also determined multiple, layered aims of the project, which can be articulated in eight flows: discover, learn, realise, cooperate, involve, marketing, link, create - Riga! (Table 1).

As an example one can mention communication with city officers at the early stage of the programme, which was organized not as passive information, but as active involvement. They were also invited to evaluate the variants of the programme's logo, which added an informal note to the communication process.

This preliminary friendly communication helped to create interest, understanding and personal engagement of the city officials invited to the discussions. Indeed, during the process they changed their positions from "observers" to "participants". Initially discussions were not aimed at gaining permission or "financial support" (the project is partly financed by the ESF programme and participants themselves) but sharing opinions about questions such as "Is it necessary for Riga?", "What do we need to make Riga better?" and "Which are the tools to achieve it?".

All these activities definitely placed *RADI RĪGU!* on the public stage of the city. However, it must be admitted that the PR programme planned by the organizers was not entirely successful due to financial and time shortage. The biggest contribution to the successful "RR-story" concerning "best practice" public image was made by the well-organized and broadly popularized last conference in the City Hall as well as the FORUM –format of this event.

TABLE 1

Aims of the project [Source: created by author]

1	2	3	4
DISCOVER	**LEARN**	**REALISE**	**COOPERATE**
the world of planning the importance of public spaces in all stages of the process	**about a design process** from order to project definition from project definition to concept from concept to design from design to project **project and process management** from idea to project from project to realisation from realisation to governance **to cooperate with:** stakeholders, actors, inhabitants **to preserve** spatial qualities during the whole process	**real projects:** - on short term -relatively cheap -substantial -eye catching examples -pilot projects -best practices -projects that improve daily living conditions in own neighbourhood	all stakeholders and actors in all stages of the process: - decision-makers city administrations (national level) -district officials -external actors - NGOs
5	**6**	**7**	**8**
INVOLVE	**MARKET**	**LINK**	**CREATE RIGA**
inhabitants in all stages of the process, including realisation and governance	integrate several stages of the process into public events: -happenings -exhibitions -design contests for children	link the project and its process to parallel events and programmes: - RIGA 2014 - Talka - Apkaimes	hand over a set of tools to the City of Riga in order to develop a real Public Space Policy: - methodologies, guidelines - motivated staff - skilled professionals - enthusiastic people

Implementation

Despite the great number of different workshops organized in Riga in the last two decennia, there was a lack of practical results: very few ideas found their path to realization. Therefore *RADI RĪGU!* and the city administration agreed (by signing a contract with the city development department) about possible implementation of the programme's results.

It is worth mentioning that this agreement was an encouraging step and a sign of trust from the side of the city administration and politicians, because of a rather vaguely defined outcome and unknown result of the whole event. Moreover, the agreement was closed with a programme which was just an urban action, without any legal status. One can argue that *RADI RĪGU!* is a unique example of (positive) collaboration between city authorities and urban activists, built on mutual trust.

Results

Before articulating the outcome of this heterotopian one-year-long urban action/training programme, it is worth briefly describing the initial emotional landscape of the story. Rereading the negative comments on the article announcing the start of *RADI RĪGU!* in the archive of the interactive architecture platform A4D (www.a4d.lv), remembering scepticism and mistrust, even resistance from the side of politicians as well as professionals, one would wonder if there ever was hope for (positive) results. There was, however, a shared space of enthusiasm, eagerness for new knowledge, love for one's own city and a rare air of creativity mixed with friendship. It was exactly this mixture that delivered results which were officially and publically approved on the *RADI RIGU!* Forum in March 2012.

The first and most important result is the fulfilment of the main goal, namely, to raise awareness of the need for a comprehensive approach to city development. During the year *RADI RĪGU!* activities – communication with inhabitants, public lectures, discussions with city officials – attracted enthusiastic people who joined the groups and worked on the projects together with the participants.

Due to its 3D character the training programme turned into a common event. Students and professors of three Latvian universities, civil servants, district authorities, Ministry of Environment, police, schools and inhabitants were all involved in the action. The "homework" in communication and participative design resulted in the foundation of NGOs in two of the five programme's neighbourhoods.

The most mistrusted and (even among the coaches critically discussed) intention, to deliver practical results for the City in order to implement them, is in the stage of possible realization at that moment. Decision-makers publically announced their willingness to further develop the programme for neighbourhoods and particular projects created by *RADI RIGU!* The city development department has officially started to work on the proposals.

As a continuing professional development this programme fulfilled its task most successfully: all practitioners and students who participated in the training programme emphasized the high importance of the gained knowledge and skills for their further professional careers and understanding of the processes in the city.*nRADI RIGU!* initiative has also gained international interest.

However, the most important outcome of the programme, which was meant as a positive and constructive action of the professionals, may be that it is a demonstration "for" rather than "against". It is the first step in building trust and mutual understanding between participants of the urban project in its broader sense.

Conclusions

Searching for the more effective methods of professional education, the social aspect of learning appears not less important than methodology. In this concern historical perspective of social life comes forward with forms of co-creation rooted in local culture. Together with material cultural heritage and non-material ones like song festivals, carnivals or religious rituals, the social heritage as a ritual of spatial co-production has a capacity of being transformed into new forms of urban planning practice and education. The case of *Talka* with its shift from industrial production to spatial co-production provides us with valuable information and methodologies.

There is a challenge for building effective learning ecologies is the creation of enhanced 'navigation' models that facilitate learners positioning, imagining better horizons, choosing strategic directions and evaluating operational strategies.

Contemporary urban development increasingly turns into mass creativity and mass innovation, but urban co-production requires interaction of all actors. Learning in architecture and planning, having creativity at the bottom [13], has to become a platform for urban development as open source and co-creation ("yes, you can use my ideas"). As much as the urban project "in the wild", the major task of the "laboratory" of urban education is to provide professional training in co-existence, non-aggressiveness and tolerance.

Bridging educational contexts and actual planning environments can benefit from developing the metaphors of 'field' and 'laboratory'. Digging into the field produces basic material for the living lab and generates self-esteem within the field. Being in the field generates awareness for samples in their context and produces a reflective field.

Becoming open to each other, field and lab can generate connections between two severely separated realms: practice and theory, professional and academic urban practice, constantly changing urban environments and institutionalized policy making. Aiming at an educational setting functioning as a workplace for researching, observing and approaching these changes while (necessarily) participating in the process, learning ecologies should be created, based on the imaginative power of the stage. The programme *RADI RĪGU!* with its evolution from shared mistrust and resistance to shared enthusiasm and willingness to co-operate offers a convincing methodology for creative learning.

RADI RIGU! has a heterotopian character and combines learning, urban action and the aspect of implementation. As such it was like heterotopias often are [3], a "reaction on crisis". It complies with a planning cycle which analyzes an existing situation, develops a vision about a better future, implies transformations and evaluates these in the light of a next cycle [14] and marks a shift towards ecological approach to planning education.

Acknowledgements

The paper has been presented at the Annual Congress of the Association of European Schools of Planning (AESOP) edition: 26 location: Ankara (Turkey) date: 11-15 July 2012

The abstract published: No. 957. ISBN: 978-975-429-306-7. Publication status: published. KU Leuven publication type: IMa. Appears in Collections: Architecture and Society (+)

Notes

(1) Popular Russian series „Александровский сад" [Alexander's Garden] recreates the last days of Lavrentiy Beria, the most influential Stalin's secret police chief in the film "Охота на Берию» [Hunting Beria] (2008). http://www.domkino.tv/announce/6545, *rus*. [On line 5 May 2012].

(2) "Saskaņas centrs" [Harmony Centre] is the name of the popular Latvian political party, which has declared overcoming ethnical and social conflicts their main goal.

(3) Recently (2009) built and pending approbation virtual interactive platform for inhabitants for active participation in improvement of their own environment http://socmap.com/ [on line 18.05.2012].

(4) Ideju Talka (The Talka of ideas), translated as Do Talk, is using the homonymy of the Talka (volunteer work, *latv*.) and talk (act of speech, *eng*.). The DoTalk co-creation event technology was developed in mid-2009 in Latvia based on belief that we can organize ourselves in a way that everyone's ideas, motivation and contribution work in synergy with contributions of others

towards making ideas happen, reaching common goals and overcoming the crisis.___http://idejutalka.lv/pages/en [on line 18.05.2012].

(5) Pagalmu Talka (Courtyard Talka) is a kind of volunteer work aimed at improvement of own environment. http://www.talkas.lv/?page=621&lng=en, [on line 15.04.2015].

(6) Skolnieks, pētnieks, pilsētnieks (SPP) means Pupil, Explorer, City-dweller. It is an initiative (2009) of young architects for educating children in architecture and planning, using a creative game-based workshop method. http://www.skolniekspetnieks pilsetnieks.lv/ [on line 18.05.2012].

(7) Linnalabor (Urban Laboratory) is in 2006 founded Estonian NGO that exercises urban activism. http://www.linnalabor.ee/en/?lk=0 [on line 18.05.2012].

(8) Interesting embodiment of the 'water" metaphor appears to the first post-Soviet decennia is presented in the documentary about the former owner of Yukos Oil Mikhail Khodorkovsky. Film "Hodorkovsky" "tells the drama of Khodorkovsky's Odyssey, all the way from socialist believer to perfect capitalist and subsequently becomes the most known Russian prisoner...." http://www.khodorkovsky-movie.com/ [on line 01.05.2012].

(9) The year when was internationally accepted the state status of Baltic countries.

(10) Historical centre of Riga is protected by UNESCO

References

1. **Aragon, L.,** *On Décor.* **In:** P. Hammond, ed. The Shadow and its Shadow: Surrealist Writings on Cinema, British Film Institute, London, 1918 (1978), pp 28–31.
2. **Dāvidsone, I.,** *Rīgas dārzi un parki.* Rīga: Liesma, 1988.
3. **Dehaene, M., ed., De Cauter, L., ed.,** *Heterotopia and the City. Public Space in a Postcivil Society.* London and New York: Routledge, 2008.
4. **Geldof, M., Devriendt, M., Gūtmane, H.,** *Vai Rīgai ir stratēģisks telpiskais plans?* **In:** *Latvijas Architektura*, Rīga, LILITA, 77(3), 2008, pp. 136–138
5. **Geertz, C.,** *Thick Description: toward an Interpretive Theory of Culture.* **In** "Interpretation of culture" New York: Basic, 1973.
6. **Gūtmane, H.,** *Mazā laukuma leileie?* in: *Latvijas Architektura*, Rīga, LILITA, 84(2), 2010, pp. 142–146
7. **Kunda., I,** *The Society Integration foundation and „Ethic Integration".* **In**: Muiznieks, Nils, ed., How Integrated is Latvian Society? An Audit of Achievements, Failures and challenges. Riga,University of Latvia Press", 2010, pp. 61-89
8. **Le Bourhis, E.**, *Riga, construction d'une capitale 1890-1940. La ville capitale comme lieu de représentation de l'État.* Manuscrit, Mémoire de Master, Territoires, espaces, sociétés. Paris, École des hautes études en sciences sociales (EHESS), 2010, p. 47
9. **Redbergs, O.,** *No postpadomju uz postkapitālistisku pilsētu – Rīgas pilsētas attīstība pēdējo 20 gadu laikā.* Riga: Goethe-Institut, 2012, http://t.co/H0a6wovc6Y [online 22 February 2014]
10. **Neimane, L.,** *"Saulesdārzs Mežaparkā".* Manuskripts, diplomprojekts Jelgava: Latvijas Lauksaimniecības universitāte, lauku inženieru fakultāte, 2012. gada maijs, p.9
11. **Rozenvalds, J**., *The soviet Heritage and Integration Policy Development since the Restoration of Independence.* **In: Muiznieks, N., ed.,** *How Integrated is Latvian Society? An Audit of Achievements, Failures and challenges.* University of Latvia Press, 2010, pp. 33-61
12. **Rajevska, F.,** 2010. *Social policy and integration.* **In: Muiznieks, N., ed.,** *How Integrated is Latvian Society? An Audit of Achievements, Failures and challenges*. University of Latvia Press, pp. 159–188
13. **Schreurs, J.,** *Communicating quality: words and images.* **In:** ARQ Architectural Research Quarterly, 11(3-4), 2008.
14. **Schreurs, J., Moulaert, F.,** *From ecology to planning ecology.* Paper at AESOP 25th congress, Ankara, 2012.
15. **Сабитов, Р.А.,** *Основы научных исследований. Учебное пособие*. Челябинск: Челяб. Гос. Ун-т., 2002, pp.10-11
16. **Lenin, V.I.,** *About heroism of the workers in the rear: the case of communist subbotniks / The Great Initiative.* **In:** Lenin's *Collected Works*, 4th English Edition, Moscow, Progress Publishers, 1965, Volume 31, 1919/1920, pp.123–125. Available at: http://www.marxists.org/archive/lenin/works/1920/may/02.htm [on line 01.05. 2012]
17. TALKA web site, http://www.talkas.lv/?lng=en [on line 20.11.2015]
18. UNESCO web site, http://whc.unesco.org/en/list/852 [on line 15.09.2015]
19. "Membership: About membership: Professional development: About CPD". (IOSH). On line 25.11. 2015.

INFORMATION ABOUT AUTHORS:

Helena Gutmane, Msc. Human Settlements (2010, KU Leuven), PHD fellow (joint PHD since 2011) at Faculty of Geography and Earth Sciences, University of Latvia and Faculty of architecture, KU Leuven, Belgium. Partner at Atelier for Public and Private Spaces (ALPS), Riga, Cesu 3-10, LV1012. E-mail: helena@alpspace.lv

Field of research: spatial quality, urban cognition, emotions in urban planning and design, spatial communication, public spaces.

Jan Schreurs, *Prof. Dr. Ir.-Arch.*, associate professor at KU Leuven, professor at Sint-Lucas (College of Architecture in Brussels and Ghent). He graduated as engineer-architect and as urban planner and made a PhD about the links between metaphor, creativity and design. He takes academic responsibilities for Atelier Publieke Ruimte, part of the Continuous Learning Center of the University of Leuven. E-mail: jan.schreurs@asro.kuleuven.be

Fields of research: spatial quality, spatial communication, density, typology, concepts, design theory.

Kopsavilkums. Atrodoties urbānā trīsstūra – "reālā pasaule"- profesionālā izglītība - profesionālā prakse - centrā, paveras trīs savstarpēji saistītas perspektīvas. Pirmā – "reālā pasaule"- pašlaik šķērso post-tiltu no vēl neaptvertās pagātnes uz grūti aptveramo nākotni. Līdzīgi procesiem post-koloniālā vai post-diktatoriskā vidē, post-padomju telpa pārvērtē savu sociālistisko pagātni.

Profesionālā izglītība cilvēku dzīvesvietu zinātņu jomā, atspoguļojot procesus "reālajā pasaulē", šodien meklē jaunas, integrētākas un vairāk starpdisciplinārās pieejas. Šīs pieejas tiecas aptvert dažādu nozaru vajadzības, augošo pieprasījumu pēc līdzdalības, starpdisciplinārās, starpresoru un starptautiskās sadarbības. Latvija nav izņēmums, neskatoties uz to, ka pēc-padomju transformāciju procesu radītie intelektuālie un strukturālie zaudējumi izglītības sistēmā, it īpaši augstākajā izglītībā un pētniecībā, praktiski paralizēja šo jomu uz gandrīz divām dekādēm. Brīvā tirgus attiecību izveide, padomju plānošanas un izglītības sistēmas sabrukums un tradicionāli spēcīga estētiski orientēta arhitektūras skola noteica „metamorfožu" laika situāciju pilsētplānošanā un ar to saistītajā izglītībā: pilsētplānošana kā disciplīna bija mirusi. Kā galveno instrumentu pilsētu attīstībā turpināja izmantot funkcionālā zonējuma plānu. Neskatoties uz to, ka arhitektu un ainavu arhitektu profesionālās izglītības programmas definīcijās vārds „pilsētplānošana" tika iekļauts, sistemātiskas zināšanas un prakse plānošanā netika piedāvātas.

Pēc neatkarības atgūšanas 20. gadsimta 90-os gados, brīvā tirgus sistēmas rekonstrukcija pilnībā izmainīja pilsētvides profesionālās prakses rituālus. Lavīnas kustībai līdzīga pāreja no centralizētās plānošanas uz brīvā tirgus ekonomiku un tās ietekme uz emocionālajām un mentālajām sabiedrības ainavām salīdzināma ar militārās intervences efektu: nozīmīga sabiedrības daļa nebija spējīga pielāgoties jaunai un nezināmai, ar neskaidriem spēles noteikumiem un, vissvarīgākais, svešai brīvā kapitālisma ideoloģijai. Profesionālā prakse šajā laikā, atšķirībā no izglītības, jūtīgi reaģē uz apjukumu, kuru rada uz "svētā nekustāmā īpašuma" dogmas balstītais finansiālais kapitāls, vairākos veidos norādot uz pilsētvides procesu strupceļiem.

Jaunajiem apstākļiem piemērotās pilsētplānošanas trūkumu kompensē pasaulē pazīstamo ārzemju speciālistu (Geils, Kolhāss, Forsters, Meinrads Fon Gerkans un citi) vadītās radošās darbnīcas, semināri, plenēri un arhitektūras konkursi, kuri kļūst par lielo nekustamo īpašumu attīstības un pilsētplānošanas ekspertīzes instrumentiem. Taču šo aktivitāšu reālā ietekme uz pilsētas izaicinājumu efektīviem risinājumiem vēl joprojām ir salīdzinoši neliela. Plānošanas struktūru vājums, visaptverošas pieejas pilsētas attīstībai un politiskās (arī arhitektu) ieinteresētības publiskās ārtelpas kvalitātē trūkums, kā arī funkcionālā zonējumā balstītie normatīvi kļuva par galvenajiem speciālistu radošo iniciatīvu efektivitāti samazinošajiem iemesliem..

Savukārt, jaunā profesionāļu paaudze ģeogrāfijā, arhitektūrā, pilsētplānošanā un sociālajās zinātnēs aktīvi izmanto 90-os atvērtās robežās un apgūst Rietumvalstu kolēģu pieredzi. Tā veiksmīgi eksperimentē urbānā vidē, ar radošām iniciatīvām dažādos veidos veicinot sociālo atdzimšanu. Urbānisms kā pieeja bieži ir „pilsētu veidotāju" dienas kārtībā, bet urbānais aktīvisms kļūst par pilsētvides inovāciju ieviešanas instrumentu.

Atbildot uz pašreizējiem izaicinājumiem, starpdisciplināra Rīgā praktizējošo arhitektu, ainavu arhitektu, ceļu inženieru un citu nozares speciālistu un studentu grupa 2010. gadā uzsāka mēģinājumu pielietot vēsturiski izveidojušās koprades metodes, pazīstamas kā talkas, pilsētplānošanā un urbānajā dizainā. To pamudināja vairāki faktori: iepriekšminētais intereses trūkums ārtelpas kvalitātē, nepietiekamās zināšanās pilsētplānošanā un dizainā, pasīva sabiedrības attieksme un augošā dažādu sociālo grupu - politiķu, nozares profesionāļu, iedzīvotāju, ierēdniecības un uzņēmēju - savstarpējā neuzticība un segregācija. Gadu vēlāk tika uzsākta intensīvā apmācību programma RADI RĪGU!, kurā piedalījās starpdisciplināra pilsētvides praktiķu un studentu komanda pieredzējušu Beļģijas pilsētplānotāju un akadēmijas profesoru vadībā. Dalībnieki kopā ar organizatoriem (publiskās un privātās ārtelpas darbnīca ALPS) noformulēja Programmas moto - „publiskā ārtelpa kā sociālās atdzimšanas instruments". Viens no galvenajiem mērķiem bija aicināt pie „apaļa galda" pēc iespējās daudzveidīgu ieinteresēto pušu, kuras piedalās Rīgas pilsēttelpas pārveidošanā, grupu, lai aktivizētu diskusiju par integrētu pieeju pilsētas attīstībai, kā arī radītu uzticību starp politiķiem, profesionāļiem un iedzīvotājiem.

Vissvarīgākais RADI RĪGU! iniciatīvas rezultāts ir programmas galvenā mērķa – radīt kopējo izpratni par visaptverošām pieejām pilsētplānošanai un to mūsdienīgiem instrumentiem – sasniegšana. Gada laikā RADI RĪGU! aktivitātes piesaistīja un iesaistīja entuziastus no iedzīvotājiem, politiķiem, nozares ierēdniecības, policijas un citām sociālām grupām, kuri kopā ar dalībniekiem strādāja pie piecu Rīgas apkaimju atdzīvināšanas programmām. RADI RĪGU! praksē demonstrēja principu „esi par, nevis pret", un tika vērsta ne tikai uz ideju radīšanu, bet arī uz to īstenošanu, un kļuva par unikālu precedentu uzticības un savstarpējas izpratnes veidošanā.

Study of The Zemgale Olympic Center Building Architecture in The Indoor/Outdoor context

Aija Grietēna, Aija Ziemeļniece, *Latvia University of Agriculture*

Abstract. As both the objective and subjective circumstances change, the need arises again to find a balance in the face of the challenges set by the contemporary urban environment when as a result of application of glass panels the indoor and the outdoor space easily merge into one another. Due to the balanced and appropriate application of glass panels, the new Zemgale Olympic Center in Jelgava is obviously a rather successful example of outdoor/indoor space communication in this type of buildings. The validity of the conclusions obtained using the inductive method during the previous studies has been proven also in this part of the study – the harmony between the outdoor/indoor space can only be achieved by skillful subordination of values, namely - both the emotional message and the materials used must serve one overall purpose. The quality of interspace harmony directly depends on the subordination of the set goals and the appropriateness of the achieved results to these goals - the inductive method has proved this hypothesis true.

Keywords: **architecture, interior, indoor/outdoor harmony, glass systems.**

Introduction

The last decade in the Latvian architecture is characterized by a construction of new type of sports and recreation complexes. Their geometrical shape varies, but they all have one feature in common - large glass panel facades. Riga, Daugavpils, Liepaja, Jelgava and Ventspils have a number of modern sports centers, characterized by an active indoor/outdoor space communication achieved through the application of large glass systems. For example: Ventspils Olympic Center (1997); Olymipc Sports Center, (2005) Riga; Liepāja Oliymipc Center (2008); Daugavpils Olympic Center (2009); Zemgale Olympic Center (2010). Even a number of small towns and rural centers nowadays boast such buildings. All these modern, spacious, colorful and geometrically bold buildings have a common trait – the outdoor and the indoor space is merged together by means of extensive application of glass systems. This tendency not only affects the areas surrounding the entrance of the building, but also exposes the indoor space to the outdoor space and merges the outdoor space into the indoor space, thus removing the traditional spatial boundaries also in such areas that have previously been considered as functionally discreet - for example, swimming pools, spas with saunas and bubble baths, fitness halls and other similar premises.

Architects, landscape architects, artists and scientists of all times have been been looking for the key of harmony, trying to use it as precisely as possible [8; 9; 13]. What are the examples of successful collaborative principles and conditions in the field of the interspace communication today? Based on the previous findings, obtained in my research on the indoor/outdoor space harmonious development opportunities in the art of the environmental building [1; 2; 3; 4; 5], there is a logical need to continue research in the direction started, looking for answers to the opportunities for harmonious development of the interspace (in the indoor/outdoor environmental art).

Purpose of study: to find out whether the interspace harmony principles obtained in the previous phases of the study and their priorities in the architecture of educational establishments, sacred buildings, library and functionally transformed, renovated buildings [1; 2; 3; 4; 5] apply also to other functionally different buildings, in this case the Olympic Center, in the art of the environmental building as well as generalized with the inductive reasoning (cognition from the individual case to the general statement) method [11].

Hypothesis – the quality of the mutual harmony of any room is directly proportional to the subordination of the set aims and the conformity of the results obtained.

Assignments:

1. To study and analyse factors of harmony in the indoor/outdoor interaction in the new building of the Zemgale Olymic Center of Latvia at 24 Kronvalda St., Jelgava.

2. To determine priorities of the indoor/outdoor harmony, to compare the results with the ones obtained in the previous studies and to define the general conclusions.

Materials and Methods

Between the two rivers of Latvia – Daugava and Lielupe – lies a strip of land that has a great potential for development [7, 12]. It is a rapidly growing urban agglomeration between the capital of Latvia Riga (696 593 registered inhabitants) and the regional center Jelgava (61 795 registered inhabitants as of 01.07.2015) [10]. The distance between Riga and Jelgava (borders) is only 29.9 kilometers and the cities are connected by P100; E77; A8 motorway intensively used by numerous commuters. Jelgava experiences an increase in the demand for quality recreation and sports facilities as many of its inhabitants spend their working day in Riga. Being well aware of the situation, the Jelgava municipality has reacted accordingly and a multitude of sports and recreation activities is becoming available to its people. One of the recent newcomers is the Zemgale Olympic Center (2010). This building has been chosen as the main focus of the study. It is located in the part of the city called Parlielupe which lies between the Jelgava – Riga motorway and railway routes and is enclosed by Kronvalda, Akmenu and Strazdu streets. Due to its geographical location and also as a result of economic and political factors, this territory has recently witnessed a particularly rapid growth. The conceptual design of the multifunctional sports complex "Zemgale Olympic Center" was developed by the architect Maris Malahovskis. The detail design was developed and the construction works were carried out by "Latvijas Energoceltnieks", Ltd. [6].

As the main method for studying of architecture, landcscape architecture and interiors was the comparative method that expresses as informative, archivary, interview and photo analysis. While inspecting the object in nature (October, 2015), photo images of architecture and interior were made with digital camera Sony X Peria C6603. Stylistic features of building architecture and interior (composition, coloristics, proportions – massiveness, filigreeing, glazing fields, level of emotionality), harmony in mutual interaction of landscape, architecture and interior were analyzed.

Application of the comparative method for drawing the information summary for the research:

1. Principles of applying glass systems in architecture:

Composition of glazed areas in space and their proportions, i.e. massiveness in relation to unglazed parts;

Compositional application of coloristic and light/ shadow under the impact of insolation;

Assessment of semantic correspondence and level of emotionality of indoor/outdoor space in relation to the highest functional task of the space.

2. Outline of research materials in reference to the impact of compositional arrangement of outdoor space on the indoor space and vice versa:

Architectural form building, glazing and outdoor landscape of the building as the main criteria for the search of harmony between building architecture and landscape architecture thus finding compliance with their highest task;

Assessment of indoor/outdoor harmony: summary of views expressed experts and other respondents on correspondence of indoor/outdoor dialogue to the highest task of architecture.

During inspection of the building, architecture, landscape and interiors were photographed. With the help of inductive reasoning method the priority factors for assessing visual aesthetic quality of indoor/outdoor space were determined in the analytical generalisation stage. It was performed by inspecting the buildings in Latvia and trying to find out the general principles for setting the main criteria of indoor/outdoor harmony studies.

Results and Discussion

1. Principles of applying glass systems in architecture:

a. Composition of glazed areas in space and their proportions, i.e., massiveness in relation to unglazed parts.

The Zemgale Olymic Center is characterized by elegant reservedness, purity of forms and graphic clarity. The greyish rectangular sports, office and recreation building harmonizes with the plasticity, openness, colorfulness and constructive dynamism of the roof of the stadium stands, and is beautifully integrated into the surrounding landscape as a powerful dominant feature. At the junction point on the level of the 2nd floor both contrasting sections create a viewing terrace (Fig. 4). The glazing of the facade with its exit onto the terrace opens the view of the monumental stands structures and the Southern part of the city from the inner space (the hall) (Fig. 6). The glazed main entrance facade of the building is located to the West. It bends around the building and merges into the adjacent facades (Fig. 1; 6; 8). A comfortable pedestrian square and a raised lawn surrounded by tall birches is located in front of the main entrance; the parking lot and the new decorative greenery lie next to the square and the lawn. In contrast to the largely open Western facade, the communication of the indoor and outdoor space in the remaining facades of the central building remains discreet and rather reserved (Fig. 2; 3; 4). Both during the day and at night, the transparent facade constantly carries a clear message from the indoor space into the outdoor space - sports and exercise matter in the

Fig.1. View on the ZOC building entrance [Source: photo by the author Aija Grietena personal archive, 16.10.2015]

Fig. 2. View on the ZOC building from the courtyard [Source: photo by the author Aija Grietena personal archive, 16.10.2015]

Fig. 3. View on the ZOC building from the courtyard [Source: photo by the author Aija Grietēna personal archive, 16.10.2015]

Fig. 4. View on the ZOC junction point on the level of the 2nd floor – viewing terrace [Source: photo by the author Aija Grietēna personal archive, 16.10.2015]

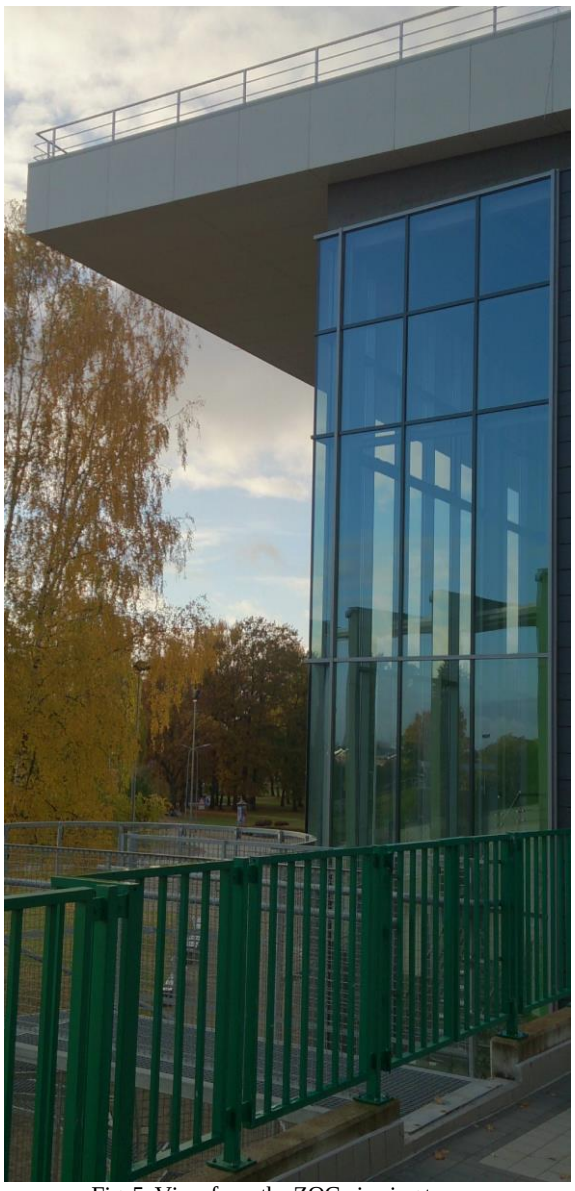


Fig. 5. View from the ZOC viewing terrace [Source: photo by the author Aija Grietēna personal archive, 16.10.2015]

life of each and every one of us! And it reaches even the doubtful, the lazy and the idle ones. The gigantic glass wall is not obtrusive as this might be the case if a non-transparent material had been used. As the time of the day and the seasons change, the glass reflects the indescribable beauty of the sky and the surrounding landscape, the moving clouds and the trees in the wind being especially impressive. One can enjoy magnificent sunsets through the glass wall on the second floor and, according to visitors, the blue moonlight effects create unforgettable atmosphere during the events that take place in the evenings. As the seasons change, the tall birches carry their rhythmical change of colors through the glazed facade into the prolonged rectangular-shaped inner space – the bare silhouettes of the winter trees are gradually replaced by the fresh tenderness of the young leaves of spring, mature greenness of summer and the yellow, golden and brown shades of the fall. This facade visually, aesthetically and functionally serves the purposes of the hall and the entire building perfectly (Fig. 5; 7; 8; 10), as it keeps the rest of the premises hidden and welcomes the passers-by to enter and experience the building themselves.

a. Compositional application of coloristic and light/shadow under the impact of insolation.

One of the long sides of the prolonged rectangular inner space is covered with glass panels. The opposite wall on the level of the 1st floor is painted orange, whereas on the level of the 2nd floor medium grey has been chosen in order to absorb the sharp light and shadow contrasts. As the visitor enters the hall, the orange effect creates the feel of warm welcome. The grey serves as a background for advertising posters and the fascinating play of light and shadows. Both end walls of the prolonged space are brightly painted – one of them red, the other one – green. Thus the inner space (the hall) has obtained a joyful look and spatially seems better proportioned than it actually is. The glazed facade carries expressive impermanence into the inner space. There is only one drawback that makes the visitors feel uncomfortable, namely - the second row of windows that can only be opened mechanically, does not provide sufficient ventilation on hot summer days. The direct sunlight heats up the hall substantially as the glazed facade has neither blinds from the inside nor shutters from the outside. As numerous events take place on summer evenings, this problem should be resolved in the future.

a. Assessment of semantic correspondence and level of emotionality of indoor/outdoor space in relation to the highest functional task of the space.

From the outside the glazed facade reminds a magnificent cinema screen reflecting the sun and the ever-changing play of light, whereas the monolith grey wall in the background serves as a screen for the shadows that fall from the glass structures and turn into a constantly moving graphical performance. The large mirror located on the first floor next to the coatroom and opposite the glazed facade, reflects the picturesque birches growing around the building. This is a pleasant surprise for the visitors of the coatroom and the cafe as there is an impression that they are surrounded by birches. The mirror projects the outdoor space onto the opposite wall and enhances the relaxing effect of the landscape (Fig. 10). Skillful application of the glass panels and the mirror ensures the appropriate spatial quality in the functional areas of the building. Likewise, efficient use of the advantages provided by the interspace dialogue - the doors on both ends of the long corridors are glazed - has improved the spatial quality of the 1st floor passages located on both sides of the main sports hall. The symbolic "light at the end of the tunnel" creates powerful momentum and is a strong reference-point emphasized by a brightly colored section on the floor (Fig. 11). The stairwells adjoin the glazed facade and the visitors may enjoy the scenic views from different locations while walking up or down the stairs (Fig. 7; 9).

2. Outline of research materials in reference to the impact of compositional arrangement of outdoor space on the indoor space and vice versa:

a. Architectural form building, glazing and outdoor landscape of the building as the main criteria for the search of harmony between building architecture and landscape architecture thus finding compliance with their highest task.

The Zemgale Olympic Center is a building where harmony is retained between the outdoor and the indoor space (in this case – the hall). This has been achieved by choosing the right proportions between the glazed facade and the adjacent front square with the green zone. Appropriate use of the glass systems and a witty application of mirrors improves the functional quality and the indoor/outdoor space communication in such areas as the cafe, the coatroom, the passages, the stairwells and, of course, the central hall. The location of the main glazed facade to the West helps to add the necessary impermanence to the indoor space as it is a source of constant play of light, shadows and sunrays. The red end wall, when lit by the Southern sun, emits the feeling of activity and inspiration.

b. Assessment of indoor/outdoor harmony: summary of views expressed by experts and other respondents on correspondence of indoor/outdoor dialogue to the highest task of architecture:

The interviewed visitors and employees of the center are excited about all the aesthetic and visual

Fig. 6. View from the ZOC indoor 2nd floor on the viewing terrace [Source: photo by the author Aija Grietēna personal archive, 16.10.2015]

Fig. 7. View on the ZOC halle ground floor interer [Source: photo by the author Aija Grietēna personal archive, 16.10.2015]

Fig. 8. View on the ZOC halle 2nd floor interer [Source: photo by the author Aija Grietēna personal archive, 16.10.2015]

Fig. 9. View from the ZOC halle 2nd floor indoor on the outdoor [Source: photo by the author Aija Grietēna personal archive, 16.10.2015]

Fig. 10. View on the interer mirror wall [Source: photo by the author Aija Grietēna personal archive, 16.10.2015]

Fig. 11. View on the glazed doors on both ends of the long corridors [Source: photo by the author Aija Grietēna personal archive, 16.10.2015

effects they may enjoy in this type of building at any time of the day and year thanks to the large glazed facade. The overall excitement is only marred by the skepticism of those who are in charge of keeping the enormous glazed facade impeccably clean on a daily basis. In summers the visitors are sometimes complaining about the heat.

The widely known architectural website A4D publishes the information about the most interesting and significant buildings nominated for the yearly prize of the Latvian Union of Architects. However, it promotes the expert discussion by expanding, so to speak, the official list. A4D chooses only the most significant public and commercial buildings evaluating them from its own point of view and adding to the list noteworthy achievements that due to whatever reason have not been nominated for the above contest. The Zemgale Olympic Center is one of such buildings. Notwithstanding its scale and quality, in 2010 it was overshadowed by the reconstruction of the tower of the Holy Trinity church. The people of Jelgava considered this project more significant and consequently the Olympic Center was left without the attention and recognition of the Latvian Union of Architects. The followers of the A4D website, however, with 6 % of votes placed the Zemgale Olympic Center among the 16 most noteworthy buildings in Latvia in 2010, leaving the Holy Trinity church behind with 4 % of votes [14].

Conclusions

1. Due to the balanced and appropriate application of glass panels, the new Zemgale Olympic Center in Jelgava is obviously a rather successful example of outdoor/indoor space communication in this type of buildings. Harmonious environment has been achieved by successfully correlating the aesthetic factors with the overall functional purpose. The few drawbacks that were described above can be eliminated with time.

2. The validity of the conclusions obtained using the inductive method during the previous studies has been proven also in this part of the study – the harmony between the outdoor/indoor space (interspace) can only be achieved by skillful subordination of values, namely - both the emotional message and the materials used must serve one overall purpose.

References

1. **Balode, L., Grietēna, A.** Harmony of Rehabilitation Garden, Architecture and Interiors in the Brukna Manor Complex after the Funktional Transformation in the 21st Century. *Landscape Architecture and Art*, Volume 4, 2014, p. 17-31.
2. **Grietēna, A.** Glass as means of indoor/outdoor comunication in architecture. *Landscape Architecture and Art*, Volume 6, 2015, p. 52-61.
3. **Grietēna, A.** Harmony in Indoor / Outdoor Context in the Architeckture of 21st Century Schools. *Landscape Architecture and Art,* Volume 3, 2013, p. 58-67.
4. **Grietēna, A.** Study of Harmony in the Indoor / Outdoor Context of Architeckture from G. Birkerts at the new building National Library of Latvia. *Landscape Architecture and Art,* Volume 5, 2014, p. 48-57.
5. **Grietēna, A.** Study of harmony in the indoor/outdoor context of architecture of the 21st century of Catolic shurch in Latvia. *Science – Future of Lithuania 2014*, 6 (3), p. 234-244.
6. Jelgavā sāks Zemgales Olimpiskā centra būvniecību [online 23.20.2015]. http://www.abc.lv/article/4DFAD3D1-B52C-40B1-B9F2-5A3171C6DC1F/
7. **Katlapa, A., Ziemeļniece, A.** The development of industrial areas of Parlielupe in Jelgava. *Landscape Architecture and Art, Volume 6, 2015, p. 44-50.*
8. Kimberly, E. *Geometry of design. Studies in proportion and composition.* New York: Princeton Architectural Press, 2001, 107 p.
9. **Kundziņš, M.** *Dabas formu estētika. Bionika un māksla.* Rīga: Madris, 2008, 168 p.
10. Latvijas iedzīvotāju skaits pašvaldībās [online 23.10.2015]. http://www.pmlp.gov.lv/lv/assets/documents/Iedzivotaju%20re%C4%A3istrs/2015/ISPV_Pasvaldibas_iedzivotaju_skaits.pdf
11. **Liepa, I.** *Pamatinformācijas un promocijas darba atbilstība*. Pētījumu metodoloģija, LLU dok. lekc. kurss, 2012
12. Mengots, A., Ziemeļniece, A. The cutural and historical heritage in the industrial areas of Parlielupe. *Landscape Architecture and Art,* Volume 6, 2015, p. 12-18.
13. Strautmanis, I. *Māksla arhitektūrā*. Rīga: Liesma, 1982, 103 p.
14. **Zvirgzdiņš, A.** Balso par 2010. gada labāko arhitektūru [online 26.10.2015]! http://www.a4d.lv/lv/projekti/balso-par-2010-gada-labako-arhitekturu/

INFORMATION ABOUT AUTHOR:

Aija Grietēna graduated in Architectural Sciences – Master of Architecture and Planning. At 2012 Aija started Doctoral studies in Latvia University of Agriculture. E-mail: aijagrietena@gmail.com

Aija Ziemeļniece, Dr.arch., Professor at the Faculty of Rural Engineers, Department of Architecture and Construction of the Latvia University of Agriculture, 19 Akademijas iela, Jelgava, Latvia, LV-3001. E-mail: aija@k-projekts.lv

Kopsavilkums. Arhitekti, ainavu arhitekti, interjeristi, mākslinieki, zinātnieki un citi vides veidotāji visos laikos ir centušies pieslīpēt harmonijas atslēgas atbilstoši sava laikmeta sasniegtajiem un nakotnē sagaidāmajiem rezultātiem. Mainoties objektīviem un subjektīviem apstākļiem, rodas nepieciešamība atkal no jauna meklēt līdzsvaru mūsdienu urbānas vides izaicinājumu priekšā, kad iekštelpa un ārtelpa viegli saplūst viena otrā, pateicoties lielo stikloto plakņu pielietojumam arhitektūrā. Balstoties uz iepriekšējiem secinājumiem, kas iegūti manos pētījumos par iekštelpas/ārtelpas harmonijas attīstību vides veidošanas mākslā, radās likumsakarīga nepieciešamība turpināt pētījumus aizsāktajā virzienā, kas meklētu atbildes uz starptelpu harmonijas attīstības iespējām mūsdienās. Pielietojot induktīvo metodi apstiprinājās pētījumam izvirzītā hipotēze, ka **jebkuru telpu savstarpējās harmonijas kvalitāte ir tieši proporcionāli atkarīga no izvirzīto mērķu subordinācijas un iegūto rezultātu atbilstības tai.** Piemēram, ārtelpas/iekštelpas harmonija jaunajā Zemgales Olimpiskā centra ēkā Jelgavā sasniegta par prioritāti izvirzot dabiskas gaismas, gaismēnu rotaļu un ainavtelpas klātbūtni iekštelpā hallē un maksimālu iekštelpas (halles) atvērtību ārtelpai. Šāda augsta līmeņa uzticēšanās starptelpu dialogā atbruņo apmeklētājus, vairojot pozitīvās emocijas. **Jo augstāka atbilstība starp mērķiem un rezultātu vides veidošanas mākslā, jo augstāks sasniegtās harmonijas līmenis.** Jo lielāka plaisa starp tiem, jo lielāka disharmonija sagaidāma.

What is landscape architecture about?

Karsten Jørgensen, *Norwegian University of Life Sciences, Norway*

What is landscape architecture about?

A contextual discipline

Landscape architecture is a contextual discipline. When looking at a problem from a landscape architecture point of view, there is rarely one single right answer to any question. The answers are always depending on several factors, which all may change. When a certain factor changes it may influence the answers directly, as well as indirectly, as it may influence the way the other factors are considered.

One example: in Studley Royal, near York in England, there is an old monastery ruin of great magnitude and importance; the Fountains Abbey. Thirteen Benedictine monks seeking a simpler life after leaving St.Mary's Abbey in York founded the Abbey, Britain's largest monastic ruin, in 1132. They later became Cistercian monks. Archaeologists have documented a rich source for the understanding of 12th–15th century life in the Abbey, which now is a World Heritage Site, and plans have been set up to establish it as an interpretive centre. In the 18th century, after many years of neglect and decay, the place was included as a point-de-vue in the Studley Royal landscape garden by William Aislabie in 1761 [1]. In 1983, the area became the property of National Trust, and they undertook an extensive rehabilitation. By that time, the gardens were in ruins, and a rich biological diversity in flora and fauna was discovered, and the place is of geological interest, due to some special limestone rock formations. The three interest groups: the archaeologists, the landscape garden lovers and the ecologists represented conflicting views concerning the focus and degree of restoration and preservation. The landscape architects in National Trust had to balance these views when deciding on the restoration plans. Discovery of a red-list species or an archaeological sensation even bigger than the actual one might have resulted in something else than today's park with an emphasis on the 18th century landscape garden.

The theory of practice

Landscape architecture theory is therefore depending on the practice of landscape architecture and its neighbouring disciplines. It is tempting to say that there is no separate or independent theory of landscape architecture, it is only leaning on other disciplines' theories, and indeed this viewpoint has been taken in the discussion, most prominently by John Dixon Hunt in his book: *Greater Perfection: the practice of garden theory* [4]. Hunt's statement is surely a polemic or provocative contribution, nevertheless, it is clear that most scholars within the discipline today agree that there is a strong need to develop landscape architecture theory further [2]. During the last two to three decades, this has been a big issue in the academic journals, especially in JoLA, Landscape Journal and Landscape and Urban Planning.

However, what should a theory of landscape architecture be like, what should it be concerned with? It must of course be concerned with the development and role of the fundamental concepts and ideas that lie behind the discipline of landscape architecture, and their transformation into workable techniques. It must focus on the place of landscape architecture in the wider scheme of ideas and theories, which attempt to explain, interpret and guide humankind's activities. Landscape history presents a set of ideas that attempts to explain and interpret mankind's activities, and may thus be seen as a part of landscape theory, like several other bits and pieces from ecology, geography, archaeology etc etc.

The origin of the profession

The development of landscape architecture theory is also a part of its history. Early in the 20th century landscape architecture was mainly a profession, not an academic discipline. The first study programme at graduate level was established at Harvard University in March 1900. So for once, the "New World" has an older academic history than Europe. The first course in Europe above the "fachhochschule-level" that had existed in Germany and several other countries as well since early 19th century, [6] was, surprisingly, established at the Norwegian University of Life Sciences in 1919. Berlin was established in 1929, Lisbon in 1941 and Wageningen in 1947 [5]. Only during the last 2 – 3 decades has the number of schools at this level been established in the broader European context. Therefore, the history and theory of landscape architecture are intertwined, and we shall look at a few examples of how.

In 1779, 50 years before the term 'landscape architecture was invented, Christian Cay Laurenz Hirschfeld, a Danish professor of philosophy in Kiel,

Fig. 1. Akkarvikodden resting place designed by Inge Dahlman demonstrates a land art approach to landscape design
[Source: photo Steinar Skaar]

Fig. 2. Birkenhead Park in Liverpool designed by Joseph Paxton in the 1840ies
[Source: photo from author private archive]

Fig. 4. New York Central Park Christo and Jeanne
[Source: photo from author private archive]

Fig. 3. Fountains Abbey in Yorkshire England a part of Studley Royal designed by John Aislabie
[Source: photo from author private archive]

Fig. 5. The Nidaros Cathedral Plaza
in Trondheim designed by Bjarne Aasen
[Source: Bjarne Aasen]

Fig. 6. Part of The Oslo University Campus designed by Bjarne Aasen [Source: Bjarne Aasen]

published his "Teorie der Gartenkunst" [3]. This happened almost simultaneously with the publication of Horace Walpole's famous essay "On Gardening" where he developed the idea of the history of garden art culminating inevitably with the English landscape garden style. Hirschfeld described examples of garden art from different points of view, and explained how the Art of Gardening had developed through the ages. His contribution to "theory" consisted mainly of an historical review.

In one small section of the book, he also describes what he calls "Volksgärten" - 'People's Gardens'. According to Hirschfeld, this type of garden or park is found in major cities, often called public promenades. It is a place of great natural beauty, there are walkways, roads for carriages and benches for people, where they can sit and admire the scenery. This was obviously a very timely observation, for during the next few decades 'Volksgärten' popped up in almost every major city in Europe. It is not easy to tell who was first, because it will be a matter of definitions, nuances and interpretations of history. Many regard Birkenhead Park in Liverpool, designed by Joseph Paxton, built in 1843, to be the first public park. However, the main city park, Varosliget in Budapest, was established thirty years earlier, designed by Heinrich Nebbien after a competition in 1813 [1]. In Germany, the 'Englischer Garten' designed by Friedrich Ludwig von Sckell in Munich, is by many regarded as the first [8]. The garden was opened to the public in 1789, by order of the new regent in Bavaria Karl Theodor. The grounds where the Englischer Garten was established were, however, former royal property, and examples of royal property with a degree of public access had been known long before this date, e.g. in Hyde Park, where the hunting grounds were opened to the public on certain instances from 1635 by Charles I. Even Louis XIV occasionally opened the grounds of Versailles to the public.

At least there seems to be a consensus that Hirschfeld was "among the most eloquent of those pressing for the creation of public parks". And that Englischer Garten in Munich, designed purposely as a public park, in the year of the French Revolution, is a good representative of the park movement that spread all over Europe within the first half of the 19th century [10].

In America Frederick Law Olmsted joined the debate on establishment of public parks after he returned from a six months travel to England. He was very impressed by Joseph Paxton's Birkenhead Park, and reported back: "in democratic America there was nothing to be thought of as comparable with this People's Garden!" [7].

Fig. 7. The Norwegian University of Life Sciences where the garden architecture study programme
[Source: photo from author private archive]

Fig. 8. The Royal Palace Park Oslo dedicated to be a public park with access for all
[Source: photo from author private archive]

Olmsted visited Europe several times, also after he won the competition for the design of Central Park together with Calvert Vaux in 1958. They established their careers as landscape architects, being among the first to use this term. In Olmsted's terminology, landscape architecture described a special type of scenery, set amongst buildings. Central Park was the first great example of Olmsted's art. Next, Olmsted planned a great series of parks in Boston. His work was greatly admired in Europe [9].

In 1903 two Europeans used the same term in connection with a competition for the design of Pittencrieff Park in Dunfermline: Patrick Geddes and Thomas Mawson. Patrick Geddes was a great admirer of Olmsted, and expressed very clearly the strong link between garden design, public parks and town planning. Later, Geddes and Mawson became founder members of the British Town Planning Institute and in 1929 Mawson became first president of the Institute of Landscape Architects, now the Landscape Institute. Geddes comes back to this link in several of his books, e.g. *Cities in evolution*, one of the most influential planning books of the twentieth century. The book contributed to today's predominant view of what landscape architecture is: the art of making good places and environments for ordinary people [11].

Landscape architecture is space making

The aim of garden design, as of landscape planning, is to make good outdoor space. This requires us to understand the *nature of the world*. One must appreciate *what* can be changed and *how* it can be changed. There is no one right way. Approaches to understanding the nature of place, through art, science and cultural studies, yield different views of outdoor space: of how it can be moulded and of the degree to which it should remain unchanged.

References

1. **Barlow Rogers, E.** (2001) Landscape Design: A Cultural and Architectural History (Harry N. Abrams)
2. **Deming, M. E and S. Swaffield** (2011) Landscape Architectural Research: Inquiry, Strategy, Design, (Wiley)
3. **Hirschfeld, C.C.L.** Theory of Garden Art Edited and translated by Linda B. Parshall, Penn Press
4. **Hunt, J. D.** (2000) Greater Perfection: the practice of garden theory (Thames & Hudson)
5. **Jørgensen, K.** (1999) Om etableringen av landskapsarkitektutdanningen i Norge og Sverige, in: Eggen, M., A.K.Geelmuyden, K.Jørgensen: Landskapet vi lever i, (Norsk arkitekturforlag)
6. **Meyer, G.** (1860) Lehrbuch der schönen Gartenkunst, Riegels Verlagsbuchhandlung, Berlin
7. **Olmsted, F. L.** (2003) Walks and Talks of an American Farmer in England, A reprint edition of Olmsted's first book, describing his 1850 walking tour of England, University of Massachusetts Press
8. **Pankraz Freiherr von Freyberg** (Ed) (1989) 200 Jahre Englischer Garten München 1789-1989. Knürr, München
9. **Rybczynski, W.** (1999). A Clearing in the Distance: Frederick Law Olmsted and North America in the Nineteenth Century. New York: Scribner
10. The Oxford Companion to the Garden, 2006
11. **Turner, T.** The Origin of Landscape Architecture, in Gardenvisit: www.gardenvisit.com/history_theory /garden_landscape_design_articles/landscape_theory/origin_term (accessed November 2015)

INFORMATION ABOUT AUTHOR:
Karsten Jørgernsen, Professor, Dr.Scient. Norwegian University of Life Sciences, Department of Landscape Architecture and Spatial Planning. Research Focus: Contemporary history of landscape architecture. E-mail: karsten.jorgensen@nmbu.no

Kopsavilkums. Raksts atspoguļo dažādus aspektus, par kuriem zinātnieki veic pētījumus, diskutē, domājot par ainavu arhitektūras sfēru. Ainavu arhitektūras teorija nenoliedzami ir cieši saistīta ar praktisko darbību. Šī starpdisciplinārā nozare ne tikai ietekmē daudzas saistītās sfēras, bet līdzīgā veidā arī mācās no tām. To kā ir attīstījusies ainavu arhitektūra ir ietekmējuši vēstures notikumi, kas saistīti ne tikai ar pašu profesiju, bet arī ar tās mācīšanu.

The role of red in contemporary landscape design

Anna Eplényi, Enikő Tóth, *Corvinus University Budapest, Hungary*

Abstract. In this research 25 contemporary landscape architectural projects using RED in their design have been examined, described and compared, in order to understand how this strong monochrome colour behaves in various types of gardens and public open spaces. The study seeks to comprehend what kinds of theoretical and artistic planning goals are at work in the ideological background of this new tendency to apply red. The first part of the article describes red and reddish shades in natural landscapes and urban areas. In the main body of the article 25 compositions are analysed in a summarizing-table, according to the timeline, studios, designers, location, size and functional types. The appearance and forms of red, the symbolic design aims, the materials, the real and perceived dimension of the red colour are also reviewed, not only in the table, but also in qualitative descriptions. The article discusses metaphoric meanings and narrative references of red, its various shades, and the contemporary choice of material. It underlines that everyday associations and first connotative meanings of red are crucial in background design in many cases. A detailed chapter presents our discussions on how these projects can be grouped according to their application of red: (1) red as conceptual and artistic intervention tool; (2) red as a tool to link, connect and renew post-industrial, segregated zones; (3) how red as an activating colour gets places and people moving, playing. Finally, the Chinese focus and the futuristic side of red will be discussed.

Keywords: red, landscape design, contemporary landscape architecture, landart.

Introduction: Red in everyday life, natural landscapes and urban areas

Red plays an important role and unique defining character in several parts of our everyday life: it is used to distinguish animals *(robin redbreast, red pine and red onion);* it appears in literature *(The Red and the Black)* or in astronomy *(Mars, the red planet)*. Red can express antagonism, extremes; symbolize life, love, passion, maidenhead, brides, the erotic *(red-lamp districts)*, blood, injuries *(Redcross)*, death or celebrations (*red-letter days)*. It was used as fertility-colour in ancient times *(red Easter eggs in Europe)* or as guarding feature *(blood of lamb on the doors of Jews).* In history red was used as a colour of the emperor or - later - dictatorships *(China – Emperor's colour, Russia)*.

Common fields of our life are associated with red: red tiles of the roofs, the clay of tennis courts and athletic tracks, red curtains and velvet seats of theatres, red traffic lights, fireplugs, lighthouses or red orientation lights of harbours and airports. Red became "the colour" of products as *Ferrari, Vodafone, Red Bull, Coca-Cola, LEGO* or *Adobe*. Plenty of these –apparently irrelevant– associations will show up in the following composition as design background, planning-ideology or as connotative colour narrative in contemporary landscape design.

The so-called *'engine red'* is almost impossible to find in natural landscapes. The *Red Rock Canyon* of the *Bryce Canyon (Utah)*, the reddish cliffs of *Danxia-Landform (Gansu, China)* or the red-soil terraces lynchets of *Lexiaguo (China)* are part of the world heritage because of their extraordinary character in scenery. The rock of *Uluru* is a thousand feet high, kite-shaped rock formation in the middle of Australia; its flanks are steep, bare and startlingly deep terra-cotta - a colour which shades off into a delicate pale magenta from a distance (a darker purple on the shady side) and turns fiery on the western stone faces at sunset. The unusual form, together with the remarkable colour, result in the strongest landscape monument born by mythic ancestors – with its narratives it is an imaginative construction of an ancient culture [6].

There are some other red-landscape narratives, too: the leftover spoil tips of bauxite mining were historical land uses in Hungary *(Bakony-Hills, especially at Gánt)*, but this post-industrial heritage turned to be a miserable memory after the toxic red-sludge spill catastrophe in Hungary in October 2010: the red flood-level is still kept as a memento on the white wall of vernacular buildings. In Vermont or in Japan the maple-leafed forest turns into a burning orange-red carpet in autumn, which creates an impressive local tourist attraction.

In urban design red plays an important role not only on the facades of *Petra (Jordan)*, but also in Moscow's *Red Square*, whose original name *Krasnaja*, does not only mean *red* but "*nice/beautiful"* as well. Permian-age red sandstone can change the visual character of a settlement, for example at *Slekmorlie (Scotland), Agra (India)* or at *Balatonalmádi (Hungary).* In London the fire-red post boxes, phone boxes, buses and red labels have created a unifying brand-colour for the capital.

All these cases mentioned above underline that the "uncommon red touch" in landscape/urban scenario has a certain distinctive power, that of changing the identity of natural settings and giving new interpretation to a site. The effects of red shades will be deeply examined in the upcoming chapters.

Materials and methods

In this unusual and contemporary topic we have had to rely mainly on digital documentation of existing design projects *(www.landazine.com, landarch.com)* beside of limited printed literature. The research process comprised the following steps [9]:

STEP 1: In the first phase we collected all kinds of landart installations and landscape design projects correlated with the colour red, and we have done a student-survey as well - to get deeper understanding of red connotations of LA-students:

Empirical study: In April 2013 nearly 100 LA-student were asked about their impressions about the RED-colour and their association of 4 projects. In the study about *"first impressions of red"* the answers listed a wide repertoire as: *blood-65 people, rose-30, love-25, fire-24, passion-21, poppy-12, heart-11, power-11, less than 10: hot, wine, sunset, China, war, anger, prohibited, fox, wild, angry, dynamic, brick, red carpet, flag, bull, magnificence, emotions, excitement.* All of these will be reflected in the examined projects. The 4 sites were: Christian Broda Sq., Grand Canal Sq., Garden of Cosmic Speculation and City Lounge, which were also analysed by semantic bipolar-scale-ratings as *friendly-unfriendly, rich-poor, exciting-boring...* The most strange, irritant and unfriendly was the Grand Canal Sq. *(big green sharp shapes with red columns)* and the friendliest was the Garden of Cosmic Speculation. According to students the most dynamic, modern, and unusual is City Lounge.

STEP 2: In the second phase we reduced the examples to 25 existing open-space projects where the red is reflected in a characteristic – dominant way (Table 2).

STEP 3: In the third phase we described the projects according to similar parameters (9) and analysed its ideological - theoretical design background (Table 3).

STEP 4: In the last phase we concluded aims, tendencies and main adaptation fields, material usage of red and grouped the projects. In this article conclusions will be discussed according to these findings.

Instead of introducing the project one-after another (as in the research study), we grouped them into chapters of *Results and discussion 1-6*. Some belong also to more chapters, more conclusions.

Fig. 1. Red follies in La Villete as recurring focal attractions [Source: photo by A. Eplényi, 2007]

Fig. 2. Red flags of Scottish Clans in Chinese-style at C. Jencks' garden at Garden of the Cosmic Speculation, Scotland [Source: photo by A. Eplényi, 2007]

Fig. 3. Quark installation of Jencks at the same garden [Source: photo by A. Eplényi, 2007]

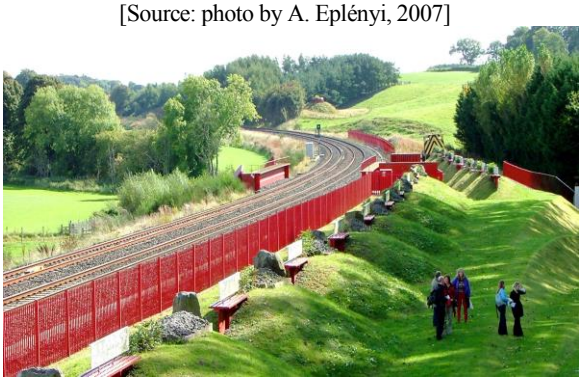


Fig. 4. Engine red industrial heritage transformed into quotations of events of Scottish History at the same garden [Source: photo by A. Eplényi, 2007]

Red-projects along the timeline

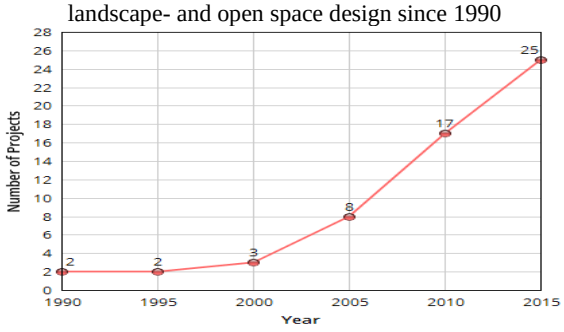
The timeline (Table 1) clearly demonstrates that the number of red projects has intensively risen since 2005. The phenomenon of using one emphasised, strong, monochrome colour has become a *trend* in this last decade with the spread of conceptual design approaches. In the Post-Modern era only some examples existed, but had enormous emphasis on this topic. La Villette Park and Jencks' own Garden at Portrack House are two very influential fore-runner examples [5].

(1.) **Park La Villette** (Paris, FRA, 1982-98) – One of the largest public parks in Paris. The aim was to integrate the area in the city, and to render the buildings different functions with landscape architectural tools. De - and then re - constructed, the red buildings serve as a periodic raster rhythm in the green park, offering the "variety and similarity of the red gesture" at the same time. They have a unifying role, but are local focus attraction at once. This design approach can be considered as an essential theoretical principle in many later cases of using monochrome colour elements in landscape architecture.

(2.) **Garden of Cosmic Speculation** (Dumfries, GBR, 1989-2006) – C. Jencks' own garden is made up of more than 40 different units. Together, these elements create a unique post-modern composition. The red-coloured objects are not the key motifs of the garden, but we get in contact with them several times while strolling around. There are three different application forms: symbols of the Scottish history reflected in local engine-red iron features; Chinese traditional bridges, paths (her wife was an expert in traditional Chinese landscape architecture); the third role of red is connected to quantum physical findings (quarks) [5]. Since 2005 more then 3-5 projects underline the spread of this new design tool every year. The temporary Landart Installation, Garden Festivals and smaller Urban-Street Art interventions of the last decade have strengthened and confirmed the studios that using one repetitive colour or form will result in an impressive effect on open spaces. They noticed that an installation might "stay for a longer period" as well, thus turning into a long-lasting piece of art. Contemporary furniture design also makes the best of these unique, individualised objects.

TABLE 1

The total number of characteristic usage of red in landscape- and open space design since 1990



Results and Discussion 1: The narrative and metaphoric references of red are very diverse

One would not think that almost all of the first red-associations listed above could serve as metaphoric reference for an LA-project. Open space elements (shade, pavement, material or the furniture forms) can function as a connotative link to some meaning of the historical, functional, memorial background of the site (Table 2). Contains these symbolic-associative values. Here are some examples of diverse narratives.

(12.) **Robert Hochner Park** (Vienna, AUT, 2008-09) *–blood–* The park surrounded by buildings is located in Vienna. The topic of blood is derived from an earlier slaughterhouse that stood here. The colour appears in different ways in the plan: the bright red roof symbolizes the entrance gate of slaughterhouses; the fluid dark-orange benches are symbols of red blood cells, and most of the red-leafed perennials, too, serve as blood reference [4].

(14.) **Mór Ditrói street** (Budapest, HUN, 2010) *–red carpet, red velvet–* A pedestrian street was created next to *Theatre Víg* to encourage comfortable waiting before the plays. In the middle lane of the pedestrian zone there is a mosaic formation of multi-functional furniture sets and various plant boxes. The elegant, softly purplish-red symbolizes the red curtain and velvet seat of theatres. The graceful red furniture is created of stainless steel with elegant, hand-cut flower patterns from Hungarian folk motifs [2].

(4.) **Monte Laa Park** (Vienna, AUT, 2003-05) – *brick–* The park is located in the suburbs of Vienna. The whole area of 9 hectares was a new investment. It was formerly the site of a brickyard. Behind the idea of the park was the aim to create a new city centre that everybody loves. The green area has linear shape, and the light brick-red colour appears on the walls. The whole height-difference is 10 meters, which is cleverly solved with ramps [4].

(13.) **Zeillern City Center** (Zeillern, AUT, 2009) *–carpet–* With hardly any connection between the castle and the church, the small town of 1500 inhabitants does not have a venue or a real centre. So the aim was to create a neat, tasteful area between the sights of the town. The designers relied on the brainstorming result of a community design - a "unifying red carpet-layer": a coloured concrete pavement linking open spaces.

TABLE 2

The overview of the 25 “RED” landscape architectural design projects [E. Tóth]

TABLE 2

The comprehensive summary of the 25 "RED" landscape architectural design projects [A. Eplényi – E. Tóth]

Nr.	NAME	YEAR	DESIGNER	LOCATION	SIZE	AREA	THE RED	MATERIAL	RED QUANTITY (1-5)	SYMBOLISM, FUNCTION
1	**La Villette**	1982-1998	Bernard Tschumi	Paris, FRA	35 ha	urban public park	geometric pavilions	metal	4	Deconstruction, fragmentation focal points
2	**Garden of Cosmic Spec.**	1989-, 2003-2006	Charles Jencks	Dumfries, GBR	30 ha	private garden	small objects	metal, wood	3	Postmodernism, multi-layered meaning, chinese red, industrial red
3	**Zhongshan Shipyard Park**	1999-2001	Turenscape	Zhongshan, CHN	11 ha	brownfield area	building construction	metal	4	Brownfield area, industrial elements, quality change,
4	**Monte Laa Park**	2003-2005	Albert Wimmer	Vienna, AUT	1,44 ha	brownfield area	abutment	concrete	2	Brickyard, landscape historical references
5	**Australian Garden**	2005, 2012	TCL	Cranbourne, AUS	40 ha	botanic garden	central horizontal surface	sand	4	Landscape imitation, landscape identity
6	**City Lounge**	2005	Carlos Martinez	St. Gallen, SUI	~0,8 ha	city center	pavement and street furniture	molded rubber	5	Hall - marketing, connecting treets
7	**Red Ribbon Park**	2005-2008	Turenscape	Qihuangdao, CHN	20 ha	riverside landscape	bench	metal	3	Degraded area - quality change, ribbon - connection
8	**Tianjin Bridged G.**	2005-2008	Turenscape	Tianjin, CHN	22 ha	brownfield area	unique objects	metal	4	Brownfield area, industrial elements, quality change,
9	**Christian Broda Square**	2006-2007	Beitl	Vienna, AUT	0,5 ha	city square	columns	metal	1	Square defining with vertical elements
10	**Penthouse Garden**	2006	WES & Partner	Hannover, GER	no data	private garden	cabinet	plastic	3	Living room - red cabinet
11	**Grand Canal Square**	2007	Martha Schwartz	Dublin, IRL	1 ha	city square	pavement, lamp post	resin, metal	4	The Red Carpet, light installation, lively crowd
12	**Robert Hochner Park**	2008-2009	Karl Grimm	Vienna, AUT	0,32 ha	urban public park	amorphous objects	concrete	1	Blood, red blood cell, city history
13	**Zeillern City Center**	2009	Nonconform Architektur	Zeillern, AUT	0,056 ha	city center	pavement , horizontal surface	concrete	2	Carpet, city center definition
14	**Ditrói Mór Street**	2010	Lépték Terv	Budapest, HUN	0,4 ha	city street	street furniture	metal	3	Velvet chair, red curtain, fine details
15	**Ready. Steady.Go!**	2010	Janser, Koller	Graz, AUT	0,46 ha	city street	pavement	molded rubber	3	Runway, connection, new character, humour, play
16	**Garscube L. Link**	2010	7N, RankinFraser	Glasgow, GBR	~1 ha	junction	pavement, flower-shape lamp post	resin	4	Cheerful details, counterpoint of grey underpass
17	**Van Campenvaart Playground**	2010	Carve	Hague, NED	~0,05 ha	playground	pavement, playing device	molded rubber	3	Play, happiness, joy of life
18	**Plaza at Bavnehoj Arena**	2011	Opland	Copenhagen, DEN	0,7 ha	public park, playground	pavement, playing device	molded rubber, metal	2	Game, activity, sports
19	**Superkilen**	2011-2012	Topotek1, Superflex, BIG	Copenhagen, DEN	3,3 ha	city square	pavement, unique objects	asphalt	5	Symbolism - cohabitation of different cultures
20	**WHATAMI**	2011	stARTT	Rome, ITA	0,06 ha	city square	huge artistic lamp post	plastic	3	Poppy field, decoration, lighting
21	**Gardens by the Bay**	2012	Grant Associates	Sanghaj, CHN	54 ha	urban public park	thematic elements	plastic, metal, concrete	3	"Supertree", gate motive, futuristic area
22	**Burnley Living Roofs**	2013	Hassell	Melbourne, AUS	0,05 ha	roof garden	benches, unique elements	metal	2	University garden, pilot area
23	**Mid Main Park**	2013	HAPA	Vancouver, CAN	no data	city square	pergola, bar stools	metal, plastic	3	Historic elements - milk bar, straw, bar stools
24	**Toddlers Playground**	2014	Espace Libre	Paris, FRA	0,25 ha	playground	pavement	concrete, molded rubber	2	Game, activity, identity, character
25	**Clos Layat Park**	2014	BASE	Lyon, FRA	3 ha	urban public park	pavement	molded rubber	2	Game, activity, identity, character
	Conclusions	**Most of them after 2005**	**Prominent role: Turenscape**	**China and Austria focus**	**Full spektrum**	**Mostly urban areas**	**Mostly pavement and exciting small architecture**	**Mixed use of materials**	**3**	**Clever color appliacation, in all case there is a strong theorethical background: landscape narrative / historical reference to the city/ unifying role**

Fig. 5. Blood cell-formed red planting-benches by the former slaughterhouse in R. Hochner Par, Vienna [Source: wikipedia.com]


Fig. 6. The purple-reddish furniture design refers to the red curtain and velvet seats of the neighbouring theatre [Source: photo: A. Eplényi, 2014]

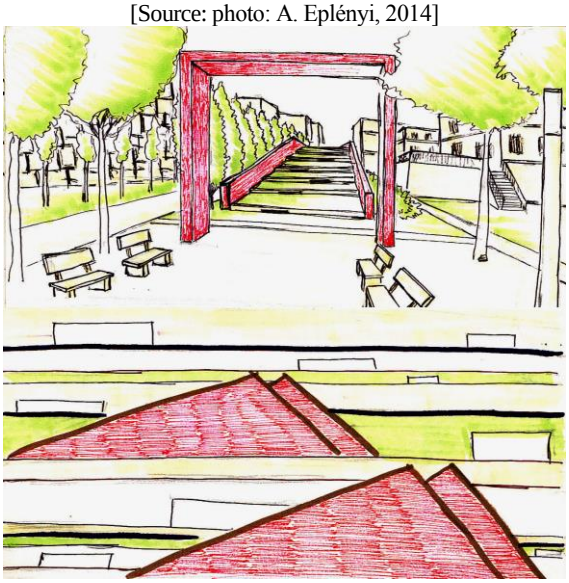


Fig. 7. Visual analyse of LA-Students of a view and abstraction of former clay pot-landforms of Park Monte Laa, Vienna [Source: photo by A. Eplényi, 2012]

Fig. 8. Ready, steady, go! Street with red running lanes in Graz [Source: photo by E. Frohmann, 2015]

Results and Discussion 2.: Three main functional fields of red interventions:

The application of red in "some way" into the design can be examined in all scales of landscape architecture projects: from small local street/square renewals or playgrounds to large, post-industrial urban development plans.

By analysing the 25 examined projects we concluded that there are three main fields according to functional aims of using red: (1) red as **conceptual, artistic** intervention tool; (2) red as a tool **to link and renew post-industrial**, segregated zones; (3) red as **an activating** colour gets places and people moving, playing. This provides a good framework to understand why and how red is used nowadays:

(I) Red as conceptual, artistic intervention tool

Long before red urban design appeared plenty sculptures, landart installation used the monochrome (esp. red) colour: *Tal Streeter – Endless Column; BCA Landscape – Garden of Light; West 8 – Garden of 10000 Bridges; D. Berset – La Ligne Rouge; K. Perschke – The Red Ball Project.* [7.] [8.] So it is clear that this tool has the strongest theoretical background. All of these ideas are reflected in high aesthetic values, selective details and a sophisticated form design. The symbolic meanings and references are conceptually strong and the result is often dumbfounding.

(23.) **Mid Main Park** (Vancouver, CAN, 2013) – Due to a newly built commercial building the square became smaller. The inhabitants started a community project and defined the key-words of the area: shelter, meeting-point and history. The designers created a lovely park along these criteria, and placed two powerful elements referring to a Milk Bar once located here in the middle of the 20th century: a huge, red, straw-shaped pergola and some bar stools in the same colour.

(20.) **WHATAMI** (Rome, ITA, 2011) – The name of the project is an acronym (*"What am I"*) which was the name of the first puzzle in the world. It refers to the mobile elements. The green artificial hills are in front of Z. Hadid's MAXXI Museum. The square offers place for big events, so the moving elements are really practical. The bright red, huge plastic poppy field is not just for fun, they serve also as lights and speakers.

(15.) **Ready, steady, go!** (Graz, AUT, 2010) – The aim was to give a unified visual connection in the area and create a new strong identity for the district. The tramways mark the red colour rubber pavement like a running lane, being 750-metres long, around the whole block. So it is not just a coherent and useful feature, but a funny design as well.

(10.) **Penthouse Garden** (Hannover, GER, 2006) – The idea was to create a comfortable, traditional living room. The ceiling is the sky; there is a green grass-carpet on the white marble floor; grey curtain hangs around the room. The only furniture is a huge, shiny, high-quality red cupboard in the room.

(II) Red as a tool to link, connect and renew post-industrial, segregated zones;

We have concluded in the introduction, that an uncommon, monochrome (red) colour has the power to give a fresh, new-fangled, re-identifying *'tabula-rasa'* - effect to an abandoned site. Urban design is in sore need of reclaiming post-industrial areas in order to provide new identity to former, abandoned and neglected traffic zones. A consolidating 'red-carpet pavement' or a larger scale periodic, rhythmic, constructional or sculptural red feature can be reunifying in the landscape. Monotonous, dejected grey areas can be refreshed with an attractive and flaring colour.

(3.) **Zhongshan Shipyard Park** (Zhongshan, CHN, 1999-2001) – This post-industrial development was a huge shipyard before. The planners only wanted to maintain the natural habitats in good condition, but the landscape architects wished to emphasize the post-industrial mood and heritage as well; so they kept the big metal structures paired in white and red colour. Some structures have the function as lookout points or pavilions around the water feature.

(16.) **Garscube Landscape Link** (Glasgow, GBR, 2010) – The area is located under a huge motorway zone, so it is actually an underpass. It connects two residential zones, and the cyclists and pedestrians passing by perceived the space closed, noisy, dirty and formidable. The aim was to create a friendly and quiet place in this grey (under)world. The planners used synthetic resin pavement and big colourful flower shapes. There are 50 hilarious rose-orange and red aluminium butterfly flowers, from which the 6m-high ones are not just for decoration, but serve also as lighting.

(III) Red as an activating colour gets places and people moving, playing.

Since the temporary BUGA-playground (2005), designers have been more enthusiastic to use friendly, humorous forms and colours in play areas (for. ex.: *Rudolf Bednar Park*: a play area designated only by yellow sticks; *Orange Monster playground*, Meza; *Blue Imagination Playground Block* of designer P. Rockwell). From the psychological point of view red reminds one of: *power, warmth, activity, fire, power, offensive and striker mood as well as speed-up*. All these characteristics describe children's playing attitude and energy level, thus harmonising with its functional needs. The examples described below confirm this argument:

(17.) **Van Campenvaart Playground** (Hague, NED, 2010) – This barrier-free playground is in the housing area of The Hague. Its aim is to give the same place-experience for healthy and disabled children as well. Everybody can use the equipments, because here is a huge ramp in the playground. The total height difference is 1,8 m. The playground is rectangular, a really graphic shape, and the red colour enhances this. Naturally, it has rubber pavement.

(24.) **Toddlers Playground** (Paris, FRA, 2014) – In Alfortville district the children areas are one of the most important field of community design. In this little park there are countless functions: playing area for two different age-groups, resting zone, varied materials and plants and a herb garden. The red appears on the rubber pavement and on the vertical facade of the terrain stairs, where the visual effect is less drastic.

(25.) **Clos Layat Park** (Lyon, FRA, 2014) – The whole area is a new development of a wooded, neglected zone. The red colour gives a new, but gentle character and helped to find identity. Rectangular, red rubber locates and marks the children area. Like in other projects, the activating red colour has the main role, emphasised by the complement green toys.

Results and Discussion 3.: The fine shades and materials of red creates a big difference in perception

There are dozen shades of red from *terracotta, Carmen, cinnabar, violet, purple, pinkish, brownish or more orange-like*. In most cases the classical "engine red" or "fire red" is used, but other shades can suggest metaphoric meaning. Jencks combined the Chinese-red with the UK Engine red of the neighbouring railway bridge. At Mór Ditrói Street the magenta-shade recalls a more elegant, velvet-seat and curtain of the nearby theatre. At Monte Laa the shade is more close to terracotta reminding us of the former clay-pot land use. The Australian Botanical Garden also adopted exactly the shade of the brownish-red-soil in the design. At Robert Hochner park the light-red is softened with red/purple-leafed annuals and small shrubbery. Similar to the pavement of town-centre of Zeillern, in the settlement of Balatonalmádi (Hungary) most houses and stone fences are built from red sandstone, which results in a natural, reddish townscape.

These later projects underline that soft, dissolved, broken red shades can be added to the open spaces in a more organic way, almost without drawing attention to themselves. This might explain us why the pavement is broken into various shades of red in Superkilen Park – to soften the large, open monochrome surface into a complexity and variety of mosaic combinations. The most extreme example

is the City Lounge, where the open space is covered overall with a monochrome, homogeneous, strong, aggressive red shade.

(5.) **Australian Garden** (Melbourne, AUS, 2005, 2012) – The aim was to imitate and adopt the natural Australian landscape in the botanic garden. The designers at TCL studio are enthusiastic about the Australian earth-red colour, so they often use it in their other plans as well. The Ephemeral Lake is located in the central of the botanic garden and represents authentically the dry and dreary continent with little watercourses.

(19.) **Superkilen** (Copenhagen, DEN, 2011-12) – Lots of immigrants settled in this district from various countries and with diverse cultures. With a great deal of humour the planners brought a lot of different street-equipments from 60 countries: benches, litter bin, bike storage, water features... The red mosaic platform helped to integrate these elements into one peaceful, unified space [1].

Results and Discussion 4.: The red in natural green surroundings against grey urban settings

When comparing the location of the projects it emerges that the majority are located mainly in urban settings, in globalized circumstances. Because its positive, activating, attracting and unifying effects, red offers good application possibilities in order to create a contemporary, fresh and trendy design.

If red is used in urban (grey) settings, the planting rarely gets a dominant role, because these concepts are usually based on design moods which are emphasised with new, artificial materials and elements, instead of larger green, planting tools. In urban settings the planting is limited by the infrastructure wires.

One can see that the red in deep green, natural settings seems to be "natural", as poppies on the meadow, red tulips or roses. This complementary colour reminds us of natural features - red is harmoniously embedded as in Jencks' installations, or in the long Red Ribbon in China. On the other hand, in urban settings this complementary effect disappears. At Grand Canal and Superkilen the complementary green is represented with artificial surfaces, which cannot reach this nature-like outcome. If green natural volumes are lacking, the red plays the main actor-role in the neutral grey space.

(18.) **Plaza at Bavnehøj Arena** (Copenhagen, DEN, 2011) – The square is located amidst a handball arena, a football stadium, a children care centre and a swimming pool. Landscape architects had to solve the problem of parking, resting and transport zones. Red is reflected here on various playful equipments: lanes, lamps, pavement, metal plays. The newly designed park became a flowing sports ground in the grey suburb.

Fig. 9. Plaza at Bavnehøj Arena with red play- and sport equipments and pavements Copenhagen
[Source: photo by B. Tógyér, 2015]

Fig. 10: Vertical red columns stop pedestrians to rest at Christian Broda Platz in Vienna
[Source: photo by A. Eplényi, 2009]

(9.) **Christian Broda Platz** (Vienna, AUT, 2007) - The square was rather a huge crossing zone before its re-design. The 9m-high red columns draw attention to the square now from all directions, the vertical features put an end to the Mariahilfer Str., while creating a resting zone for the pedestrians [4].

(22.) **Burnley campus' Living Roofs** (Melbourne, AUS, 2013) – As the city is getting hotter and drier, the researchers examine how they can develop sustainable and energy-efficient building systems, so this small green roof at the University of Melbourne also serves as research spot on suitable plants. Many curved red lines are used as a side to planting boxes; designating seats and marking different test zones. Red is unusually combined here with the wood pavement.

(11.) **Grand Canal Square** (Dublin, IRL, 2007) – This rectangular square is surrounded by a theatre, a hotel, a business centre and the open harbour. *Schwartz* united the space with a red and (again) with a supplementary green carpet, the two crossing each other. Red to symbolize the red carpet of runways and theatres, leading to the entrance from the seaside. The huge red lighting columns recall the orientation lights of dark harbours and airports to the target, but carry a reference to the busy nightlife as well.

Results and Discussion 5.: Red is beloved in Chinese landscape architecture

When we look at the geographical spread of these projects, their growing number makes China an important focus point. The red has long traditions in the vernacular architecture: wooden columns, plates, the roof of imperial buildings symbolising happiness, elegance, good fortune and joy. It is used on holidays, new year's eve, special occasions, but it was forbidden at funerals. In ancient China red gained its meaning from fire, but here it was not regarded as a symbol of danger or destruction, but rather a good thing: a flame which expands, prospers, cracks and rockets. *"The Chinese people have a saying: hóng hóng huǒ huǒ, or literally "red, red, fire, fire" meaning the life of someone expands, prospers, cracks and rockets like red flame. By the same principle: huǒ le, "caught fire" means something has gained considerable popularity, and the adjective: huǒ bào, "fire and explosion" refers to places such as busy markets jam-packed with people, or a book or movie which is packed with action and excitement. The colour red has acquired these characteristics over millennia, and has today the symbol of prosperity and happiness"* [10].

We can underline that red enjoys an active part of today's culture and this puts the case clearly why it is used so often in landscape design. It counteracts with natural living (green) materials, as green is the supplementary colour of red in the colour circle. This gives a new, elegant content, an elation identity on the slums or polluted zones - where usually these projects have been undertaken. Red seems to be a good eye-catcher contrast tool for restoring these degraded environments.

Because red is deeply embedded and familiar in Chinese culture *Turenscape* was the first to invent this dominant monochrome colour use around 2000. In Chinese LA-design projects red is used bravely, in large amount, along urban-scale dimensions, but usually on transparent surfaces: long walkways, look-out towers, metal constructions, smaller benches or long, narrow forms. It never occurs as an intensive carpet or pavement.

On the other hand, red is only represented in effective, but limited way in Japanese landscape-history and garden-art. The sacred bridge at Shinkyo (Nikko) crossing a picturesque river valley since 767 is a red symbol. These arched, Chinese-style wooden red bridges (*sobi-bashi* originating the "impossible-to-pass" bridges of early imperial Paradise gardens) are common in stroll-gardens, but always in its original vernacular character. Beside this, red is used on umbrellas, tablecloths and pillows of outdoor tea-ceremony garden parts; and, of course, in naturalistic dimensions of the autumn maple-colours.

Fig. 11. Chinese-style red bridges and wooden paths at the Garden of the Cosmic Speculation [Source: photo by A. Eplényi, 2007]

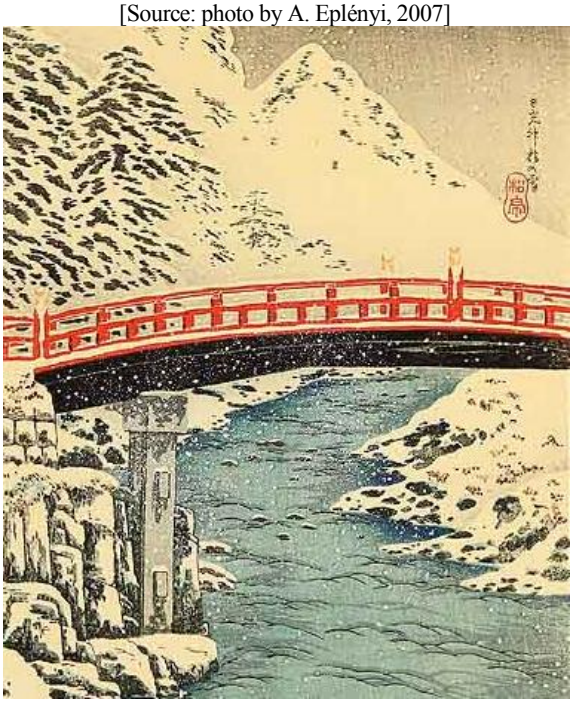


Fig. 12. Shinkyo bridge by Nikko [Source: Hiroaki Takahashi 1936]

Fig. 13. Outdoor tea-ceremony set in Rikugien Garden, Tokyo [Source: photo by A. Eplényi, 2005]

Fig. 14. Various red installations at Tianjin bridge gardens, a well-known signature of kongjian yu [Source: www.turenscape.com]

(7.) **Red Ribbon Park** (Qihuangdao, CHN, 2005-08) – *Turenscape* rehabilitated the natural area next to the river, but also wanted to link the site with the city. So they have found a solution which preserves the environment in good condition with the least interventions. A long *red ribbon* was created, where a combined, huge, playful bench-pathway traverses the riverside. In the night it also lights up, and it also has carved planting-pots in it. We consider it as one of the most sustainable, minimalist but essentially clear aesthetical project of the 21st century so far. The idea has just been repeated in the Red Flag Canal project, where the lifted red walkway appears in a mountainous landscape [3, 8].

(8.) **Tianjin Bridged Gardens** (Tianjin, CHN, 2005-08) – It has been a really neglected brown field zone, so the aim was to optimize its condition by constructing a huge diverse natural service for the 10 million inhabitants in the city. The city and the park is connected through an elevated metal *Skywalk* structure, with an industrial lookout pavilion and many smaller, fluid and cubist red pieces of furniture combined with Cor-Ten steel rusted elements and soft grass vegetation. The visual dominance of red and the mood is reminiscent of the design of La Villette.

Results and Discussion 6.:
Red is often used in futuristic projects

Many of these red and other monochrome projects suggest a "futuristic-futurscape-mood". No wonder that the book *Futurescapes* [4] chose the Red Ribbon as front cover. On the Burnley campus of University Melbourne experiments are carried out on future plant use, which is emphasised with the red features. The City Lounge has also transformed the downtown into an artificial landscape, on small scale. Conversely, the Shanghai urban development creates a magical garden-chain network on huge, red, artificial canopy tops on skyscrapers.

(6.) **City Lounge** (St. Gallen, SUI, 2005) – The inner city was rehabilitated to unify and modernize the area. The red (which is the brand-colour of Raiffaisen in Switzerland) rubber pavement-carpet distends in a very dominant (nearly brutal) way. The aim was to wake the grey monotony of business centres, but it became a futuristic Mars-landscape which is somewhat irritating to the users.

(21.) **Gardens by the Bay** (Singapore, CHN, 2012) – This is an incredibly futuristic development in Shanghai, one of the most gigantic cities on Earth. People here are totally isolated from nature, so they created a huge nature-town between the houses. The plan was to add lots of little thematic gardens in one common element. The result is the set of 50-metre-high, red *Supertrees* connected with paths high up in the air. In the glasshouse gardens red appears in bridges and gates.

Conclusion

The article underlined that the monochrome use of one colour is a current tendency in contemporary landscape design. Red shadows play especially important role out of the other colours. Red is a strong, effective and impressive colour, which draws attention in natural-green as well as in grey urban surrounding. All kinds of associations of "red" as well as cultural narratives are reflected in the theoretical design-aims. Red if often used to unify-and-reorganise segregated urban areas or in sport- and kids' spaces with activating role. Dominant use of red is beloved in China's big, post-industrial park-rehabilitation and in futuristic projects.

References

1. **Bridger J.,** Culture Riot. Denmark: Copenhagen's Superkilen, *Topos,* 2012, No. (78), p. 41-16.
2. **Eplényi, A.** Közösségi terek tájépítészete (Landscape architecture of public open spaces in Hungary). *Magyar Iparművészet*, 2014, No. 4. (21), p. 33-39.
3. **Gazvoda, D.** Characteristics of contemporary Chinese landscape design. *4D – Journal of Landscape Architecture and Garden Art*, 2012, No. (25), p. 2-17.
4. **Grimm-Pretner, D., Zöch, P.,** *Wien. Ein Begleiter zu neuer Landschaftsarchitectur*. Callway, 2010.
5. **Jencks, C.** *The Garden of Cosmic Speculation.* Frances Lincoln Publisher, 2000.
6. **Moore, C. W., Mitchell, W-J., Turnbill, W.** *The Poetics of Gardens*. MIT Press, 2000, p. 53.
7. **Richardson, T.** *Konceptuális kertek (Avant Gardeners).* Budapest: Terc, 2008.
8. **Richardson, T.** *Futurescapes.* Thames and Hudson, 2011.
9. **Tóth, E.** A vörös szín szerepe a kortárs tájépítészeti alkotásokban (The role of red colour in contemporary landscape design) BSc. Final Thesis of Landscape Architecture. Supervisor: A. Eplényi PhD, Corvinus University Budapest, 2013
10. [online 23.06.2015.]. http://www.illuminantpartners.com/2011/01/17/colour/

INFORMATION ABOUT THE AUTHORS:

Anna Eplényi PhD. MSc. Landscape Architect and BA. Art-teacher, leader of a Children Art Studio www.gyik365.hu. Since 2008 Assistant Lecturer and since 2015 Senior Lecturer at the Dept. of Garden Art and Garden Techniques at Szent István University teaching various creative topic. E-mail: anna.eplenyi@uni-corvinus.hu

Enikő Tóth. Graduated MA Student of Landscape Architecture at the Fac. of Landscape Architecture, Corvinus University Budapest. She wrote her BSc. final thesis on the topic of this article, which she was given more prizes and awards on scientific competitions; her supervisor has been Anna Eplényi. E-mail: toth.enci.91@gmail.com

Kopsavilkums. Pētījums iekļauj tāda fenomena izpēti, kā sarkanās krāsas pielietojums dizainā 25 mūsdienu ainavu arhitektūras projektos, tā izpēti, aprakstīšanu un salīdzināšanu. Pētījuma mērķis ir saprast, kā šī monohromā krāsa darbojas dažādās vidēs – atšķirīgu veidu dārzos un publiskajā ārtelpā. Pētījums ir mēģinājums aptvert kāda veida teorētiskie un mākslas mērķi projektēšanā ir par pamatu šīs jaunās tendences – izmantot sarkanu - ideoloģiskajam fonam. Pētījumā apkopota arī vēsturiskā informācija, kas spilgti attēlo sarkanās krāsas izmantošanu ainavu arhitektūras projektos. Svarīgi, ka sarkanā krāsa tiek lietota ne tikai kā dizaina elements, bet tai ir nozīmīgs ideoloģiskais pamatojums.

Großgrundbesitz und Selbstverwaltung. Die besondere Rolle der Livländischen Ritterschaft im Russischen Reich

Gert von Pistohlkors, *der Georg-August-Universität Göttingen, Deutschland*

Wie Ihnen allen bewusst sein wird, gibt es gerade in Bezug auf die besondere Rolle der Ritterschaften in Liv-Est-und Kurland verschiedene Narrative, die sich bis auf den heutigen Tag schroff einander gegenüber stehen. Um Eckpunkte zu nennen: Die Einen - unter ihnen besonders pointiert zuletzt der estnische Kulturhistoriker Jaan Undusk - sind der Auffassung, dass es ohne die privilegierten deutsch – protestantischen Ritterschaften und ihre selbstbewusste Politik die besondere baltische Region an der Ostsee angesichts der Übermacht Rußlands nicht lange genug gegeben hätte, um auf diesem Boden spätere staatliche Unabhängigkeit zu ermöglichen [1]. Estland, Lettland und auch Litauen, so meinen im Übrigen manche Historiker, hätten trotz ihres eigenen Kampfes um Selbstbestimmung ohne die deutsche Okkupation im Ersten Weltkrieg die Loslösung von Rußland in den Jahren 1918/19 kaum erreicht [2].

Andere –besonders die Vertreter der lettischen und estnischen nationalen Geschichtsschreibung nach 1919 - sehen mit einigen guten Gründen gerade in der Kolonialgeschichte seit dem 12. Jahrhundert, in der wachsenden inneren Herrschaft der deutschen Vasallenschaften das große Hindernis für eine frühe eigenständige Entwicklung der späteren Titularvölker der nach 1918 unabhängigen Staaten Eesti und Latvija. Die Vasallenschaften entwickelten sich in der Tat bereits im Spätmittelalter zu festen deutsch dominierten Korporationen, die die indigenen Völker der Esten und Letten vom 14. Jahrhundert an immer mehr in die Erbuntertänigkeit, ja am Ende des 18. Jahrhunderts sogar in die Leibeigenschaft drückten. Besonders in Estland wird gern auf die so unterschiedliche Entwicklung im seit 1809 ebenfalls zum Russischen Reich gehörigen Großfürstentum Finnland hingewiesen. Dort hat sich im Jahr 1863 ein Landtag konstituieren können, der zu je einem Viertel aus Adeligen, Geistlichen, Bürgern und freien Bauern bestand. Schwedische Intellektuelle haben um der Einheitlichkeit ihrer Region willen einer Fennisierungsbewegung das Wort geredet [3]. In den drei Ostseeprovinzen Estland, Livland und Kurland war zu diesem Zeitpunkt die Selbstverwaltung auf dem flachen Lande hingegen noch vollständig in den Händen der privilegierten deutschen Ritterschaften. Sie verfügten abgesehen von Krons - oder Staatsgütern über das alleinige Besitzrecht am Grund und Boden und fingen gerade erst an, das System der Arbeitspacht zu überwinden und einen selbständigen estnischen und lettischen Kleingrundbesitz neben dem alles dominierenden Großgrund - und Waldbesitz ritterschaftlicher Familien zuzulassen. Erst 1868 wurden neue Fronverträge in Livland verboten. Der neu eingeführte Agrarkapitalismus verhalf letztlich im Vergleich zur großen Zahl der estnischen und lettischen Landlosen nur wenigen Bauernfamilien zu Wohlstand und Eigentum [4]. In der Tat verfünffachte die größte Exporthafenstadt des Russischen Reiches, Riga, zwischen 1870 und 1913 ihre Bevölkerung auf ca. 550.000 Einwohner im Wesentlichen aus der lettischen Landarbeiterschaft Livlands und Kurlands, die in Riga zu Fabrikarbeitern wurden. Aus dieser starken Differenzierung der lettischen Bevölkerung in Stadt und Land erwuchs durch Intensivierung der Landwirtschaft, Industrialisierung und Urbanisierung schließlich die große Schubkraft der nationalen Bewegungen und der Sozialdemokratie seit den 1880er Jahren.In der revolutionären Krise von 1905 schien das Ende der ritterschaftlichen Vorherrschaft auf dem flachen Land schon manifest zu werden. Mit den Dumawahlen von 1906 war die deutsche Vorherrschaft in Livland politisch faktisch beendet, weil kein deutscher Kandidat es vermochte, in die ersten beiden Dumen einzuziehen [5]. Ökonomisch wurde den Angehörigen der Ritterschaften jedoch erst durch die Agrarrevolutionen der 1920er Jahre in den parlamentarischen Demokratien Eesti und Latvija faktisch das Kreuz gebrochen [6]. Mehr als 30.000 Deutsche, besonders viele aus den ritterschaftlichen Familien, verließen verarmt die neu gegründeten Republiken Eesti und Latvija und zogen zumeist in die unwirtliche deutsche, die sogenannte Weimarer Republik. Diese befand sich ökonomisch in einer Nachkriegsinflation und drohte politisch im Extremismus von rechts und von links zu versinken [7].

Welches war nun die besondere Rolle der Ritterschaft in der Provinz Livland? Es ist m.E. durchaus berechtigt, Livlands Sonderstellung unter

den drei Ostseeprovinzen Rußlands hervorzuheben, auch wenn manche Ähnlichkeiten mit den Ritterschaften in Estland und auch in Kurland bestanden [8]. Die Ritterschaften hatten das Recht, alles, was sich auf das Wohl des ganzen Landes und der Ritterschaft im Besonderen bezog, auf den alle drei Jahre stattfindenden Ordentlichen Landtagen zu verhandeln. Bis in die späten 1880er Jahre, als der Staat Reformen von oben einführte, die als Russifizierung erlebt wurden, waren die folgenden Daueraufgaben von zu wählenden Mitgliedern der Ritterschaften zu bewältigen: Schulen und Krankenhäuser mussten gebaut, gemeinsam mit Pastoren der Unterricht überwacht, am lokalen Gerichtswesen mitgewirkt und der Wegebau gefördert und finanziert werden. Livland war die mit Abstand größte Provinz mit zwei estnischen Doppelkreisen – Dorpat-Werro und Pernau-Fellin (Tartu-Võru und Pärnu-Viljandi) sowie zwei lettischen Doppelkreisen Riga - Wolmar und Wenden – Walk (Riga-Valmiera und Cēsis-Valka). Nach der Volkszählung von 1897 belief sich die Gesamteinwohnerschaft Livlands auf 1.239.102 Personen, von denen 485.372 im estnischen und 753.750 im lettischen Siedlungsgebiet Livlands lebten [9]. Ritterschaftliche Familien befanden sich dem gegenüber zahlenmäßig in einer sehr deutlichen Minderheit. Im Jahr 1747, als die Matrikel der Livländischen Ritterschaft geöffnet wurde, haben nur 168 Familien das Indigenatsrecht, das Recht der Standeszugehörigkeit, erhalten. Sie hatten den Nachweis erbracht, dass sie adelig waren und über den entsprechenden Landbesitz verfügten. Unter der Ziffer 435 ist in Riga als Letzter Alexander von Tobien (1854-1929) in die Livändische Ritterschaft im Jahr ihrer Auflösung 1920 aufgenommen worden. Er hatte maßgebliche Bücher über die Livländische Ritterschaft im langen 19. Jahrhundert 1800 bis 1920 geschrieben [10].

Nur in Livland gab es im 19. Jahrhundert Parteien, die sich in wechselnden Mehrheiten gegenüber standen: die Liberalen, man könnte auch sagen die Reformfreunde, und ihre Gegner, die Konservativen, man sollte besser sagen die „Intransigenten“. Sie wollten alles beim Alten lassen und fürchteten sich vor Veränderungen oder gar öffentlichen Debatten über die livländische Landespolitik. Riga war die Hauptstadt Livlands, Dorpat im estnischen Teil Livlands seit 1802 die einzige Universitätsstadt der Ostseeprovinzen. Nach dem Ende der Ordensherrschaft begann nach Gewährung des Privilegium Sigismundi Augusti durch den polnischen König im Jahr 1561 die Herrschaft der Livländischen Ritterschaft nach innen in einem geschlossenen Territorium. Nach dem Beginn der schwedischen Herrschaft im Jahr 1629 in Livland wurde diese Herrschaft in Auseinandersetzung mit dem schwedischen Finanzstaat zementiert. Im Zeitalter der Aufklärung im ausgehenden 18. Jahrhundert kümmerten sich die Pastoren und die Amtsträger der Ritterschaft bewusst und erfolgreich um die Lesefähigkeit der indigenen Bevölkerung und die Entwicklung ihrer Sprachen. Darin liegt immerhin ein erheblicher Unterschied zu Ostpreußen, wo das Prussische bekanntlich unterging. Ämter wurden in den genannten vier Doppelkreisen – den zwei lettischen und den zwei estnischen – ausschließlich unter Angehörigen der Livländischen Ritterschaft durch Zuwahl besetzt und ehrenamtlich wahrgenommen. Es gab traditionell liberale Familien: führend waren häufig die Oettingens, und traditionell Konservative unter Führung der Barone Nolcken. Oft ging in Reformfragen, z.B. in der alles dominierenden Agrarpolitik, auch ein Riss durch die verschiedenen Großfamilien.

Der junge Landtagsberechtigte begann meist nach seinem Militärdienst in einem Garderegiment, später häufig auch nach einem Studium in Dorpat gewöhnlich mit Verwaltungsaufgaben im lokalen Umfeld. Zwölf – jeweils drei in den vier Doppelkreisen - stiegen zu Kreisdeputierten auf, die zwischen den Landtagen vor Ort die Beschlüsse der alle drei Jahre in Riga stattfindenden livländischen Landtage umzusetzen hatten, überwacht von ebenfalls 12 Landräten, Exzellenzen, die zumeist auf Lebenszeit gewählt wurden. Eine begrenzte Aufwandsentschädigung erhielt der Residierende Landrat, der im Ritterhaus, dem heutigen Parlamentsgebäude der Saeima in Riga dauerhaft Dienst tat, unterstützt vom ritterschaftlichen Sekretär, dem ritterschaftlichen Notar und zwei Kassadeputierten. Die schriftlich überlieferten Protokolle, Vorlagen, Abrechnungen und sonstigen Dokumente sind mustergültig geführt worden. Auf Landtagen und nach außen vertrat der livländische Landmarschall die Ritterschaft, auch auf häufigen, unregelmäßigen Reisen in die Residenz St. Petersburg. Es war klar, dass trotz einer geringen Aufwandsentschädigung ein solches Amt nur von Mitgliedern wahrgenommen werden konnte, die über entsprechende Einkünfte aus ihrem Großgrundbesitz verfügten.

In einer Aufstellung sind die 26 „Geschlechter“ - Großfamilien“ - aus der Ritterschaft Livlands genannt, die mehr als 20.000 ha Hofsland besaßen: Die Barone Wolff auf Platz 1 verfügten demnach über 26 Güter mit einem Landbesitz von 151.470 ha. Hofsland. Von den insgesamt 688 Rittergütern in Privatbesitz in Livland waren im Jahr 1904 540 im Eigentum des immatrikulierten Adels, 54 gehörten nicht-immatrikulierten Adeligen und 94 Bürgerlichen oder Bauern [11].

Die von einem großen Reichspatriotismus getragene Herrschaft der Korporation zeigt sich zu Beginn des 19. Jahrhunderts vor und

während des Napoleonischen Krieges in besonderer Stärke. Unterstützt von dem besonders ritterschaftsfreundlichen Kaiser Alexander I. war es der Livländischen Ritterschaft vergönnt, nahezu gleichzeitig auf drei Ebenen institutionell neu zu agieren und eine lange andauernde Wirkung zu erzielen. Auf dem Gebiet der Wirtschaftsförderung, der Güterfinanzierung und der Bildungspolitik konnte sich die Livländische Ritterschaft nunmehr umfassend in Szene setzen. Im Jahr 1796 trat die von 12 ritterschaftlichen Spitzenpolitikern gegründete „Livländische Allgemeine und Oeconomische Societät“ hervor. Sie hat sich um die Förderung der Landwirtschaft in Livland grundlegende Verdienste erworben und mit ihren zahlreichen Tochtergesellschaften im ganzen 19. Jahrhundert durchaus eindrucksvoll auch in die bäuerliche Landwirtschaft hinüber zu wirken vermocht [12]. Im Jahr 1802 bestätigte Alexander I. schließlich die Begründung einer landwirtschaftlichen Kreditbank, der „Livländischen Adeligen Güter-Credit-Societät“, die es durch das ganze 19. Jahrhundert vermocht hat, z.B. die Russische Bauernagrarbank an den Rand zu drängen. Sie hat um die Jahrhundertwende vom 19. zum 20. Jahrhundert durchaus auf den livländischen Markt gestrebt [13]. Folgt man der Darstellung Alexander v. Tobiens über die Verkehrspolitik der Livländischen Ritterschaft – den Wegebau und den Eisenbahnbau - zwischen 1861 – der ersten Eisenbahn zwischen Riga und Dünaburg – und dem Kriegsjahr 1914, so kann festgehalten werden, dass die Ritterschaft kontinuierlich und nachdrücklich im regionalen Interesse des Groß-und des Kleingrundbesitzes auf einen Ausbau der Wege - und Eisenbahnstrecken hingewirkt hat. Für das Jahr 1911 sind pro 10.000 Einwohner 8,7 km Eisenbahn errechnet worden (zum gleichen Zeitpunkt Österreich 9,0, Deutschland 10,5). 1149 km Eisenbahn in Livland nehmen sich im Vergleich durchaus nicht rückständig aus. Sie wären ohne erhebliche Opfer Einzelner und der Korporation nicht zustande gekommen. Der ganzen Gebietsstruktur des flachen Landes sieht man wie auch den Verkehrswegen im Übrigen heute noch an, dass sie einst von landwirtschaftlichen Interessenten aus dem Großgrundbesitz geplant und eingerichtet worden sind.

Drittens sei wenigstens angedeutet, dass es ohne die Ritterschaften nicht zu einem mit den Verhältnissen in Innerrußland nicht vergleichbaren Ausbau des Schulwesens und zu einer Stiftung und Neugründung der Universität Dorpat im Jahr 1802 gekommen wäre. Sie ist dann allerdings im Wesentlichen durch das Wirken des ersten Rektors Parrot in eine Kaiserliche Universität im selben Jahr umgewidmet worden. Diese Universität hat Livland und die ganze baltische Region tiefgreifend verändert und ihr Sonderbewusstsein gestärkt [14].

Lassen Sie mich an zwei Beispielen verdeutlichen, worin m.E. die besondere Rolle der Livländischen Ritterschaft in den zwei beherrschenden Krisen der Region gelegen hat. Die erste große Krise war die Konversionsbewegung seit den 1840er Jahren, als Zehntausende vornehmlich in Livland vom Luthertum zum Glauben des Kaisers von Rußland überwechselten. Noch tiefgreifender für die Selbsteinschätzung der Ritterschaft war die revolutionäre Krise von 1905.

Parallel zur Gründung des Deutschen Kaiserreiches und zur Reformpolitik in Rußland unter Alexander II. erregte seit den 1860er Jahren die sogenannte Rekonversionsbewegung in den Ostseeprovinzen Russlands sogar die Aufmerksamkeit des evangelisch geprägten Europa. Die ersten lutherischen Pastoren Livlands – Pastor Carl Maurach und Pastor Eugenius v. Mickwitz – gerieten mit dem russischen Reichsgesetz – dem svod zakonov – in Konflikt, weil sie 1866/67 Nachkommen von Konvertiten das Abendmahl gespendet hatten. Diese Abkömmlinge von ehemaligen Lutheranern wurden von der russischen Rechtgläubigkeit – pravoslavnie - für sich reklamiert [15]. In dieser Situation hatte der wohlwollende Zar Alexander II. einerseits eine stillschweigende Duldung der Rückkehr zum alten lutherischen Glauben begünstigen wollen. Anderseits erließ er jedoch den Befehl, dass zu besonderen Festtagen alle Amtsträger im Russischen Reich, gleich welcher Konfession sie angehörten, in der orthodoxen Kirche ihres Heimatorts am russisch-orthodoxen Gottesdienst teilzunehmen hatten. Manche Amtsträger wie der Kurator der Universität Dorpat, Alexander Graf Keyserling, traten daraufhin u.a. wegen dieser Zumutung von ihren Ämtern zurück. Nach einigem Hin und Her erklärten sich die Spitzenvertreter der Estländischen und der Kurländischen Ritterschaft jedoch schließlich bereit, dem Befehl Folge zu leisten, nicht jedoch die Mehrheit der Amtsträger in der Livländischen Ritterschaft. Der „Kathedralkonflikt“ nahm Ende der 1860er Jahre dramatische Züge an [16]. Der konservative Livländische Landmarschall Georg Baron Nolcken musste 1870 zurücktreten, weil er nicht ausreichend erklären konnte, warum er als Protestant den russisch-orthodoxen Gottesdienst besucht, jedoch den parallel stattfindenden evangelischen Gottesdienst in der Ritterschaftskirche Rigas nicht berücksichtigt hatte. Der neu amtierende Generalgouverneur Graf Šuvalov ließ daraufhin vernehmen, dass die Livländische Ritterschaft die Folgen einer Verweigerung des kaiserlichen Befehls in allen relevanten politischen Fragen zu spüren bekommen würde: die Lösung der Agrarfrage im Sinne der

Ritterschaft, die ständische Justizreform und die Rekonversion rückkehrwilliger Lutheraner seien gefährdet. Innenminister Graf Valuev, mit der Familie Fölkersahm aus Kurland versippt und ebenfalls einer der wenigen verbliebenen Freunde der Ritterschaft in St. Petersburg, warnte vor einer „Gefühls-Politik“ (381). Die Feinde der Provinzen würden sich ungemein über diese Widersetzlichkeit gegen den Willen des Kaisers freuen, der einzige Schutz der Provinzen und der Livländischen Ritterschaft sei. Diese befände sich ja ohnehin angesichts der tiefgreifenden Reformen im Innern Russlands in die Defensive. Nicolai von Oettingen (1826-1876), der neu gewählte Landmarschall, blieb hart: „Mit dem Besuch des Kathedrale werden wir versinken in den Schlamm der Opportunitätspolitik. Lassen wir uns aber immer wieder von dieser Angst leiten, dann sind wir es werth, politisch getreten zu werden“ (383). In dieser und in anderen Fragen haben sich zwei Wege innerhalb der Ritterschaften gekreuzt, die das Verständnis von ritterschaftlicher Politik im ausgehenden 19. Jahrhundert ausgemacht haben: die Einen kämpften wie Carl Schirren in seiner „Livländischen Antwort“ von 1869 in öffentlichen Stellungnahmen und mit dem Gestus der großen Prinzipienpolitik gegen den russischen "„Nacionalfanatismus“, wie Schirren das ausdrückte. Mit solchen Gedanken fand er auch in der Ritterschaft viel Unterstützung.

Die Anderen lebten in dem Bewußtsein, dass die Nachfahren deutscher Kolonisten im riesigen Russischen Reich sich immer ihrer Grenzen und ihrer nur indirekten Einflussmöglichkeiten bewusst sein müssten. In deren Augen hätten Šuvalov und Valuev mehr Vertrauen verdient, und man hätte ihrem Rat folgen sollen. „Wir leben in der Wirklichkeit und nicht in gedachten Zuständen“, ließ der Generalgouverneur der Ostseeprovinzen Šuvalov in einem Gespräch vom 28. September 1870 mit Oettingen verlauten (382). „Sie sind wie die Franzosen, die einen großen Krieg beginnen, ohne gerüstet zu sein“ (ebd.). Das entstandene Dilemma ließ sich für die Livländische Ritterschaft nicht mehr lösen, zeigt aber überdeutlich die wachsende Abhängigkeit vom Wohlwollen des Zaren und von einzelnen einflussreichen Machtträgern in St. Petersburg. Selbst konnten sich die Ritterschaften kaum mehr wirkungsvoll gegen die Anklage auf Separatismus verteidigen.

Die andere Krise, die hautnah erlebt wurde und zahlreiche Interventionen der Führung der Livländischen Ritterschaft bei Regierungsstellen in St. Petersburg zur Folge hatte, war die Revolution von 1905 [17]. Die Diagnose der leitenden Herren, Friedrich Baron Meyendorff als Landmarschall und Arved von Oettingen als Residierender Landrat, war eindeutig. Nach dem Übergreifen der Revolution aus Rußland auf Riga und alsbald auch auf das flache Land in Livland und Kurland musste versucht werden, unter allen Umständen eine baldige militärische Niederschlagung zu erreichen. Alle konstitutionellen Bestrebungen in Rußland waren für Livland abzuwehren. An die Zeit v o r den staatlichen Reformen der 1880er Jahre, vor der „Russifizierung“ sollte angeknüpft werden [18]. Im Übrigen waren in Verbindung mit den Ritterschaften Estlands und Kurlands eigene Konzepte zu entwickeln, die die besondere Region „Ostseeprovinzen“ stärken sollten. Es musste unbedingt verhindert werden, dass die russische Bürokratie mit den russischen Bauernkommissaren an der Spitze statt einer militärischen Strategie mit dem Argument in St. Petersburg an Einfluss gewann, dass die Streikbewegung der jüngeren Bauernwirte und der Landlosen auf dem flachen Lande in Livland soziale Ursachen hätte und dass deshalb ein finanzielles Entgegenkommen der Großgrundbesitzer angesagt sei. Mit einigem Recht konnte die Ritterschaft darauf verweisen, dass die lettische Sozialdemokratie in Riga und im ländlichen Livland äußerst gut organisiert sei. Die Kampfformel „Gegen die Zwingburgen der Deutschen, die Herrenhäuser, und gegen die zarische Selbstherrschaft“ vertrage keine Zugeständnisse, wenn man nicht gemeinsam untergehen wolle [19].

Die Fakten sind bekannt: 184 Güter sind in den Ostseeprovinzen verbrannt oder demoliert worden, über 90 Morde gegen deutsche Gutsbesitzer und Amtsträger wurden verübt. Die Rache der Sieger nach dem revolutionären Höhepunkt im Dezember 1905, als im Januar 1906 die Wende eintrat, war nicht minder furchtbar. Russisches Militär und Kosaken haben unter der Landbevölkerung Livlands mit Standgerichten – ca. 900 Opfer -, Verschickungen nach Sibirien und Prügelstrafen, auch gegen Frauen, gewütet. Deutsche, sofern sie sich den Truppen des Zaren zur Verfügung stellten, wurden von lettischen und estnischen Medien für diese Strafexpedition mit verantwortlich gemacht. Die Beziehungen zwischen der lettischen und estnischen Mehrheit und der deutschen Oberschicht waren auf Jahre vergiftet.

In dieser Lage besann sich die Livländische Ritterschaft auf eine neue Reformpolitik für die Region. Lettische und estnische Vertreter sollten in neuen Gremien – dem Bezirkstag und der Provinziallandschaft - paritätisch mitarbeiten dürfen. Bemühungen um eine livländische Kreisreform waren zwar schon 25 Jahre zuvor gescheitert, nach der negativen Erfahrung mit der staatlichen Bürokratisierungs – und Russifizierungspolitik erschien es aber möglich, dass gemäßigte lettische und estnische Politiker zu Kompromissen bereit sein könnten. Es ging doch auch ihnen um die besondere Region „Ostseeprovinzen“. In Verhandlungen mit russischen Regierungsstellen bestanden die ohne estnische und lettische Partner allein verhandelnden Vertreter der Ritterschaft allerdings darauf, dass die Dumawahlen von 1906 an den baltischen Provinzen vorbei geleitet werden sollten – die lettische und estnische

Abbildung 1. Fürst Paul Lieven als Landmarschall von Livland (1821.-1881) [23]

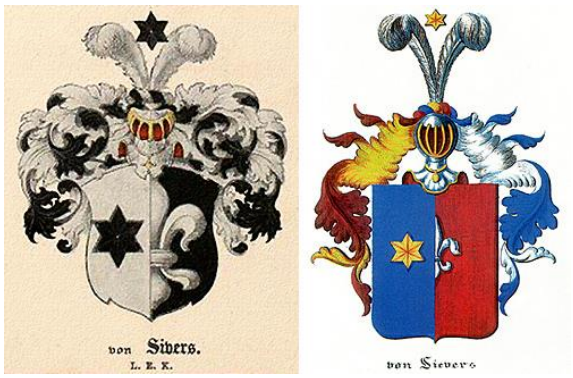


Abbildung 2. Wappen der Familie von Sivers [https://upload.wikimedia.org/wikipedia/commons/e/e7/Sivers_wappen.jpg]

Abbildung 3. Wappen der Familie von Fölkersahm [https://de.wikipedia.org/wiki/Datei:F%C3%B6lkersahm.jpg]

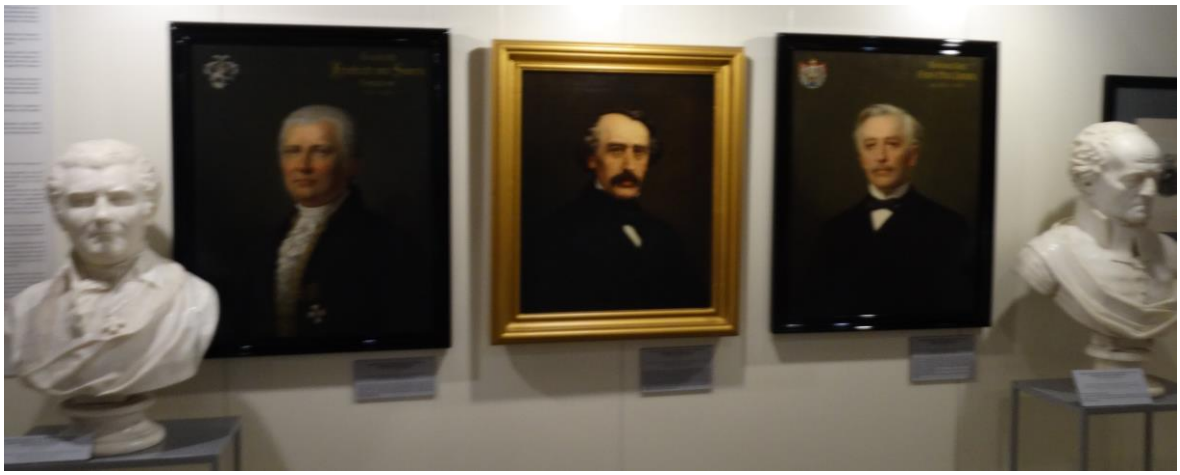


Abbildung 4. Drei livländische Landmarschälle, die sich um die Lösung der Agrarfrage in Livland verdient gemacht haben: Friedrich Wilhelm v. Sivers (1748-1823), Hamilkar Baron Fölkersahm (1811-1856) und Paul Fürst Lieven (1821-1881) [Autor Foto,die Ausstellung im Museum Cesis, 2015]

Bevölkerung habe in der Revolution überwiegend ihre Unreife bewiesen und keine Dumawahl verdient, bei der nur die Linken gewinnen könnten [20]. Dieser Argumentation folgten keine estnischen oder lettischen Politiker.

Die Ritterschaften konnten sich zwar noch einmal als unbeugsame Verbündete der russischen Kaiserfamilie profilieren und ökonomisch erstaunlich schnell von den Schrecken der revolutionären Krise bis zum Ausbruch des Ersten Weltkrieges im Jahr 1914 erholen. Politische Konzepte, die als tragfähig für die Region angesehen werden konnten, haben sie aus sich selbst heraus aber nicht mehr entwickeln können. Spitzenvertreter der Livländischen Ritterschaft setzten angesichts der Aufteilung Livlands im Jahr 1917 auf die neuen Provinzen Estland und Lettland und angesichts des beginnenden russischen Bürgerkriegs nach der Februarrevolution von 1917 auf das Deutsche Reich, dessen Zusammenbruch im November 1918 sie unvorbereitet traf [21].

Auch für Angehörige der Ritterschaften ist der Antibolschewismus mit dem symbolträchtigen Sieg über die Roten Garden am 22. Mai 1919 in Riga und mit der Teilnahme der Nordlivländer am Estländischen Freiheitskrieg unter Führung des estnischen Generals Laidoner für ihr Geschichtsbild in den

folgenden Jahrzehnten konstituierend geworden [22]. Der Weg in die parlamentarischen Demokratien Eesti und Latvija ist hingegen nur von wenigen Angehörigen der Ritterschaften sogleich bejaht worden. Der Bruch war zu tief. Die Zeit der ständischen Vorherrschaft wurde zur Geschichte und konnte nicht mehr in direkter Anknüpfung traditionsbildend wirken. Die meisten Deutschbalten fügten sich in die Rolle der nationalen Minderheit. Erst die Folgen des Hitler-Stalin-Paktes vom 23. August und 28. September 1939 bewegten unsere Vorfahren, die Heimat nahezu geschlossen zu verlassen.

Literatur

1. Vgl. dazu die Kontroverse zwischen Jaan Undusk und Karsten Brüggemann in der estnischen historischen Zeitschrift „Tuna“ 2000 bzw. 2002. Hinweise dazu in: Forschungen zur baltischen Geschichte 10, 2015, S. 368.
2. Für den Zusammenhang: Von den baltischen Provinzen zu den baltischen Staaten, hrsg.v. Jürgen von Hehn et al. Marburg/Lahn 1971 und 1977, passim.
3. Vgl. C. Leonard Lundin, Finland, in: E. C. Thaden, ed., Russification in the Baltic Provinces and Finland, 1855-1914, Princeton UP 1981, bes. S. 400-402..
4. Für den Zusammenhang (mit weiterführender Literatur): Gert von Pistohlkors, Die Ostseeprovinzen unter russischer Herrschaft (1710/95-1914). In: Ders. Hrsg., Baltische Länder. Berlin 1994, überarb. Nachdruck 2002, S. 266-450, bes. S. 350-373.
5. Neueste Überblicksdarstellung: Anders Henriksson, Vassals and Citizens. The Baltic Germans in Constitutional Russia, 1905-1914.. Marburg/Lahn 2009, passim.
6. Vgl. Gert von Pistohlkors, Tiefgreifende agrarische Umwälzungen und Umstrukturierungen in den neu gegründeten baltischen Staaten Estland, Lettland und Litauen 1919/1920/1922: Motivationen und Ergebnisse bis 1940, in: Karl-Peter Krause, Hrsg., Agrarreformen und ethnodemographische Veränderungen. Wiesbaden 2009, S. 175-205.
7. Für den Zusammenhang: Michael Garleff, Die Deutschbalten als nationale Minderheit in den unabhängigen Staaten Estland und Lettland, in: Baltische Länder (wie Anm. 4), S. 452-550, bes. S. 452-471.
8. Immer noch grundlegend, wenn auch in der Anlage apologetisch: Alexander von Tobien, Die Livländische Ritterschaft in ihrem Verhältnis zum Zarismus und russischen Nationalismus. 2 Bde. Riga 1925, Berlin 1930, passim.
9. Alle Zahlenangaben in der sorgfältigen Diss. von Ernst Benz, Die Revolution von ē1905 in den Ostseeprovinzen Rußlands. Mainz 1990, bes. S. 1-122.
10. Vgl. Die Baltischen Ritterschaften, bearb. V. Ernst v. Mühlendahl u. Baron Heiner von Hoyningen gen. Huene. 2. verb. Aufl. 1973, S. 5-21.
11. Vgl. Die Livländische Ritterschaft, Hrsg., Zur Geschichte der Ritterschaften von Livland und Oesel, Pfaffenhofen/Ilm 1974, S. 183 und 157.
12. Vgl. Hans-Dieter von Engelhardt, Hubertus Neuschäffer, Die Livländische Gemeinnützige und Ökonomische Sozietät (1792-1939). Köln, Wien 1983, passim..
13. Hier und für das Folgende Tobien (wie Anm. 8), bes. Bd. I, S. 78 f., Bd. II, S. 110-115.
14. Vgl. Reinhard Wittram, Die Universität Dorpat im 19. Jahrhundert, in: Zeitschrift für Ostforschung 1, 1952, S. 195-219.
15. Vgl. zu Maurach und Mickwitz: Die evangelischen Prediger Livlands bis 1918, hrsg.v. Martin Ottow u. Wilhelm Lenz. Köln, Wien 1977, S. 333 u. 342.
16. Neueste Darstellung: Gert von Pistohlkors, „Die russische Sphäre: sie lähmt und zerstückelt; sie verwaltet nicht: sie tödtet.“ Die Livländische Konversionsbewegung in Schirrens „Livländische Antwort“ und in den „Materialien“ des Baron Stael von Holstein, in: Anthropologien der Endlichkeit. Für Hans Graubner zum 75. Geburtstag. Göttingen 2011, S. 357-389. Die folgenden Zitate ebd. (Seitenangaben im Text).
17. Zum Verlauf der revolutionären Krise von 1905 grundlegend: Ernst Benz, Die Revolution von 1905 in Estland, Livland und Kurland, in: Acta Baltica XXVIII, 1990, S. 19-167; XXIX/XXX, 1991, S. 117-196.
18. Vgl. Gert v. Pistohlkors, Ritterschaftliche Reformpolitik zwischen Russifizierung und Revolution. Göttingen 1978, bes. S. 131-156.
19. Ebd., S. 156-215.
20. Tobien (wie Anm. 8), Bd. I, bes. S. 442-457.
21. Grundlegend die Darstellung von Arved Baron Taube, in: Von den baltischen Provinzen zu den baltischen Staaten (wie Anm. 2), Bd.I, 1971, S. 97-216; Bd. II, 1977, S. 70-236.
22. Vgl. Michael Garleff, Hrsg., Deutschbalten, Weimarer Republik und Drittes Reich. Köln, Weimar, Wien 2008, passim.
23. https://www.google.lv/search?q=F%C3%BCrst+Paul+Lieven+als+Landmarschall+von+Livland+%281821.-1881%29+foto&hl=lv&biw=&bih=&gbv=2&oq=F%C3%BCrst+Paul+Lieven+als+Landmarschall+von+Livland+%281821.-1881%29+foto&gs_l=heirloom-serp.3...2062.3469.0.3953.6.1.0.5.0.0.125.125.0j1.1.0....0...1ac.1.34.heirloom-serp.6.0.0.qjJ27j95uvs

INFORMATION ABOUT AUTHOR:
Dr. phil. Dr. h.c. Gert von Pistohlkors. Akademischer Direktor außer Dienst am Seminar für Mittlere und Neuere Geschichte der Georg-August-Universität Göttingen. E-mail: pistohlkors@online.de

Kopsavilkums. Vācu muižniecība ieņēma svarīgu lomu Livonijas, Igaunijas un Kurzemes teritoriju attīstībā. Laika posmā no 1870.-1913. g. Rīga bija lielākā eksporta osta Krievijas gurberņā ar 550 tūkst. iedzīvotāju. Pilsētu un lauku iedzīvotāju lielās diferences rezultātā Latvijā spēcīgi attīstījās lauksaimniecība, rūpniecība un urbanizācija. Spēcīgu satricinājumu laiks iesākās ar 1905. gadu, tam sekoja kara gadi, un visbeidzot 20.gs. 20. gadi, kas noslēdzās ar agrāro zemes reformu Igaunijā, Livonijā un Latvijā.Vairāk nekā 30 tūkst. vāciešu, īpaši vācu bruņniecībai piederošās ģimenes, pameta jaundibinātās brīvās Baltijas valstis, un devās galvenokārt, uz t.s. Veimāras Republiku.

Creativity of the German Park designers of the end of 18th-19th centuries

Kishchuk Alla Afanasyevna, *Nevsky Institute of Management and Design, St. Petersburg*

Abstract. In the Western Europe in the transition from the regular style of the landscape art to the landscape, highlighting a new man's attitude to the surrounding nature, pronounced planning and volumetric-spatial techniques appeared, characterizing this new style. Such techniques are as follows: vista; the compositional center in the form of buildings or any small architectural forms; open spaces of clearings; plantings, surrounding the small architectural forms or buildings; the line of beauty; "Repton's method". Some of these techniques, through modifications came from the regular style of the landscape art – for example, a vista, an open space of a clearing or compositional center of the landscape. Other techniques independently appear only in landscape parks.

Key words: the longitudinal axes, the compositional center, the staffage of the park, the small architectural form, the planning technique.

Introduction

The vista is an elongated open space of planning and volumetric - spatial longitudinal and transverse axes of regular parks. Unlike the latter, its boundaries are formed by a dense park array of freely growing trees, but instead of paving there is a lawn.

The open space of clearings - an equivalent of parterres – decoratively-arranged lovely planes of land, but only in this case with a lawn surface. The compositional center is almost always a mandatory closure of the perspectives of the transverse or the longitudinal axes of the layout of the old parks. Only in the new style, all the park buildings or the small architectural forms get their own selfmeaning with each of their semantic meaning. Quite often, their set and the number turn them into staffage of the park. However, the compositional center of the park landscape in the form of any buildings, sculptures or the small architectural forms is becoming the most favorite technique for landscape parks so far. The plantings, surrounding the small architectural forms or buildings – it is like the same theme of the compositional center in the landscape, but in such a landscape, above all, prevail various plantings, decorating a smaller scale architecture, sculpture or the small architectural form. The line of beauty is a purely planning technique. It characterizes the drawing of roads, canals, streams, reservoirs and their waterfronts, etc.. The line of beauty is S-shaped curved line, introduced by Hogarth, the outstanding English artist of the 18th century, in his book "The Analysis of Beauty" [1]. This line has been widely used in the works of park designers, who introduced a new style of landscape parks in the Western Europe.

"Repton's method" specifies a direct work on the park landscape. In this case, one drawing of the current situation of the park landscape is made,

Fig. 1. The regular park Kew in London
[Source: photo from author private archive]

Fig. 2 . The open space of parks Kew in London
[Source: photo from author private archive]

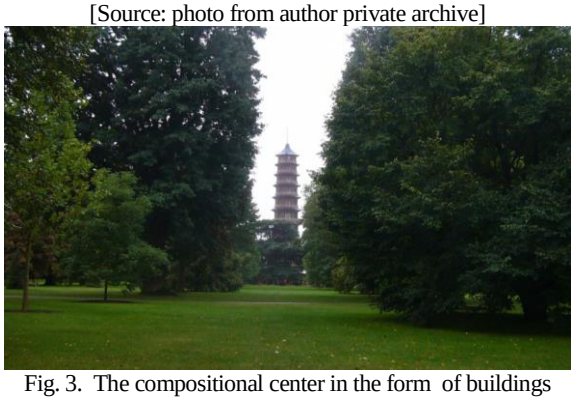


Fig. 3. The compositional center in the form of buildings
[Source: photo from author private archive]

Fig. 4. The dominance ofarchitectural forms
[Source: photo from author private archive]

Fig. 5. Landscape before reconstruction.
"Repton's method"
[Source: material from author private archive]

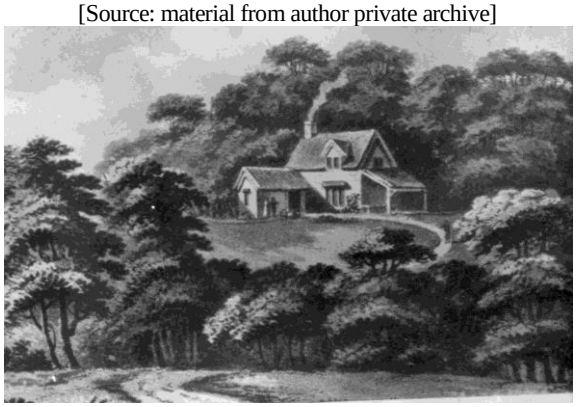


Fig. 6. Landscape after the modification."Repton's method"
[Source: material from author private archive]

Fig. 7. Character of the line. Garden in Schwetzingen.
F.L.Skell [Source: photo from author private archive]

Fig. 8. The medow in the parks. Garden in Schwetzingen.
F.L.Skell [Source: photo from author private archive]

Fig. 9. Compositional center of the parks in the small
architectural forms. Garden in Schwetzingen.
F.L.Skell [Source: photo from author private archive]

F ig. 10. The picturesque view. Garden in Schwetzingen.
F.L.Skell [Source: photo from author private archive]

but the other drawing gives a presentation on how this landscape will look like in the future. In his book on the theory of landscape art, H. Repton has compiled the whole experience not only for his work in the field of park design, but its predecessors as well [2]. This method, without knowing its origins, is often widely used at present when creating or rebuilding landscape sites. It's true, in this case, the natural drawing of the landscape is now replaced by a photo and on its basis sketch proposals are made to create a new landscape.

Materials and methods

The assessment of these techniques on the example of creativity of the German park designers of the end of the 18th - 19th centuries - F. L. SCKELL, P. J. LENNÉ, G. L. PÜCKLER von MUSKAU will contribute to the success of the conservation and restoration of park ensembles of the cultural heritage in Russia. This is due to the fact that these techniques are the same for all the countries of the European continent, including Russia.

The review of creativity of the German park designers of the end of the 18th - 19th centuries is not accidental. All three park designers are actually the same generation, all, each in his own way, introduced their considered techniques in parks they created. Each of them, to varying degrees, went through the school of the new landscape trend directly in England, which was a forerunner of the landscape style in the Western Europe. All of them survived the Napoleonic wars, as well as started or continued their creative work after the accession of peace in Europe.

Germany as a country was a fragmented country until the end of the 19th century and represented the amount of lands that belonged to the kings, dukes, princes, electors, landgraves, barons, bishops, etc. In principle, each of the owners of their lands to demonstrate their importance considered it their duty to arrange a wonderful park, reflecting all the fashion trends. Each of the three park designers was a pioneer of the landscape style of the landscape art in Germany, each working on their lands. F.L. Sckell created new parks or reconstructed parks of the regular style mainly in Bavaria or on neighboring lands. P. J.Lenné - particularly in Prussia. G. L. Pückler von Muskau, as a prince and the owner of his own land, began his work as a park designer with the transformation of the landscape around his castle in Bad Muskau. Each of these creators of landscape parks was familiar with the works of their contemporaries, but only along these lines. It is true that G. L. Pückler von Muskau was even a rival of P. J. Lenné in Potsdam when creating Park Babelsberg.

Friedrich Ludwig von Sckell (1750-1823) is descended from a family of gardeners. He was trained in the Court Market Garden in Schwetzingen, where his father worked. Then he studied in the German town Bruchsal, as well as in France in Paris and Versailles. From 1773 to 1777, he was in England busying himself with the new English-style gardening. Upon his return to Germany, he created new and transformed old parks and gardens. In 1803, he was invited to work in Munich, where he got the post of a Royal Court Gardener - Quartermaster.

Fig.11. Peter Joseph Lenné (1789-1866) [Source: photo from author private archive]

Fig. 12.Friedrich Ludwig von Skell (1750-1823) [Source: photo from author private archive]

Fig. 13.Herman Ludwig Heinrich Pūckler- Muskau (1785-1871) [Source: photo from author private archive]

The study of the creativity of F. L. von Sckell on the example of four parks revealed that he had superbly mastered the techniques used to create landscape parks, and repeated them in his work as citations, only slightly modifying some details, but sometimes all of a sudden, he still found interesting solutions of landscape and park spaces.

Results and Discussion

The existing Schwetzinger Park, where F. L. Sckell learned, was arranged in a castle of the 14th century. In the 16th century, it became a hunting castle, but in the middle of the 18th century the park of the castle acquired traits of the techniques of the French Versailles. The landscape of the park on its northern boundary is immediately adjacent to the saved regular planning of the main area of the park and is a natural continuation of it. When tracing the park lanes, the pond waterfronts, the direction of the streams he used "the line of beauty" planning technique. The compositional centers in the park are different buildings, small architectural forms. The park plantings in full frame the small architectural forms and sculpture. From the former planning three lines of the regular part of the park outside the large pond, only two lines have survived, that have turned into vistas. The main vista of the park was a narrow open space as a continuation of the central planning axis. In the park, there are open spaces of clearings even with small hillocks as in the Small Trianon in Versailles, France.

Nymphenburg Castle Park, created in the first quarter of the 18th century near Munich with the participation of the apprentice Le Notre, the creator of the Park of Versailles, met all the requirements to ensure the beauty of this regular park. Most of its area was a forest for hunting, cut by axes - firebreaks, made as alleys. As the central axis, stretching from the east to the west as at Versailles, served the canal in this park.

In the first quarter of the 19th century, the whole forest area of Nymphenburg Park was transformed by F. L. von Sckell in a landscape park. All the historical alleys on his projects turned into vistas, sometimes expanding, they passed into clearings and were supplemented by artificial reservoirs. Vistas and the open spaces of clearings became the most characteristic feature of the landscape part of the park. When creating this park, F. L. von Sckell used all, as in the previous years, but the Repton's method, techniques of organizing spaces of landscape parks.

The urban park in Munich created by F. L. Sckell in the 90s of the 18th century on the instructions of the Elector Karl Theodor of Bavaria almost in the center of the city is actually free from the construction of the area. The park was soon named

Fig. 14. Compositional center of the parks the small architectural forms. Nymphenburg Castle Park. F.L.Skell [Source: photo from author private archive]

Fig. 15. Compositional center of the parks -the small architectural forms. Nymphenburg Castle Park. F.L.Skell [Source: photo from author private archive]

Fig. 16. The compositional conformation of line. Nymphenburg Castle Park. F.L.Skell [Source: photo from author private archive]

Fig. 17. The medow in the parks. Nymphenburg Castle Park. F.L.Skell [Source: photo from author private archive]

Fig. 18. The character of the line of compositional. The Park in Munich. F.L.Skell
[Source: photo from author private archive]

Fig. 19. The dialogue of the line, light and shadow. The Park in Munich. F.L.Skell
[Source: photo from author private archive]

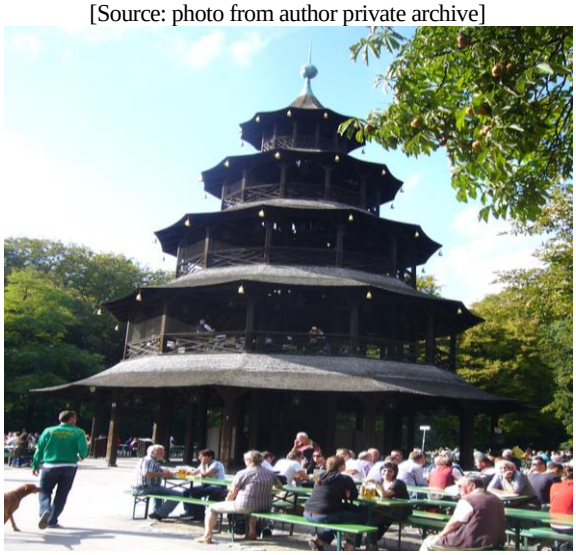


Fig. 20. The pavilion- Compositional center in the Nymphenburg Castle Park. F.L.Skell
[Source: photo from author private archive]

Fig. 21. The Chinese Pavilion- Compositional Center. Schönbuschpark. F.L.Skell
[Source: photo from author private archive]

Englischer Park due to the fact that the master used in it all techniques of the English landscape parks. However, they had been exaggerated and acquired a very large scale, corresponding to the designation of the park, but making it somewhat boring. Huge reservoirs, clearings, park arrays and a network of streams of different widths, get lost in the space of the park. Buildings - large and small ones, as the small architectural forms, like copies of the English park sites, all serve, first and foremost, to meet the needs of the population of a large city and its visitors.

Schönbusch Park in the Northern Bavaria near the town of Aschaffenburg was created by the master in the place of the forest hunting grounds at the request of the Count von Sickingen. The existing array of the forest was divided into direct firebreaks and roads. The park designer turned them into vistas, supplemented by new ones, created reservoirs, a canal, stream, artificial hills, clearings of different sizes, set respective pavilions, gazebos, made a labyrinth in the park. This park was also created, using all the known techniques of organization and planning of volumetric-spatial compositions, like in other parks of F. L. Sckell. However, in this park there is the magnitude, the proportionality of the spaces and interesting landscapes.

Creativity of F. L. von Sckell as a park designer was highly appreciated by his contemporaries. In Englischer Park, even a column was placed in memory of the work of the master in this park, designed by architect Leo von Klenze [3].

Peter Joseph Lenné (1781-1866) as F. L. Sckell is descended from a family of gardeners. He was born in the family of the royal court gardener in the town of Brühl and a lecturer of botany at the University of Bonn. From 1805 to 1808, Peter Joseph began his apprenticeship with his uncle - the court gardener in Brühl. Still learning, Lenné P.J. took a number of trips to the Southern Germany, Switzerland and France. In Paris, he completed his education as a gardener and got acquainted with the questions and issues of architecture and town-planning.

After the Napoleonic wars, already in 1816, P. J. Lenné was invited as the garden apprentice to regenerating and caring for the gardens of Prussia. His first work in Potsdam was the New Garden, then followed other works on the expansion, creation of gardens, parks and squares, not only in Potsdam, Berlin, but also in other places of Prussia.

The New Garden bounded on two sides by lakes, in 1787 was laid out at the behest of King Frederick William II as a landscape park. When it was renewed, Lenné P. J. expanded the clearings,

removed a number of overgrown fruit gardens, opened the waterfront views and outlined the visual links between the castle buildings of different waterfronts of the lakes. In his work, he was naturally guided by all the methods except "Repton's method", used to create landscape parks.

In 1824, at the behest of Prince Carl of Prussia, a park was laid out by Lenne P.J. around a small hunting palace at Glienicke, built by the prominent German architect K.F. Schinkel [4]. Near the palace, like its scale, the layout of the park is fragmented - lots of lanes. On the way, it is possible to view all sorts of the small architectural forms that fit in the space of both the vista and a small clearing. They are the compositional centers of selected landscapes or hide in the rising close to them plantings. At this park, it is possible to view a full set of techniques of landscape parks, but due to the fragmented layout and a partial disclosure of the space of the park in the direction of the lake all these techniques in Glienicke Park are chamber-like or fragmented in their character.

The most important work of the park designer, of course, was his work in Potsdam with the completion of a complex of parks of Sanssouci. Skillfully and seamlessly, Lenné P. J. connected the regular part of the park with the landscape by creating separate compositions, being able to also combine regularly planned areas with the landscape surroundings. The techniques used by him in the creation of the landscape of the park got an enlarged scale there. From here, very large spaces of clearings stretched in the area of Charlottenhof.

In 1830, at the behest of Princess Augusta, the wife of the future Kaiser Wilhelm I, a park was laid out around the construction of the Babelsberg castle in Potsdam. From 1833 to 1839, Lenne P. J. engaged in tracing roads in this park on the slopes of a high hill in its area, defined the open spaces of the clearings, the closed spaces of groves, disclosed park spaces in the direction of the lakes and the river, using his knowledge of the techniques for creating landscape parks.

Creativity of Lenne P. J. as a park designer and city planner is characterized by high professionalism, rationalism, his handwriting in modifying known techniques, which, unfortunately, does not always give a positive result.

As creativity F. L. Sckell in Bavaria, so the work of Lenné P. J. in Prussia was highly appreciated by his contemporaries and the later generations. In honor of him, in his two parks his busts were erected, but in the passage of the Babelsberg castle his portrait, executed in ceramics, is chronicled.

In 1842, Pückler von Muskau, as already known specialist in the field of park design, was invited to see Babelsberg Park. He took the place of the Lenne P. J. and, thus, Babelsberg Park later became a work of landscape art of two masters.

Fig. 22. The character of relief of meadow. Castle Babelsberg castle. P.E.Lenne [Source: photo from author private archive]

Fig. 23. The dynamics of line. Babelsberg. P.E.Lenne [Source: photo from author private archive]

Fig. 24.The compositionally opened landscape. Charlottenhof. P.J.Lenne [Source: photo from author private archive]

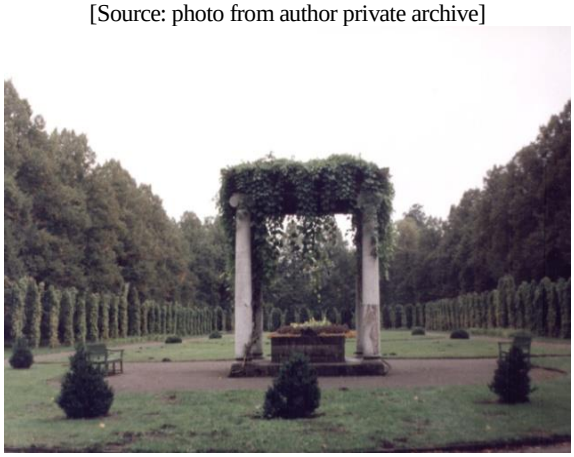


Fig. 25 The compositionally closed landscape space P.J.Lenne [Source: photo from author private archive]

Prince Hermann Ludwig Heinrich von Pückler-Muskau (1785-1871) was one of the most outstanding personalities of the 19th century in Prussia. He was not a professional in the field of horticulture, but he became such one. He created two own parks (Bad Muskau and Branitz), finished Babelsberg Park in Potsdam, Germany, formed a firebreak in the beech forest at the Ettersburg castle and participated in the transformation of the Bois de Boulogne, near Paris. In his work, he was assisted by the gardeners - Jakob Heinrich Roeder (1790-1852) and Carl Eduard Petzold (1815-1891).

Hermann von Pückler-Muskau traveled quite a lot, he visited England many times, where he studied landscape parks, he also visited the countries of the Western Europe and the Middle East. This resulted in published notes about what he had seen in different countries. In 1834, as a park designer, he published a book "Guide to Park Design", which covered the creation of the park in his estate of Muskau [5]. With a light hand of the Prince, the floral carpet decoration widely distributed in the parks the Western Europe, is introduced by him into the space of landscape parks, and the small architectural forms proposed in his book to demonstrate flower compositions can be even seen in the floral decoration of the contemporary cities.

Once, Bad Muskau Park had a large area. It consisted of several parks: Castle Park, Mountain Park of the resort and the park area beyond the river Neisse, which currently serves as the border between Germany and Poland. Each of these parks has a pronounced difference from each other, although the same techniques are used to trace roads and lanes, creating vistas and open spaces. Already in this park, Herman Pückler von Muskau refused to use a large number of various staffages of park buildings and the corresponding small architecture forms. In his park, all is rational, all significant. The open spaces of clearings turning into fields are used as farmlands, the vistas in the mountain park provide the line of sight on the forest expanses, the town of Muskau and the castle. Von Puckler Muskau mainly turned his open park spaces into a semi-open, where separate trees or their groups became centers of the composition. His park was not a collection of individual landscape views with techniques of organization of planning and volumes in the park array, but the space with continuously changing landscape views of the park, where there are well-known techniques met. The park scenery became similar to the image centered on landscape in the art of the Far Eastern region. There separate landscapes are associated with each other through contrasting or nuancing natural elements. In particularly difficult cases to him, the master used "Repton's method".

Fig. 26. The compositional center and its framing. Babelsberg. H.L.Pūckel-Muskau [Source: photo from author private archive]

Fig. 27. The meadow-as the central axis. Branitz castle. H.L.Pūckel-Muskau [Source: photo from author private archive]

Fig. 28. Current situation. H.L.Pūckel-Muskau [5]

Fig. 29. The situation of the designed. H.L.Pūckel- Muskau [5]

Branitz Park around the castle near the town of Cottbus occupies a small area. However, it consists of several parts, with different planning and volumetric-spatial solutions. In this park, as in Bad Muskau Park, landscapes become more important, complemented by planning and volumetric-spatial techniques. The most unusual compositional centers of landscapes and spaces in this park are two earthen pyramids, one of which is placed in an open space of the land, but the other - on the water of the pond.

In Babelsberg Park, as already noted, Pückler von Muskau finished the previously made planning solution of Lenné P. J., and created the eastern lower part of the park anew, using the historical techniques and his new ideas of the solution of the landscape park spaces.

In his book, A. Regel noted that thanks to the work of the Prince Pückler around the Ettersburg castle, "the heavy mass of the dense forest turned into a light, elegant, pure picture planting, causing a lot of noise at his time"[6]. This scenery created by Pückler von Muskau, based on the drawing of the vista with its extension at the base, having turned into open spaces even today produces an unforgettable impression. "Repton's method" used by the master gives an idea of what was in this location prior to the transformation of "Pückler's firebreak".

In the Branitz castle, an interesting museum is opened, reflecting the life and work of Prince Hermann Pückler - Muskau, but his portraits can also be viewed in Bad Muskau Park and in the Babelsberg castle.

The examination of the planning and volumetric-spatial techniques used to create landscape parks on the example of creativity of the German park designers of the end of the 18th - 19th centuries, revealed the dynamics in applying these techniques over time, the increasing complexity of their connections with each other and turning into the fragmentation of these techniques when creating individual landscapes.

Refrences

1. **Hogarth W.** The analysis of beauty. "Isskustvo", Leningrad branch. 1987. P. 138-139.
2. **Humphry Repton.** Observation on the theory and practice of landscape gardening/ London. 1805.
3. **Leo von Klenze** (1784-1864). An outstanding German architect. According to his project, the Hermitage in St. Petersburg is built.
4. **Karl Friedrich Schinkel** (1781-1841). An outstanding German architect and artist. According to his project, in the Alexandria Park in Peterhof near Saint Petersburg, a Gothic chapel is built.
5. **Hermann Fürst von Pückler Muskau**. Andeutungen über Landschaftsgärtnerei, verbunden mit der Beschreibung ihrer praktischen Anwendung in Muskau. Stuttgart.1834.
6. **Arnold Regel.** Fine gardening and art gardens. Historical and Didactic Essay. Moscow. Publishing House "Fiton", according to the publication of 1896, 2007. P.293.

INFORMATION ABOUT AUTHOR:
Kishchuk Alla Afanasyevna, Architect, Member of St. Petersburg's Association of Landscape Architects, Professor of Landscape Design at Nevsky Institute of Management and Design, residing at the address: 195027. St. Petersburg, Якорная ул. дом 1, кв. 15. Phone (812) 2277856; cell phone + 7 911 7221670; E-mail: kishchuk-alla@yandex.ru

Kopsavilkums. 18.-19. gadsimts Vakareiropas dārzu un parku stilistikā iezīmē jaunu tendenci, meklējot pāreju no regulāras formas parkiem uz ainaviskiem, kuru izteiksme tiek veidota tuvāk dabai, tā risinot ainavtelpai tuvāku parku kompozicionālo uzbūvi. Ainavparku izteiksmīgumam tiek izmantotas lauces, kas veido gaismas „kabatas", kompozicionālie centri, kuru dominante ir mazās arhitektūras elements vai atsevišķs tēlniecības darbs, atvērtas, garas skatu līnijas no laucēm, norobežojoši stādījumi ap arhitketūras mazajām formām utt. Minēto kompozicionālo paņēmienu pielietojums parkos un dārzos visspilgtāk atspoguļojas vācu arhitektu Peter Joseph Lenné, Friedrich Ludwig von Skell, Herman Ludwig Heinrich Pückler- Muskau daiļradē. Visi trīs vācu arhitekti ir laikabiedri, kuru daiļrade bija saistīta ar jauno ainavu parku izveides stila tendencēm Anglijā. Viņu radošais laika posms bija saistīts ar Napoleona kara vilni, kas vēlās pāri Eiropai.

Līdz 19.gs.beigām Vācija bija sadrumstalota vairākās zemēs, kuras pārvaldīja hercogi, kūrfirsti, grāfi, baroni, pastorāti utt. Katrs no īpašniekiem centās savā zemē iekārtot skaistus dārzus, tā demonstrējot sava valdīšanas laika nozīmīgumu. Vācijā katrs no viņiem darbojās savā reģionā. F.L.von Skell radošais darbs bija saistīts vairāk ar esošo parku rekonstrukciju vai jaunu izveidi Bavārijas zemēs. P.J.Lenne darbība saistīta ar Prūsijas teritoriju. H.L.H.Pückler-Muskau, kuram piederēja lieli zemes īpašumi, savu darbību aizsāka ar savu parku un dārzu ierīkošanu, un vēlāk atraisot radošo daoļradi parku izveidē. Tiesa, viņa radošums bija tik spēcīgs, ka kļuva par nopietnu konkurentu P.J.Lenne, iekārtojot parku Babelsbergā. H.L.H.Pückler-Muskau darbu pamatā ir nolasāmi meklējumi parkus veidot nevis kā atsevišķu mākslinieciski kompozicionālo telpu un elementu savirknējums, bet kā vienoti plūstoša glezniecisku skatu punktu atklāšanās, kas virknējas viena aiz otras parka telpā.

Die Entwicklung deutschbaltisches Kulturerbe im Baltikum 17.-20. Jahrhunderts

Michael Gallmeister, *Deutschland*

Als bekannteste Identifikationsperson für die lettische Geschichte vor 1915 gilt seltsamerweise auch für die viele Letten Herzog Jakob Kettler. Als Nachfolger und Teilerbe des deutschen Ordens, welcher sich im Baltikum bis nach Narva ausgebreitet hat und wichtige Handelsbeziehungen zu Nowgorod unterhielt, kann er ein realtiv unabhängiges Kurland von 1642 bis 1682 führen, bis 1795 bleibt Kurland ein weitgehend unabhängiges Herzogtum, wo schon Riga und der Nordosten 1710 Teil der russischen Ostseeprovinzen geworden sind. In seiner Zeit blüht der Handel auf, Manufakturen werden geschaffen, der Schiffbau intensiviert und gar Kolonien (Tobago und Gambia) gegründet ganz nach dem preussisch brandenburgischen Vorbild, mit welchem seine Dynastie in Verwandschaftsbeziehungen stand [5]. Das im Laufe der Jahrhunderte im Baltikum Schweden, Polen, Dänen, Litauer, und Russen immer wieder die Oberherrschaft für eine kurze oder längere Zeit gewinnen konnten, änderte nichts daran, das bis zum Ende des Zarenreichs, trotz Russifizierung, die Lokalverwaltung von deutscher Sprache, deutschem Recht und deutscher Baukunst geprägt war. Dies hatte klare ökonomische Gründe.Wo man schon in Heinrich des Lettens Chronik seltsame Untertöne zu vernehmen mag, wie z.B. die Frage der Einheimischen was denn die Deutschen hier im hohen Norden suchen würden, ob sie denn Zuhause ihr Auskommen nicht finden könnten, so wird man auch aus heutiger Sicht verstehen, das die Missionisierung und Christianisierung womöglich nur ein Alibi war, um neue Länder zu entdecken, zu besiedeln und im allerdings relativ humanen Rahmen auszubeuten. Dies erklärt dann auch, warum die Grundbesitzer zum Grossteil Deutsche waren, welche sich teils aus dem Ritterorden mit Ländereien versorgt haben oder als Kaufleute sich grössere Ländereien im Mittelalter und später erwarben. Auch das deutsche Stadtrecht mit seinen Zünften und Gilden hat bis Ende der Zarenzeit zu einem überwiegend Anteil von Deutschen als Besitzende geführt und im Nachzug eben auch die darauf zugeschnittene Verwaltung. Einm grosser Teil der damaligen Deutschen kam aus Norddeutschland, einmal bedingt durch die gute direkte Schiffsverbindung über die Ostsee, aber auch durch das immer schon ökonomische Nord – Südgefälle d.h. die schwächeren Einkommensschichten waren im Norden häufiger. So übernahm z.B. Riga auch die Stadrechte aus Norddeutschland, Hamburg, wie soviele andere Städte im Baltikum. Nach der sogenannten Besitzverteilung oder Besitzaneignung im frühen Mittelalter änderten sich die Besitzverhältnisse kaum im Baltikum. Auch wenn es zu verschiedenen Zeiten immer wieder Anregungen gab die Bevölkerung auch auf dem Lande zu germanisieren, z.B. durch Einwanderung deutscher Bauern welchen dann etwas Land zugeteilt werden konnte, bleiben solche Bemühungen meist erfolglos, die deutsche Bauernkolonie Hirschenhof ist vielleicht eine der wenigen Ausnahmen.

Dies hatte langfristig zur Folge das im wesentlichen nur besitzenden Deutsche den Weg ins Baltikum fanden, mit der Ausnahme der allerdings zahlenmässig gerinfügigen Menge der deutschen Hauslehrer welche an vielen deutschen Gutshöfen für die Erziehung der deutschen Kinder verantwortlich waren und somit gleichzeitig frische Kunde aus dem fernen Deutschland ins etwas rückständige und konservative Baltikum brachten. Alle anderen Bedienste auf den Herrengütern der Deutschen mit Ausnahmen vielleicht noch der Verwalterposition, waren im Regelfalle einheimische Arbeiter.

Der Pastorenstand hatte noch eine gewisse Sonderstellung, auch er rekrutierte sich bis ca. 1850 im wesentlichen aus Deutschen, welche oft aus Deutschland einwanderten da dort kaum freie Stellen zu finden waren und hatte mit einem Stück Land und Bediensteten ein ähnliche Stellung wie Deutschen Grossgrundbesitzer.

Zar Peter der Grosse hatte 1709 bei der Einnahme Rigas durch Russland den Deutschbalten eine Garantie für die lokale Selbstverwaltung und für die evangelische Religion gegeben.

Aus dem vom Russischen ins Deutsche übersetzen Wortlaut der Erklärung des Zaren an die livländische Ritter- und Landschaft 12. August 1710: „Wir bestätigen alle ihre wohlerworbene und zu uns gebrachte Privilegia- Statuten, Ritterrechte,

Abbildung 1. Die Territorie altes Kurland und Livland im 17 Jahrhundert [https://de.wikipedia.org/wiki/Kurl%C3%A4ndische_Kolonialgeschichte]

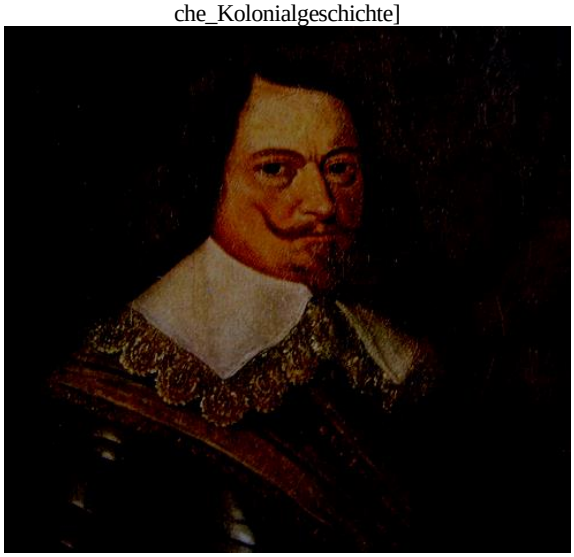


Abbildung 2. Herzog Jakob von Kurland [https://de.wikipedia.org/wiki/Jakob_Kettler]

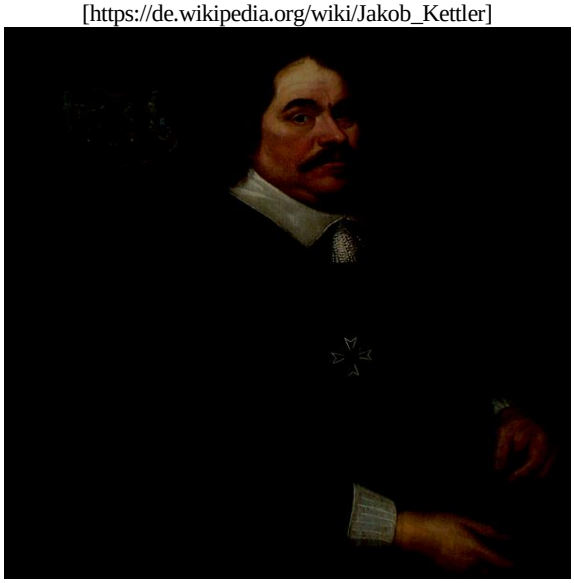


Abbildung 3. Gegner auf Tobago - der holländische (1610–1682). Baron Cornelis Lampsins (1600–1664) [https://de.wikipedia.org/wiki/Kurl%C3%A4ndische_Kolonialgeschichte]

Immunitäten, Gerechtigkeiten, Freiheiten. Rechtmässige possessiones und Eigenthümer, welche sie sowohl im wirklichem Besitz haben und geniessen, als zu welchen sie von ihren Vorfahren her, ihren Rechten und Gerechtigkeiten nach, berechtigt sind, auch versprechen wir, das sie und ihre Nachkommen, wie es denn recht und billig ist, bei dem Alten, vollkommen und immerwährend, von Uns und Unseren Nachkommen sollen erhalten und gehandhabt werden."

Bei all den vielleicht heute kritisch zu betrachtenden Aspekten der deutschen Vorherrschaft im Baltikum muss man aber auch die Situation in den vergangenen Jahrhunderten berücksichtigen, wo der Bauer meist ein armseliges Frondasein fristen musste, die Oberschicht sich abgeschottet hat gegen jede einheimischen „Emporkömmlinge" siehe dazu z.B. die Erzählung Deutsche und Letten, die Frage der Undeutschen und die schon frühen Bestrebungen Garlieb Merkels. Immerhin wurde die Bauernbefreiung 60 Jahre früher im Baltikum (den russischen Ostseeprovinzen), trotz der Zugehörigkeit zum russischen Reich, eingeführt, als in ebendiesem. Die Schulbildung war vergleichsweise zum russischen „Kernland" im Baltikum auch für die einheimischen Letten und Esten zugänglich, wesentlich besser als in Russland durch die gut ausgebildeten meist deutschen Pastoren und wurde zur Pflicht. Am deutlichsten treten uns heute die Zeugnisse deutscher Baukunst, allen voran die Herrensitze, Gutsbesitze und Schlösser vor Augen. Die Gestaltung der Stadt Libau z. B. ist ganz im norddeutschen Stil gehalten mit den vielen roten Ziegelbauten und hat wenig russische Züge. Die Entwicklung des Jugendstils besonders in Riga ist im wesentlichen von Westeuropa bestimmt bis auf wenige russische und skandinavische Einflüsse, wie ja auch die architektonische Gestaltung in Petersburg und Moskau was die Gebäude der Wohlhabenden betrifft, deutlich westeuropäischen Einflüssen unterliegt, da meist Architekten aus Westeuropa federführend bei der Planung und Ausgestaltung waren.

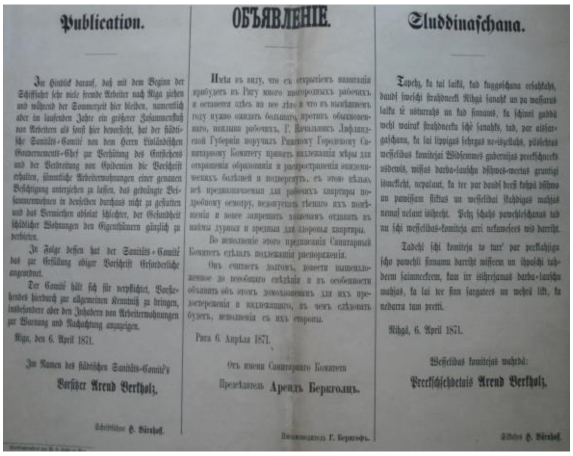
Stavenhagen hat 1857 eine Sammlung von Stahlstichen zu den bedeutensten Schlössern und Gütern im Baltikum angefertigte, welche noch heute eine reiche Quelle für die Geschichte des Baltikums bildet [1]. Aber auch das erschienen Buch von Armin Tuulse, "Die Burgen in Estland und Lettland" (1942.) bildet eine reichhaltige und wissenschaftliche Quelle zur Architekturgeschichte des Baltikums.Ab 1860 beginnt eine Russifizierung das Baltikum zu durchdringen, trotz des Versprechens Zar Peter des Grossen an die Deutschen, deren Lokalverwaltung unangetastet zu lassen, wird zunehmend die russische Sprache in allen öffentlichen Angelegenheiten gefordert. Dies bedeutet auch für die Deutschen im Lande trotz

Abbildung 4. Hoffassade des Schloss Schwitten (1929)
Besitzerin Cācilie von Anrep-Elmpt
[Das Schlossmuseum Rundale]

Abbildung 5.Verwaltungsgebāude in Schwitten (1920)
[Das Schlossmuseum Rundale]

Abbildung 7. Grāfin Cācilie von Anrep-Elmpt.
Foto um 1870 [Das Schlossmuseum Rundale]

Abbildung 6. Rekonstruktionsskizze der alten Herrenhauses Schwitten den Inventarlisten von 1669 und 1736 nach
[Das Schlossmuseum Rundale]



Publication.

In Hinblick darauf, daß mit dem Beginn der Schifffahrt sehr viele fremde Arbeiter nach Riga ziehen und während der Sommerzeit hier bleiben, namentlich aber im laufenden Jahre ein größerer Zusammenfluß von Arbeitern als sonst hier bevorsteht, hat der städtische Sanitäts-Comité von dem Herrn Livländischen Gouvernements-Chef zur Verhütung des Entstehens und der Verbreitung von Epidemien die Vorschrift erhalten, sämmtliche Arbeiterwohnungen einer genauen Besichtigung unterziehen zu lassen, das gedrängte Beisammenwohnen in denselben durchaus nicht zu gestatten und das Vermiethen absolut schlechter, der Gesundheit schädlicher Wohnungen den Eigenthümern gänzlich zu verbieten.

In Folge dessen hat der Sanitäts-Comité das zur Erfüllung obiger Vorschrift Erforderliche angeordnet.

Der Comité hält sich für verpflichtet, Vorstehendes hierdurch zur allgemeinen Kenntniß zu bringen, insbesondere aber den Inhabern von Arbeiterwohnungen zur Warnung und Nachachtung anzuzeigen.

Riga, den 6. April 1871.

Im Namen des städtischen Sanitäts-Comité's
Vorsitzer Arend Berkholz.

ОБЪЯВЛЕНІЕ.

Имѣя въ виду, что съ открытіемъ навигаціи прибудетъ въ Ригу много иногородныхъ рабочихъ и останется здѣсь на все лѣто и что въ нынѣшнемъ году нужно ожидать большаго, противъ обыкновеннаго, наплыва рабочихъ, Г. Начальникъ Лифляндской Губерніи поручилъ Рижскому Городскому Санитарному Комитету принять надлежащія мѣры для отвращенія образованія и распространенія эпидемическихъ болѣзней и подвергнуть, съ этою цѣлью, всѣ предназначаемыя для рабочихъ квартиры подробному осмотру, не допуская тѣснаго ихъ помѣщенія и вовсе запретить хозяевамъ отдавать въ наймы дурныя и вредныя для здоровья квартиры.

Во исполненіе этого предписанія Санитарный Комитетъ сдѣлалъ надлежащія распоряженія.

Онъ считаетъ долгомъ, довести вышеизложенное до всеобщаго свѣдѣнія и въ особенности объявить объ этомъ домохозяевамъ для ихъ предостереженія и надлежащаго, въ чемъ слѣдовать будетъ, исполненія съ ихъ стороны.

Рига 6. Апрѣля 1871.

Отъ имени Санитарнаго Комитета
Предсѣдатель Арендъ Беркгольцъ.

Sluddinaschana.

Rihgâ, 6. April 1871.

Wesselibas komitejas wahrdâ:
Preekschsehdetais Arend Berkholz.

Abbildung 8. Ein Beispiel für die Sprachenvielfalt um 1860:
Bild dreisprachiger Ukas [Personalarchiv M.Gallmeister]

grossen Widerwillens sich des Russischen zu bemächtigen um wichtige Verwaltungspositionen weiterhin beibehalten zu können. Dazu hier eine kleine Anekdote aus Hermann Adophis, welcher Stadtoberhaupt in Libau 1887 wurde [6]: “Er hatte mich ruhig in meinem nicht ganz geläufigen Russisch ausreden lassen; dann sagte er in deutscher Sprache, wie denken sie sich das? Einen gleichen Verlauf nahm eine eine Audienz bei dem Gehilfen des Innenministers Plehwe, mit dem einzigen Unterschiede, das er auf meinen Vortrag in russischer Sprache sagte, ist es Ihnen nicht bequemer Deutsch zu sprechen?”

Dieses Beispiel zeigt zwar einerseits die Bemühungen der Deutschen sich der Russifizierung anzupassen, andererseits aber auch die Bedeutung der deutschen Sprache bei höheren Schichten in Russland, welche schon seit Jahrhunderten neben der deutschen

Adelsverflechtung im Hofe auch zahlreiche höhere Positionen im Militär, der Verwaltung, des geographischen Vermessungs- und Ingenieurdienstes sowie in der Ausbildung besonders durch Baltendeutsche besetzen liessen, welche als zuverlässige russische Reichsbürger ein hohes Vertrauen beim Zaren genossen.

Abbildung 9. Zentraler Teil des Schlosses Kautzemünde (1915) [Das Schlossmuseum Rundale]

Abbildung 10. Kinder des Grafen Paul Pahlen im Park Kautzemünde (Alexander, Fred, Peter, Arndt, Ruth; 1910) [Das Schlossmuseum Rundale]

Abbildung 11. Kleiner SAlon im Schloss Kautzemünde (1912) [Das Schlossmuseum Rundale]

Abbildung 12. Park von Kautzemünde mit dem Schloss (1998) [Das Schlossmuseum Rundale]

Dennoch wurde auch an den Universitäten im Baltikum, Dorpat (später im Zuge der Russifizierung dann Jurjew benannt) und Riga die russische Sprache zwingend eingeführt. Dies führte im Gegenzug für die einheimischen Letten und Esten zu einer Möglichkeit, neben der weitgehend versperrten und besetzten deutschen Karriereschiene, über die russische Sprache eine höhere Ausbildung oft auch in Petersburg und Moskau zu erlangen. Einige Letten und Esten sind deshalb vom evangelischen zum orthodoxen Glauben übergewechselt.

Mit dem Beginn der Industrialisierung, welche auch ins Baltikum etwas verspätet einzog, begann sich das Verkehrsnetz zu verändern. Die ersten Eisenbahnstrecken im Baltikum wurden um 1860 gebaut, sie sollten die Verbindung Warschau mit dem inneren Russland befestigen und es folgten nach 1870 der Eisenbahnanschluss nach Libau und Windau.Damit einhergehend begann auch die Warenerzeugung und der Warenumsatz stark zuzunehmen, die Städte wurden immer grösser und der Bedarf an Arbeitern in den Städten wuchs immer mehr und bildete für die Einheimischen eine auch ökonomisch reizvolle Alternative zur schweren und schlecht bezahlten Landarbeit. Diese Wandlung wurde im Baltikum von den deutschen Gutsbesitzern nur schwer wahrgenommen und träge behandelt, was dann 1905/6 dazu führte, das über die Hälfte ihrer Gutshöfe angezündet, zerstört und stark beschädigt wurden, im Zuge der ersten in Westeuropa weitgehend unbekannten sozialistischen Revolution, welche von Petersburg ausgehend sich auch auf grosse Teile des russischen Zarenreichs ausdehnte, und ein Vorbote für die Oktoberrevolution 1917 bildete [2; 3]. Hier muss man anmerken das vermutlich auch durch die stark konservative Haltung des Deutschbaltentums und deren Hilfeersuchen an die russische Regierung, welche dann mit scharen Kosakenverbänden den Austand sehr blutig niederschlug, eine grosse Kluft zwischen Letten/Esten und Deutschbalten gezogen wurde. In gewisser Weise bildet diese Revolution auch den Beginn der lettischen Unabhängigkeit gegen Grossgrundbesitzer, da nach 1919 die Deutschbalten bis auf Restflächen von 50, max. 100 Hektar vollständig vom neuen Staat enteignet wurden. Oft verblieben nur noch die Herrenhäuser im Besitz der Deutschbalten mit einer kleinen umgrenzenden Resthoffläche. Die Wirren des ersten Weltkrieges brachten neben der jahrelangen Zerstörung und Verwüstung auch eine grosse Orientierungslosigkeit mit sich, Jeder kämpfte gegen Jeden und mit Jedem, Deutsche Reichswehrsoldaten als Söldner nach 1918 mit russischen Zarenanhängern unter Awaloff. Lettische Schützen unter Lenin für ein bolschewistisches Riga [4]. Letten und Esten mit der deutschbaltischen

Abbildung 13. Bermondt-Awaloff (1877-1974)
[https://en.wikipedia.org/wiki/File:Bermont-Avalov.jpg]

Abbildung 14. Zerstörter Paulsgnadhof bei Mitau (1919).
Besitzer Baron russischer Abenteurer,
Offizier im 1 Weltkrieg [A.Tomasuns Personalarchiv]

Landeswehr und teils internationaler Unterstützung gegen den russischen Bolschewismus. Deutschbaltische Landeswehr gegen Letten und Esten Ende 1919.

Die durchaus sozialistisch zu nennende Wurzel der lettischen Unabhängigkeit 1905/6 und auch teilweise 1918/19, die daraus erwachsenden Abneigung des neuen lettischen Staates gegen alles Deutsche hat der russischen Okkupation von 1940 und der Einverleibung in die russischen Sowjetrepubliken nach 1945 Vorschub geleistet.

Die Haltung der Letten und auch Esten nach 1919 zu Deutschland und den deutschprachigen Einwohnern im Baltikum verschlechterte sich zusehends und ab 1934 mit der Machtergreifung durch Ulmanis in Lettland begann eine gewisse politische Hetze gegen die Deutschbalten, welche mit dem Umsiedlungsvertrag 1939 ihre Spitze erreichte. Ulmanis wünschte den Deutschbalten ein Nimmerwiedersehen und sie sollen auch all ihr deutschfreundlichen Diener und Arbeitskräfte mit sich nehmen. Das eine solche Einstellung im Zusammenhang mit einem unterzeichneten Friedensvertag und der Stationierung sowjetischer Truppen in Liepaja und Ventspils einherging, verdeutlicht die Unkentniss Ulmanis von internationalen politischen Problemen der Zeit und seine Unfähigkeit diesbezüglich musste er dann auch nach 1942 mit dem Tod in Turkmenistan bezahlen.

Auch wenn nach 1919 die deutsche Sprache in den Städten Lettland immer noch eine hohe Bedeutung hatte, so wurde doch mit zunehmender Nationalisierung diese immer mehr als Gemeingut verdrängt.

Literatur

1. **Stavenhagen W. S.** Album Baltischer Ansichten.Mitau,1857.
2. Zeitung „Proletariāta cīņa", Peterpils, 28.Sept.1917.
3. Zeitung „Rigaeschen Rundschau". Mārz, 1906.
4. Zeitung „Die Rote Fahne".18 Aprill,1919.
5. Kurland unter dem Einfluss des Merkantilismus, ein Beitrag zur Staats- und Wirtschaftspoltik Jakobs von Kurland, Löffler Verlag Riga 1927 von Dr. Walter Eckert
6. **Adophi H.** Leben, Gedanken, Weltanschauung eines Kurländers (1841 – 1922) Jonck Poliewsky Verl. Riga 1923, S. 82.
7. **Patkul J. R.** Livländische Geschichte. Verlag von Franz Kluge, Revel, 1904
8. **Lancmanis I.** Schwitten.Gross-Bersteln. Das Schlossmuseum Rundale, 2003.,S. 3-84.
9. **Lancmanis I.** Kautzemünde. Das Schlossmuseum Rundale, 1999.,S. 3-52.

INFORMATION ABOUT AUTHOR:
Michael Gallmeister, Mag. M.A. Philosophie/Geschichte/Literaturwissenschaft, Deutschland.
E-mail: mgallmeister@baltbuch.de

Kopsavilkums. Vācbaltu kultūras pastāvēšanas laiks 17.-18.gs. deva spēcīgu Kurzemes hercogistes un Livonijas teritoriju attīstību. Šajā laikā uzplauka manufaktūru, ķieģeļu cepļu, ūdensdzirnavu un vējdzirnavu būvniecība. Attīstoties kuģu būvniecībai, veidojās koloniālpolitikas tendences. Sasniedzot Āfrikas krastus, Kurzemes hercogiste sev ieguva kolonijas Tobago un Gambiju. Vāciskās saimniekošanas tendences muižās un pusmuižās ienesa Kurzemē un Livonijā uzplaukumu ne tikai lauksaimnieciskās saimniekošanas prasmē, bet deva pienesumu arhitektūras, glezniecības un izglītības ziņā. Tas pats ir attiecināms arī uz pilsētu apbūvi un parku iekopšanu. Baltijas zemju un pilsētu attīstībai devumu nesa Krievijas guberņas laiks pēc 1795. gada. Pirmo vācbaltiešu kultūras satricinājumu aizsāka 1905. gads, kas nodedzināja daudzas muižas. Daļu no tām izdevās atjaunot, tad nākošais posta vilnis – I pasaules karš, pazudinot vairāku muižu vēsturisko apbūvi, kungu māju interjerus, bibliotēku krājumus, glezniecības darbus. Savukārt, Latvijas brīvvalsts laiks un agrārā zemes reforma ienesa korekcijas muižas teritoriju telpiskajā plānojumā.

Macro meteorology, electricity and micro-gravity of dry landscape in Spain

Cristina Jorge, *School of Architecture, Alcalá de Henares University, Spain*

Abstract. The study of the traditional and contemporary dry landscapes in Spain is divided in three categories: macro meteorology, electricity and micro-gravity. Traditional interventions in arid landscape are: fog catchers, crop hollows and salt evaporation ponds. The research is focused on analysing the normal scale (humans, animals, plants and machines), micro-scale (unicellular beings) and macro-scale (thermodynamic parameters). Contemporary landscape architecture is analysed through red, blue and green infrastructures. Firstly, red infrastructure (dehesa) is the large area of the fertile red soil with green meadow islands used in the park, gardens and green-roof of the Caja Badajoz new headquarters project in Western Spain. Isolated spots concentrate their energy resources providing sustainable landscape for humans, animals and plants and what we contemplate is an archipelago of holm oaks, cork oaks and olives trees over the extensive red humus-rich area underneath the entire unpaved surface, where the potential for vegetation growth depends on the weather conditions. Secondly, blue infrastructure (dry meadows) is the rainwater storage which is distributed under the squares and gardens of horticultural therapy of the Alzheimer Center Reina Sofía Foundation project in Central Spain. Landscape design has been carefully planned to separate plantation areas depending on the amount of water. It consists of rainwater harvesting storages such as an underground water tank (3x3x3 m3) under the public square and drainage cells (50x60x5 cm3) and under the private gardens of the care patient area. Thirdly, green infrastructure (dry-hot valley) is the concentration of plantations which is located in the urban parks, car parks and interior gardens of Córdoba Airport extension project in Southern Spain. The sort of invisibility of the infrastructure employed in the design of landscape airport takes as reference the other invisible world of micro-organisms, subtly insinuates on the free trade treaties and market forces. Despite the scientific classification that maintains apart the studies of electric fields and microbiology, the development of new infrastructures keeps those boundaries blurred. These systems translate the abstract world of electricity or microbiology to the concrete world of landscape architecture and infrastructure design using biological and economic knowledge to allow the subsistence of the arid Spanish landscapes.

Keywords: Landscape Architecture; Electricity; Meteorology; Sustainability: Green-blue infrastructure.

Introduction

The infrastructure supporting dry landscape architecture based on dehesa, dry meadow and dry-hot valley biomes has been broken down into a biological system (types, classes and orders) for the purpose of classifying the soil micro-organisms, water storage and power infrastructure of three landscape architecture projects in Spain.

The landscape interventions demand electricity to activate equipment; gravity to store water; and, finally, the right climatic conditions to ensure fertilisation through seeds transported by the wind. What we find as signs of life in the form of animals and plants (plug-in elements) would be unable to survive without the structural chain of micro-organisms (electricity), such as an electric system.

From the macro to the micro-scale of biological studies, Carl Wosse and George Fox [1] created the three-domain system, based on phylogenetic relationships rather than obvious morphological similarities, dividing life into 23 main divisions, incorporated within three domains: Bacteria, Archaea and Eucarya.

Furthermore, another micro reference has been found in the form of a new species of bacteria living in California's Mono Lake. This species is the first known life-form that uses arsenic to make its DNA and proteins; so it is possible to find potential life in dangerous and unexpected landscapes. Consequently, the definition of waste ground awaits a future use and could be a refuge for the Earth's biodiversity due to the absence of any human presence.

From the micro to the normal-scale of energy system, Pierre Verger [2] has written in the book Ewe, the Yoruba people's plant classification system which is different to that used by western botanical institutes and Carl von Linnaeus. The research for Ewe was undertaken in West Africa in a cultural universe established through oral traditions, where values differ from those of a civilisation based on written documents.

But knowing the scientific names of a plant is not enough, because each plant may have different attributes depending on the interchanges (seeds, minerals, microorganisms, etc.) with plants around it. It is therefore crucial that plants are not just catalogued taking into account their formal properties on a stand-alone basis. A plant may be compared to a letter of a word which is insignificant on its own, but when joined with other letters contributes to the meaning of the word; so the inter-connection of living species ensure survival landscapes can be maintained and sustained.

Fig. 1. Water Farms, El Hierro, Canary Islands, 2015
[Source: photo from Cristina Jorge private archive]

Fig. 2. La Geria, Timanfaya Natural Park,
Lanzarote, Canary Islands, 2015
[Source: photo from Cristina Jorge private archive]

From the normal to the macro-scale of thermodynamic parameters, Peter Sloterdijk [3] proposes a sphere metaphor which is a means of updating the topos and calls for a threefold inquiry – microspherological, macrospherological and pluripherological – into the three gradients of spherological reason (bubbles, globes and foam) which are used to explain human spaces. He also defines the creation of an "ontological constitution" that would incorporate all beings (humans, animals, plants and machines).

In the beginning, the shape of the topos was predetermined, but as times goes on, the contours of this form blur in the natural process and takes shape not only on a drawing plan, but on site; so a landscape project can generates a variety of atmospheres where wind can be moderated or increased.

Research and methodology

The study of these hidden structures in landscape science is divided into three categories: micro-gravity, electricity and macro meteorology. In the traditional dry landscapes of Spain we can see how the design follows the climate and topography in the following cases: fog catchers, crop hollows and salt evaporation ponds [4].

The research focuses on analysing the micro-scale (unicellular organisms), the normal scale (humans, animals, plants and machines), and the macro-scale (thermodynamic parameters).

The three-domain types at the micro-scale comprise a biological classification that divides cellular life forms into archaea, bacteria and eukaryote domains. Each of these types of micro-organisms has a different level of resistance to the environmental conditions found in the dehesa, dry meadow and dry-hot valley biomes.

The two normal-scale domain classes refer to endogenous and exogenous materials in each design project.

The four macro-scale domain orders take into account the action of climatic elements: wind, mist, rain and sunlight.

Traditional landscape architecture in arid landscape of Spain

The irregular nature of rainfall, the lack of the resources in the subsoil and the desire of generate water sustainably are the challenges of these traditional techniques in Spain, especially in Canary Islands.

1. Fog catchers. El Hierro, Canary Islands

Water farms are groups of NRP 3.0 fog collectors at three location on the island of El Hierro (Binto, Malpsa y Ajonce). They are used for the production of large volumes of high quality water, for forest uses such as reservoirs or dams supply to store water in periods of fire, reforestation and surveillance areas; for agro-livestock and even for isolated villages.

This will ensure the presence of water in the mountains which makes unnecessary the expense of other emergency cost, such as water pumping to the forest area. They are a system of meshes woven with strips of high-density polyethylene which are exposed to the prevailing direction of the fog. These mists are usually due to low clouds that are carried by ocean winds to landfall. In the Canary Islands, these clouds formations stratocumulus are called Sea of Clouds. It is an example of macro scale of meteorology linked with the use of the wind to generate water instead of electricity.

2. La Geria Crop Holes, Lanzarote, Canary Islands

The cultivation of grapes vines in Lanzarote takes place in large holes dug out of a volcanic substrate at the border of the Timanfaya National Park. Local farmers could sidestep the problem of Lanzarote's extremely low rainfall. These circular holes vary in size from three to eight meters in radius, and from one-half to two meters deep.

The lateral slopes are covered by 20-cm layer of volcanic sand in grains between two and seven mm large, which makes a continuous covering to prevent problems such as the appearance of weeds and to avoid soil erosion. In the upper part circular walls made of volcanic rocks are built perpendicular to the direction of the prevailing wind in order to stop the storm and protect the vines [5]. It is a sample of the normal scale of energy systems related with the use of endogenous and exogenous materials.

3. Bañaderos Salt Pans. Gran Canaria, Canary Islands

Salt evaporation ponds are shallow artificial ponds designed in circular shape to extract salt from sea water and other brines. The extraction process of double vessel has a place where the water is concentrated named "cocedero" and another site where the salt crystalizes called "maretas" (1-13 square meters). The ponds are separated by levees.

Bañaderos salt pans were built in the 17th century and are one of the last vestiges of salt evaporation ponds built on the model of primitive on rock salt evaporation pond. This process is linked with the extraction of waterproof materials: stone, mud and lime. In salt pans design, the circle of maretas follows topography, moving away from runoff. It is a case of micro-gravity as the need of water storage.

Due to variable algae concentration, the color of evaporation ponds, which indicates the salinity, varies from pale green to bright red. Microorganisms change their hues as the salinity of the ponds increases. In low-to-mid-salinity ponds, green algae such as *Dunaliella salina* are predominant; while in middle-to high-salinity ponds, *Halobacteria* in the group of halophilic *Archaea* shift the color to pink, red and orange.

Contemporary landscape architecture in arid landscape of Spain

1. Dehesa landscape architecture of park, gardens and roof of Caja Badajoz (Badajoz, Spain)

Dehesa. Red infrastructure (humus earth). The large area of fertile red soil with green meadow islands is used in the park, gardens and green roof of Caja Badajoz's new headquarters in Western Spain (outdoor area = 19,900 m^2 + built area = 33,500 m^2).

Energy resources are concentrated at isolated points, providing a sustainable landscape for humans, animals and plants and what we contemplate is an archipelago of holm oaks, cork oaks and olives trees over the extensive red humus-rich area underneath the entire unpaved surface, where the potential for vegetation growth depends on weather conditions. At the same time, some areas are designed with minimum defined spaces for activities, and do not offer anything other than necessary infrastructural conditions.

Micro-scale (gravity). Domain archaea reference (thermoacidophiles). These species thrive in extremely acidic, hot and moist regions, such as those in and near sulphur hot springs. Other archaea types are the halophiles which thrives in extreme salty environments in soil and in water; and the methanogens which can be found in swamps and marshy environments and are a vital part of sewage treatment and produce biogas. In response to these harsh conditions, rather than employing the usual solution of planting

Fig. 3. Salinas de Bañaderos. Gran Canaria. Canary Islands, 2015 [Source: photo from Cristina Jorge private archive]

Fig. 4. Dehesa landscape architecture of park, gardens and roof of Caja Badajoz (Badajoz, Spain) [Source: photo by Cristina Jorge]

Fig. 5. Dehesa landscape architecture of park, gardens and roof of Caja Badajoz (Badajoz, Spain) [Source: photo by Cristina Jorge]

the extensive green roof of Caja Badajoz with a sedum carpet, the roof is covered with humus earth and a limestone layer and the green areas are concentrated into islands of different sizes and scattered all over the roof.

Normal-scale (electricity). Endogenous and exogenous materials (green islands and red humus-earth stripes). Firstly, the endogenous materials comprise the semi-intensive islands on the green roof, on the park and on the gardens which can be set on small mountains of earth standing 600-800 mm tall for shrubs and 1000-1200 mm for trees. Secondly, the exogenous materials are the part of the

extensive limestone earth roof which can be laid on a growing medium layer of 100-150 mm. The ecosystems of a dehesa biome cannot exist within isolated areas, but must instead be part of a larger environmental framework; an interconnected pattern of natural areas that allows plant and animal species to migrate.

Macro-scale (meteorology). Thermodynamic parameters: Convection (wind). Due to its close proximity to the banks of the River Guadiana and the region's windy climate, many seeds are carried to and deposited on the green roof. Consequently, layers of humus-rich earth exist underneath the entire unpaved ground and not only under the green areas. The initial geometry of islands will change into great continents depending on the wind and the final configuration will be as complex and unpredictable as an original rural landscape.

Natural cooling features are the different types of trees which are distributed in the light of the river bank, the twilight of meadow land and the shadows of shrub land areas. In summer time, the deciduous trees have specific qualities for cooling the atmosphere, shrubs with white flowers in order to reflect the warm sun rays, and evergreen trees that produce considerable evaporation. During cold winters, holm oaks, cork oaks and olives trees have dense fronds that protect from the rain.

I. Dry landscape architecture of the Reina Sofía Foundation's Alzheimer Centre (Madrid, Spain)

Meadows_Blue infrastructure (water). Rainwater is stored under the squares and gardens of the horticultural therapy area of the Reina Sofía Foundation's Alzheimer Centre in Central Spain (outdoor area = 4,000 m^2 + built area = 8,500 m^2).

The landscape design of seventeen gardens including spaces for gardening therapy, growing fruit, vegetables, aromatic plants and fruit trees, a children's garden for visitors and an open-air exercise zone for residents has been carefully planned to separate plantation areas depending on the amount of water. Irrigation is supplied via several rainwater harvesting units such as an underground water tank (3x3x3 m^3) under the public square, and drainage cells (50x50x5 cm^3) under the private gardens of the private patient' area.

Micro-scale (gravity): Domain prokaryote reference (bacteria). They constitute a large domain of prokaryotic micro-organisms and have a number of shapes, ranging from spheres to rods and spirals, without a cell nucleus or any other membrane-bound organelles and provide the nutrients needed to sustain life by converting dissolved compounds such as hydrogen sulphide and methane into energy. From a biological perspective, the Alzheimer Centre was designed based on the recommendations and comments of biologists, doctors and patients, all

Fig. 6. Dehesa landscape architecture of park, gardens and roof of Caja Badajoz (Badajoz, Spain)
[Source: photo by Cristina Jorge]

Fig. 7. Dry landscape architecture of the Reina Sofia Foundation's Alzheimer Centre (Madrid, Spain)
[Source: photo by Cristina Jorge]

Fig. 8. Dry landscape architecture of the Reina Sofia Foundation's Alzheimer Centre (Madrid, Spain)
[Source: photo by Cristina Jorge]

Fig. 9. Dry landscape architecture of the Reina Sofia Foundation's Alzheimer Centre (Madrid, Spain)
[Source: photo by Cristina Jorge]

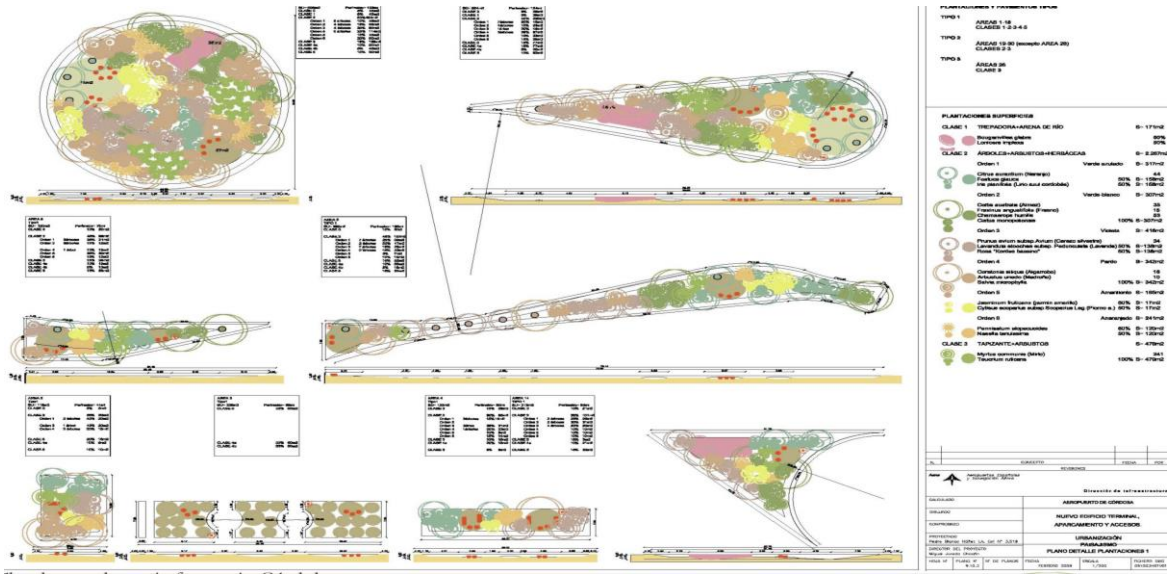


Fig. 10. Dry-hot valley landscape architecture of Cordoba Airport (Cordoba, Spain) [Source: drawings by Cristina Jorge]

The thermodynamic factors in Córdoba are:

- Sunlight (Tmax=46,6°C/T°Min=-11,4°C)
- Wind (VMax=9m/s SSE sum/NNE win)
- Precipitation (605mm/year)
- Humidity (HR Anual= 60%)

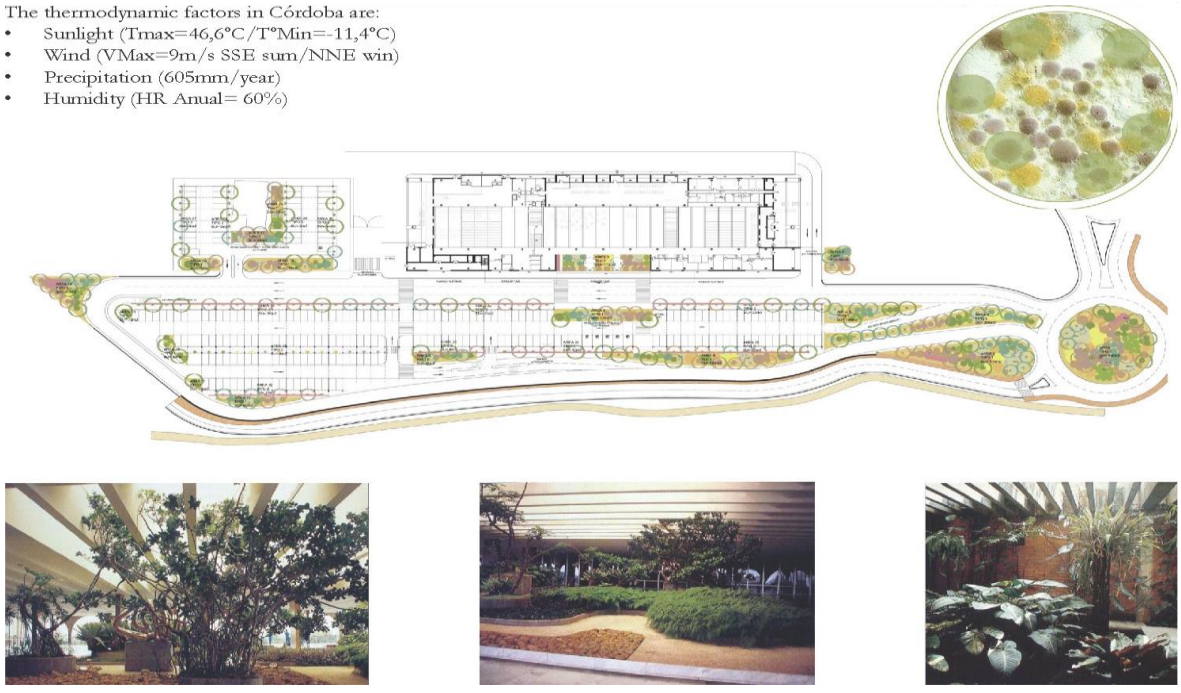


Fig. 11. Dry-hot valley landscape architecture of Cordoba Airport (Cordoba, Spain) [Source: drawings by Cristina Jorge]

Fig. 12. Dry-hot valley landscape architecture of Cordoba Airport (Cordoba, Spain)
[Source: photo by Cristina Jorge]

with the aim of making a positive contribution to patient therapy.

Normal-scale (electricity): Endogenous and exogenous reference (cell water storage in patios and tank water storage in squares).

As endogenous materials, the private patients' area with indirect lighting has six interior gardens for care area unit 1, three interior gardens for care area unit 2 and an interior garden for the day care centre where drainage cells (50x50x5 cm3) drain rainwater.

As exogenous material, the public visiting area with direct lighting has seven exterior gardens for a visitor's zone, an outdoor play area for children,

a horticultural therapy garden and outdoor exercise area where underground water tank (3x3x3 m3) store rainwater. Despite the project design's aim of keeping the hospital area, residential area, cultural centre area and garden area separate, the boundaries thereof merge into each other by way of the outdoor areas.

Macro-scale (meteorology). Thermodynamics parameters (rainfall and humidity/rain, mist, frost). From the meteorological macro-scale covering an area ranging from the size of a continent to the entire globe, to the micro-scale of atmospheric phenomena that range in size from a few centimetres to a few kilometres, the thermodynamic parameters taken into account in the Alzheimer Centre design are: net radiation, sensible heat flux, latent heat flux, ground heat storage, and fluxes of trace gases important to the atmosphere, biosphere and hydrosphere.

3. Dry-hot valley landscape architecture of Cordoba Airport (Cordoba, Spain)

Valley_Green infrastructure (lighting). The concentration of energy resources in plantations are located in the urban parks, car parks and interior gardens of the Cordoba Airport extension in Southern Spain (outdoor area = 25,000m^2 + built area = 8,000m^2).

The invisibility of the materials employed in the design of the airport landscape draws on the other invisible world of micro-organisms, where many protozoan species are symbiotes, some are parasites, others predators.

The lighting gradient varies depending on the proximity to the nearby river. From the diffused light (floodlights) in the interior gardens of the airport to the soft and medium highlight (bollards) of the car park to, finally, the direct and harsh light (streetlights) of the roundabout and highways. Unfortunately, this project to expand Cordoba Airport was cancelled for economic reasons.

Micro-scale (gravity). Domain eukaryote reference (protozoa)**.** They are usually single-celled and heterotrophic eukaryotes containing non-filamentous structures that belong to any of the major lineages of protist. In the natural spaces of the airport, an informal field of different shapes such as round borders, roundabouts and central reservations defines a catalogue of microorganisms shapes, translating the seven main components: cytoplasm, digestive vacuoles, shrink vacuoles, macronucleus, micronucleus, trichocyst and cilia.

Normal-scale (electricity): Endogenous and exogenous reference (3 green classes and 5 mineral classes). The endogenous green features are divided into three classes. Class 1: trees with climbing plants; Class 2: herbaceous with shrubs and trees; and Class 3: ground cover and barks. The exogenous mineral references are separated into five classes from soft to hard qualities: Class 0: hummus earth; Class 4a: gravel and mortar; Class 4b: rocks and mortar; Class 5: sandstone and curbstone; Class 6: concrete and rocks.

Like microorganisms, these features comprise a soft interior with a hard exterior membrane to protect themselves from the environmental conditions. In the Cordoba Airport project, the material transition goes from the riverbank to the concrete runway, and landscape architecture ensures a smooth transition from green areas to car parks.

Macro-scale (meteorology): Thermodynamic parameters (radiation/lightning and volcanic activity). Related to climatic elements, the lightning storm interchanges fluids and also oxidises nitrogen in the air into nitrates which are deposited by rain and can fertilise plant growth. Volcanic activity, meanwhile, is the principal factor controlling the lack of phosphorous in the sea and in the ocean depths. Micro-irrigation, and drip and sprinkler irrigation have an impact on water use efficiency by reducing local non-productive evaporation losses. Beginning with the existing climatic conditions as a point of departure in the airport landscape, the project has defined lighting gradation climatic maps according to the proximity to the river or to the airport building.

Conclusion

These systems translate the abstract world of microbiology. Electricity or macro meteorology to the concrete world of landscape architecture and infrastructure design using biological and economic knowledge to allow arid Spanish biome landscapes to be recreated in a sustainable manner.

In the traditional and contemporary works, the micro-scale is used to analyse the complex geometry in primitive organisms, the normal-scale is applied for the influence of foreign elements in the local landscapes, and the macro-scale is employed as new energy sources from thermodynamic parameters.

From the macro to the normal-scale energy system**,** the world of black boxes (irrigation and lighting equipment) as devices, systems or objects which can be viewed in terms of their inputs and outputs without any knowledge of their internal workings, has infinite cables which are connected to black buildings (power stations) that transform the energy generated by black platforms (solar, wind, biomass farms), also connected by cables. This system of cables creates relationships between all the elements that live and feed though them.

From the normal to the micro-scale of biological studies, the biomass of an ecosystem depends on how balanced and connected its food web is. In the case of a small biome, connected green islands reveal the possibility of using balanced

resources, which consist of the right qualities and proportions of water, drainage, minerals and electricity need to maintain growth: a state-of-the-art laboratory [6].

From the micro to the macro scale of thermodynamic parameters, the original geometry will be affected by the impacts of extreme weather events and the time of day or night; moving away from the desire to impose static order such as rigid geometric design on nature which is rare, and usually temporary. Landscapes are dynamic and the result of physical processes (such as erosion and sedimentation) and biological processes (involving growth, blossoming and decay).

At the different scales, the development of digital landscape architecture helps to make an hybrid of passive and active climatic conditioning which is made possible by advance control technology. This mixed system will promote the expansion of island configurations versus continent landscapes. The use of sophisticated software for climatic variations in normal scale that have been mapped by computational fluid dynamics simulation, in the same way as advanced microscopy and image processing software, is also a critical advance that allows the direct observation of interactions of individual protozoa in spatially complex environments at the micro-scale.

References

1. **Wosse, Carl; Kandler, Otto; Wheelis, Mark L**. Towards a natural system of organisms: Proposal for the domains Archaea, Bacteria and Eucarya. Proc. Natl. Acad. Sci, USA. Vol 87, pp. 4576-4579, June 1990, p.
2. **Verger, Pierre**. Ewe. The use of plants in Yoruba Society, Odebrecht, Sao Paulo, 1995, p.
3. **Sloterdijk, Peter**. Sphere III, Foam, Siruela Editorial, Madrid, 2009, p
4. **Galí-izard, Teresa.** The same landscapes. Ideas and interpretations, Gustavo Gili Editorial, Madrid, 2005, p.45-125
5. **Franco, Orlando; Santa Ana, Mariano.** Paisaje y esfera pública. Centro Atlántico de Arte Contemporáneo, Demarcación canaria del Colegio Oficial de Arquitectos de Canarias, 2008, p.127-130.
6. Ivancic, Aleksanda. Energyspaces. Land&Scapes, Gustavo Gili, 2010.

INFORMATION ABOUT AUTHOR:

Cristina Jorge. Architect Cjcpaisaje (www.cjcpaisaje.com). Landscape Architecture office focus on bank, health, sports and airport facilities ("Dehesa landscape" Grand prix 6th L.A. exhibition Belgrado 2015/ On the move, LAE, 2015/ Biennial L.A.Barcelona, 2014). PhD Professor at School of Architecture, University of Alcalá, Spain (2006-15), at IE University, Spain (2004-2008). Visiting Professor at L.A. department, GSD Harvard University (2015), at TU Graz, Austria (2008), at PUCCAMP-Campinas, Brasil (1999) and FAU Montevideo, Uruguay (1997). Professional Photographer (MAP11 Toulousse 2011/ PhotoEspaña PHE 2015 / Lensculture 2015/ 6º RDVI Strasburg 2016).

Kopsavilkums. Pētījums veikts par trādicionālo un mūsdienu sauso Spānijas ainavu sadalot to trīs kategorijās: lielmēroga meteoroloģija, elektrība un mikrogravitācija (svarīgums). Fokuss pētījumā ir vērsts uz normālā mēroga (cilvēki, dzīvnieki, augi un mašīnas), mikromēroga (vienšūņu organismi), lielmērogā (termodinamiskie parametri) analizēšanu. Mūsdienu ainavu arhitektūra ir pētīta caur sarkano, zilo un zaļo infrastruktūru. Pirmkārt, sarkanā infrastruktūra (dehesa) ir liela teritorija sarkanas auglīgās augsnes ar zaļām pļavu salām, kuru izmanto parkos, dārzos un zaļajos jumtos rietumu Spānijas projektos. Otrkārt, zilā infrastruktūra (sausās pļavas) ir lietusūdens uzkrājēji novietoti zem zemes skvēros un dārzos kādā centrālās Spānijas projektā. Treškārt – zaļā infrastruktūra – (sausā, karstā ieleja) ir urbānajos parkos, autostāvvietās un iekštelpu dārzos koncentrētie stādījumi dienvidu Spānijā, lidostas paplašinājuma projektā. Pētījums atspoguļo slēpto struktūru nozīmīgumu un to sadarbību starp dažādajiem mērogiem konkrētu projektu ietvaros dažādās Spānijas daļās.

2D and 3D modelling in landscape architecture

Barbora Slabeciusová, *Comenius University in Bratislava*

Abstract. In architecture, urbanism, city planning, as well as in landscape architecture we come across efforts to work with complex 3D models, which were created from geometrical 2D and 3D data and semantic data originating from different databases. Concepts of data systems for architectural and urbanistic 2D and 3D models have been already developed, but landscape architecture models still miss clear structure of used input and output data. In our work we decided to study 3D models of private gardens, as we understand this type of space as a significant city making constituent, which can influence its environmental qualities. For the purpose of research 55 private gardens around city Bratislava were chosen. These gardens directly reflect trends in urbanisation of city, transformation of land and the country in the city hinterland. At the beginning we summarized all of the input data landscape architects work with. Studying the output data we tried to point at the use of 3D models of landscape architectonic works not only for presentation of architectonic solution, but mainly for the purpose of planning of urban zones, as all of the models have significant task of data holder. Subsequently simple analyses aimed at environmental qualities of proposals were elaborated. In conclusion of our work we propose the concept of structure of 3D informational landscape model with the particular focus on usage in processes of urban planning. Defined structure of landscape models may be incorporated into existing 2D GIS databases and thus influence the quality of landscape architects work. These complex 3D landscape models can also serve as layouts for updating already existing data in databases and accuracy improvements to 2D models.

Keywords: 3D model, landscape architecure, data structure, private garden.

Introduction

In landscape architecture and planning, as well as in architecture and urbanism, implementing of digital tools and models revolutionized project - making on all levels. New digital tools enabled architects to analyse problems, create their solutions and at the same time better express their ideas [3]. Gradually, digital tools have been developed from 2D into 3D level, while today it is quite common to capture in models time dimension as well [12]. It is common praxis to visualize changes in landscape architectonic works during different seasons of year. Since landscape architecture works with living material, there have not been made perfect systems, which would enable unification of data and easier work with them in the future yet. In our work we aimed at 2D and 3D models which we use in landscape architecture now. In the team of landscape architects, urban planners and designers we studied 3D models of private gardens, which were made between February 2014 and October 2015, as we consider them to be a significant city making constituent. These constituents in large scale effect ecological quality of urban environment. Private garden space is still the least researched and understood habitat in our towns [9], whereas on the level of zone it captures all important information in detail. Therefore we decided to study to which extent existing 2D databases are linked to created 3D models, what the common process of its creation is and what data models can provide for landscape architectonic and planning praxis. This way we tried to point at the use of 3D models of landscape architectonic works not only for presentation of architectonic solutions, but mainly for the purpose of planning of urban zones. This need originates from the fact that in majority of works an emphasis is not put on space such as private gardens, and in urban plans or 3D city models they are only presented as a blank space with vegetation. At the end of research we performed basic analyses of studied models, whereas discovered results point mainly at the need of using 2D databases already on planning stage of urban zones as well as on importance of 3D data in planning and landscape architectonic work. Correct use of 2D and 3D models is one of the conditions for increasing quality of urban environment. This is largely conditioned by creation of structure of input and output data, with which these models work.

Model area

2D and 3D models of gardens, which we evaluated in our research, can be found in broader surrounding of Bratislava. Bratislava is the capital city of the Slovak Republic and it is situated at the border with Austria and Hungary. Thanks to its strategic location it is the city with the greatest number of working opportunities and it is still growing. The particular functional area of Bratislava has gone through a lot of changes in characteristics of its structure in last 10 decades [5]. The development of the area of Bratislava has been effected by intensive house building development. Now urbanization is not characterized only by city and population growth, and dynamism of housing capacities, but as well as by the processes which

influence surrounding of agricultural and natural landscape. As the city is from the northern part surrounded by the massive of The Carpathians, which limit its further development, the city is pushing on rural zones, where new housing zones are being built almost on a green field. The development of build up area is being performed mainly at the expense of agricultural land and on a smaller scale at the expense of natural landscape [10]. This fact is related to the present state of legislative protection of these areas. Bratislava is surrounded by large-area protected localities (CHKO Malé Karpaty, CHKO Dunajské luhy, CHKO Záhorie) and the development of city towards these areas is very complicated for investors. Takeover of agricultural soil on the other side is not secured form legislative point of view to such an extent, so the urban development is understandably being headed this direction [2]. Building up new residential localities in the hinterland of Bratislava is one of the most visible features of suburbanization. Newly build family houses and blocks of flats are not only enlarging villages by new streets, but they are significantly affecting functional and residential structures and are radically changing rural character of villages. On the territory of Bratislava we can distinguish between two main types of agricultural land: large-area arable land and vineyards, mainly on the boundary of the mountain range Small Carpathians and the Danube Lowland. The vineyards situated on the slopes of the Small Carpathians are attractive for building of housing complexes or individual houses with higher standards. With the development of individual housing construction is closely related formation of new gardens and the change in reclassification of arable land into garden lands. 3D models of gardens thus directly reflect trends in urbanisation of town, transformation of land and the country in the city hinterland. This fact intensifies the need to solve the question of quality of the proposal not only from the view of private investor, but mainly to understand private gardens as a significant city making constituent, which can influence its environmental qualities.

As a sample we selected 20 models of gardens made in years 2014 and 35 models of gardens from 2015. Researched models of gardens were divided into three categories according to their position towards the city of Bratislava (Fig.1) :

- A – gardens in build up areas of Bratislava
- B – gardens in developing zones and catchment villages in the circle of 30 km from Bratislava
- C – village gardens

The figure shows also the gardens which were created on fields that were used in the past as

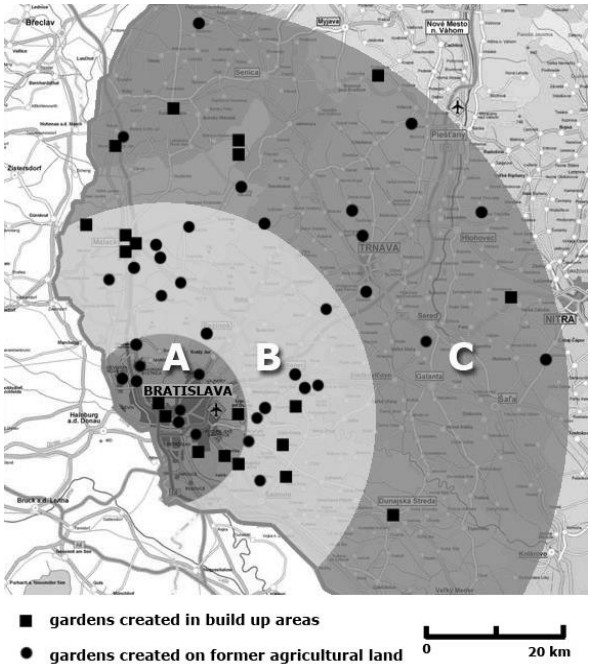


Fig. 1 Locations of gardens related to the capital city of Bratislava - distinguished by colour according to the usage of land on which they were created
[Source: constructed by author, 2015]

agricultural land and gardens which were created on plots classified as gardens in build up areas of towns and villages.

In architecture, urbanism, city planning, planning and researching of landscape we come across efforts to work with complex 3D models, which were created from geometrical 2D and 3D data and semantic data originating from different databases. The same rule applies to landscape architecture. The systematic of models either on 2D or 3D level has not been perfectly worked out yet, as it is for example by BIM modelling [1], therefore we were researching what the best work order of landscape architect during creating 2D and 3D proposals of gardens is. In the first step we were trying to find out the input data landscape architects work with. The second step consisted of analysis of particular 2D and 3D models of gardens with an individual regard to their further use because we assumed that their elaboration will go into details. Subsequently we elaborated simple analyses aimed at environmental qualities of proposals. In conclusion we propose the concept of structure of 3D informational landscape model with particular focus on its usage in processes of urban planning.

Input data used while creating 2D and 3D landscape models

2D and 3D models in the great majority are being created on the basis of databases and different types of information, which were made for various purposes. Besides this fact, we expect from them a high degree of complexity and interoperability, because when planning territory on any scale it is

important to take into consideration not only architectural requirements, but at the same time economic, sociologic, traffic, environmental and further aspects, too. As complexity is obvious when modelling cities, it has to be introduced into landscape architectonic models if we want them to be compatible, linked with 3D models of cities and they were their equal partners. Information technology and technology of data collection enable faster processing of 2D and 3D models, time; and financial demand has decreased.

Despite above mentioned we face problems when elaborating models together with spatial analyses, for which it is important to gather information from various sources. In general all information which we use at any stage of territory planning consists of 2D map, 3D model, thematic information, historical data, statistical data, elaborated surveys and studies, effective regulations, etc. [7]. Planners and architects can get to these data individually and combine them manually, thus time and financial demand of elaborated analyses is increasing and therefore they are often abandoned. On the territory of the Slovak Republic the central server with data, which would be available from one website, does not exist yet.

In all architectural models, as well as in landscape models the used input data can be divided into two basic groups:

A. Spatial data – they usually describe physical structure and spatial geometry in 2D and 3D dimension. Spatial data contain geospatial information, digital model of terrain, topographic and altimetric data of buildings in space. These data are mainly limited by 2D and 2.5 D representation. Advanced tools of collecting data enabled collecting of spatial data more effectively and their conversion into 3D formats. In dynamically growing settlements as our area of interest is, it is not always possible to capture all changes in an area, so architects and planners are often made to work with outdated data. It is important to note that for models of gardens are needed detailed spatial data and materials with high level of detail.

In common praxis every landscape architectonic proposal originates from 2D layout supplied by the owner of land. The 2D layout is mainly a copy of a map from Slovakia Land Registry which is made in the scale 1: 500 (Fig 2). The electronic Land Registry has been operating since 2004 and gradually it is being digitalized [4]. In the Registry it is possible to look up parcels according to their numbers, but at the same time according to their owners and the Registry is available for the public. Disadvantage of these layouts are: they are often outdated as the Registry is being updated very slowly, in its database false data are often included. In such layouts landscape architects miss important

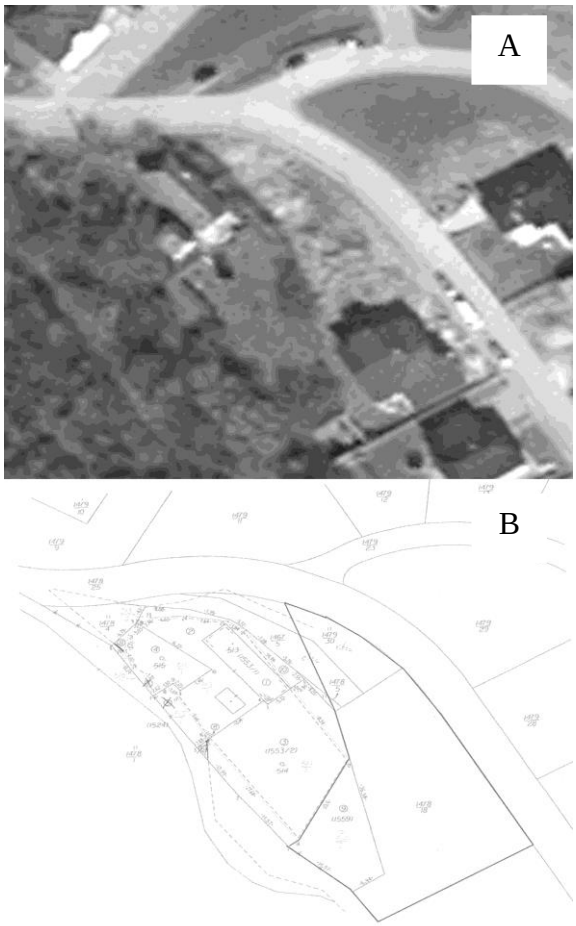


Fig. 2 Combination of Spatial input data used for creation of 3D garden models. A – aerial photoscan with position of important buildings, B – MAP from land registry [Source: geosense and slovakia land registry, 2015]

data about terrain slopes and about small architecture on plots, often we miss also the exact position of important buildings as houses (Fig 2). The problem is often being solved by plot manual re-measuring or by available combined methods. It is mainly combination of methods of aerial photo scanning (Fig. 2) and surveying with a laser distance measurer as photo scans are more updated than cadastre maps and they are available online, too. By combining photo scan, cadastre map and own measuring, a detailed layout is being created, in which all important data are noted. In this way data are being completed. They are captured in a way so it would be possible to work with them – the basis of database is being created to work out any 3D model. Data about altitude are often missing, because DTM – digital model of terrain is for the teritory of Slovakia made only in a scale 1:10 000 and for the level of zone is not usable [11]. Architects have to rely on data provided by clients, alternatively it is needed to carry out own geodetic measurement.

We evaluated the selected sample of models from quality point of view and complexity of input spatial data. The results are shown in Table 1.

TABLE 1

Input data used in 3D landscape model creation [Source: construction by author]

	Data characteristics		Usage by garden category			Problems of usage of data
Type of input information	Scale	Source	A	B	C	
A. SPATIAL INPUT DATA						
2D layout	1:500	Land Registry	85%	67%	42%	Out of date information
Complete topographic data	1:200 1:500	Manual measurings	70%	42%	41%	Manual and time consuming
Complete altitude data	-	Manual measurings	65%	57%	23%	Expensive in difficult terrain conditions
DTM	1 :10 000	May vary	0	0	0	Unsuitable scale
Photoscan	1: 10 000 1: 5000	GoogleEarth Geosense	25%	51%	74%	Sometimes out of date information, in rural areas missing information
3D models of buildings	-	Architectural studios	56%	45%	12%	Compatibility problems, protected by author´s rights
B. THEMATIC INPUT DATA						
Semantic data in text form (vegetation, soil types, weather conditions, etc.)	-	May vary	16%	36%	55%	Difficult accessibility
Soil and bedrock maps	1: 10000 1:5000	Registry of soils	0	0	0	Difficult accessibility
Water maps			0	0	0	Poor accessibility
Potentional natural vegetation map	1: 50 000	Atlas of slovak landscape	0	0	0	Poor accessibility, unsuitable scale

We can say that most of models were created on the basis of incomplete data and thus inevitably required manual correction. 3D spatial data were more less exception. In general it was a common praxis that gardens of category A, which were being created next to newly- build houses in the centre of Bratislava city, had accurate layouts. They were accompanied by geodetic surveys. This fact is directly linked to natural conditions of these gardens – urbanization is getting into the Carpathian area – area of vineyards. Almost all of them are on slopes. In many cases these used to be recategorized plots so new measurements and updating of databases were necessary. We can stress importance of data vectorization and importance of making out of complex 3D models by architects not only for visualization purposes. On the other hand gardens of category C presented the highest inaccuracy of input layouts; almost in all cases area and altimetric remeasuring was required, many times as a layout an aerial photoscan was used, too. This fact is directly linked to different periods of updating of Land Registry in villages situated further from Bratislava, which is caused by slower pace of territorial development. As the character of these gardens was more rural, in layouts there was also information about natural conditions, though only in text form. 2D models existing in GIS layers were not used in any of the three garden categories of gardens.

B. Thematic data – describe various themes concerning environment, for which 3D model is being worked out. In landscape architectonic models we speak about data about type of soils, waters, geological bedrock, potential natural vegetation and others (Tab.1). This type of data is usually linked to 2D layout in a form of attributes. Some of data are structurized. However, very often a lot of data can only be found in a form of text or raster files.

Selected samples of models were researched from the point of view of taking into consideration all needed information for creation of garden proposal of high quality. Table 1 depicts that in minimum number of gardens it was calculated with available data and thematic data were hardly taken into consideration. Despite the fact that available data have mutual geospatial information, position of data in space is the only bonding between particular data files, with which 3D models work. It is very important to stress that very common reason for not processing and not taking these data into consideration were the problems originating from variability of software or coordinate systems. In data there were used different coordinate systems; they do not overlap and they are not communicating mutually. Therefore for working out analyses, manual reproduction of data is needed. Advantage is that almost all these data and layouts, from which architects can draw on, can be found in various free available databases and they are public. For landscape creation on the territory of region, layers of GIS are used, but for detailed zones downloading of GIS layers from state servers is not

practical and time inefficient. Table 1 also shows that if the thematic data were taken into consideration, these were mainly data in text and not in graphical form. Another disadvantage is that a lot of data are being created without clear purpose and that affects their structure and hierarchy. However, territory planning requires simple attitude to all kinds of data, whereas various structuring of each layer often disables creating of complex spatial analyses. Problems are also being created while updating or modifying data. The modification is not enabled to planners, which transfers data into static, not adjustable and many times outdated. We suppose that restriction of input data only to spatial, can lead to misunderstanding of area and to creation of artificial gardens. As we have already mentioned in the previous part, garden as a city forming constituent has to originate from natural conditions and has to try to increase its quality. We can conclude that into 3D models 2D dimensional data without attributes and thematic data are entering, because in current systems they are not mutually linked.

Output data of 2D and 3D landscape models

Primary task of all the 2D and 3D model of gardens, which we researched, was to visually present proposal to a private investor. Our work was aimed at models as potentially usable layouts, which contain certain structure of data and the database of information. For each of researched gardens it was created its own 2D model linked to 3D model of level of detail LOD3 and the database of data [8]. Database of 3D model consists of two basic types of data. These are input data, which were taken over from existing databases and data, which cannot be found in existing databases and were implemented in the area by landscape architectonic activity. Equally as at input, output data can be divided into two types – spatial (geometrical) and thematic (semantic) data. Both types of mentioned data are possible to deduce from 3D model by simple exporting. In the following part we will only deal with output data, which can be deduce from 3D models of gardens. Spatial data involve layout of various areas, shape, size of constructions and complete 3D model of terrain, including terrain changes. Thematic data involve type, kind, size of plants, information about the areas of gardens – area of paved areas, planting, information about intensity of maintaining particular areas, permeability of materials, and amount of trucked soil but equally about the change in soil regime. Combined 2D model/3D models of gardens are layouts for processing of irrigation systems.

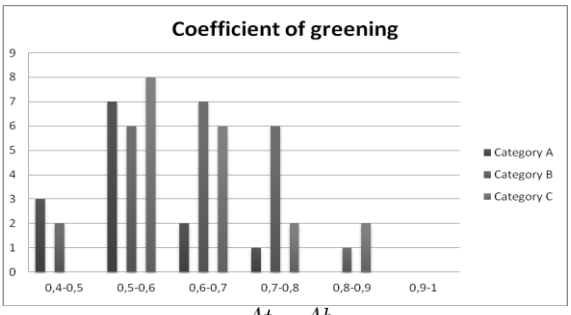
We can say that 3D model of garden has not only presentation function, but it also has a significant task of data holder and is similar to BIM models. The exact structure of input and output data important for landscape architecture is still missing. Creation of accurate structure of these data is important not only for landscape architects and constructers of proposed works, but as well as for urbanists for whom these models are very actual and they are of high informational value. They collect data from several sources and link geometric as well as semantic data within one 3D model. Thus they provide us with accurate data about gardens which have so far been mapped inadequately and in city planning are understood as the green stain on the map.

In works of some authors we often come across an effort to map private gardens with help of aerial photo scanning [9], whereas on the basis of colour of pixels we can identify particular information about constituents of gardens, for example functionality of greenery on the basis of plants connection. Such analyses are very inaccurate and they do not have a big space for further usage, because we work only with raster data. All created models contain several types of information and they have created basic structure of data, based on which we can work further and to create analyses for further degree of landscape architectonic work – by planning new urban zones and by urbanization of rural settlements. 3D dimension enables to analyze changes in environment within a course of years.

Usability of 3D landscape models for planning of urban zones and elaborating of analyses

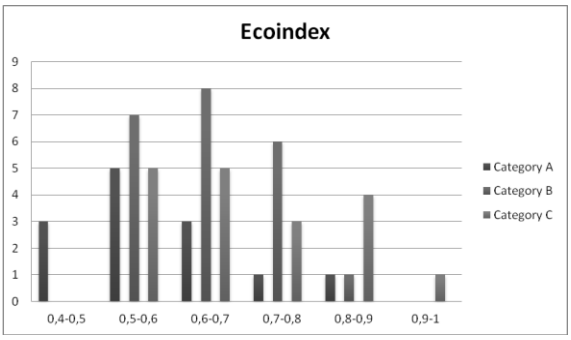
Despite the fact that private gardens significantly contribute to increasing level of biodiversity, in towns they are the least known and the least researched constituents of urban surrounding. The methodology, which would enable to classify and analyse data linked to urban gardens is missing as well. Mapping of parks and public areas of greenery is many times simplier, because they cover large areas and they are publicly available. The latest researches underline individual importance of gardens in urban environment.

Gardens represent micro biotopes, each of them in private ownership. This represents an obstacle in any research. They are living organisms which are not easy to research as constituents of urban structure. Equally almost no regulations and restrictions applied to them, which could influence what can be found in the garden and what does not have to be there, except for small exceptions such as protection of old trees and regulations on the level of zone. As the activities in gardens are not limited at all, their effect is hard to predict and it might be positive but negative as well. 3D digital models of researched gardens enabled us to analyse their quality and find out whether similar research and systematics of data for the need of landscape



$$Cg = \frac{At - Ab}{At}$$

Fig. 3. Coefficient of greening of gardens and formula for its computing [Source: constructed by author, 2015]



$$Ei = \frac{Efx.Ax + Efy.Ay + Efy.Az + ...}{At - Ab}$$

Fig. 4. Ecoindex of gardens and formula for its computing [Source: constructed by author, 2015]

architecture is necessary at all. The analyses of gardens were aimed at factors which are decisive in urban zones planning. As this mainly refers to changes of agricultural land into garden areas, we were interested how the building – up of particular lands has changed.

On the basis of database and output data from models we calculated coefficient of greening, which is currently used when calculating urbanistic regulations (Fig.3). It is a coefficient between area of greenery and area of plot. It is being calculated as a ratio of difference of total (A_t) and build up area (A_b) and total area (A_t). Optimal coefficient of greening (Cg) equals 1; plot with 50 % of build up area has Cg of 0.5. Within the Slovak Republic this coefficient is used mainly when proposing zonal plans [6].

Thanks to the database of models it was possible to calculate Cg of all plots very easily (Fig. 3). The results were surprising, as the average Cg was 0.58 and the values ranged from 0.4 to 0.85. Most of gardens reached the Cg between 0.5 to 0.7, whereas the coefficient of greening was higher only in category C. Such values are for the gardens situated mostly in rural environment low and we can assess that gardens have more urban character and build-up area is relatively high. This way urbanisation is being directly projected into creation of gardens, too. For this simple calculation it is sufficient to work with a model only in 2D dimension. It is not necessary to take into consideration 3D data. However, for calculation of coefficient of greening it was not necessary to take into consideration any further thematic and spatial data.

However, we think that already when planning zones it is important to considerate not only area ratio greenery/paved areas. At the same time we have to consider and regulate the type of planting. Therefore we were interested in quality of individual areas. We tried to discover it through calculation of ecoindex (Ei). We chose classic ecoindex [6] as gardens represent coherent areas, without spacious paved areas with solitary greenery. Ecoindex takes into consideration not only quantitative data, but the quality of planting types, too. Higher ecoindex belong to plots with coherent vegetation, plots with specific types of biotopes such as small lakes and areas with extensive type of maintenance. Calculation of ecoindex should have verified relevancy of results, which we found out when calculating coefficient of greening. It is being calculated as a ratio of total sum of different types of areas (paved area, area with extensive type of maintenance, area with intensive maintenance, shrubs and trees, lakes and rivers) multiplied by set coefficient – eco-factor (E) and difference of total (A_t) and build up area (A_b). Eco-factor of paved areas equals 0, while areas with extensive type of maintenance, lakes and lower vegetation have the eco-factor of value 1. The maximum eco-factor associates with the areas with elderly and grown-up vegetation. Optimal ecoindex of garden equals 1.

We can say that ecoindex for all plots turned out more positive thanks to ratio of high vegetation (Fig.4). It is important to say, that ecoindex is used mainly when assessing areas in urban environment. The average ecoindex of gardens ranged from 0.4-1. The values were thus significantly higher than by Cg. It applied also here that gardens in zone C had higher ecoindex than gardens in zones A and B. Ecoindex is taking into consideration not only areas, but as well as the data which are observable only in 3D dimension. It refers to the size of treetops, value of connection of plants, area of greenery on the roofs and constructions. Equally for calculation of ecoindex it is important to know data about permeability of paved areas and about character and management of planting. Ecoindex does not work with database of woody plants and does not compare database of woody plants to input data about potential natural vegetation, which is not reflected in results. Usage of 3D model for calculation of ecoindex is significant, as we can simulate state of vegetation after passing of certain period of time. Evaluation of similar results is important for planning of city zones and for determination of

TABLE 2

Proposed data structure of 3D landscape model [Source: construction by author]

		Type of data					
		Geometric			Semantic		
Administrative Boundary - Parcel – with number and outline from Land Registry	Item		Input	Output		Input	Output
	00 Terrain	G1 Outline G2 Height G3 Location	x x x	X x x	S1 Change time S2 Volume change data		x x
	01 Buildings	G1 Outline G2 Height G3 Location G4 Roof type	x x x x	X x x x	S1 Erection time S2 Change time S3 Number of floors S4 Type of use	x x	x x x x
	02 Technical infrastracture	G1 Position G2 Outline	x x	X x	S1 Type of infrastructure S2 Protection zone S3Specifications	x x	x x x
	03 Pavements	G1 Outline G2 Height G3 Location G4 Area	x x x	X x x x	S1 Material S1 Rate of permeability		x x
	04 Vegetation	G1 Position G2 Current height G3 Habitus		X x x	S1 Latin name S2 Mature height S3 Current age S4 Mature age		x x x x
	05 Mulch	G1 Outline G2 Area G3 Depth	x	X x	S1 Type of material S2 Intensity of maintenance S3 Rate of permeability		x x x
	06 Water sources	G1 Position G2 Area	x x	X x	S1 Quality of water S2 Richness	x x	x x
	07 Soil	G1 Position of erodic soils	x	X	S1 Type of soil S2 Erosion	x x	x x
	08 Another data	G1 Historic development	x	X	S1 Potential natural vegetation S2 Wind intensity S3 Weather conditions S4 Rain intensity	x	x
	09 Regulation	G1 Position	x	X	S1 Specification	x	x

regulatives. When calculating ecoindex we come across direct need of linking 3D spatial data with thematic data. Thematic data shown in attribute tables of 3D models of gardens, point at factors, which does not take into consideration more complex ecoindex either. Another factor, which we could research thanks to complex models of gardens, was the type of planting and conformity with natural types of vegetation of gardens. In majority of gardens there was high percentage of introduced species of woody plants and herbs. Natural conditions were mostly taken into consideration in zone C gardens, which is directly related to inputs with which 3D models worked. In almost all gardens the soil conditions and water regime were enriched by trucking new soil – top soil for new plants, which are not in the territory natural and for their maintenance there were in 85 % cases proposed artificial irrigation system. Gardens are thus proposed in majority of cases as artificial ecosystems, which have lower precondition to become adequate biotope for organisms. We can say that despite high ecoindex, functionality and significance of these areas do not have to respond to it.

All of these results point not only at the need of creating 3D models because of implementing of third dimension but mainly they point at importance of interlinking the models and databases with 3D models, whereas creating complex landscape architectonic 3D model. Current urbanistic analyses work with greenery only in 2D level and thus important information are disappearing and emphasis is left on quantity, not on the quality of areas of greenery. These simple analyses point at the need of noticing more detailed proposal of gardens and to understand them equally with architectonic works. Thanks to calculated coefficient of greening we can see that proposals of gardens can in a large scale influence important factors,

which effect complex quality of environment. Private gardens can be considered to be the least researched constituents of urban environment, which significantly influence environmental problems of cities. The answer to tackling problems connected with proposals of private gardens is 3D model, in which there is incorporated 2D database. From this landscape architectonic model we can select needed data, to generalize and simplify them in order they were compatible with 3D models of cities. 3D model of city provides unique possibility of changing of scale and increase in detail from the level of zone to the level of city. On the level of zone it is needed high level of detail, which is typical for landscape architectonic models. By linking landscape architectonic 3D models data are being updated. Urban/town models do not have them very often because it is complicated to process detailed models of terrain and paved areas on the basis of existing layouts.

We assume that equally as it is when creating 3D models of cities; it is needed to create a specific framework for working with data for 3D models of landscape architecture (Table 2). Within this framework the basic constituent is an administrative boundary which is understood either as a plot or alternatively as a boundary of zone being solved, or town. The proposed structure was designed according to study of input and output data and models of gardens itself. The structure works also with need to calculate basic urbanistic parameters. To the plot are consecutively linked all important data, which enter into architectonic creation of 3D city models. Data are divided into two basic groups – geometic and semantic. Such defined structure of landscape models may be incorporated into existing 2D GIS databases and thus influence the quality of landscape architect work. On the basis of proposed structure it is possible to take into consideration more aspects when creating regulations and proposals of city zones. Thus private gardens may increase their importance and become a significant city making constituent. The quality of layout and clear structure of data might significantly influence the quality of proposals, too.

Conclusion

From the above mentioned is clear that proposing of landscape architectonic works is now being made in fully automated computer level in 2D and 3D dimension. However, proposals do not often take in consideration conditions in which works are being proposed either because of unavailability of information or complexity and demand of time. Partial solution can be creation of system of input data for landscape architects, which will be linked to a plot as to a basic unit. Complex 3D models of gardens are layouts for updating already existing data in databases, accuracy improvements to 2D models.

This way created complex 3D models of gardens do not have to serve only for presentation purposes, but they are also a source of wide-range information. Final model enables to calculate percentile of grown-up vegetation, to evaluate number of domestic and introduced species of woody plants, to compare them with potentially natural vegetation, to calculate the amount of greenery on constructions, green roofs. Together with linking to existing databases and semantic information already at their creation stage, the model is able to evaluate possibilities of construction on specific type of bedrock and land, it is able to calculate simply sun exposition of particular facades during a year and a day, shadowing of houses through greenery and their incorporation into 3D models of towns can help when proposing town functional zones, biocorridors and biocentres. They may be used for analyses of energetic efficiency of houses, calculation of coefficients of greenery and ecological coefficients in transforming zones. Equally they serve as important layouts for updating of spatial data thanks to their particularity and verification and vectorisation of already existing data by a specialist.

References

1. **Ahmad, A., Aliyu, A.** The need for landscape information modelling (LIM) in landscape architecture. *13th Digital Landscape Architecture Conference Proceedings,* 2012, p. 531-540.
2. **Baus, P., Krivosudský, R.** Analýza dynamiky vývojových trendov fukčného urbánneho územia mesta Bratislava. *Prognostické práce,* 2011, No. 3(4), p. 323–335.
3. **Cantrell, B., Yates, N.** *Modeling the Environment*. New Jersey: John Wiley & Sons, 2012, No. 81, p. 2–3.
4. **Hamilton, A., Wang, H., Tanyer, M.,** et. al. Urban information model for city planning. *ITcon,* 2005, No.10, p. 55-67
5. **Hrnčiarová, T.** Stanovenie krajinnoekologického potenciálu pre rozvoj mesta Bratislava. *ACTA environmentalica universitatis comenianae,* 2005, No. 13, p. 39-46.
6. **Kováč, B.** *Regulácia na lokálnej úrovni,* [online 15.10.2015] http://www.uzemneplany.sk/zakon/regulacia-na-lokalnej-urovni
7. **Kvarda, P.** Poskytovanie informácií z katastra nehnuteľností. *Geodetické siete a priestorové informácie,* 2007, No.2, p 197-202.
8. **Löwner, M.O., Benner, J., Gröger, G.** et. al. New Concepts for Structuring 3D City Models – An Extended Level of Detail Concept for CityGML Buildings. *ICCSA*, 2013, No. 3, p. 466-480.
9. **Mathieu, R., Freeman, C., Aryal, J.** Mapping private gardens in urban areas using object-oriented techniques and very hig-resolution satellite imagery. *Landscape and Urban Planning*, 2007, No. 81, p. 179–192.

10. **OECD.** *Joint Chapter for the Vienna - Bratislava Region Background report*, [online 21.11.2015] http://bratislava.sk/VismoOnline_ActionScripts/File.ashx?id_org=700000&id_dokumenty=4013173
11. **Ofúkaný, M., Klobúšiak, M.** DMR50 – prvý digitálny model reliéfu Slovenska v rezorte ÚGKK SR. 2004
12. **Oosterom, P., Stoter, J.** 5D data Modelling: Full integration of 2D and 3D space, time and scale dimensions. *GIScience*, LNCS 6292, 2010, pp. 310–324.

INFORMATION ABOUT AUTHOR:
Barbora Slabeciusová, Msc. Landscape architecture (2011, Slovak University of Technology in Bratislava), PHD fellow (joint PHD since 2012) at Faculty of Natural Sciences, Comenius University in Bratislava, Slovakia. Landscape architect in Art Project Group
E-mail: bslabe@gmail.com
Field of research: 3D city modelling, landscape architecture, garden design

Kopsavilkums. Arhitektūrā, urbānismā, pilsētplānošanā un arī ainavu arhitektūrā mēs sastopamies ar to, ka tiek strādāts ar apjomīgiem 3D modeļiem, kuri tikuši radīti no ģeometriskiem 2D un 3D datiem. Uzsvars šajā pētījumā ir likts uz skaidrības trūkumu tajā, kādus datus izmanto un rada veidojot 3D modeļus ainavu arhitektūrā. Kā pētījuma objekts tika izvēlēts privāto dārzu 3D modeļi 55 teritorijām Bratislavā tās rajonā. Pēc pētījumā iegūtajiem rezultātiem kļuva skaidrs, ka ainavu arhitekta priekšlikuma izstrāde norisinās pilnībā datorizēti 2D un 3D dimensijās. Ne vienmēr priekšlikumu izstrādē tiek ņemti vērā visi faktori, vai nu informācijas trūkuma dēļ, vai sarežģītības un laika limita ietekmē. Jo pilnīgāks ir izveidotais modelis, jo vairāk informācijas un datu tas sniedz, līdz ar to šādu pilnīgu modeli ir iespējams visai plaši pielietot pētījumos, piemēram, analizējot vietējo un introducēto sugu proporciju esošajā un arī projektētajā situācijā.