



LANDSCAPE ARCHITECTURE AND ART



PROCEEDINGS OF THE
LATVIA UNIVERSITY OF
AGRICULTURE

VOLUME 1
NUMBER 1

ISSN 2255-8632 print
ISSN 2255-8640 online

PROCEEDINGS OF THE
LATVIA UNIVERSITY OF AGRICULTURE

LANDSCAPE ARCHITECTURE AND ART

VOLUME 1
NUMBER 1

JELGAVA 2012

EDITOR IN CHIEF

Aija Ziemeļniece, Dr. arch., Assoc. Professor, Latvia University of Agriculture, Jelgava, Latvia

EDITORIAL BOARD

Uģis Bratuškins, Dr. arch., Professor, Riga Technical University, Riga, Latvia

Edmunds Valdemārs Bunkše, Professor, University of Delaware, Newark, USA

Maria Ignatieva, Dr. phil., Professor, Swedish University of Agricultural Sciences, Uppsala, Sweden

Karsten Jorgensen, Dr. scient., Professor, Norwegian University of Life Sciences, Oslo, Norway

Jānis Krastiņš, Dr. habil. arch., Professor, Riga Technical University, Riga, Latvia

Juhan Maiste, Dr. art., Professor, University of Tartu, Tartu, Estonia

Eglė Navickienė, Dr. arch., Assoc. Professor, Vilnius Gediminas Technical University, Vilnius, Lithuania

Valeriy Nefedov, Dr. arch., Professor, St. Petersburg State University of Architecture and Civil Engineering, St. Petersburg, Russia

Thomas Oyen, Professor, Neubrandenburg University of Applied Sciences, Neubrandenburg, Germany

Gintaras Stauskis, PhD arch., Assoc. Professor, Vilnius Gediminas Technical University, Vilnius, Lithuania

Ivars Strautmanis, Dr. habil. arch., Professor, Riga Technical University, Riga, Latvia

Ojārs Spārītis, Dr. habil. art., Professor, Art Academy of Latvia, Riga, Latvia

Sandra Treija, Dr. arch., Assoc. Professor, Riga Technical University, Riga, Latvia

Daiga Zigmunde, Dr. arch., Latvia University of Agriculture, Jelgava, Latvia

SECRETARY

Una Īle, Dr. arch., Latvia University of Agriculture, Jelgava, Latvia

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

Read our scientific proceedings in: http://llufb.llu.lv/Raksti/Landscape_Architecture_Art/

© LATVIA UNIVERSITY OF AGRICULTURE, 2012

INTRODUCTION

Latvia University of Agriculture in collaboration with Riga Technical University and Art Academy of Latvia have launched a new, periodical collection of scientific proceedings *Landscape Architecture and Art* that will contain a significant part of latest scientific researches.

The topics of the published articles concern such issues as architectural artistic problems, the maintenance and development of the architectural history and cultural heritage, ecological and sociological factors of the urban environment and rural cultural landscape that concern the search for the art, architecture and landscape synthesis in the process of creation of a humane environmental quality.

The collection of articles is a contribution by lecturers and doctors from three Latvian universities to the architecture and art sciences. With the help of expanded international collaboration, an insight was provided into several results of the researches performed by foreign colleagues, in particular, the Baltic region architecture and art science research workers. These topics mostly concern the important issues of the aesthetic quality evaluation in Latvian architectonic landscape spaces, based on the similar climate conditions, common regional identity and development consequences of the cultural and historical environment, as well as the political situation issues of the post socialist countries.

The published articles can serve as a useful material for students of various environment design and art-related fields, specialists in their professionally creative practice in the field of architecture, landscape architecture and art, as well as for state and local government employees, working with territory development concepts.

PRIEKŠVārds

Latvijas Lauksaimniecības universitāte sadarbībā ar Rīgas Tehnisko universitāti un Latvijas Mākslas akadēmiju aizsāk jauna, periodiska zinātnisko rakstu krājuma izdošanu "Ainavu Arhitektūra un Māksla", kurā atspoguļota nozīmīga daļa pēdējos gados veikto zinātnisko pētījumu.

Rakstu tematika aptver arhitektoniski mākslinieciskās problemātikas, arhitektūras vēstures un kultūras mantojuma saglabāšanas un attīstības jautājumus, pilsētvides un lauku kultūrainavas ekoloģiskos un socioloģiskos faktorus, kas saistīti ar mākslas, arhitektūras un ainavas sintēzes meklējumiem humānās vides kvalitātes izveidē.

Rakstu krājums ir trīs Latvijas augstskolu mācībspēku un doktorantu ieguldījums Latvijas arhitektūras un mākslas zinātnē. Pateicoties izvērstajai starptautiskajai sadarbībai, sniegts ieskats arī ārvalstu kolēģu, īpaši Baltijas reģiona arhitektūras un mākslas zinātņu pētnieku darba rezultātos. Tematiski tie, galvenokārt, skar aktuālos jautājumus Latvijas arhitektoniski ainaviskās telpas estētiskās kvalitātes novērtējumā, pamatojoties uz līdzīgiem klimatiskajiem apstākļiem, tuvām reģionālās identitātes un kultūrvēsturiskās vides attīstības konsekvencēm, kā arī postsociālisma valstu ekonomiski politiskās situācijas problemātiku.

Krājumā iekļautie raksti būs noderīgs palīglīdzeklis studentiem dažādās ar vides veidošanas mākslu saistītās jomās, speciālistiem profesionāli radošajā darbā arhitektūras, ainavu arhitektūras un mākslas nozarē, kā arī valsts un pašvaldību institūciju darbiniekiem, strādājot pie teritoriju attīstības koncepcijām.

Aija Ziemeļniece
Editor in Chief

CONTENTS

<i>Gunārs Asaris</i> Riga: Entering the 21st Century	5
<i>Edmunds Valdemārs Bunkše</i> Sensescapes: or a Paradigm Shift from Words and Images to All Human Senses in Creating Feelings of Home in Landscapes	10
<i>Laila Bremša</i> Monuments by the Sculptor Kārlis Zemdega (1894–1963).The 1930s.	16
<i>Una Īle</i> Recreation Possibilities for Residents in the Residential Area Courtyards.....	22
<i>Nadya Kerimova, Valeriy Nefedov, Inna Sotnikova, Maria Morozova</i> Biotope-based approach for mixed-use office building landscape.....	30
<i>Laura Lūse</i> Scenic Wallpaper – First Quarter 19th Century Western European interior décor in Latvia	37
<i>Valeriy Nefedov</i> Landscape and Architecture: Interacion for Sustainability	44
<i>Natālija Ņitavska, Raimonda Kanavina</i> The Visual Elements Forming the Identity of the Baltic Sea and Gulf of Riga Coastal Landscape	48
<i>Arne Riekstiņš</i> Fluid Urbanism.....	61
<i>Aija Ziemeļniece</i> Context seeking of cultural heritage and green structure in urban environment.....	67
<i>Jānis Zilgalvis</i> Ķirbižu manor house: architecture and cultural history	74

Riga: Entering the 21st Century

Gunārs Asaris, *Riga Technical University*

Abstract. The history of Riga is long and rich in events. Archeological excavations have revealed that already eight hundred years ago the bank of the river Daugava was inhabited by the Livs and Latvians – it was an urban settlement with a vast port. The name of Riga village („locus”) first appeared in the Chronicle of Henry of Livonia in 1198. The naturally protected, inhabited by various nationalities settlement created favorable conditions for the German expansion which in 1201 with the foundation of Riga as a city led its development towards traditions of the European urban construction (Fig. 1).

Key words: Form creation synthesis, sustainability, harmony, balanced environment.

Research methodology

Nowadays Riga – the capital city of the Latvian nation, has become a beautiful and expressive city of the northeastern part of Europe near the Baltic Sea due to more or less targeted actions of many generations. Alongside with creation of a corresponding to their time and traditions living environment, they have built the city such as we see and know it today. And as shown by experience, over time the political intrigues, struggle and the economic considerations are forgotten but the footprint left by the architects and urban builders with their gentle attitude to the natural environment remains and affects life of generations to come. Not for nothing in the world, ways were searched to reduce the impact of the political struggle in the urban development, how to involve a wider community in solving vital problems. Democracy and transparency are notions often heard today from both the high European podiums and the domestic legislators' mouths. However, in the real practice, they quickly become easily overcome, formal attributes which complicate the development process but the situation does not improve. What we have gained or lost and what else we can lose as a result of such a policy and “aggression” of government representatives, we can see analyzing the urban development in these circumstances of globalization and socio-economic conflicts (Fig. 2).

Here, it is worthwhile to note the idea emphasized in the Beijing Charter¹ that only following own ways, own development principles and environmental protection can provide stability of the modern civilization in the conditions of further intensive development. There may not be common ways but there should be a common better future which we are already making today. Therefore to observe the general humane principles in developing urban environment and planning its separate fragments – a buildings or construction architecture forms, it is necessary to become the basis of the aesthetic code of the modern architect in its theoretical and scientifically methodological work [2].

The principles set out in the Beijing Charter for the development of the 21st century architectural and urban planning are topical for all, inclusively for the future of our Riga.

Riga as a flat, located on the sandy banks of the Daugava River aesthetic development and intensity of the use of the area and image are fully reflected in the silhouette of the city, especially in its centre and in Old Riga. It's well perceived both when approaching by the Daugava River waterway and it has become a widely known symbol of the city of Riga. A more expressive and typical urban silhouette provides a good visual perception and orientation opportunities in its complex spatial environment and contributes to the understanding of its structure and link of its separate parts in a general building system.

In the development plan of Riga, there are highlighted the main functional units of the urban structure in connection places of separate zones to the main and visual perception axes. It should be noted that the basis of the structure and spatial improvisation of the planning of Riga is the Daugava River but the main cross-axis Brīvības iela (Brivibas Street), Akmens tilts (Stone Bridge), Brīvības bulvāris (Boulevard) in the segment up to Uzvaras laukums (Uzvara Square) – is the most important not only for perception of the internal structure of the historic centre of Riga (HCR) but also the memorial accent, including the location axis of the Monument to Freedom. The Daugava River aquatorium and its islands' and peninsula opportunities, greenery in the middle of the blue water - the embankment landscaping and improvement of the widely visible landscape contribute to the overall environmental security and the aesthetic quality and attractiveness of the urban environment.

HCR inclusion in the list (1997) of the UNESCO World Cultural and Natural Heritage confirms the specific and exceptional value of the historic centre of Riga and the left bank center part as a cultural object, the conservation of which is not only in the interests of Latvia but also the mankind as a whole (Fig. 3).

¹ Beijing's Charter was adopted by the International Union of Architects at XX Congress in 1999.



Fig. 1. Panorama of Riga from the National Library building (2012) [Source: photo by J.Krastiņš]



Fig. 2. Panorama of Riga from the National Library building (2012) [Source: photo by J.Krastiņš]

The HCR conservation and development plan approved by the Latvian Government's decision specifies the mission of perception of the silhouette of Old Riga. In 2007 the panorama and silhouette of Riga Historical Centre was assigned a European Heritage Label. The view to Old Riga from the bridge when entering the city from the airport along Kalnciema iela (Kalnciema Street) or also by train from Jurmala and Jelgava is the largest visual value with an outstanding cultural and historical significance. In contrast, the overall town planning situation, the Daugava River ship path turns and the main axes of perception of the left bank center part create favorable preconditions for creating a new Riga centre part directly opposite Old Riga – in the southern part of Agenskalns district and Kipsala and in the district of Kliversala and Tornkalns, highlighting the creation of new high-rise buildings.

Here, there is already finalized construction of the new National Library, closer to the popular Tornkalns new municipality centre and the newly erected building of the Faculty of Natural Sciences of the Latvia University.

It is well known that one of the main elements of the urban environment is expressiveness of the building silhouette. In their practice and theoretical reasoning, many world-famous architects and urban planners have marked and proved the significance of vertical accents in creating the city structure and its image. Leon Battista Alberti (1404–1472), the great Italian architect of the Renaissance period, in his treatise emphasizes that only the verticals can achieve special beauty in the cities, if only they are located in necessary places and have appropriate form.



Fig. 3. The housing on the left shore of the Daugava River near the Vanšu tilts (Cable-stayed Bridge) [Source: photo by J. Krastiņš]



Fig. 4. Greenery area in the left shore landscape of the Daugava River [Source: photo by J.Krastiņš]



Fig. 5. The search for form creation synthesis in cultural and historical urban space (2012) [Source: photo by J.Krastiņš]



Fig. 6. National Library building
(Presently still in the stage of construction)
[Source: photo by J.Krastiņš]



Fig. 7. Rīgas Brāļu kapi (Riga Brother's Cemetery). Architecture, sculpture, green landscape – as a harmoniously united symbol of the visually aesthetic and philosophic quality [Source: photo by J.Krastiņš]

By the ever-wider expansion of the city, even more important becomes the issue of the necessary locations and developing shapes of these accents. In Riga, in this respect, an attempt is made to respond by over 300 m high, impressive TV Tower

Conclusion

Chaos or harmony? Anarchy or Order? It seems that choosing between these opposites, any member of the community will decide on harmony or order. But how does this theoretical prerogative affect our practical lives, our real choices when there is charged a price? Can we refuse from a quickly obtainable benefit in the name of harmony or order? Although there are differences in the development of different cities that depend on the contradicting forces and national and economic structures involved in their construction, their developing principles have to be similar [3]. The concept of the 21st century architectural development is based on the conceptual link: the building, blocks of houses in a city, district, city as a whole, the State, believing that only linking of all these elements in the design, implementation, operating cycles can provide you with modern harmony of the urban environment (Fig. 5, 6, 7). Exactly, at this level there should be also viewed the architecture, design, garden art and applied art

in Zaķusala and over 100 m high cable-stayed bridge pillar built on the left bank of the Daugava River. But what can you do next, how to proceed when the city is continuously growing (Fig. 4) [1].

synthesis as one of the means of creating a harmonious, aesthetically valuable environment. Architecture, as well as the whole development of the urban space goes hand in hand with the person's as an individual's requirements for its living environment. Besides, the urban outdoor territory is the place where a person can experience the informative field of the housing, natural environment, and different artistic elements [4].

It is understandable that the idea of developing self maintenance enforces people to base their lifestyle primarily on the nature's provided possibilities in order to ensure the social righteousness, sustainable self maintaining economy, and create a surrounding environment. A self maintaining environment, primarily, is maintenance of natural elements. The observation of balanced, environment and human friendly development principles in planning the future of the cities needs to become essential in the whole world.

References

1. **Bratuškis, U.** Expansion of central Riga public open spaces in context of National library and concert hall buildings. *Scientific Journal of Riga Technical University*, 2008, No. 2(10), p. 108–117.
2. **Briņķis, J., Buka, O.** Urban planning aspects of the synthesis of architectural and spatial environment. *Scientific Journal of Riga Technical University*, 2010, No. 4(10), p. 62–68.
3. **Treija, S., Trušīņš, J.** New urbanism and its interpretations in Latvia. *Scientific Journal of Riga Technical University*, 2008, No. 2(10), p. 204–212.
4. **Rukmane-Poča, I., Krastiņš, J.** Contemporary urban space in the context of formal currents of architecture. *Scientific Journal of Riga Technical University*, 2011, No. 5(10), p. 58–65.

INFORMATION ABOUT AUTHOR:

Gunārs Asaris. Dr.arch., Assoc. Professor, Riga Technical University, Faculty of Architecture and Urban Planning. Address: 16 Azenes iela, Riga, LV–1048, Latvia. E–mail: gunars.asaris@rtu.lv

Kopsavilkums. Rīgas vēsture ir gara un notikumiem bagāta. Arheoloģiskajos izrakumos konstatēts, ka jau pirms vairāk nekā astoņiem gadsimtiem Daugavas krastā šajā vietā bijusi lībiešu un latviešu apdzīvota vieta – pilsētveida apmetne ar plašu ostu. Rīgas ciema vārds pirmo reizi minēts latviešu Indriķa hronikā 1198. gadā, kad laukā blakus lībiešu ciemam tika likti pamati vācu apmetnei. Pašas dabas aizsargātā ar dažādām tautībām apdzīvotā vide radīja labvēlīgus apstākļus vācu ekspansijai, kas 1201. gadā dibinot Rīgu kā pilsētu, ievirzīja tās attīstību Eiropas pilsētībūvniecību tradīciju gultnē.

Šodien Rīga – Latvijas valsts galvaspilsēta ir kļuvusi par skaistu un izteiksmīgu Eiropas ziemeļaustrumu daļas pilsētu pie Baltijas jūras daudzu paaudžu vairāk vai mazāk mērķtiecīgas darbības rezultātā. Radot savam laikam un tradīcijām atbilstošu dzīves vidi, tās ir uzcēlušas pilsētu tādu, kādu mēs šodien redzam un pazīstam. Un kā liecina pieredze, laikam ejot, politiskās intrigas, cīņa un ekonomiskie apsvērumi aizmirstas, bet arhitektu un pilsētībūvnieku atstātās pēdas, saudzīgi attiecoties pret dabas vidi, paliek un ietekmē nākamo paaudžu dzīvi.

Sensescapes: or a Paradigm Shift from Words and Images to All Human Senses in Creating Feelings of Home in Landscapes

Edmunds Valdemārs Bunkše, *Emeritus Professor of Humanistic Cultural Geography, University of Delaware, Visiting Professor, University of Latvia*

Abstract. A literary essay, it begins with a reverie about the well-worn aphorism, “Home is where the heart is.” The heart, thus home, can be anywhere, provided there are values and feelings of home. In this instance it is in wilderness mountains that such values are found. Wilderness landscapes may become home landscapes when one learns to become competent in using all the senses -- touch, smell, taste, hearing, sight, and proprioception (i.e., the human body in its entirety as a sensor). It is a “coming to the senses,” which echoes the type of childhood learning advocated by Jean-Jacques Rousseau [14].

The point of the essay is neither wilderness landscapes as such, nor a return to a Rousseauian childhood. It is about including all the senses in theorizing and planning landscapes, as well as individual and group behaviors in them (e.g., travel and tourism). The senses are briefly described, with truisms about them. One is synesthesia-- the combination of two or more sensed phenomena; another, the fact that touch, taste, smell, and proprioception are earthbound, placebound, or landscape-bound senses, thus difficult to universalize conceptually and difficult to communicate precisely and unambiguously. How then to include them in planning debates, narratives, and theories? The only recourse is by exact, precise stories. At this point in time that is the only way to overcome the historic relegation of the earthbound senses to a secondary position to sight and hearing in Western culture. More specifically, to broaden the narrow visual and textual biases in geography, landscape architecture, planning, and related fields.

Today there is ostensibly a paradigm shift taking place in cultural studies — “a sensory turn”-- from semiotics and the world as text and image, to the world based on sensory perceptions. It means changing the concept of landscapes to sensescapes; instead of reading the landscape it means sensing it. The essay concludes with thoughts about the application of the sensory turn to Latvian contexts.

Key words: ideas of home, earthbound senses, sensory turn, sensescapes.

“Home is where the heart is.” An old Anglo-Saxon proverb, which captures some essential truths. If hung in a family kitchen as a plaque or as words on a piece of embroidery it may indeed affirm an essential truth of domestic bliss. Or it may express the hope of such bliss, even if it is absent.

But the heart is a complicated thing, both as an organ and as metaphor. As an organ, it is largely predictable and reliable, up to a point. As metaphor it is unpredictable. The “tars” (sailors) of the Royal British Navy were said to pose “hearts of oak.” Given the many victories against Napoleon’s fleets, there was some truth in that proverb. But the heart is metaphorically bound up with love, and love, as the modern Spanish philosopher, Jose Ortega y Gasset (1883–1955) said, is an unpredictable illness.

Coming to the senses

In my own many sojourns in Canadian and American wilderness landscapes the heart felt at home once I had acquired expertise and a tent in which one did not have to sit in water all night long. A dry tent-- especially on rainy, windy, or snowy nights-- a campfire, and simple mountain food make for the best home imaginable. Indeed, the more adverse the conditions, the more profound have been the values of the tent-home. But at the same time I have been fully cognizant that there are landscapes

The heart can be found in many different places and situations. The home is certainly a powerful location for it, true for probably a large majority of ordinary humans. The home is, after all, where most humans nest, the place most wish to have, and for which we search, when we do not have one, are driven into exile, or are on the road. But the heart can be in one’s work, in music, in art, it can even be not in a home at all--for some perennial vagabonds home is on the road. The late Bruce Chatwin (1940–1989) even claimed that in reality “It’s a Nomad, Nomad World” [5]. The heart can be in wild, inhospitable landscapes, lacking rudimentary comforts, even in dangerous landscapes. It can be in run-down places in a city, when one is tired of the glitz of modern landscapes.

in which I would survive for only as long and far as I could carry food on my back. And in case of the desert-- water.

I found a great value in the wild, that made those temporary tent- domicile experiences so powerful: the alertness of all the senses and intuition of possible sensory experiences beyond one’s immediate vicinity. Touch was of especial importance. There were textures underfoot--water, mud, gravel, sand, scree, snow, ice, slippery logs and rocks.

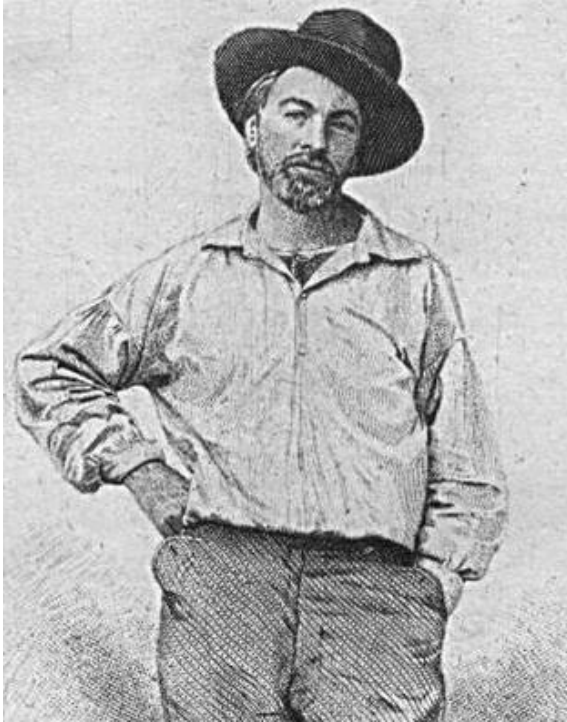


Fig. 1. Walt Whitman (1819–1892) [10]

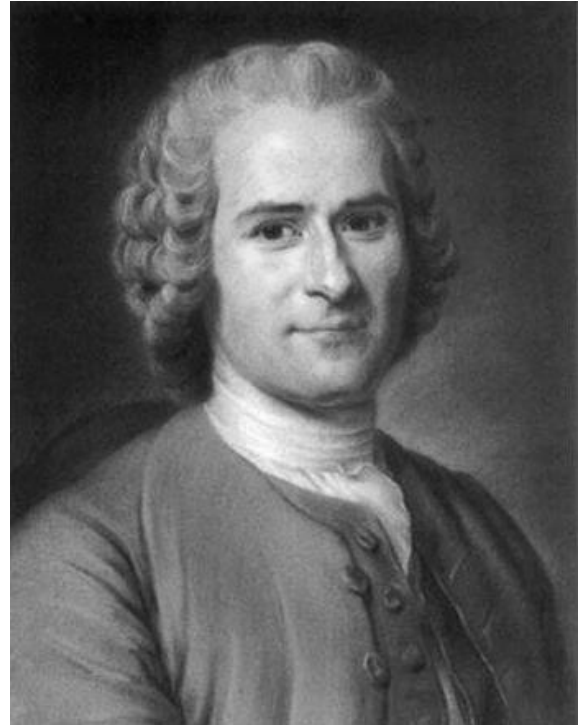


Fig. 2. Jean-Jacques Rousseau (1712–1778).
By Maurice Quentin de la Tour
[Source: danassays.wordpress.com]

There were textures in landscapes that I touched: the pliant branch of a willow bush, the solid bark of an alder, the smooth bark of a birch, the roughness of a weathered granite wall.

Not all touch experiences were welcome. Very unpleasant were the dozens and dozens of fine, long, spiny needles of a devil's club (*oplopanax horridum*) that painfully stuck my palm. It happened on a muddy trail in the rainforest of British Columbia, Canada. I was portaging a kayak, my feet slipped, I grabbed for the nearest handhold--a devil's club. Thus I learned about the awful, hairy stems of a plant that resembles a giant fern with big, beautiful, photogenic leaves and a red blossom or two at the top. A much more pleasant sensory experience came after a hot afternoon climb up a mountainside. It was a dive into an icy tarn (little mountain pond), with snow still clinging on its uphill side. That plunge gave me one of the most luxurious feelings that my entire body and mind, my soul, has ever experienced (as Walt Whitman defined the soul¹ [11]). I was completely a part of the landscape (Fig. 1).

The scents of balsam firs, or that of the dry pine needles in a hot desert sun define the feel of entire landscapes. Most memorable is the powerful mix of scents one encounters on a mountain trail passing through an avalanche path. Small mountain rivulets

running down such an avalanche track make the air heavy with moisture when the afternoon sun is out. There one enters into a cornucopia of scents: the rich mix of new, leafy brush, together with the sweetish scents of sap from the fallen, broken trunks of mountain firs. A profusion of berry bushes growing there makes it a favorite place for *ursus horribilis*, the grizzly bear. After many years of learning to appreciate the ubiquitous sagebrush of Western North America, the scent of this visually humble plant also gives the sense of an entire landscape (especially if one is lucky to encounter it after a rain-shower).

Risking a walk on a fallen tree across a mountain stream is not only a test of foolishness, but of balance and *proprioception*; as is jumping from boulder to boulder down a dry stream bed with a heavy back pack. Proprioception involves muscles, sinews, and deep structures within the body that guide us through landscapes. Not least in importance is the inner ear, the sinuses, touch, and vision working together to insure balance.

Picking sweet and sour blueberries adds to the often plain mountaineering evening meal. Hearing the sudden flareup of howling coyotes in the far distance of a big valley gladdens the heart, that there are such wild, free beings. It also illustrates the notion that hearing is a "geographic sense," giving a feel for

¹ René Descartes initiated the idea that the body is separate from the mind in the seventeenth century. The brain was the source of rational thought ("I think therefore I am."), science, and morality. It was Walt Whitman who concluded that the human soul consisted of the entire body, not just the mind. As a young man Whitman was witnessing a slave auction in New Orleans. "The whipping of a slave, the overall pain that this caused, made Whitman realize that the soul is the entire human being. To whip a man's body was to whip a man's soul" [10]. Today neuroscientists, although not generally concerned with metaphysics of the soul, regard the entire human body as a single sensing entity.

space, direction, and distance [1]. This is emphasized while lying awake on a quiet, dark night in the tent, listening for the sounds of an approaching grizzly bear. Then there is tension and fear. Once one has gained the heights above a valley, there are always the faraway sounds of waterfalls

Earthbound and skybound senses

Diane Ackerman calls touch, smell, and taste, appropriately, the “earthbound senses” [1]. Proprioception clearly belongs to the earthbound senses. Hearing and vision are, in her definition, “skybound” senses. Jean-Jacques Rousseau (Fig. 2) did not quite have in mind such a taxonomy of the senses when he wrote *Emile, or On Education* [14]. What he did propose was that a child’s

Truisms

First, to the brief description immediately above should be added *synesthesia*, that is when two or more senses are combined in describing or evoking sensory experiences. Smell and taste combine almost always; so does sight and proprioception; the others combine, more rarely, depending on the particular perceptual talents of an individual. One of the more remarkable examples has been the musical compositions of the Lithuanian composer-artist M.K. Ciurlionis (1875–1911), who combined his compositions with paintings of fantasy landscapes.

Second, and most significant, is the fact that *the earthbound senses are largely place-bound or landscape-bound*. “You have to be there” to experience them. This fact severely restricts them from being included in planning narratives and theories of landscapes. They do not travel well. That is because symbolic language expressing the specific character of each earthbound sense is weakly developed and because they resist digitalization. Touched surfaces may be termed rough, smooth, squishy, slippery, wet, but it is not possible to get very good particular verbal descriptions or evocations. Visual images a la paintings of muddy roads or a frozen pond and the like do give a certain experiential sense, but what would an image of a frozen pond mean to a child or to most adults on the island of Samoa? The problems with taste are most vividly, and sometimes ludicrously, expressed in descriptions of various

The “sensory turn”

I do not mean to imply that Rousseau’s *Emile* should be a handbook for designers and similarly employed individuals. Like the sensory experiences with which I opened this essay, I present it here only for *orientation*. More exactly, I would like to bring home those experiences in the wild that I evoked above, together with Rousseau’s philosophy. Rousseau’s idea of education starting with the senses

down in the valleys below. All these are the sounds of sublime experiences.

And always, there are the views of snow and glacier-covered peaks and the valleys and lakes that often have served as invitations to go into the wild in the first place.

education should be that of “a natural human”, before she or he becomes a socialized, boxed-in being. This can be only brought about by an education whereby the world is first known through the senses and through inferences thus made, which then are followed by learning from books and teachers. That then is the point of departure for this essay.

wines (what can a “dry” wine mean to an amateur?). The sense of smell is similarly limited (although it is somewhat promising in digitalization). Marcel Proust’s famous description of the taste and scent of a madeleine illustrates the fact that the earthbound senses need excellent stories to bring them close to an actual experience.

The skybound senses of sight and hearing are not placebound, they are well represented symbolically, and what is seen or heard can be recorded and duplicated [1]. Vision is the most ubiquitous symbolically and representationally; and in terms of reproductions we are under constant bombardment of images in all guises (as Andy Warhol so well recognized with his pop art reproductions). Indeed our modern culture and life is thoroughly saturated with images, as are our landscape studies, narratives, and plans for landscapes and tourism. We accept, often unquestionably, that “seeing is believing.” Hearing, the second skybound sense, is somewhat less easy to transfer from a place and time. Still, recording and transmission of music and of sounds in nature, or anywhere can now be most accurate and virtual soundscape realities can be thus created and broadcast in various formats. And music notation has allowed music from the past to be performed today. Although in this regard the music of the distant past becomes problematic as to how exactly it was played.

was intended to nurture a natural man’s or woman’s mind. That idea may be hopelessly outmoded, but there is now a *zeitgeist* developing, which shows that the dictates of sight, and to a lesser extent hearing, are also outmoded.

A major shift in paradigms is said to be taking place in the fields of cultural studies. David Howes [8], a leading figure in this movement,

terms it a revolution in the humanities and social sciences. Just as there had been “a linguistic turn in the 1960’ s, now a new turn is occurring, which Howes calls “a sensory turn”. In the 1960’ s culture became a discourse with the world as text. Semiotics was the guiding light. An imperium of signs was developed, with Ricoeur [12] and Barthes [2] among the leaders. It was assumed that all human thought and behaviors could be understood in terms of linguistic structures. The cultural world could be read as one would read a text. The word, and in fields such as geography and landscape studies, the word and the image were -- and continue to be -- of paramount importance.

It means a narrow specialization in the fields of cultural studies. In a recent essay, the anthropologist

The experiences in geography

In human geography the late Denis Cosgrove [7] has been a significant pioneer in showing the narrow intellectual structures of the field insofar as landscape studies are concerned. He has traced the intellectual history of the idea of landscapes as representations in paintings, the theatre, in landscape gardens (so called in the UK, parks elsewhere), and in landscapes in general. The most powerful tool in this has been the Renaissance invention of the single point perspective. It inspired the representation, design, and creation of landscape gardens, the design of large boulevards and avenues, and in general has aided in what an unnamed landscape architect has termed “the framing of nature”. For Cosgrove, as for myself [3, 4], the visual landscape has meant an imposed four hundred year long tyranny, allowing few other choices, and certainly a denial of human nature as expressed in how the senses other than sight and hearing were marginalized. Moreover, semiotics became a leading approach: in reading landscapes and perceptions as texts.

The aesthetic landscape ruled in human geography. Scenery “was literally that which is seen”,

Sensescapes as home

In the emerging paradigm shift from word and image to that of the senses lies a path to a sense of home in the landscape. As David Howes [8, 143] writes:

“The challenge of the anthropology and geography of the senses is to apprehend the world anew by attending to “local ways of sensing”. The idea of a “sensescape” might prove useful here. It is the idea that the experience of the environment, and of the other persons and things which inhabit that environment, is produced by the particular mode of distinguishing, valuing and combining the senses in the culture under study.”

Gillian Tett [19] has called narrow specializations “intellectual silos”, a much more profound metaphor than mere walls, which have been torn down, at least in history. Silos for military rockets are more tightly isolated and must be “busted”, says Tett, using a metaphor common in current warfare.

Today the word and the image are being replaced by the senses and sensibilities of the human being, which are studied not only as particular characteristics of human nature-- they are studied in their cultural and landscape contexts, which vary from culture to culture and over time. There is a “sensory turn” in anthropology, the humanities and related fields of cultural studies. However, at this point in time the “turn” is arguable and not yet widely accepted.

what a viewer looks at. Seeing was truth. In order to secure that truth, technological inventions came to the aid: the single point perspective, microscope, telescope, camera. A landscape in geography was the integration of nature and culture, “which can be analyzed within a specific territory” [7]. For geographers a landscape was not *landskip*, a usage during the Medieval Age--i.e., meaning a certain, small rural piece of land-- but instead a combination of the aesthetic and the geographically “objective”. The gaze was considered as objective, as was abstraction and geometry on the land. Just as important was landscape representation in pictures: in drawings, paintings, plans, diagrams, visual calculations [7]. Numerical landscape perception studies became, and continue to be, important, with varied indexes of “scenic beauty”. The results are abstract. Moreover, reading the landscape, both historic and current, has been much in vogue and continues to be so.

The question arises, if such narrow approaches can develop landscape perceptions or planned designs that would give landscapes the feeling of home?

Sensescape includes both urban and all other landscapes, parks as well as any other urban-built landscapes (which landscape architects should include in their expertise). It provides a rich opening in that it is not only the province of disciplines involved in cultural studies. For several decades, neuroscientists have been involved in understanding the sensory worlds of humans. Oliver Sacks [15, 16, 17, 18] has been one of the early, prolific pioneers in this field. To him we owe the ideas about proprioception, the sensory world of the blind, and other studies. The architectural theorist Mallgrave [12] has used the findings of neuroscience to interpret architectural designs and thus implicitly

updating Rousseau's ideas of natural human beings in terms of architecture:

What neuroscience and the broader field of cognitive investigations are once again reminding us is that we are still creatures imbued not only with aspirations but also with vestigial biological needs. If culture is the social edifice constructed on the footings of this heritage, it must therefore respect the primal nature of our existence.

By recounting a few multifaceted sensory experiences in wild landscapes I intended to suggest

Epilogue

Because this will be the first introduction of the idea of sensescapes in this journal, it leads me to think about how we Latvians can come closer to our senses in our landscapes, both urban and rural-- in visiting, designing, theorizing them. A principal truism in this quest is to recognize, as implied earlier, that the senses and sensory perceptions exist in cultural contexts; and that such contexts vary over time and place. It means that a particular sense may be cultivated in a particular culture. In turn it means that in children's minds in that culture particular neuron associations are connected, according to the particular senses emphasized.

What follows are some brief cultural-historical examples for the sake of orientation of these ideas.

Constance Classen [6], an anthropologist-sociologist has studied what she terms "thermal symbolism" which exists among the indigenous people who are descendants of the Maya, living in Mexico and Central America. Ideas of hot and cold dominate the world views and behaviors of these people, probably derived from the fact that it is warm along the ocean lowlands, but cold in the central uplands. Therefore east and west are regarded as the important cardinal directions. Such macro perceptions influence ideas about youth, old age, death, as well as the life patterns, seen, for example, in seating arrangements at meals.

As for historic studies in the importance of particular senses, Susan Stewart [19], a professor of English, examines changes in Western sense hierarchies. For Aristotle sense hierarchy was determined by cultural coarseness and refinement of thought. Touch and taste are therefore the lowest senses, sense of smell in between, but hearing higher, with vision as the most powerful sense of cultural development. Susan Langer [10], a twentieth century philosopher, supports the Aristotelian hierarchy: the lowest senses are taste and touch because they are closest to the earth, sense of smell is situated in between, hearing and sight are paramount-- they are important in philosophy and the creation of abstractions.

that contact with our primal nature is in more than pretty pictures or designs of landscapes. Pictures are abstractions, we do not enter the landscape by gazing at it and taking ever more pretty pictures of it. Having a handful of thorny needles from a devil's club may hurt for a week, but it is thus that one becomes a part of a landscape. It is how familiarity is acquired with many other sensory aspects of wild landscapes that Canadians fondly refer to as the "bush". And familiarity makes the heart fonder. It then feels at home.

In effect, vision is entrenched in Western culture. It is significant to note that if there is indeed a paradigm shift taking place in cultural studies, then at the very least the senses are coequal and should enter into processes of theorizing and landscape formation. If the landscape is to be perceived and made into home, if it is not merely to be „occupied” but “inhabited” [9]. Then the earthbound senses are as important as the skybound ones. In other words, the soul is in the landscape, not in texts.

In this essay I have argued for a serious consideration of the ostensible paradigm shift in cultural studies. If this is indeed taking place (and there is yet to be established unanimity in this), then it means sensing Latvian landscapes in new and fresh ways.

Our fondness for landscapes is more than visually informed. We have excellent knowledge of ecology and rightful pride in the health of our nature. And we have an advantage in our language, for we do not join the ideas of land with the ideas of scape, as it is in some other languages. Nonetheless, we approach our landscapes in the same visual ways described above. I thrill in seeing cloud mountains (cumulonimbus-- or *gubu mākoņus*, as they are popularly called in Latvian) in the Irbe Strait of Latvia. But a few years ago, at night, in a driving rainstorm, without a flashlight, I had to pitch a tent in a Latvian meadow full of young thistles. I was barefoot. Stung and wet, I came down to earth. I had finally returned home after a lifetime in exile.

Since landscape and nature are important in Latvia, I think there are many opportunities to discover our true sensory natures--true insofar that we have developed them within our particular cultural history. There are many anthropologies, geographies, histories, art and literature histories of our sensory culture waiting to be discovered.

References

1. **Ackerman, D.** *The Natural History of the Senses*. New York: Vintage, 1991.
2. **Barthes, R.** *Empire of Signs*. New York: Hill & Wang, 1982.
3. **Bunkše, E.V.** *Geography and the Art of Life*. Baltimore & London: The Johns Hopkins University Press, 2004.
4. ----- . Feeling is Believing, or Landscape as a Way of Being in the World. *Geografiska Annaler*, 2007, No. 89 (3), pp. 219–231.
5. **Chatwin, B.** It's a Nomad Nomad World. *In: Chatwin, B. The Anatomy of Restlessness*. London: Picador, 1997, pp.100–106.
6. **Classen, C.** McLuhan in the Rainforest. *In: Howes, D. ed., Empire of the Senses. The Sensual Culture Reader*. Oxford–New York: Berg, 2005, pp.147–163.
7. **Cosgrove, D.** *Social Formation and Symbolic Landscape*. Madison: University of Wisconsin Press, 1984.
8. **Howes, D.** ed. *Empire of the Senses. The Sensual Culture Reader*. Oxford–New York: Berg, 2005.
9. **Olwig, K.** Performing on the Landscape versus Doing Landscape: Perambulatory Practice, Sight and the Sense of Belonging. *In: Ingold, T., Vergunst, J.L. eds., Ways of Walking. Ethnography and Practice on Foot*. Aldershot: Ashgate Publishing Limited, 2008.
10. **Langer, S.** *Feeling and Form*. London: Routledge & Kegan Paul, 1979.
11. **Lehrer, J.** *Proust Was a Neuroscientist*. New York: Houghton Mifflin Company, 2008.
12. **Mallgrave, H.F.** *The Architect's Brain. Neuroscience, Creativity, and Architecture*. Oxford: Wiley-Blackwell, 2011.
13. **Ricoeur, P.** The Model of the Text: Meaningful Action Considered as Text. *Social Research*, 1970, No. 38, pp. 529–562.
14. **Rousseau, J.J.** *Emile, or On Education*. New York: Basic Books, 1979.
15. **Sacks, O.** *A Leg to Stand On*. London: Duckworth, 1984.
16. ----- . *The Man Who Mistook His Wife for a Hat*. New York: Harper & Row, 1985.
17. ----- . *Seeing Voices: A Journey Into the World of the Deaf*. Berkeley: University of California Press, 1989.
18. ----- . *The Mind's Eye*. New York: Alfred A Knopf, 2010.
19. **Stewart, S.** Remembering the senses. *In: Howes, D. ed., Empire of the Senses. The Sensual Culture Reader*. Oxford–New York: Berg, 2005, pp.59–69.
20. **Tett, G.** The Right Time for a Renaissance Man? *Financial Times, Weekend Magazine*, 2012, pp. 24.

INFORMATION ABOUT AUTHOR:

Edmunds Valdemārs Bunkše. PhD. 1973, Berkeley. Emeritus Professor of Humanistic Cultural Geography, University of Delaware, Visiting Professor, University of Latvia. E-mail: ebunkse@udel.edu

Kopsavilkums. Kā literatūras eseja, raksts sākas ar pārdomām par seno angļu–sakšu sakām vārdu: “Kur atrodas sirds, tur ir mājas.” Sirds un mājas var būt daudzās vietās, ja var radīt vai atrast mājīgumu. Kā piemērs tiek izmantoti mājīguma sajūtu piedzīvojumi neskārtas dabas ainavās. Mājīgums tiek sasniegts, kad cilvēks apgūst neskārto vidi ar visām savām maņām. Tas nozīmē sešas maņas: tausti, ožu, garšu, dzirdi, redzi un *proprioception* (t. i., viss cilvēka ķermenis kā uztvērējs, no matu līdz kāju pirkstu galiem). Tā ir atgriešanās pie mācīšanās par pasauli vispirms ar maņām, kā to ieteica darīt bērnu mācībās Žans Žaks Ruso (*Jean-Jacques Rousseau*) [14].

Esejas galvenās tēmas nav nedz neskārtā daba, nedz Ruso bērnu mācību filozofija. Galvenā tēma ir visu maņu ieviešana teorijās par ainavām, to plānošanā un izmantošanā (kā piem., teorijās par tūrēm vai, pretstatā, ceļojumiem). Seko īss apskats par katru maņu un kopējām raksturībām. Viena šāda raksturība ir *synesthesia* (divu vai vairāku maņu uztvertie fenomenoni). Otra ir fakts, ka tauste, oža, garša un *proprioception* ir saistītas galvenokārt ar zemi, specifisku vietu vai ainavu. Tas nozīmē, ka ir grūti izveidot universālas koncepcijas vai dot neapstrīdamus nosaukumus ar šīm maņām uztvertiem ainavu faktiem. Rodas jautājums, kā ieviest piedzīvoto plānošanas diskusijās un naratīvos. Atbilde ir: precīzu stāstu veidojumus.

Tiek argumentēts, ka šodienas kultūrpētījumos notiek paradigmu maiņa, kuru dēvē par pagriezieni uz maņām. Pasauli nevērtē semiotiskos rāmjos kā tekstus un attēlus, bet gan kā pamatotu uz maņu uztverto. Šādos kontekstos jēdziens ‘ainava’ tiek pārlikts uz *sensescapes* – ko latviski varētu saukt par *izjūtu ainu* (vai arī paturēt valodā kā netulkojamu *sensescapes*). Noslēgumā tiek sniegtas dažas pārdomas, kā varētu iesaistīt pagriezieni uz maņām Latvijas kontekstos.

Monuments by the Sculptor Kārlis Zemdega (1894–1963). The 1930s.

Laila Bremša, *Latvian Academy of Art*

Abstract. The article deals with the most important monuments by the sculptor Kārlis Zemdega (1894–1963) created in the 1930s, commemorating the victims of World War I and Independence Battles. Monuments are found in urban space of the following Latvian towns – Rauna (1933), Džūkste (1935), Rūjiena (1937), Talsi (1938–1996) and Dobeles (1940–1996). The monuments are analysed with the comparative method, including them in the context of Western European and Latvian sculpture's development. Symbolic and allegoric message, laconic compositions and formal qualities inscribe these monuments in the neo-classicist trend of the 1st half of the 20th century; there are also neo-romantic elements and possibly some modernist impulses from the 1930s. Monuments are situated in the spatial environment for which they have been conceived, allowing a view from different perspectives in line with the artist's initial idea.

Keywords: monument, sculpture, Zemdega.

Monumental sculpture is a kind of art that allows artists and their contemporaries – commissioners of public works – to immortalise socially important ideas in compositions of artistic forms based on personal experience and situated in public space. In Latvian art history, the first flourishing of monumental sculpture is related to the 1920s and 1930s when monuments and memorial sites were arranged to commemorate the victims of World War I and Independence Battles. Already in 1919 Riga Brethren Cemetery Committee was established; later it also organised design and construction works of the memorial ensemble, completed in 1936 [1]. Project competitions for Riga Freedom Monument organised from 1922 to 1930 as well as the construction of the Monument itself (finished in 1935) had a wide public resonance and greatly influenced the development of monumental sculpture [2]. Over two decades, many monuments dedicated to the victims of World War I and Independence Battles were set up throughout Latvia; they were initiated by various non-governmental organisations and largely funded by donations of the people.

Many of these monuments were created by the sculptor Kārlis Zemdega (Cīrava Parish, 7 April 1894 – 9 November 1963, Riga) during a decade of intensive creative work. One should note that another large-scale, significant work by Zemdega – the poet Rainis' Memorial in Rainis Cemetery (1934) that could be regarded as his masterpiece, was also made during this period. The sculptor emerged as the most pronounced representative of neo-classicism in the Latvian sculpture of the time, sometimes including the formal elements of Art Déco and romantic overtones in his sculptures. The artist graduated from the Sculpture Master Studio headed by Konstantīns Rončevskis (1875–1935) at the Latvian

Academy of Art in 1927 and then perfected his granite working skills with the sculptor Burkards Dzenis (1879–1966), also making study trips to France, Italy, Finland, Sweden, Egypt and Greece. He worked in monumental sculpture, made also privately commissioned tombstones, figural compositions and portraits. Zemdega's pedagogical work at the Latvian Academy of Art after World War II (1947–1962) was also very significant.

The first attempt at monumental sculpture was his participation in the Riga Freedom Monument project competition in 1930. Zemdega's project „Es–dur” or „Kokle” was awarded the 3rd prize. Back then, the initial idea was to erect the Freedom Monument on the bank of Daugava River and Zemdega's design envisaged an architectonic base with a girl in a national costume with kokle (Latvian national musical instrument similar to harp/zither); the overall form could also be perceived as a sword embedded in earth. The sculptor's talent was noticed; he gained public recognition and received several important commissions in monumental and memorial sculpture.

Shortly after the competition representatives of Rauna Freedom Monument Committee approached the sculptor, and the upper part of the project was realised as a 9 m high sculpture carved of the local grey granite and placed in the centre of Rauna next to castle ruins (Fig. 1, 2) [3]. Initially the monument stood on a wide three-stepped terrace that was reduced later. Behind the monument on the side of the castle moat, a lane of 60 oaks was planted in 1932, commemorating the Rauna people who died in Independence Battles [5].

The shape of kokle is abstracted, enlarged and geometrical in Zemdega's composition; the girl's flattened figure and simplified volumes point towards the stylistics of archaic sculptures.



Fig. 1. Monument in Rauna (1933)
[Source: Photo by the author]



Fig. 2. Monument in Rauna (1933)
[Source: Photo by the author]

In 1936 art critic Jēkabs Strazdiņš wrote: “The symbolic Latvian maiden – embodiment on the spirit of Latvian folksongs, desires and dreams. The monument has the second meaning as well – in the times of war *kokle* transforms into a spear” [4]. The round sculpture in this case is meant largely for the frontal viewing, castle ruins and oaks serving as a background.

Two years later in 1935, the Džūkste monument to the victims of Independence Battles was opened in the park opposite the cemetery and church (Fig. 3–6) [6]. The church has been destroyed during World War II. The original composition of the monument consists of three major elements – the upper part of the three-stepped pedestal features a nude male figure, the middle part – an oval urn decorated with stars but the lower step – a female figure in the national costume. Zemdega’s idea envisaged the Genius of Glory with a sword and oak branch in his hand, standing next to the urn with the ashes of fallen heroes complemented with the allegorical image of Latvia mourning the victims. The monument stands on a small artificial mound and is meant to be viewed from all sides; this is important for the spatial conception of Zemdega’s monuments and he would develop this general scheme in the Dobeles monument to freedom.

From the stylistic viewpoint, the tendency towards maximum simplicity and geometry is important; the pedestal of sculptures consists of pure prism-shaped forms. The overall character of composition is very static; the Genius of Glory is spatially situated above the allegory of Latvia, thus expressing the idea of trans-historical glory and Latvia’s links with the earth. Volumes carved in grey granite are mutually contrasting, such as the simple motif of the classical urn against figural images. But the style of sculptures reveals a severe archaisation of the ideal-type figure – simplified forms, rough surfaces and emphatically decorative details. The allegorical figure of Latvia, similar to the „*Kokle*” girl in national costume, features generalised details of ethnographic garment; thus it is possible to state that Zemdega’s neo-classicist style has been influenced also by the romantic note typical of the art of the 1930s.

Still the overall impression of the monument is that of harmony and good proportions, the size is also reasonable; relationships of the volume heights could possibly be disputed as well as the allegorical idea itself that has partly reduced the chance to see the object as harmonious from all points of observation.

In the Rūjiena monument to freedom opened in 1937 (later named as „The Tālava Trumpeter”; Fig. 7–8) the neo-classicist tendency towards simplicity is evident in the laconic single-figure



Fig. 3. Monument in Džūkste (1935)
[Source: photo by the author]



Fig. 5. Monument in Džūkste (1935)
[Source: photo by the author]



Fig. 4. Monument in Džūkste (1935)
[Source: photo by the author]



Fig. 6. Monument in Džūkste (1935)
[Source: photo by the author]

composition standing on a proportionate, prism-shaped pedestal of middle height. The height of the figure is 3 m, the overall height of the monument – 7.5 m. On the base there is inscription by the poet F. Mieriņš: “The Trumpeter had to die but Latvians did hear the message”. Initiators of this monument were the Naukšēni branch of the paramilitary organisation “Aizsargi” (Guardians) [3].

In this case, the romantic element takes over – the sculptor has given up the neo-classicist nude figure carrying symbolic or allegorical message,

replacing it with a sentinel in a dynamic position; the image is focused, attentive and purposeful in details (costume, shoes, thick hair, hands uneasily closed over the trumpet), creating a generalised, but still recognisably ancient image. With the elbows tightly pressed against the body and a cloth put over the right knee, the sculpture’s volume is made closed and compact; the smooth granite masses create a calm and resolute linear rhythm. As seen from the photographs of the time, the monument had initially stood out against a background of several small buildings.



Fig. 7. Monument in Rūjiena (1937)
„The Tālava trumpeter” [Source: photo by the author]



Fig. 8. Monument in Rūjiena (1937)
„The Tālava Trumpeter” [Source: photo by the author]



Fig. 9. Monument in Talsi (1938–1996)
“Kokle Player” [Source: <http://panoramio.com>]



Fig. 10. Monument in the forest
cemetery in Tukums (1940)
[Source: <http://zudusilatvija.lv/objects/object/5513>]

Freedom monument in Talsi created by Zemdega in 1938 was also a single-figure composition (Fig. 9). Laconic composition and compact masses are found here as well; the kneeling nude male figure with a kokle leaning against the pedestal can be interpreted as “a symbolic image expressing man’s eternal longing for freedom and independence” [4].

In 1938 the plaster model was created and the place was prepared in Leči hill where a capsule containing memorial message was buried according to traditions. In 1980 the monument commemorating the revolution of 1905–1907 by Olita Nigule emerged in this place, and decision was made to leave it where it stood. Till 1982 the model was kept in the sculptor’s studio; then it was moved to Talsi



Fig. 11. Monument in Dobele (1940)
[Source: photo by the author]



Fig. 13. Monument in Dobele (1940)
[Source: photo by the author]



Fig. 12. Monument in Dobele (1940)
[Source: www.dobele24.lv/zinas/48/105966]



Fig. 14. Monument in Dobele (1940)
[Source: photo by the author]

and carved in stone by the sculptor Vilnis Titāns only in 1996 and placed next to Ķēniņkalns (architect A. Lācis, gardener I. Metuzāle) [7].

Compositionally similar to Talsi monument is also Zemdega's monument in Tukums (Fig. 10), situated in the Forest Cemetery and dedicated to the victims of World War I. The soldier's figure is clothed in a uniform coat, not typical of Zemdega's interest in generalised, abstracted, seemingly trans-historical solutions but coincides with the tendency of concreteness characteristic of the time.

In 1940 the last of Zemdega's monuments to Independence Battles was opened – in the town of (Fig.11–14) Dobele.

According to the author, he wanted to develop the composition to be viewed from all sides evident in the Džūkste monument. Composition in Dobele is more laconic and compact, it consists of just two figures; additionally, in this case female figures are situated higher, and their backs are joint without any plastic intermediate element. The monument was blown up in 1950, restored in 1996 and the model was created by the sculptor Inta Berga. The monument should be considered a free interpretation of Zemdega's idea, as all the original parts had not survived. The placement has also been changed – after long public debates and discussions the place was chosen where a Soviet military monument (tank) had stood before.

The location of monuments in landscape largely conforms to Zemdega's opinions:

"To gain full expressive power, the monument should be harmonised with its surroundings and live in unison with them, the monument's power resounds in the harmony with nature that makes spectators to feel and understand the embodied idea more clearly" [8]. Both the monuments erected in the 1930s and those restored are placed in the chosen spatial environment that emphasises monuments' plastic qualities and offer the possibilities of perfect contemplation.

Monuments by Zemdega are simple and laconic; human figure dominates in the composition standing on a pedestal of reserved, geometric and pure forms. Material has been important for the artist, as he chose and considered it very carefully. Sculptures are carved in granite, with compact, closed volumes featuring modest, purposeful details. Forms are

mainly rounded and smoothed, arranged in clear and calm linear rhythms. The task of commemorating the victims of World War I and Independence Battles is realised mostly in allegorical or symbolic images with reserved, serious and focused emotional mood. The sculptor has created ideal-type images, either romanticised ones with freely interpreted ethnographic garments and décor or classical nude figures. The only exception is the Tukums soldier that has been made more specific in respect to the historical period. The artist's interest in symbolic and allegorical messages, the principle of idealisation and overall formal traits allow to include his output in the stylistic tendency of the 20th century neo-classicism. But certain formal features, like interest in abstracted, strong, rounded and even geometrical forms indicate points of intersection with the modernist trends of the 1930s, like New Objectivity.

References

1. **Apsītis, V.** *Brāļu kapi*. Rīga: Zinātne, 1995. p. 198.
2. **Apsītis, V.** *Kārlis Zāle*. Rīga: Liesma, 1988. p. 152.
3. **Likerts, V.** *Brīvības un kritušo pieminēkli 1920–1938*. Rīga: autora izdevums, 1938. p. 137.
4. **Straziņš, J.** Atbrīvošanas pieminēkli Latvijas laukos. *Brīvības pieminēkļa gada grāmata / Brīvības pieminēkļa komiteja*. Rīga: Brīvības pieminēkļa komiteja, 1936. p. 169.
5. *Koklētāja* [tiešsaiste 09.02.2012.]. <http://www.raunai.lv/content/skatvietas/kokletaaja/>
6. **Zemdega, K.** *Letter of Kārlis Zemdega to art historian Svetlana Chervonnaya*. Information Centre of the Latvian Academy of Art, Z8–1, No. 77.
7. **Malēja, V.** *Koklētājs* [tiešsaiste 11.02.2012.]. http://www.talsitourism.lv/public/.../TIC/Talsi_pieminēklis%20Kokletajs.doc
8. Mūsu meistarū domas par monumentālo. *Māksla*, 1959, Nr. 3, p. 11.

INFORMATION ABOUT AUTHOR:

Laila Bremša, Dr. art., (b. 1956) is Associate Professor at the Art History Department of the Latvian Academy of Art. Teaches general course of Western European history of visual art and architecture in the 17th–19th century. Research work related to the history of Latvian professional sculpture.

Kopsavilkums. Raksts veltīts tēlnieka Kārļa Zemdegas (1894–1963) nozīmīgākajiem monumentālajiem pieminēkļiem, kas tapuši 1930. gados un veltīti I. Pasaules karā un atbrīvošanās cīņās kritušo piemiņas iemūžināšanai un atrodas pilsētās vidē – Raunā (1933), Džūkstē (1935), Rūjienā (1937), Talsos (1938–1996), Dobelē (1940–1996). Pieminēkli tiek pētīti ar salīdzinošās metodes palīdzību, iekļaujot tos Rietumeiropas un Latvijas tēlniecības attīstības kontekstā. Simboliskais un alegoriskais vēstījums, kompozīciju lakoniskums un skulptūru formālās kvalitātes raksturo pieminēklus kā 20. gadsimta 1. puses neoklasicisma stilam atbilstošus, ar sava laika neoromantisma elementiem un, iespējams, ietekmēm no 1930. gadu modernisma atsevišķu virzienu principiem. Pieminēkli novietoti tiem paredzētā telpiskajā vidē, kas ļauj tos vispusīgi aplūkot, atbilstoši to autora sākotnējai iecerei.

Recreation Possibilities for Residents in the Residential Area Courtyards

Una Īle, *Latvia University of Agriculture*

Abstract. The present paper reflects information on the landscape elements in the public open spaces built in the Soviet period large-scale residential area courtyards. The material on recreation possibilities for the residents of these territories were analysed in the scale of courtyards in Latvia. The information obtained is based on the findings from the publically available informative material and from the surveys from territory residents. Consequently, the aim of this article is to study the recreation possibilities for younger residents in the large-scale residential area courtyards built in the second half of the 20th century.

Keywords: courtyards, public open spaces, recreation possibilities for younger residents.

Introduction

A readily accessible public open space is a centre of public activities that may affect the everyday life of people and development to the entire neighbourhood. It is an environment where everyone expands their understanding of a home, through daily activities transferring it from their flats to public open spaces. As the inhabitants are actively using these spaces, they „are appropriating” this physical space and this feeling of intimacy allows people to identify this place as their own, giving a sense of identity [25]. In the researches on the cities in the Western Europe and the North America it is often emphasized that the younger residents are often the cause of trouble, disorder, and crime in the urban environment, degrading the physical and aesthetic quality of the residential areas, which often occurs in the form of damaging different physical objects and elements of landscape, and endangering the safety of the other residents [6]. Consequently, the present paper analyses recreation possibilities for the residents in the large-scale residential area courtyards built in the Soviet period, and the study is based on the researches carried out by the author.

In the worldwide scale, for instance, American urban planner Kevin Lynch, applying empirical researches, has made several significant discoveries in the field of urban planning, as regards, how the individuals perceive and travel about the urban environment, how the urban environment affects children, and how to use the human perception as a physical form as a conceptual basis for a successful design of urban environment in the cities and regions. Kevin Lynch proposes a simplified classification of objects, where the elements are organised in five groups: *paths, edges, districts, nodes, and landmarks* [7]. The Danish architect and urban planner Jan Gehl has performed several significant researches from the perspective of functionality and aesthetics on the public outdoor territory design and improvement

that covers the transport traffic and pedestrian orientation in the cities [8]. Le Corbusier’s ideas became very popular in many parts of the world. According to estimate data in Europe approximately 40 mill inhabitants are living in large scale housing estates [25]. Whereas, several analysis of the spatial composition was carried out in certain Latvian cities. One of such researches is “The Development of the Spatial Composition in Riga” by an architect Andris Roze [7]. According to the author, “a good image of the city can be achieved only, if the city means something to its inhabitants, and if in the urban environment there are elements that cause positive or negative feelings and associations to its inhabitant, because they are a significant part of him as an individual and as a member of society”. For example, the *Commission of Strategic Analysis* has developed the *Quality of Life Index for Latvia*. Prof. Talis Tissenkopf has studied what is understood a good life in Latvia [23, 9]. Several researches were carried out by the author on the development stages of the large-scale residential area landscape in the Baltic Sea region, and on the landscape quality of residential area courtyards in the cities of Latvia. The prof. of architecture Janis Rubins, on the other hand, in his work “The Residential Fund of Riga from the 20’s Century typological perspective” has analysed the close connection between the development of the city and its residential fund, and the social and historical situation in the country [17]. One of the leading architectural organizations is *The Architects Council of Europe*. A 21st important message sent by the organization to the 21st century is “The Architecture and the Quality of Life”, a document that denotes the main guidelines for achieving the effective sustainable development of the residential environment [11, 14]. In any case, the principle of the community structure is not able to provide the social and aesthetic requirements for the inhabitants. This reason in particular over the last

several years in different countries leads to thinking about finding new ways of spatial and functional organization of residential housing [18]. Thus, to study the social spaces from the perspective of inhabitant requirements, it is important to consider the inhabitants themselves and their surrounding environment that affects the development of the mutual interconnection and their attitudes [28]. In the process of research, analyzing the data obtained, an important feature was distinguished; at present, there are no recreation possibilities for the residents of the Soviet period residential courtyards. Consequently, this proves the topicality of the theme selected, which will be analysed further in the paper.

Materials and Methods

The research on the recreation possibilities for inhabitants in the residential courtyards was carried out in the period from summer of 2011 until the winter of 2012. To achieve the set goal a scientific research literature – publications and electronic resource analyses were used. Based on the previous researches performed by the author and the material obtained as regards the landscape quality of the residential areas in the cities of Latvia, the present paper discusses the recreation possibilities for the younger residents of the Soviet period residential areas. Consequently, to qualitatively study the present situation, information was obtained from the younger residents of the large-scale residential areas in Jelgava and Riga. Based on the 200 previously carried out surveys (groups of respondents comprise 20–65 year old residents), a common opinion was distinguished as regards the landscape quality and the personal experience of the residents when spending time in the large-scale residential area courtyards. Consequently, in order to achieve the set goal, the following process required a survey carried out on the younger residents aged from 15–20 years. The aim of the survey was to determine, whether the younger people have any recreation possibilities in the courtyards, and whether they are satisfied with the present situation, as well as – what are their suggestions and wishes to improve the recreation possibilities in these territories. The survey was carried out on 100 younger residents; out of them 59 % were women, and 41 % – men. The group of respondents was comprised of those younger residents who had been living in these territories since their childhood. Consequently, the results are objective. To summarize the results of the survey, a monograph or descriptive method was applied, which was based on the scientific findings obtained during the research. The total volume of photos used reflects the residential area courtyards built in the 20th century Jelgava.

Results and Discussion

Residential areas and their courtyards

For any city in the world, the greatest treasure and the most valuable funds are its inhabitants who create the economic and social life; therefore, one of the most important functions of the city is to provide its inhabitants with qualitative living environment [9]. One of the most common types of housing in many cities is apartments, out of which a significant part is concentrated in separate large-scale residential areas. Such areas can be observed both in Western and in Eastern Europe, but the quality of the living environment and the housing varies significantly [12]. Nowadays, people have more demands not only for more space for simple daily needs but also for a higher quality of living such as leisure, entertainment and harmonious neighborhood relations [10]. Many large-scale residential areas of the cities of Europe are upkept and improved based on the sustainable development principles: how to make more attractive residential outdoor territory, not forgetting about condition of environment. Current topical matter of French urban researchers is how to develop and improve the quality of residential outdoor territory, not forgetting about future generations who will live after us. How to provide urban environment to remain attractive residential outdoor territory even after several decades and even hundreds. It is thought a lot about ecological and aesthetical aspects of residential areas that on increasing modern life standards become more topical. To promote the practical use of this sustainability aspect in urban planning, there are developed *European Common Indicators* providing planning and development of all the cities and suburb area of Europe in accordance with unified principles of sustainable development [12]. Main task for further residential environment development is polyfunctional and intensively used urban environment creation, as well as place identity preservation, its perfection and environmental scale harmonization. Looking from broader perspective of sustainable urban environment, it should prioritize the renovation and modernization of already current densely populated areas, their humanization and accessibility of public transport. Such action would encourage inhabitants not to leave their homes and prevent city sprawl [26]. It has to be noted that landscape architecture as one of the important territorial environment planning elements forms on the basis of progressive functional, economical and aesthetical factors. It solves the development of human private living space quality in the widest urban development aspect. The projects of landscape architecture are integral and as well as impellent territorial environment planning part [19, 5]. The qualitative development of the public outdoor

space is possible if a purposeful functional differentiation is carried out, evaluating every area's specific requirements and preserving the necessary for them territories [4].

Jan Gehl (2001) divided outdoor activities into three types in the book of *Life between buildings*: necessary activity, spontaneous activity and social activity. The requirements of each type for the physical environment are completely different. According to these three types of activities, residential landscape could be divided into three categories [10]. *Necessary activities*, *optional activities* and *social activities*. *Necessary activities* are the activities people have to do, such as walk through outdoor spaces of apartment to get public transport. *Optional activities* are the activities people choose for clear or unclear purposes, such as taking a walk to get fresh air, and standing or sitting outdoor to enjoying life. These activities are chooseable, and especially depend on environmental conditions; a high quality outdoor space will attract people to stop, sit, play, and so on. *Social activities* include physical contact and passive contact. Physical contact includes children at play, greetings and conversations. Passive contacts such as simply seeing and hearing other people [29]. The research of resident opinion would help in projecting and building of new residential area greenery to avoid previous mistakes, would provide solutions that meet the functional and aesthetical requirements of population and would be used more intensively [13].

Modern large-scale residential outdoor territory is complicated polyfunctional landscaped space, which is daily used by thousands of people [22]. Residential outdoor environment is also the most basic space for people's daily activities as indoor environment [10]. In Latvia, the major part of these analysed territories is of low quality, which also reflects on the present situation in these territories. Big accent is put on the proximal large-scale residential areas residents' workload that impedes the residents and the courtyards planning can not function successfully. The range of problems is wide that applies to the requirements of the building standards and regulations LBN 100 in improvement and arrangement of the territory. It was established in the research that the regulating standard of urban development after the restoration of independence was not in force in the state. Though, the requirements regulated in it that were related, for example, to the number of parking lots, new building distance from residential buildings, as well as to the insolation requirements and exploitation, that is important in the context of the urban planning [1]. In activities complex that provides resident comfortable living conditions particular importance is given to the improvement of

sanitary conditions in reconstructed courtyards. It is important to decrease the density of residential courtyards, to provide normal insolation, noise regime and aeration. On providing residential outdoor territory for resident' appropriate recreation [6]. These zones have to be improved, gras-plot and pedestrian pathway covering have to be renewed, children playgrounds – equipment, sandboxes, sheds, fountains, etc. have to be arranged. Sports fields, tennis courts have to be arranged in places allowed by building regulations. Waste collection storages have to be renewed. According to the rules and projects, there have to be courtyard territory greening with trees and bushes [21, 26].

Summarizing last years experience of the in complex approach to the matters of rehabilitation and humanization of residential environment, a string of necessary tasks, methods for its implementation can be formulated. Conditions for the residential outdoor territory improvement:

- 1) vacation of the inner premises of circumferential building courtyard from different subsidiary buildings and low quality residential buildings that do not to correspond with the necessary modern housing sanitary requirements;
- 2) horizontal and vertical zoning of the courtyard inner premises, on finding the places for parking lots in one or several levels and sitting places for residents of different age groups, as well as new and modernly facilitated pedestrian pathways arranging. Improvement and development of the greenery system, using both courtyard inner room levels with terraces, and roof terraces;
- 3) transformation of existing housings, by removing communal flats and replanning nonqualitative flats. In the case of necessity, first floor and second floor vacation from flats, arranging there premises for commerce, offices and other different social functions;
- 4) new building projecting, overbuilding empty spaces in circumferential building, as well as in separate cases forming new residential building group in courtyards. Improvement of the facade visual quality, using colours and modern decoration methods. Roof covering importance has to be taken into consideration either, in visual area of both street, and higher levels [20].



Fig. 1. Example of public outdoor territory in the courtyard of Aizkraukle, Latvia (2011) [Source: photo by the author]



Fig. 2. Example of public outdoor territory in the courtyard of Jelgava, Latvia (2011) [Source: photo by the author]

The qualitative development of public outdoor territory is possible, implementing purposeful functional differentiation, evaluating specific needs of each space and reserving necessary space [4]. The landscaped space of residential area courtyards are supplemented with the improvement elements of the public outdoor territories, which have to provide comfortable exploitation possibilities to each resident of the territories. It was established in the research that in the second half of the 20th century in the cities of Latvia their supply was with a low design quality (Fig. 1, 2). Residential area building creates unique urban building ensemble background, but inhabitants' daily life passes within the area courtyard. Therefore, residential outdoor territory must correspond with not only functional, but also aesthetic requirements [6]. High landscape aesthetic quality is particularly important in urbanized landscape, because it is both living, and working and recreation environment for people, who continuously from different angles and aspects evaluate, perceive this residential outdoor territory [30]. To create aesthetically qualitative residential outdoor territory in the large-scale residential areas it is necessary to provide functionally considered



Fig. 3. Functionally considered vegetation in the courtyard of Roskilde, Denmark (2011) [Source: photo by the author]



Fig. 4. Example of public outdoor territory in the courtyard of Stockholm, Sweden (2010) [Source: photo by the author]

children playground zones as well as comfortable traffic [16]. Successful reconstruction of the large-scale residential area is impossible without comprehension of united and complex solution of these problems. The improvement of services infrastructure, environment protection and arrangement, improvement of the residential area public outdoor territory, the development of inhabitant recreation zones, courtyard replanning, intensification of building, renovation of existing building improving its physical, technical and social quality, are directions necessary to develop in close connection with each other [24].

Zoning as a Planning Instrument

In spatial planning context, zoning is defined as statutory descriptions of the allowable uses of land as set out by local councils or planning authorities. The descriptions set zones that establish permitted, prohibited and special uses within these zones. Land uses in each zone are regulated according to type of use, density, height, lot size, placement, building bulk, and other development standards. Which such a clear description, zoning may effectively act as a planning instrument in spatial development in either urban or rural areas [15].

One of the basic units of any city structure is the residential areas, therefore, in the urban development strategic and operational planning documents big attention is placed on the development and building promotion of these areas. Residential area is an urban environment of appropriate size, which has its own crew, the identity, and character, arising out of building types, physical boundaries, landscape and inhabitants feeling of togetherness [24].

Urbanization gradually takes over more new areas and territories. The deeper is the process, the more sophisticated are the problems concerning this issue. After having regained the ownership rights for certain housing free lands, these areas were freely sold to different investors who proposed projecting and constructing new residential buildings, generally ignoring the common housing principles of the area; thus, excluding the public outdoor space landscape elements, and a common residential area development plan, with a detailed humanization plan. Therefore, it is essential to establish a regulation which would ensure the detailed plan to be mandatory in every large-scale residential area [20]. In the initial period of the large-scale residential area building large courtyards as most significant element of public outdoor territory were planned, that type large-scale housing estates were grouped around. The proper example of the large-scale residential area building of the day is one of the biggest large-scale residential areas in Riga – Purvciems that was built from 1965–1975 (arch. G.Melbergs, R.Paikune, M.Medinskis and others). Pararegular, ie., derivative from regular, complicated, polyangular spatial structures dominate in the planning of Purvciems. There is a regular network of 120° model in the basis of region planning where each edge of hexagon is created by five-storey residential building. Main directions of main roads and zones of social centres are supplemented with a stream of separate nine-storey section building. Large courtyards were meant for inhabitant recreation [25]. Every system needs appropriate zoning of the territory. The principles of functional zoning are in the basis of all territorial planning and general plans of the cities. In the time of the occupation of the 50's these principles had been strictly and consistently implemented in practice of city building. It can be convinced in Riga, Daugavpils, Liepaja and Ventspils, where industrial and residential areas are connected with the suburbs garden colonies as recreation zones. In spite of criticism of functional zoning functional zoning is still axiom in designing practice that can not be either to criticized or alternative solutions to be proposed [27]. Zoning of the territory depends on the type of residential building. If residential buildings have

communicating staircase, than it is possible to isolate spatially recreation area and children playgrounds from the territory, where pedestrian traffic, motor vehicle driveways to the residential building entrances and parking lots ment to be. It gives more security to childish sports. On starting the residential outdoor territory formation, is necessary to think, where and how to create landscape spatial borderline – either it will embraces just one, closed courtyard or will unit courtyard group [2]. It should be attained such situation futher for not divesting unconsideredly residential area territory for building that can create optimal conditions for inhabitants' recreation in the residential outdoor territory [3].

Recreation possibilities for younger residents in courtyards

Lately, different researches on the residents' living environment quality have become more topical, because every country's, city's, or other territory's main value is its satisfied residents [9]. Although publice open spaces are treated as an important element of the living environment, their utilization considerably differs from the intended one. The reasons are associated with social as well as economic aspects. In most cases landscape elements and greeneries planned in the original projects were not arranged, open spaces were not regularly tended and improved, what led to their degradation. As a result, they have created an image of a neglected, unsafe, unappealing environment which today is often simply treated as an unused potential of the territory [25]. This is supported by the acknowledgements established in other researches. The free space between the residential buildings, previous greenery areas and children playgrounds, were used for commercial activities. The increasing amount of cars causes problems for the courtyard outdoor territory exploitation possibilities, because it eliminated the recreational function [24]. Consequently, it can be established that presently there are no appropriate recreation possibilities not only for younger residents, but also for any other age group. The evaluation and results obtained from the research from the younger respondents, as regards the recreation possibilities in the large-scale residential area courtyards, are accordingly systemized in Table 1.

TABLE 1

Evaluation of the public outdoor space in courtyards by younger residents

Analysed directions	Respondent evaluation		
	agree	disagree	other
Relaxation possibilities for every age group	13.2 %	86.8 %	–
Free time is often spent outside the large-scale residential area courtyards	65.9 %	24.2 %	9.9 %
The condition of public outdoor space landscape elements	15.4 %	84.6 %	–
The quality and safety of public outdoor space landscape elements	14.3 %	59.3 %	26.4 %

86.8 % of younger residents consider that there are no recreation possibilities in courtyards. 65.9 % of the interviewed residents spend their free time outside these territories and only 24.2 % of them spend their time in their courtyard territory, and 9.9 % chose different ways of spending their spare time. Only 15.4 % of all the respondents are satisfied with the current situation in courtyards, because their residential territories have different public outdoor space landscape elements. Consequently, the established fact proves that Soviet period courtyards presently are not in the best condition in order for the people to be able to use them for active or passive recreation possibilities. In general, 59.3 % respondents consider the public outdoor territory landscape elements to be out-worn and necessary to be renovated. Residents expressed a wish to have extra funding delegated for courtyard renovation, substituting the old and outworn public outdoor territory landscape elements. With the help of specialists, a new plan could be generated for constructing different recreation areas for every age group; where parents with children, teenagers, and retired people could spend their free time. This is also approved by the data obtained from respondents; 72.5 % of younger residents (in one week's period) do not use the territory at all, and only 19.8 % spend their weekends there, but only 5.5 % use these territories daily or every other day.

All these areas are too large and impersonal – often perceived as ‘sleeping areas’ because they often do not offer any long-term work possibilities, as well as they lack services in local scale and open public territories. Such an area development model is not sustainable; neither present, nor future generations will have a desire to live in these areas, therefore they can gradually become neglected and degraded. Because of this, the latest urban planning and development tendencies in Latvia and other European aim at maintaining, renovating, and improving the residential environment quality in current problematic residential areas [12]. Living environment has a great importance in every human being's life because it is an environment and space where he constantly resides, therefore it is very important for a person to feel comfortable in this place [9]. In order for the city to maintain its current inhabitants, and also to gain new ones, it must provide qualitative and attractive

living environment that would satisfy the requirements of not only the present generation, but would also consider the sustainable development and improvement of the area for the future generations [12].

Conclusion

The factors established in the research emphasize the necessity of new recreation possibilities for younger residents in the territories analysed. The information obtained proves that in these courtyards there are no recreation possibilities for the younger people to spend their free time. As a result, the major part of these people spends their spare time outside these territories. Consequently, the data from the sociological surveys objectively reflect the amount of recreation possibilities in the Soviet period residential area courtyards. The conclusion is as follows; these territories require cardinal changes in order to eliminate the issues previously discussed. The Soviet period residential area courtyards are degraded, disorganized, dirty, neglected, and presently do not provide relaxation possibilities for the territory residents. Consequently, this proves the hypothesis of the research that in the modern context the Soviet period courtyards are perceived as unexploited territory resources. The multi-functional residential outdoor territory of these courtyards is a very complex system where, if appropriate functional zoning principles are applied, in the modern perspective, it is possible to eliminate the established inconsistencies.

The younger people consider that the outworn and unused landscape elements of the public outdoor territory need to be removed and replaced by new, safe, and qualitative landscape elements. Respectively, it would be necessary to search for possibilities and options how to create a more attractive residential outdoor space in these territories in order for the younger people to be willing to spend their time in these areas. An organized residential territory could possibly diminish the disorder in the courtyards and the amount of criminal activities. Consequently, it is necessary to carry out additional researches on the Soviet period courtyards from the perspective of these aspects. It is essential to investigate the causes that encourage the younger people to demolish and degrade the analysed territories.

It is necessary to find solutions for the problems established in the research; this would improve the situation, and it would minimize the negative features analysed in the research. The first stage would require the establishment of a unified cooperation between the specialists and the younger residents of the territory. Thus, incorporating appropriate material, tools, and methods, it would be possible to find common solutions to gradually eliminate the negative features in the residential area courtyards; also, integrating the youth, with the innovative solutions, in the active public processes

that concern the recreation possibilities and their own wishes. It is necessary to educate this part of society and to find a common interest, and to gradually change the present landscape elements of the public spaces according to the interests of the younger residents, as well as the interests of other age group residents. Consequently, the amount of the information obtained is significant and relevant also for other following studies on this subject of recreation possibilities for the residents of the Soviet period residential area courtyards.

Acknowledgements

Publication and dissemination of research results has been made due to the funding of the ERAF Project "Promotion of scientific activities of LLU", Contract Nr. 2010/0198/2DP/2.1.1.2.0/10/APIA/VIAA/020

References

1. Afanasjeva, A. Galvenie motīvi: zonējuma maiņa un sarkanās līnijas. *Jelgavas Vēstnesis*, 2009, Nr. 12, 6.–7. lpp.
2. Amatniece, V., Cinovskis, R., Dāvidsone, I. u. c. *Pilsētu apdzīvoto teritoriju apzaļumošana*. Rīga: Zinātne, 1973. 125 lpp.
3. Bajārs, A. Dabas vide un Rīgas jaunie dzīvojamie rajoni. *Latvijas PSR pilsētu arhitektūra*. Rīga: Zinātne, 1979, 161.–168. lpp.
4. Bratuškis, U., Treija, S. Publisko ārtelpu funkcionālā diferenciacija un rekreatīvā potenciāls. *Arhitektūra un pilsētplānošana. Rīgas Tehniskās universitātes zinātniskie raksti*. 2003, Nr. 2(4), 17.–22. lpp.
5. Briņķis, J. Latvijas apdzīvoto vietu funkcionālo un arhitektoniski telpisko struktūru transformāciju galvenie virzieni. *Arhitektūra un pilsētplānošana. Rīgas Tehniskās universitātes zinātniskie raksti*. 2004, Nr. 2(5), 26.–29. lpp.
6. Buka, O., Volrāts, U. *Pilsētbūvniecība*. Rīga: Zvaigzne, 1987. 250 lpp.
7. Dimze, R. Limbažu pilsētas telpiskās struktūras analīze. *Zemes un vides zinātnes. Latvijas universitātes zinātniskie raksti*. 2010, Nr. 752, 235.–241. lpp.
8. Grišins, V. Ritms un arhitektūra. *Arhitektūra un pilsētplānošana. Rīgas Tehniskās universitātes zinātniskie raksti*. 2001, 2(2), 49.–54. lpp.
9. Jankava, L. Iedzīvotāju dzīves vides vērtējums dažādos dzīves cikla posmos – Jelgavas piemērs. *Zemes un vides zinātnes. Latvijas universitātes zinātniskie raksti*. 2010, Nr. 752, 242.–252. lpp.
10. Jienan, Y. *Research of landscape design in residential area*. Karlskrona: Blekinge Institute of Technology, 2009, p. 8–15.
11. Karpova, Z. *Quality of living environment in Latvia. Situation today. Scientific Journal of the Riga Technical University*, 2008, No. 10(2), p. 180.–193.
12. Leščinska, Z. Ilgtspējīgas attīstības tendences Ziepniekkalna apkaimē – sabiedrībai pieejamās atklātās teritorijas un pakalpojumi vietējā līmenī. *Zemes un vides zinātnes. Latvijas universitātes zinātniskie raksti*. 2010, Nr. 752, 211.–221. lpp.
13. Lūse, M. Latvijas pilsētu dzīvojamo kvartālu apstādījumu izmantošana. *Arhitektūra un pilsētbūvniecība Latvijas PSR*. Rīga: Zinātne, 1971, 159.–174. lpp.
14. Newman, P., Thornley, A. *Urban planning in Europe*. London: Routledge, 1996, p. 115–127.
15. Perera, R. Spatial and Environmental Planning. *Environmental Management Tools*. Thailand: School of Environment, Resources and Development Asian Institute of Technology, 2006, p. 63–73.
16. Roze, J. Autotransporta slodze un tās ietekme uz dzīvojamās apbūves teritorijām. Rīgas piemērs. *Zinātniskās konferences tēzes 2007*. Jelgava: LLU, 2007, 65. lpp.
17. Rubīns, J. Pēckara laiks. *Rīgas dzīvojamais fonds 20. gadsimtā*. Rīga: Jumava, 2004. 73.–93. lpp.
18. Strautmanis, I. *Dialogs ar telpu*. Rīga: Liesma, 1977, 25.–127. lpp.
19. Strautmanis, I. *Māksla arhitektūrā*. Rīga: Liesma, 1982, 71.–86. lpp.
20. Strautmanis, I., Briņķis, J. Dzīvojamās vides rehabilitācija Rīgas centra jauktās apbūves teritorijās. *Arhitektūra un pilsētplānošana. Rīgas Tehniskās universitātes zinātniskie raksti*. 2003, Nr. 2(4), 58.–63. lpp.
21. Strautmanis, I., Grūbe, V. Struktūras jēdziens, tās uztveres iespējas un izmantošana arhitektūras teorijā. *Latvijas PSR pilsētu arhitektūra*. Rīga: Zinātne, 1979, 34.–46. lpp.
22. Tilmanis, O. Pilsētu dzīvojamo rajonu telpiskā organizācija. *Arhitektūra un pilsētbūvniecība Latvijas PSR*. Rīga: Zinātne, 1969, 7.–13. lpp.
23. Tisenkopfs, T. Ko nozīmē laba dzīve mūsdienā Latvijā? *Dzīves kvalitāte Latvijā*. Rīga: Zinātne, 2006, 13.–38. lpp.
24. Treija, S., Bratuškis, U. Lielmēroga dzīvojamo rajonu attīstības problēmas Rīgā. *Arhitektūra un būvzinātne. Rīgas Tehniskās universitātes zinātniskie raksti*. 2003, Nr. 2(4), 77–83. lpp.
25. Treija, S., Bratuškis, U., Suvorovs, E. Problems of Use of Public Open Spaces in Large-scale Housing Estates in Riga. *Scientific Journal of the Riga Technical University*, 2010, No. 10(4), p. 131.–133.
26. Treija, S. Rīgas lielmēroga dzīvojamo rajonu struktūras attīstību ietekmējošie faktori. *Scientific Journal of the Riga Technical University*, 2008, 10(2), p. 154.–170.

27. **Trušiņš, J. O.** Pilsētu plānošanas tendences Eiropā un Latvijā. *Arhitektūra un pilsētplānošana. Rīgas Tehniskās universitātes zinātniskie raksti*. 2000, Nr. 2(1), 63.–69. lpp.
28. **Ušča, M.** Sociālā telpa un apkaimes – izpratne un pieejas. *Zemes un vides zinātnes. Latvijas universitātes zinātniskie raksti*. 2010, Nr. 752, 222.–228. lpp.
29. **Zhang, W., Lawson, G. M.** Meeting and greeting: activities in public outdoor spaces outside high-density urban residential communities. *Urban Design International*, 2009, No. 4(4), p. 207–214.
30. **Zigmunde, D.** Estētiskās kvalitātes kritēriji urbanizētas ainavas izpētē. *Latvijas Lauksaimniecības universitātes zinātniskie raksti*. 2010, Nr. 25(320), 1–12. lpp.

INFORMATION ABOUT AUTHOR:

Una Īle, Dr. arch., Docent (since 2012) 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: unaile@inbox.lv

Kopsavilkums. Šajā rakstā analizēta informācija par Padomju laikā realizētajiem publiskās ārtelpas labiekārtojuma elementiem lielmēroga dzīvojamo rajonu iekškvartālos. Analizēti materiāli par šo teritoriju iedzīvotāju atpūtas iespējām iekškvartālos Latvijas mērogā. Sniegtā informācija balsfīta uz iegūtajām atziņām no publiski pieejamiem materiāliem un lielmēroga dzīvojamo rajonu iedzīvotāju aptaujām. Līdz ar to, šī raksta mērķis ir izpētīt atpūtas iespējas jauniešiem lielmēroga dzīvojamo rajonu iekškvartālos, kas veidoti 20. gadsimta otrajā pusē. Pētījuma procesā konstatētie fakti liek uzsvērt uz to, ka daudz vairāk būtu jādomā par jauniešu atpūtas iespējām šāda veida analizētajās teritorijās. Iegūtā informācija pierāda to, ka šajos analizētajos iekškvartālos jauniešiem nepastāv atpūtas iespējas sava brīvā laika pavadīšanai. Rezultātā, lielāka daļa jauniešu savu laiku pavada ārpus šīm teritorijām. Līdz ar to, socioloģisko aptauju dati objektīvi parāda cik lielas ir jauniešu atpūtas iespējas Padomju laika dzīvojamo rajonu iekškvartālos. Secinājums viens, šajās teritorijās nepieciešama kardināla pieeja konstatētās problemātikas novēršanai. Padomju laika dzīvojamo rajonu iekškvartālu teritorijas ir degradētas, nekoptas, atstātas novārtā un šobrīd tās pilnībā nespēj atbilstoši nodrošināt atpūtas iespējas šo teritoriju jauniešiem. Līdz ar to, tas pierāda pētījumā konstatēto apgalvojumu, ka šodienas kontekstā šie Padomju laika iekškvartāli tiek uzlūkoti kā neizmantojams teritorijas resurss. Šo iekškvartālu daudzfunkcionālā dzīvojamā ārtelpa ir sarežģīta sistēma, kur izmantojot adekvātus funkcionālās zonēšanas principus, mūsdienu skatījumā, būtu iespējams novērst konstatētās nepilnības.

Biotope-based approach for mixed-use office building landscape

Nadya Kerimova, *Saint Petersburg Forest Technical University*,
Valeriy Nefedov, *Saint Petersburg State University of Architecture and Civil Engineering*,
Inna Sotnikova, *Saint Petersburg State University of Architecture and Civil Engineering*,
Maria Morozova, *Landscape Architectural Bureau MOX, Saint Petersburg*

Abstract. Large-scale multifunctional (mixed-use) office buildings are significant elements of urban structure and centers of gravity for people, transportation, and business activity. Here we suggest an ecology-driven approach for designing landscapes surrounding mixed-use office buildings. Our approach aims to select and adapt the natural plant communities of North Europe for the landscapes surrounding office buildings in Saint Petersburg (Russia). Based on previous geobotanical studies we determined key native plant communities of the Northwest Russia. We suggest using five native plant communities for different functional zones of the landscape surrounding office buildings.

Keywords: native plant communities, office buildings, sustainable landscape design.

Introduction

Nowadays, cities suffer from the loss of natural biodiversity, limited interaction with natural vegetation areas, and the disappearance of authentic local identity [7]. According to the concepts of “sustainable development” and the “new urbanism,” urban open space and landscapes should correspond to the local climate and the natural landscape surroundings, which implies a priority of naturalness over ornamentality [8, 11]. In the 1960s, the idea of urban green landscapes dominated by native plants was initiated in Germany, the Netherlands, the UK, and the U.S. in order to recreate the natural identity of territories. Moreover, during the last decade, leading landscape architects have progressively developed the concept of “low-maintenance planting” [19]. The concept was inspired by the ecological models of plant communities within natural biotopes.

In some applications (e.g., in green roof design), contemporary landscape architecture uses natural biotopes as prototypes for the plant lists [6]. Nowadays, landscape architects often use relevant natural plant communities to create sustainable cultural phytocenoses cultivated in highly urbanized city areas. This ecology-inspired approach to landscaping has been used in many prominent projects in the last decade. For example, meadow dry, wet mossland, woodland, and wetland plant communities were recreated in the High Line Park, in an area of abandoned railway tracks in New York City [10]. At Vuosaari Hill, a new residential district in Helsinki, Finland, the typical natural plant communities of the Baltic Sea archipelago and Lapland were implemented. Here, meadow, heather, juniper heaths, grassland, tree groves, and small wetlands biotopes

successfully attract birds, mammals, and insects, including rare and endangered species [6]. A similar approach was used in the residential quarter of Babelsberg, where the roof of an underground parking garage hosts a meadow plant community [2]. In Stockholm, reed communities are widely used in the coastal areas of the residential zones. The Hammarby Model project (Hammarby Waterfront City) has implemented reed communities for secondary filtering of the rainwater collected from the surface of the inner courtyards and the roofs [20]. A birch and moss garden has been created in the courtyard of the 52-story New York Times office building (New York, NY, USA). Importantly, this garden is a precise imitation of the plant community of the Hudson River Valley, an impressive reconstruction of the natural environment at the center of the 1.5-million-square-foot building [18]. Overall, international experience demonstrates the effectiveness of these methods of introducing natural plant communities into urban green areas. Such an approach should take into account all local environmental factors such as climate, topography, and substances of anthropogenic origin. It also requires creation of the specific edaphic (soil and groundwater) and biotic conditions necessary for native plant communities.

Here, we propose an ecology-driven approach for creating landscapes for mixed-use office buildings in Saint Petersburg, Russia. Office buildings quickly become the key elements of urban structure. We offer a systemic method of selecting the native plant communities for different functional zones of the landscape surrounding office buildings.

Methods and Results

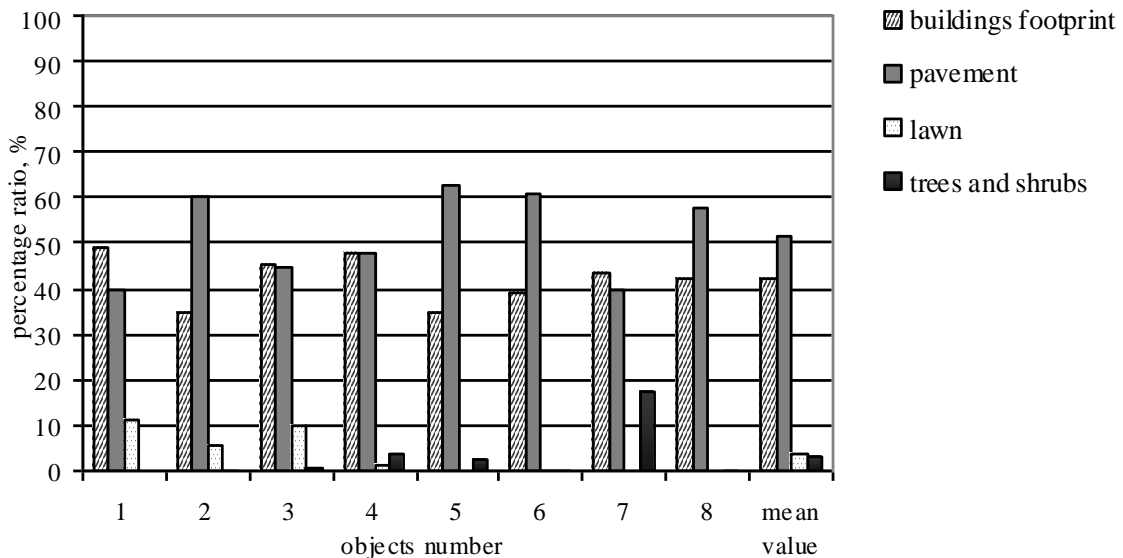


Fig. 1. The proportion (in percentages) of buildings' footprint, car parking pavement, and greenery calculated for investigated territories of mixed-use office buildings (Class A, built at 2007–2010, Saint Petersburg, Russia). Office buildings: 1–Aeroplaza, 2–Arena, 3–Atlantic, 4–Boloev, 5–Atrio, 6–Lincor, 7–Monblan, 8–Stels [Source: construction by the author's]

Saint Petersburg, the second largest Russian city, is now undergoing significant urban planning changes. Recent market analyses have shown that the development of commercial zones is one of the largest and most active sectors in the building industry. Furthermore, modern large-scale multifunctional (mixed-use) office buildings are significant elements of urban structure and centers of attraction for people; they form new open public spaces. Therefore, we have investigated the territories of the representative sample of office buildings in Saint Petersburg (Class A, built during 2007–2010) (for details of methods see N. Kerimova, 2012). We have found that the majority of buildings are surrounded by intensively exploited areas. These territories include pedestrian zones, roads, and parking lots, but they almost all lack plants, trees, storm-water management, and protected and defined zones for recreation and social interaction (Fig. 1). Thus, landscapes surrounding office buildings do not meet contemporary quality criteria for open public space [8]. Our study showed that, currently, building footprints cover the major part of the plot of land (action area). Office buildings tend to occupy surrounding open public spaces for parking purposes. Overall, our results indicated the need for systemic and normative approaches for the landscape organization of office buildings' territory in order to improve green infrastructure.

We suggest that office buildings and surrounding territories could be an important resource for green infrastructure. Therefore, we recommend different methods to define pedestrian, parking, and recreational zones using trees, hedges, storm water swales, and

retaining walls. We also suggest the creation of green roofs, green terraces, green facades, and green courtyards for office buildings to improve the quality of the environment and to save resources [13, 14].

To further integrate plants, landscapes, and office buildings we use a holistic approach. This implies an intensive cooperation of building architects and landscape architects right from the beginning of a new project. Since the layout of buildings and facilities heavily influences plants' well being, architects have to adapt buildings' form, facilities, and configuration for sustainable planting and for ecosystem services. It is possible nowadays to extend green areas with the help of innovative technologies; i.e., greenery can be integrated with architectural objects and included into the inner and outer spaces of buildings. Overall, the holistic approach improves the quality of the open space as well as urban environment sustainability. To further develop the holistic approach, we introduced the concept of a Green Buffer Space of an architectural object. The Green Buffer Space is the space that is created by means of landscape architecture within the structure of the building, spreads around it, and provides environmental, functional, and architectural interactions between the building and the landscape. Initial modeling of Green Buffer Spaces allowed us to define main functional zones: an entrance zone, pedestrian-transit zone, car parking zone, and recreational zone. We have developed a more detailed theoretical spatial model of Green Buffer Space that effectively introduces greenery into particular functional zones of office buildings (Fig. 2).

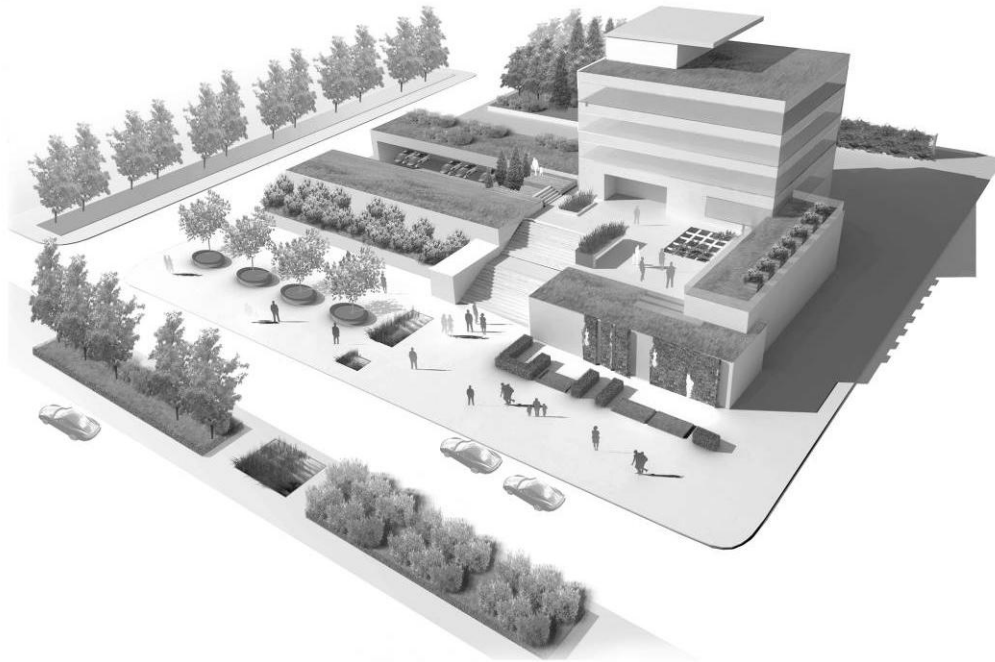


Fig. 2. The theoretical spatial model of the Green Buffer Space of an office building reflects a holistic approach that effectively integrates plants, landscapes and buildings and demonstrates multiple ways to introduce trees, shrubs and lawns into architecture object [Source: construction by the autor's]

In order to improve the greenery sustainability, we propose to add an additional *ecological zone*, a “Green Island,” into the Green Buffer Space of office buildings. Green Islands are zones that should be environmentally friendly to plants, insects, and birds, and free from any functional purposes, e.g., have no recreational or transportation functions [14]. We suggest developing Green Islands, by analogy with the natural biotypes, as areas populated by native species under “differential control” [5]. This idea is quite similar to the “low-maintenance planting” concept. The Green Island is designed as an area with a particularly high vegetation capacity for the free growth of the plants. Importantly, the plant list of the Green Island changes over time depending on the survival potential of the particular species and due to spontaneous invasion by native plants. Overall, the Green Island is a sustainable green area where the activity of a landscape architect is considerably minimized. This approach creates favorable conditions for the formation, development, and successful operation of the micro ecosystem that can serve as a habitat for insects, birds, and edaphic flora, as well as a resource for soil nutrients. Furthermore, according to the *continuity* and *connectivity* principles of urban design, the Green Islands should be connected with green corridors and other urban green areas in order to create an integrated green infrastructure.

In order to create a Green Island similar to the natural biotope, we suggest an ecological approach.

We propose to select a specific plant list from the native plant communities of Northwest Russia. The selection criterion has to be based on a similarity to the local urban environment and the natural biotope. More specifically, for a particular Green Island, we recommend selection of the natural plant community that inhabits areas with similar climatic and natural settings.

In our study, the native plant list of indigenous species was determined by previous geobotanical studies of the natural preserves of the Northwest Russia [1, 21]. This approach allows estimation of the regional plant biodiversity that has been preserved in the protected areas. Saint Petersburg is located in an area of coniferous and deciduous forests of the European type that are characterized by southern boreal coniferous forest formations such as (dark and light) coniferous, parvifoliate, and flood-plain forests [4]. Spruce, sorrel, and bog moss pine forests (e.g., birch, aspen, alder, and mixed parvifoliate swamp forests) are widespread in Northwest Russia. The most expressive and characteristic landscapes are dry pine forests on sandy coastal dunes, spruce forests with deciduous (or broad-leaved) trees on the hills, partly swamped birch forests, spruce and alder grassy forests, lowland swamps, and reed bushes grown in the coastal areas of seaside terraces. In this article, we suggest using the aforementioned plant communities as prototypes for the specific plant lists for the Green Islands of office buildings.

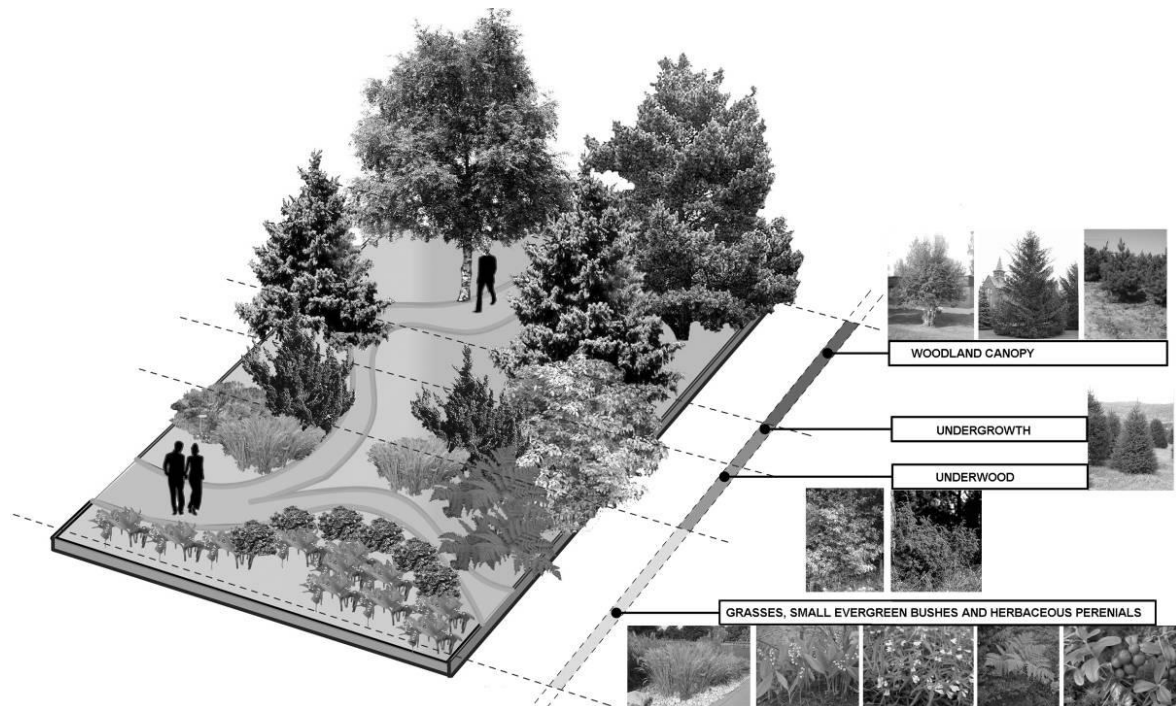


Fig. 3. Example of the “pine grassy woodland” biotope that is based on reference natural plant communities to construct a comfortable Green Island for peri-urban territories surrounding office buildings [Source: construction by the autor’s]

The main forest species in Northwest Russia are common spruce (*Picea abies*) and Scotch pine (*Pinus sylvestris*). The second-growth forest stands are dominated by white birch (*Betula pubescens*) and silver birch (*B. pendula*) as well as by European aspen (*Populus tremula*) and black and white alder (*Alnus glutinosa*, *A. incana*). As for shrubs, the various species of willow (*Salix*), buckthorn (*Frangula*), and elder (*Sambucus*), aiten (*Juniperus communis*) are represented [3, 21]. However, a recent analysis of the urban greenery in Saint Petersburg showed that, traditionally, deciduous species such as European white elm (*Ulmus laevis*), Wych elm (*U. glabra*), ash-leaf maple (*Acer negundo*), Norway maple (*A. platanoides*), little-leaf linden (*Tilia cordata*), European ash (*Fraxinus excelsior*), balsam poplar (*P. balsamifera*), and English oak (*Quercus robur*), are planted in residential areas. These species are non-indigenous: They either grow on the border of the natural area, or are of foreign origin. According to the latest monitoring of greenery in Saint Petersburg, these species are not disease- and injury-resistant and are highly sensitive to climatic conditions [15].

At the same time, native species such as white birch (*B. pubescens*) and silver birch (*B. pendula*), and numerous species of willow, alder, and rowan, are the most disease- and pest-resistant and well

adapted to rough urban environmental conditions. However, nowadays, among all native species, only white and silver birches are relatively popular in urban greenery. The coniferous trees such as spruces and pines constitute no more than 9 % of all arboreal species. Overall, native arboreal species could be used much more widely in the green landscapes of Saint Petersburg [3, 9]. We suggest using the “pine grassy woodland” biotope as a reference model to construct green areas for peri-urban territories surrounding office buildings (Fig. 3).

Urban greenery also has a decorative function. Therefore, we recommend selecting native species that have the highest decorative qualities such as attractive flowers, textures, forms, and shapes, and other esthetic characteristics. In order to achieve decorative effects (e.g., morphological similarity, etc.) or to improve composition, we suggest using cultivars and natural-looking invasive species. In addition, it is also important to consider the tolerance of the urban environment. Being aware of the fact that it is impossible to reconstruct an exact replica of the natural biotope, it is important to use dominant (key) plants that mostly define the formation of the biotope and create the necessary conditions for other plants. This approach creates green zones with basic plant communities (key native plants) and also promotes re-introduction of rare and endangered species.

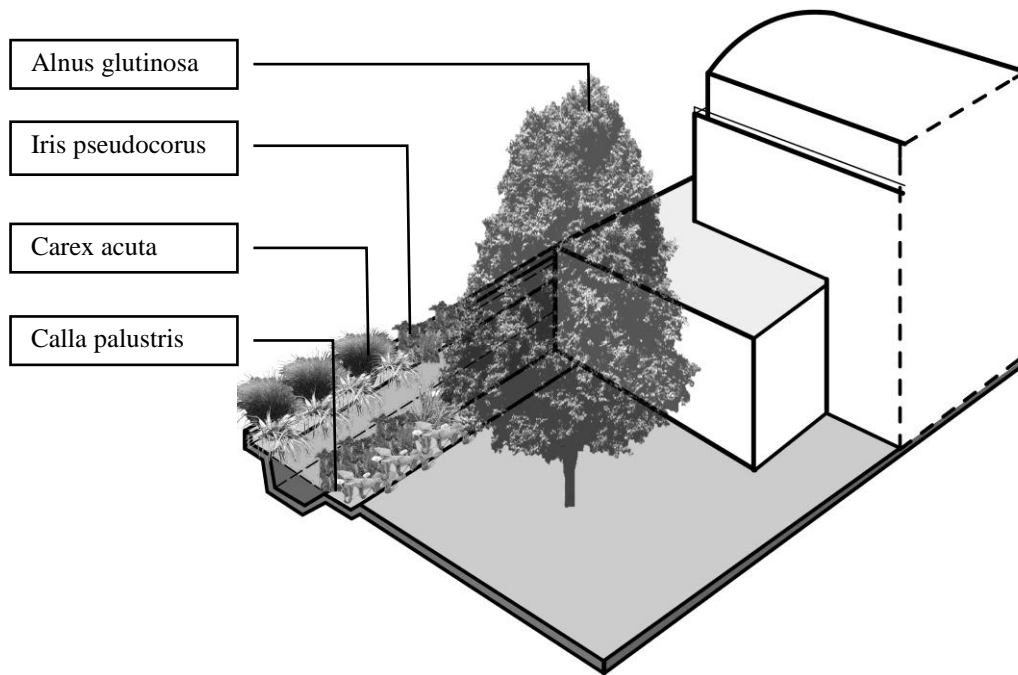


Fig. 4. “Black alder marsh” planting model for the Green Island of an office building
[Source: construction by the author’s]

A typical example of a basic plant community for unexploited flat roofs is a “meadow dry,” that is, a meadow dry community (*Agrostis capillaris*, *Festuca ovina*, *Achillea millefolium*, *Pilosella officinarum*, *Jasione montana*, *Sedum acre*) that is typical of dry, open habits. The predominantly stress-tolerant robust plants of the meadow dry community ensure vegetation sustainability. Importantly, some species of meadow dry communities are rare (*Jasione montana*) and under protection in the Saint Petersburg region. Considering the fact that at the roof level the air is less polluted, a wider range of plant species can be employed. Thus, the greenery zone of the Green Island becomes a platform for the preservation of rare and endangered plants. Adding native species with a high tolerance capacity and high ecological amplitude as well as natural-looking decorative plants, we can achieve the natural look, long-term decorativeness, and sustainability of the plant community.

In Saint Petersburg there is a high annual rainfall and groundwater level that cause excessive soil humidification. Therefore, the dense vegetation and low insolation requirements of wetland plant communities make them especially suitable basic plant communities for the recreational areas near office buildings. Wetland plant communities can also be selected for green spaces in the courtyards, green protective shields for pedestrian-transit zones, and Green Islands near water and drainage devices.

Birch grooves are widespread, and the most expressive and functionally grounded forest formations in northwestern Russia. Birch is one of

the most common species that is capable of growing in marshland as well as on the roofs of abandoned buildings. It usually grows on sandy or turf-rich plains. It easily adapts to changing environment, partially sheds its leaves in the dry season, and steadily grows during the cyclic inundation. In addition, due to its large leaf surface area, birch performs as an effective drainage regulator, and improves the vertical water circulation in a closed circuit of buildings. Therefore, the birch forest is considered to be the most promising prototype of the basic plant community because of its sustainability, great decorative qualities, and ecological functions.

Shallow storm water reservoirs are essential elements of sustainable landscapes. They are used for collecting, filtering, and reusing the rainwater gathered from impervious paving and roof surfaces, and can become a habitat of swampy plant communities. We suggest using grass and sedge marsh communities as one of the basic natural communities for storm water swales. This community includes wild calla (*Calla palustris*), yellow iris (*Iris pseudocorus*), slim sedge (*Carex acuta*), and blister sedge (*C. vesicaria*) [1, 21]. Intertidal coastal (littoral) plant communities, such as reed and rush plant communities, distributed along the coastal terraces, have a great potential for forming natural biological filters for the drainage system using the “bioplateau” method (Fig. 4) [16].

In addition to the aforementioned plant communities, we also selected a number of additional basic plant communities with great potential that are out of the scope of

this article. We note that the proposed ecological method of plant list selection based on natural biotopes also requires pilot tests in the urban environment. The pilot tests will reveal the most sustainable species and combinations of plant communities. Overall, our approach enables

effective integration of greenery with mixed-use public buildings, improves green infrastructure sustainability, and creates a healthy urban environment. Furthermore, our approach demonstrates that office buildings are important resources for urban green infrastructure.

Summary

Based on the principles of sustainable landscape design, new urbanism, and a new environmentally-friendly approach, this article suggests creating new sustainable green areas in the buffer zones of office buildings. For each specific area of the office building, we recommend a specific native plant community. The native plant communities are selected based on the similarity between the urban environment and the natural habitat of the community. The proposed guidelines for the selection of *basic plant communities* can be effectively used in the landscape design of the territories surrounding office buildings.

Combining esthetic principles with the ecological approach, one may reconstruct the native

sustainable environment by creating more natural green areas in the urban environment. As a result, there will be more powerful and natural connections between all elements of the ecosystem that will ensure the sustainability of cultural phytocenoses. This approach will not only improve the biodiversity of the urban environment, but will also make it possible to identify Saint Petersburg as the most northern megalopolis in the world, and emphasize the unique features and natural beauty of the boreal flora of the southern taiga. Last but not least, it will help the population of the region to appreciate the beauty of northern landscapes and rediscover their relationship with local nature.

References

1. **Andreeva, E. N., Volkova, E. A., Gimelbrant, D. E.** etc. *Yuntolovskiy regional complex natural reserve*. SPb.: SPbGXFA, 2005. p. 52–92.
2. **Baller, H.** *The city as a biotope: Recent projects in Berlin and Potsdam* [online 20.03.2012.]. <http://www.bwk.tue.nl/biotope-city/index.php/essays/the-city-as-a-biotope-recent-projects-in-berlin-and-potsdam>.
3. **Buligin, N. E., Firsov, G. A., Togersen, K. T.** etc. Conifer greenery planting in Northwest Russia and North Sweden (Hvoinie v ozolenenii Severo-Zapada Rossii I Severnoi Shvecii). *Izvestia SPbGLTA*, Saint Petersburg: LTA, 2000, No. 4(10) p. 3.
4. **Buligin, N. E., Yarmishko, V. T.** *Dendrology*. SPb.: Nauka, 2000. p. 83–98.
5. **Clement, G.** *Le jardin en mouvement*. Paris: Sens et Tonka, 2007, p. 308.
6. **Dunnett, N., Kingsbury, N.** *Planting green roofs and living walls*. London: Timber Press, 2008. p. 174.
7. **Ignatieva, M., Stewart, G., Meurk, C.** Low Impact Urban Design and Development (LIUDD): matching urban design and urban ecology. Lincoln: *Landscape review*, 2009, No. 12 (2). p. 61–73.
8. **Gehl, J.** Public Spaces for a changing public life. Munich: *Topos*, 2007, No. 61, p. 16–22.
9. **Gerasimov, A. O.** Sustainability of conifer plants on the streets of Saint Petersburg. PhD thesis. Ustoichivost hvoinih porod v ulichnih posadkah Sankt Peterburga: Diss. kand. s.-h. nauk / SPbGLTA. SPb. 2003.
10. **Gerdts, N.**, The High Line. New York City. *Topos*, 2009, No. 69. Munich: Callway, p. 16–23.
11. **Goncharenko, N.** «New urbanism»: a city for people (Novii urbanizm: gorod dlia cheloveka). Moscow: *Landscape organization of territories surrounding office-public centers in Saint Petersburg*. Ph.D. thesis. Moscow: Moscow State Forest University, 2012. p. 157.
12. **Kerimova, N.** *Landscape organization of territories surrounding office-public centers in Saint Petersburg*. Ph.D. thesis. Moscow: Moscow State Forest University, 2012. p. 157.
13. **Kerimova, N., Nefedov, V.** Landscape organization of green buffer space of office centers of Saint Petersburg: problems and solutions. *Contemporary Landscape Design: new approaches and dimensions*. Saint Petersburg: Politechnicheskii University, 2010. p. 35–36.
14. **Kerimova, N., Sotnikova, I.** Biotope-based landscapes for Office Buildings. *Scales of Nature. IFLA International World Congress*. Zurich. 2011. p. 491.
15. **Koviazin, V. F., Shabnov, V. M., Martinov, A. N.** etc. *Monitoring of soil/plant resources of Saint Petersburg ecosystems (Monitoring pochvenno-rastitel'nykh resursov v ekosistemakh Sankt Peterburga)*. SPb.: Politehnicheskii universitet. 2010, p. 206–266.
16. **Kulibaba, V. V.** Approaches to restoration of aquatic-paludal biotopes of Lakhta Bay (Principy vosstanovleniya vovno-bolotnykh biotopov lahtinskogo rasliva) *Yuntolovskiy regional complex natural reserve*. SPb. 2005, p. 181–184.
17. **Magnusson, M. M.** Hand crafted biotopes in the middle of Helsinki. *Topos*, 2010, No. 71. Munich: Callway, p. 114–115.
18. **Oberlander, C., Hitelaw, E.** New York Times building: a garden at its heart. *Landscapes/Paysages*, 2008. Vol. 10, No. 2, p. 21–22.
19. **Schmidt, C.** The challenge of plants. *Urban green*. Basel: Birkhauser, 2010, p. 72–79.
20. **Tornbjorn, A.** Utopia in green and blue. *Topos*, 2009, No. 69. Munich: Callway, p. 64–70.
21. **Volkova, E. A., Hramcov, V. N., Isachenko, G. A.** etc. *Complex environmental mapping of gulf of Finland coast (luga bay region)*. SPb: SPbGXFA, 2001, p. 54–70.

INFORMATION ABOUT AUTHORS:

Nadya Kerimova. Nadya Kerimova, PhD (in Landscape Architecture), Assistant of professor at the Faculty Landscape Architecture, Department of Parks and Garden Construction of Saint Petersburg State Forest Technical Academy, Institutskii per., 5, 194021, Saint Petersburg, Russia, Tel. +7 92 19 03 31 49. E-mail: kerimovanadya@yahoo.com

Valeriy A. Nefedov, Dr. Arch., Professor of Saint Petersburg State University of Architecture and Civil Engineering, 2-nd Krasnoarmeiskaya str., 4. 190005, Saint Petersburg, Russia. Tel. +7 92 19 35 89 55. E-mail: valerynefedov@yahoo.com

Inna Sotnikova, PhD Arch., Assistant of professor at the Faculty of Architecture, Chair of Urbanism and Urban Design, Saint Petersburg State University of Architecture and Civil Engineering, 2-nd Krasnoarmeiskaya str., 4. 190005, Saint Petersburg, Russia, Tel. +7 81 25 75 05 28. E-mail: sotnikoffa@bk.ru

Maria Morozova, Landscape Architect, Landscape Architectural Bureau MOX, Saint Petersburg, Gorskoe sh., 9, pos. Levashovo, 194361, Saint Petersburg, Russia, E-mail: morozova_archi@inbox.ru

Kopsavilkums. Lielmēroga daudzfunkcionālās (dažādas nozīmes) biroja ēkas ir svarīgs elements pilsētas sturktūrā un ir cilvēku, transporta sistēmas un biznesa gravitācijas centrs. Šeit, plānojot ainavas dizainu, kas aptvers šīs daudzfunkcionālās biroja ēkas, ir ieteicams pielietot ekoloģiskas nozīmes un rakstura plānošanas metodes. Mūsu metodes mērķis ir atlasīt un pielāgot Ziemeļeiropai raksturīgo dabisko augu kopumu Santpēterburgas (Krievija) biroja ēku apkārtnes ainavu plānošanā.

Scenic Wallpaper – First Quarter 19th Century Western European interior décor in Latvia

Laura Lūse, *Latvian Academy of Art*

Abstract. In the early 19th century French scenic wallpaper rapidly gained popularity as the preferred type of interior décor in the homes of country noblemen and rich merchants. The main characteristic of this type of wallpaper is the continuous and unbroken depiction of panoramic scenes that feature exotic countries, prevalent outdoor hobbies and scenes from the natural world, transforming each room into an almost illusory space. Thus the nature was carried indoors in a rather poetic way. It has been established that scenic wallpaper was used in a number of interiors found in the territory of present-day Latvia. This article will present a detailed analysis of these interiors.

Keywords: scenic wallpaper, interior, wallpaper trade.

Introduction

Many experts within the wallpaper manufacturing industry regard scenic wallpaper as one of its highest achievements, not just because of the complex technologies required to produce it but also of its artistic value. Scenic wallpaper differs from the other types of 19th century wallpaper in a considerable way - just like a painting this wallpaper depicts unbroken and continuous scenery without repeating some or all of its elements. It is printed on individual rolls that join together and cover every wall in a room, creating a very special almost outdoor like atmosphere. Scenic wallpaper was exclusively manufactured in France [13] with earliest examples dating back to the late 18th century. Its ascend to popularity started after the French Manufacturers' Show in 1806 and culminated in 1865 [11].

Scenic wallpaper was immensely popular during the first part of 19th century as evidenced by the vast number of wallpaper produced. It has been established that over seven decades 115 scenic wallpaper designs were created in France and almost 90 of those designs were actually manufactured [10]. One of the main reasons behind this growing popularity was the fact that manufacturers were able to present popular scenes and contemporary issues in an aesthetically pleasing way that suited rooms of various configurations. The main subject matter of scenic wallpaper can be divided into three broad categories: 1) depiction of famous literary works or military achievements; 2) illustrations of well-known journeys and exotic countries; 3) depiction of everyday hobbies and entertainment [12].

In terms of the situation in Latvia, there are only five documented instances that confirm the use of scenic wallpaper in historic interiors, and each one of these instances should be given due attention. What could have been the main reason for choosing

scenic wallpaper? How widely available was this interior décor in the present-day Latvian territory and what trade routes were utilised in its acquisition? The answers to these questions will provide new insights and contribute towards the research of 19th century Latvian interiors.

Methodology

Information about the use of scenic wallpaper in Latvia has been acquired from a number of historic sources: documents owned by the Monuments Board, written eyewitness testimonies and photographic collection at the Herder Institute in Marburg. Various research articles dedicated to scenic wallpaper were analysed and put into context. For the purposes of this research, the most relevant articles were 'Schweizer Landschaftstapeten des frühen 19. Jahrhunderts' (1991) – a book by the German researcher Verena Baumer-Müller, and 'French Scenic Wallpaper 1795–1865' (2000) – exhibition catalogue put together by Odile Nouvel-Kamerer, main curator of 19th century objects at the Musée des Arts Decoratifs in Paris. In order to establish potential links between paper manufacturers and Latvia, the widest historic wallpaper archive at the Musée du Papier Peint de Rixheim (MPP) in France was contacted. This archive largely consists of materials from one particular manufacturer – Zuber.

Results and discussion

The enticement of scenic wallpaper

In 18th century public fascination with exotic countries and the accompanying desire to travel was on the increase. Italy had always been a popular travel destination, however picturesque Swiss soon seized this position. Intellectuals of the

Enlightenment period were mainly responsible for this growing interest in Swiss as they focused their attention on enhancing the quality of life of 'common' people. The image of an independent Swiss peasant with a monumental mountain scene in the background was used as an idealised example of the romantic and carefree life of shepherds. Books about journeys and exotic lands, antique mythology and articles devoted to it were the most read literature at the time. It reflected the romantic mood of the population and created a desire to embed such scenery in everyday life.

Johan Wilhelm Krause, Professor at the University of Tartu, observed a spectacular example of such romanticised dramatisation of daily life while he worked as a governor in Vidzeme (1786–1796). He remembers visiting Baron Fersen of Vecsalaca together with his employers. Baron's manor house was on the banks of the river Salaca. During the second day of their stay, the party went for a ride in the park and its nearest surroundings. As soon as Baron Fersen's carriage had reached the main gate, trumpets sounded from the tower, the nearby Chinese temple had a flag up and canons fired three times. The party carried on with their journey. They came to a halt near a pile of rubble on the left hand side as the Baron shouted – stop! The rubble turned out to be ruins of an old castle. Baron had considerably improved the modest remnants. There was a knights' hall, a chapel with hermit painted on wooden floorboards and an underground prison with pictures of snakes, lizards, toads and a horse skeleton painted on its walls complete with a castle madam overlooking the collapsed tower from her cross-bared window. The party left the ruins behind and crossed a swamp, which the Baron had proudly named after the mythical river Styx in Ancient Greece. For the rest of their journey birch groves replaced meadows followed by a few romantic huts, some sheep with pretty shepherdesses and children, as well as a collapsed windmill, tiny ponds and a birch thicket. According to Krause, that was Arcadia! As they progressed, the journey continued to grow more and more melodramatic – a characteristic inherited from the Baroque period. They came across the Land of Peace or in other words – a cemetery in the midst of firs featuring a funeral show. The party went past an unfinished Ancient Teutonic Valhalla and stopped at the Rose Garden. Behind it was a dairy where workers dressed in Swiss costumes were making butter and cheese. There was a statue in the nearby peasant's hut, which suddenly came to life and became an Estonian peasant [7].

Despite the obvious dislike of Baron's ostentatious and shallow nature that can be detected throughout Krause's scrupulous description of their journey, the scripted walk is a typical example of the romanticised and idealistic worldview that dominated the late 18th century. Travel journals and

antique mythology studies ignited the desire to experience and enjoy at least some of this beautiful world in everyday life. Wealthy landowners shaped park landscapes according to their imagined narrative. French wallpaper manufacturers were quick to respond and offered to transform certain park motifs into scenic interior décor, so that the desired effect could also be enjoyed indoors. Skilled artists used exceptional quality graphic art as a starting point to create spectacular and idealised panoramic scenes. Two of the most popular scenic wallpaper subjects have already featured in afore mentioned park trip – the Arcadia with its idyllic life of shepherds and 'Swiss Landscape' with appropriately dressed actors. It was mainly thanks to the wallpaper manufactures in the early 19th century that these two subjects became widely available as beautiful images.

An almost complete palette of the main scenic wallpaper subjects emerges when literature studies and passion for exotic lands is supplemented with hunting, which was the most popular hobby of the rich at that time. Thus this modern and contemporary interior décor managed to closely and successfully resemble the idealised and heroic world that everyone wished to live in.

5 examples of scenic wallpaper in Latvia

Jacquemart et Bénard: Chasse de Compiègne

The most well known example of scenic wallpaper in Latvia was found in the dining room at Mežotnes Palace (district of Bauska), which was owned by Count Leven. It displayed scenes from Chasse de Compiègne wallpaper by the Paris-based company Jacquemart et Bénard, designed by the French artist Carle Vernet (1758–1836). The scenic wallpaper consists of 25 rolls and feature country noblemen going on a hunt. It begins with the carriage of Queen of Napoli leave castle though the main gate heading towards the Compiègne forest, followed by an elaborate scene of deer stalking, moving on to crossing of the river and feeding the game to dogs and culminates with a picnic in the meadow. This wallpaper was only ever issued twice – once in 1812 and then, for the last time, just after 1815. Interestingly, both editions are slightly different, in the 1812 version the cavalry is dressed in red, whereas in the second edition they are wearing blue [10].

In the case of Mežotnes Palace this difference could allow for a more precise date of the interior decoration to be established, unfortunately this idea has to be abandoned because major building works began in 1798 and interior decoration took place from 1802 until 1817 [8]. It is plausible that the first edition wallpaper was still available to purchase after 1815. Therefore the wallpaper inside the castle could have been either the first or the second edition. The choice of wallpaper could have been linked to

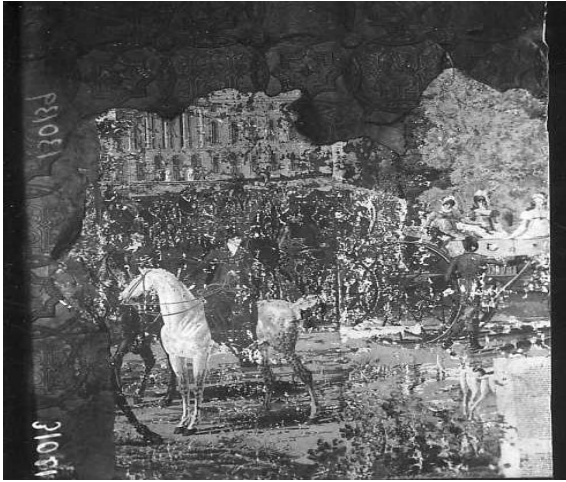


Fig. 1. The Mežotnes palace dining room interior with fragments of the 1st and 2nd columns of the *Jacquemart et Bénard* company's *Chasse de Compiègne* scenic wallpapers [Source: photo by Pēteris Ārends from LVVA f.1630., a.1., 1.103. neg. No. 31015]



Fig. 2. The fragment of the 4th and 5th column of the *Compiègne* hunting scenic wallpaper [Source: photo by Pēteris Ārends from LVVA f.1630., a.1., 1.103. neg. No. 31012]

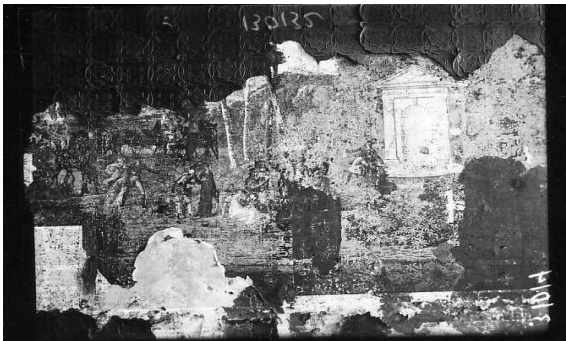


Fig. 3. The fragment of the 21st–25th column of the *Compiègne* hunting scenery scenic wallpaper with a picnic near the well [Source: photo by Pēteris Ārends from LVVA f.1630., a.1., 1.103. neg. No. 31014]

Charlotte Leven's youngest son Johan Leven who made the castle his permanent abode in 1817, which is when it is believed 'the interior works inside the castle had been fully completed' [8]. It has been established that at first an illusory pattern of painted laurel leaves framed the panels on the dining room walls, and scenic wallpaper was only a later addition [8].

First information about the Mežotnes Palace reaches the Monument Board in 1932. It states "Inside the room currently fitted with a stage for school use where the walls had been previously covered with relief leather wallpaper, the latter has been partially removed. It has revealed hand painted wallpaper from the early 19th century (Empire period) – [wrong observation – L.L.]. The uncovered fragment features a well, surrounded by ladies and gentlemen. ... [Undecipherable word, possibly, colours – L.L] are too bright and in several places have been coated in brown to match the colour of leather wallpaper" [9]. It was noted that this wallpaper "...is considered to be very rare and not just in Latvia" [9], however no further information can be found to indicate that the wallpaper has been successfully preserved. After all, it is understandable as the Mežotnes Palace was partially demolished during the Second World War and not renovated until 1959, however in those days interior decoration was treated in a rather brutal way [8].

On 5 July 1933 architect Pēteris Ārends (1900–1960) documented this wallpaper in his photographs. Black and white images show partially revealed wallpaper fragments from the first and second roll depicting leaving of the Compiègne castle, a nobleman riding his horse on the fourth and fifth roll and picnic at the well, which was spread across twenty-first to twenty-fifth roll (See Fig. 1.–3.).

It is likely that such wallpaper was also found in the Kleisti Manor House in Riga, which belonged to von Vegesack family. The only remaining evidence is the childhood memoirs of Fridrich von Brackel (1830–1896), the grandson of Vegesack, dated 1830–1839. He writes: "As kids, we were very fond of the dining room wallpaper, it was the sort that covered the whole room and depicted a royal [fürstliche] deer hunt. Gentlemen in wigs and big hats, ladies in riding costumes wearing coquettish hunting hats, chase dogs, the running deer – all of it captured our interest again and again, we could not get enough of this scene" [2]. It is near impossible to find the actual prototype of this description. The memoirs mention a few significant characteristics that enable certain wallpaper to be identified. This description seems to fit *Chasse sous Louis XIII* - scenic wallpaper from *Clerc & Margueridon*, where all participants of the hunt are



Fig. 4. The round salon of the Bišu estate with Zuber company's *Vues du Suisse* scenic wallpaper, 1912 [Source: Pirang 1912]



Fig. 5. Zuber company's *L'Arkadie* scenic wallpapers in Laidi manor house photographed in 1924 [Source: Herder-Institut Marburg, Bildarchiv, Inv. No. 135358]



Fig. 6. Scenic wallpapers from an unknown manufacturer with the *Forum Romanum* panorama in the former Inčukalns manor house interior [Source: Herder-Institut Marburg, Bildarchiv, Inv. No. 135377]

shown wearing old-fashioned costumes and large wigs while charging after their chase dogs and deer. However there are two hindrances. First of all, there are no known examples of this wallpaper or any information that it had even been produced. Secondly, wallpaper researchers are familiar with just the advertising lithography – those were usually manufactured to test the market before a new product was fully developed. The lithography is dated around 1845 [10], which matches similar products by this company, but does not correspond to the date indicated in *Brackel's* memoirs. The lithograph is a mirror copy of the Compiègne hunt and has been recreated in the style of *Louis XIII*. This leads to a plausible conclusion that it could have actually been *Jacquemart et Bénard* wallpaper in the Kleisti Manor House, especially since *Chasse de Compiègne* is the only wallpaper out of the four produced where hunting was actually depicted in the manner characteristic to noblemen.

Zuber: Vues du Suisse

Scenic wallpaper was used in another Manor House in Riga – Bišumuiža. A photograph showing the interior of a round salon that has Swiss scenic wallpaper has been in circulation since at least 1912, when it was published by Heinz Pirang as part of an article about manor houses in Riga [14]. This picture lacked detailed annotation and was responsible for urging researchers to wrongly and fruitlessly search for painted interiors later on, meanwhile the paper wallpaper has not survived till the present day.

Vues du Suisse (1804, design author Pierre Antoine Mongin, 1761–1827) by Zuber is one of the first scenic wallpapers, which along with *Les Sauvages de la mer Pacifique* (1804) by Joseph Dufour began the popularity wave of exotic panoramic interiors after the French manufacturers exhibition in 1806. In total 1280 sets of scenic wallpaper were sold from 1804, when *Vues du Suisse* wallpaper was first issued, to 1823 [1]. The magnificent Swiss mountain landscape consists of 16 rolls and features the most significant sightseeing spots – the Staubbach Waterfall, Oberhasli valley, Reichenberg castle and Furka glacier – together with a romanticised and idealised yet ethnographically precise depiction of the life and costumes of Swiss peasants [1].

According to Kampe's lexicon, Bišumuiža's living quarters were built in 1818 - same time as the Brandenburg's sugar manufacturing factory [6], and authorship for the construction plan has been assigned to the structural engineer Daniel Johann Gottfriedt (1768–1831). Thus this wallpaper must have been hanged shortly after the building works were completed.

Zuber: *L'Arkadie*

Scenic wallpaper has also been found in Laidi Manor House (district of Kuldīga, civil parish of Laidi). It featured *L'Arkadie* (1812, design author Pierre Antoine Mongin) by Zuber. A complete *L'Arkadie* landscape consists of 20 rolls, and only first four have been captured in a photo taken at the Laidi Manor House (Fig. 5.). The wallpaper advertising brochure states: "This décor is designed in a heroic style and depicts a content and peaceful landscape, which is why it has been named after Arcadia – the famous Greek region" [10]. The brochure goes on to instruct the reader that this wallpaper is intended for a three-way wall decoration (plinth, landscape and tile) and provides a detailed description of each scene. The Arcadia scene originated from „*Les Idylles*” (1756) – a popular poem by the Swiss poet Salomon Gessner (1730–1788) [10]. It was soon translated in several languages and in 1802 published with Gessner’s original illustrations.

Karl Gotthard Ernst Manteuffel (1756–1834), the owner of the Kazdanga Palace, built the Laidi Manor House for his daughter Johanna Lambsdorf (1787–1846) and it took from 1809 to 1811 to accomplish this task. There is a photograph from the Manor House at the Herder Institute in Marburg that captures a somewhat shabby room with magnificent wallpaper. Unfortunately this wallpaper also has not survived till the present day.

Manufacturer unknown: Forum Romanum

Finally, the last known example of scenic wallpaper in the current stage of this research comes from the former Inčukalns Manor House. The only remaining evidence is a photograph showing a fragment of wallpaper that depicts a landscape over the width of 5 rolls. It features *Forum Romanum* with the Coliseum in the background, and viewer is given the impression of standing next to the Venice Embassy and overlooking the antique city centre (Fig. 6). Despite the fact that landscapes of Rome and Italy were a popular subject matter for scenic wallpaper, it has not been possible to establish neither the manufacturer of this particular wallpaper nor its full composition.

So why is it that only five scenic wallpaper examples are known to the present day historians? Firstly, the disappearance of scenic wallpaper was dictated by changing fashion trends. The second part of 19th century saw the decline of scenic wallpaper as other forms of interior décor slowly replaced it. For instance, the afore mentioned Mežotnes palace where scenic wallpaper was covered over with a paper imitation of relief leather wallpaper, which encapsulated the fashion sense of the Historicism in a far better way. Secondly, the customs policy of the early 19th century applied strict rules to imported goods from foreign countries. Researchers have

TABLE 1
The scenic wallpaper sales activities in Riga and Jelgava, in 1820, 1821 by Zuber company.

Year, distributor	Name of wallpaper	Num.	The price of one wallpaper in France francs
1820 T.G. Kempffe, Riga	<i>Les Vues de l'Indostan, 1807</i> (Views of India)	1	30,00
	<i>Les Vues d'Italie, 1818</i> (Views of Italy)	1	40,00
	<i>La Grande Halvétie, 1815</i> (Large Switzerland)	1	40,00
	<i>L'Arkadie, 1812</i> in chocolate tonalities	1	18,00
1820 Gabriel I. Löwenstein, Jelgava	Views of Italy	2	44,14
1821 Charles Bötticher, Riga	Large Switzerland	1	40,00
	Views of Italy	1	40,00

[Source: author's construction]

acquired only one manufacturer’s accounts from that period, which belong to the Zuber Company and cover the first quarter of 19th century. Initially these accounts were stored in Zuber’s archives but during the second half of 20th century everything was added to the collection at the Rixheim wallpaper museum. Zuber’s accounts have detailed information about each trade deal, middlemen and supplier’s delivery address. As indicated by the delivery address, first instances of direct trade with Rīga and Jelgava were recorded only as late as 1820. This was largely due to the ban on imported wallpaper implemented by the Russian Empire and aimed at protecting local manufacturers. In 1820 Russia briefly opened its market [3]. Zuber were quick to use this opportunity and despatched their sales agents immediately. As a result T.G. Kempffe shop in Riga stocked four different kinds of scenic wallpaper [15] while Gabriel I. Löwenstein in Jelgava had two identical ones [15] (Table 1).

The limited stock of scenic wallpaper in Riga and Jelgava could be explained as a test strategy adopted by the company. In 1821 there was only one further delivery of scenic wallpaper to Riga, confirming the assumption that Zuber were on the look out for a profitable market in this region but failed to find a suitable location. Last delivery went to *Charles Bötticher*’s company [15]. In comparison, in 1820 Zuber dispatched four sets of *La Grande Halvétie* wallpaper, three sets of *Les Vues d'Italie* wallpaper

and one set of Les Vues de l'Indostan wallpaper to Tallinn and trusted all further sales to Jean Martinsen and C. E. Riesenkampff [15]. However this was also a small stock and no subsequent orders were received. There are several explanations at play here. It is possible that the local market was simply too small. Potential customers were able to purchase desired products at a number of other locations such as Lübeck, Leipzig, Hamburg, Frankfurt, Warsaw and main French cities etc, where they could choose from a range of scenic wallpaper from different manufacturers. The fact that *Vues de Suisse* (1804) wallpaper, which was produced by Zuber, was found in Bišumuiža supports this assumption, as their accounts contain no records of a delivery to a local supplier. The same applies to the Laidi Manor House and Mežotnes Palace as wallpaper for both had been purchased before the ban was lifted.

Besides, as the trade with Russia was badly affected by the customs policies demanding a steep duty tax for foreign products, wallpaper prices outside of the Russian Empire were actually lower and more affordable. For example, five franks had to be paid as tax for each roll of French wallpaper [3]. The dramatic differences in price between wallpaper purchased in Riga and Petersburg or Moscow indicate that this tax rate did not apply to the provinces of Kurzeme and Vidzeme. Les Vues d'Italie wallpaper and La Grande Halvétie wallpaper (each consisting of 20 rolls) was sold for 150 franks a piece to suppliers in Petersburg and Moscow [16], which is almost four times more expensive than the same wallpaper purchased in Riga. However, in comparison to Warsaw, Riga loses out as over there it cost only 30 franks [16] and even less in Germany and France. Despite these differences in price, from 1819 to 1822 a total of 175 Zuber scenic wallpaper sets were sold in Petersburg and Moscow alone [5]. All available range was represented: Les Vues d'Italie, La Grande

Halvétie, La Petite Halvétie (1818), Les Vues de Halvétie and Les Vues de l'Indostan as well as grisaille printed L'Arkadie in chocolate, sanguine, dark brown and grey tones. In 1822 the ban was applied once more and foreign wallpaper trade was prohibited until 1841 [3]. It is plausible to assume that other major wallpaper manufacturers were just as active as Zuber and vigorously marketed their products while the borders remained open.

Conclusion

To summarise the main points from the aforementioned examples of scenic wallpaper in Latvia, it is clear that this interior décor was used in older already established manor houses (Kleisti Manor House and Inčukalns Manor House), as well as in newly built modern Neoclassicism style homes that belonged to the local aristocracy or rich merchants. This type of wall finishing covers the period from 1810s until the end of the first quarter of 19th century. It is well evidenced that on two occasions scenic wallpaper was used as a dining room décor, quite possibly it was also found inside the Laidi Manor House as well as in the round salon at Bišumuiža. This matches examples from other countries where scenic wallpaper is still being used or has been found in salons, dining rooms and on some occasions – billiard rooms [4]. None of the aforementioned scenic wallpaper samples have survived until the present day, which is more likely to be the result of changing fashion trends instead of the lack of quality, as the 1930s report by the Monument Board clearly stated that the uncovered wallpaper in the Mežotnes Palace was still bright alas already covered over by a new layer of wall finishing.

References

1. **Baumer-Müller, V.** *Schweizer Landschaftstapeten des frühen 19. Jahrhunderts*. Stuttgart: Haupt, 1991.
2. **Brackel, F.V.** Aus dem Lebenserinnerungen (1830–1839). *In: Altivländische Erinnerungen*. Reval: Verlag von Franz Kluge, 1911.
3. Exposition de Londres, Rapport sur l'industrie du papier pour tentures, lu à la Société industrielle de Mulhouse, séance du 27 Août 1851, par M. Jean Zuber fils, ancien président de la Société, 1851.
4. **Jacqué, B.** An Economic Approach to Scenic Wallpaper. A Study of The Archives of J. Zuber & Cie. *In: French Scenic Wallpaper 1795 – 1865*. Paris: Musee des Arts Decoratifs, Flammarion, 2000, p. 71–102.
5. **Jacqué, B.** De la Manufacture au Mur. Pour une histoire matérielle du papier peint (1770 – 1914). *Universite Lyon II Lumière, Ufr D'Histoire Thèse pour obtenir le grade de Docteur en histoire contemporaine*, 2003, No. 2.
6. **Kampe, P.** *Lexikon Liv- und Kurländischer Baumeister, Bauhandwerker und Baugestalter von 1400–1850*. Stockholm, 1951, Band 1.
7. **Krause, J.W.** Bilder aus Altivland (1793). *Baltische Monatsschrift*. Riga, 1901, Band 52, s. 81–127.
8. **Lancmanis, I.** *Mežotnes muiža*. Rīga: Rundāles pils muzejs, 1993.
9. LVVA 1630.f., 1.a., 103.l., 144. lpp.
10. **Nouvel-Kammerer, O.** Catalog. *In: French Scenic Wallpaper 1795–1865*. Paris: Musee des Arts Decoratifs, Flammarion, 2000, p. 257–316.
11. **Nouvel-Kammerer, O.** Introduction. Reasons for Silence. *In: French Scenic Wallpaper 1795 – 1865*. Paris: Musee des Arts Decoratifs, Flammarion, 2000, p. 13–36.
12. **Nouvel-Kammerer, O.** Themes Reflecting a New View of Everyday Life. *In: French Scenic Wallpaper 1795–1865*. Paris: Musee des Arts Decoratifs, Flammarion, 2000, p. 103–134.

13. **Nouvel-Kammerer, O.** Wide Horizons: French Scenic Papers. *In: The Papered Wall*. London: Thames & Hudson, 2005, p. 94–113.
14. **Pirang, H.** Alt-Rigasche Höfchen. *In: Jahrbuch der Bildenden Kunst in den Ostseeprovinzen. VI Jahrgang*. Riga: Architektenverein zu Riga, 1912, s. 21.
15. **Zuber Et Cie.** *Livre de Vente depuis le 9 Mars 1818 jusqu'au 27 Fivrier 1821*. Mulhause, 1821.
16. **Zuber Et Cie.** *Livre De Vente depuis le 28 Février 1821 jusqu'au 11 Mars 1824*. Mulhause, 1824.

INFORMATION ABOUT AUTHOR:

Laura Lūse MA, Art (dz.1981). Studē Latvijas Mākslas akadēmijas doktorantūras programmā ar specializāciju mākslas vēsturē. Doktorantūras pētījuma tēma Tapetes Latvijā no 18.gs. līdz 20.gs. vidum. Paralēli studijām 7 gadus strādājusi uzņēmumā SIA “Arhitektoniskās izpētes grupa”, kas veic vēsturisko ēku arhitektoniski mākslinieciskās izpētes.

Kopsavilkums. 19. gadsimta sākumā franču ainavu tapetes strauji un pārliecinoši iekaroja stabilu vietu augstākās muižniecības un bagāto tirgotāju mājokļu noformējumā. To raksturīgākā īpašība – nepārtraukts panorāmas skata atveidojums – pārveidoja telpu par iluzoru vidi, kurā dominēja eksotisku vietu, iecienītu brīvdabas izklaižu un dabasskatu atveidojums. Tās poētiski literārā veidā ienesa dabu istabā. Arī Latvijas teritorijā zināmi daži piemēri, kuros telpu rotājumam izmantotas ainavu tapetes. To detalizētai analīzei autore pievērsīsies turpmākajā tekstā.

Žurnāla redaktore atvainojās raksta autorei par iepriekš publicētā teksta angļiskā tulkojuma neprecizitātēm, un atkārtoti publicē autores iesniegto rakstu.

Landscape and Architecture: Interacion for Sustainability

Valeriy Nefedov, *Saint Petersburg State University of Architecture and Civil Engineering*

Abstract. The article is focused on the problems of relations between landscape and architecture for the aim to discover additional resources, existed in the architectural objects spatial interpretation with additional ecological sense. Heuristic method, supported by systematical analysis of international experience, is used for some proposals on the ways of landscape and architecture integration offering. Main conclusions are devoted to the means of architectural objects ecological transformation.

Key words: integration, green architecture, components of nature.

Looking for the way of sustainable development providing, especially in the new constructed areas, not always and not all the specialists, operating with the landscape, are involved in the analytical thinking about equal role of open green spaces and architecture in this important direction of creative activities. Innovative way of thinking on this direction might be more integrated, putting more requirements to the qualities of architectural objects and making more ecology supporting efforts in the new buildings interpretation.

The question of sustainability for the future environment providing might closely unite landscape architects and architects in the mutual oncoming movement to use additional resources, that belong to the field of researches just between these two spheres of activities, changing their imagination about united possibilities.

In the process of present necessity comprehension of sustainable development concept realization in Russian cities the activity of practical and theoretical specialists in the field of architecture and landscape architecture, as well as everyone, who is connected with qualitatively new objects of construction formation, is plunged to serious revision from the position to choose the most modern and effective decisions corresponding to new requirements. Search of such decisions is impossible without existing problems analysis in the field of interaction of architectural objects with landscape, as the former approach to architectural spaces organization in the majority of domestic cities had not been always focused on the nature inclusion as a component of new constructions and realization of resources saving concept.

The reason for the problems research

Objective definition of the existing problems allows to formulate a basis for the new approaches offering, answering to the purposes of projected structures transformation in a harmonious part of environment, and possessing instead of while dominating vector of nature components reduction

to introduce the vector of its close integration. Present situation is in certain sense revealing, showing not only the problem of architectural projects making, but opening the question about the role and the place of landscape architects in the process of space creation, giving them not only the chance to decorate it after finished by architects buildings erection but to construct it on united logic together.

In the most general view the main problems in the field of the buildings and surrounding landscape interaction in a domestic practice could be expressed in following positions.

- 1) Rejection of natural environment by erected structures.
- 2) Absence of ecologically positive resource in the surface of buildings.
- 3) Refuse of nature components using as structural elements of architectural spaces.
- 4) Absence of experimental development on the nature fragments inclusion as part of building volume.
- 5) Separated consideration of the building and its nearest landscape in the resources saving aspect.

The radical prevalence of such materials as stone, concrete, metal, glass and minimal using of living nature components becomes the most typical from upper named problems among many constructed monumental buildings mainly public, but as well residential.

How the situation might be changed

It is a question not only on the means of the buildings "passive" transformation into certain "green" structures, covered by plants (although it remains as well actual), or nature forms copying in the process of projecting in the plan and the building silhouette interpretation (bionical forms following), but about revision of the construction concept for the architectural space turning towards united natural-architectural space.

Restructuring of the buildings plan (open and flexible design) and using of mixed with nature the building section solution, construction with vertical

and horizontal alternation of traditional, “lifeless” and natural, “living” components becomes an additional resource for the qualities of new structures changing.

Uniting thinking about the ways of sustainable development concept realization and the possibilities of “green” architecture using, Arthur Spektor marks: “Sustainability in architecture is no longer an option, or even an ethical consideration – it is the most crucial issue of our time if we are to leave the planet in a habitable state for future generations. The question is whether we can get it all done before the condition becomes irreversible” [1].

Among the purposes of architectural objects interpretation changing in the interaction with the landscape it is possible to allocate following:

- 1) formation of structurally and functionally integrated space uniting the architecture and the nature.
- 2) creation in the building surfaces fragments with the natural resources, providing positive influence on the ecological qualities of environment.
- 3) transformation of natural-architectural space into united space with the coordinated logic of nature resources using.

Speaking about *hypothesis* of the further development of architecture under the alternative version, it is possible to suggest consider a degree of nature components inclusiveness in the structure of architectural spaces in qualitative criterion for opportunities valuation of their integration with surrounding landscape and positive influence on environment ecological qualities.

Components of landscape and architectural object

Alternativeness of architecture means the new approach introduction to architectural objects projecting and their arrangement in the allocated territory on the basis of certain eco-system designing, based on the account of already existing real opportunities of the concrete site nature characteristics, adding new components of the nature as parts of the spatial system “building-landscape”.

Starting development of territory, choosing the form and structure of the building, and as a result realizing strategy of “bio-integration” as Arthur Spektor marks, “... We need first to ascertain an eco-system's structure and energy flow, its species diversity and other ecological properties and processes. Then we must identify which parts of the site (if any) can have different types of structures and activities, and which parts are particularly sensitive...” [1].

Among the components of natural landscape, interaction with which will be reflected for new eco-system certain stability, it is possible to mark such, as a surface of the ground, forms of relief,

vegetation forms and water components of environment. As potential spaces for spatial eco-system components distribution in structure of new architectural objects it is possible to allocate the following: vertical surfaces of external walls, roof coverings of the building, horizontal surfaces of terraces, niches and ledges on the facade, internal opened and closed (atriums) court yards, spaces between external “layers” of architectural object, inclined surfaces in the external contour of structure.

The project of Cartier Foundation for Contemporary Art in Paris, realized by architect Jean Nouvel, had served some kind of the manifest, a professional appeal to other architects to reconsider as future attitude to components of the nature inclusion in the architectural space. A number of means for such natural-architectural space construction, including “dematerialization” and “superposition des plans” [2], have formed in the further the basis for the imaginations about contemporary architecture development correction.

Means of buildings and landscape interaction

For the ecological qualities of new natural-architectural spaces changing the main resource in future development belongs not only to providing advanced researches with such subjects as what kind of plants and by what technologies they might be included into architectural spaces. No less important becomes the question and adequate researches making, how the architecture itself has to be structurally transformed in order to become able for the natural components integration, providing real improvement of ecological situations.

From the point of view of the chosen means influence for architectural objects volume-spatial interpretation in the interaction with natural components of landscape such means as the building interaction with ground surface and with the forms of vegetation are representing the greatest interest because might have real influence to the effectiveness of integration, including aspects of energy- and resources saving.

1. Interaction of architectural object with the ground surface

Among the most widespread means, reflecting possibilities of the building and the ground surface interaction, it is possible to note “overhanging” and “compensation”. On an example of Quai Branly Museum (arch. Jean Nouvel, completed in 2006 year) in Paris the mean “overhanging” might be presented mostly evidently when under the basic volume of the Museum the transit pedestrian ways between planted shrubs and grasses had been organized (Fig. 1).



Fig. 1. Example of the mean “overhanging” using. Quai Branly Museum in Paris, France [Source: photo by the author]



Fig. 4. Interaction of the building with vegetation following the mean “application”. Trade centre “Sihlcity”, Zurich [Source: photo by the author]



Fig. 2. Demonstration of the mean “compensation” possibilities. Park La Vache Noire on the roof of Commercial Centre, Paris, France [Source: photo by the author]



Fig. 5. Possibilities to introduce the containers with the plants in the structure of building facade. Walter Nernst-Haus, Institute of Chemistry, Humboldt University, Adlershof, Berlin, Germany [Source: photo by the author]



Fig. 3. Example of the mean “compensation” using on the roof of trade center. “Sihlcity”, Zurich, Switzerland [Source: photo by the author]



Fig. 6. Example of the mean “introduction” using in the public building architecture interpretation with green gardens between three higher blocks. Trias Towers, Berlin, Germany [Source: photo by the author]

Vegetation accommodation on the roofs surfaces, correlating to the square of building stain, compiles the essence of “compensation” mean and allows to keep relative ecological balance around the building and to promote heat losing reduction through the contour of building’s roofs. As the modern international practice shows, this mean had already effectively used as the “green” surfaces on roofs of

big shopping centers, and even had been interpreted as the “green” park of new generation on the roof of Commercial Centre “La Vache Noire” in Paris (Fig. 2). In the new shopping center “Sihlcity” in Zurich the square of covered with grass roof surfaces composes 5 of 10 hectares of all roofs covering square that confirms possibility to transform at least 50 % of building roof square into the green space (Fig. 3).

2. Interaction of architectural object with forms of vegetation

Among the most potential means of the buildings interaction with the vegetation forms, it is necessary to mark the means “application” and “introduction”. Relating to the essence of such interaction, we have to realize the resources of the nature, contained in the spontaneous vegetation, but creating the chance for technologically supported vegetation, making adequately equipped shell. The mean “application” realization might be carried out in a wide range of modern “green” technologies. For example, experience of modern big structures erection has confirmed an opportunity of the plants growing along the external bearing shell done of metal cables (Fig. 4) and accommodation of vegetation in containers on the different levels over the building facade (Fig. 5). The difference is that in the first case the plants like high tree-lianas are planted in the massive soil along the bottom of the building, having less risk of frozen, but in the second case the plants in the containers have bigger risk for the frozen, if the volume of soil is not big enough of if it is not supported by natural heating from massive construction.

On such examples as Trias Towers in Berlin, it is possible to notice, that spatial interpretation of architectural object's volume, forming it from several blocks putted on united low storey basis, possesses the evident opportunity to use the surface of lower part roof as the basis for the garden accommodation on the roof between higher blocks, realizing the mean “introduction” (Fig. 6).

References

1. Yeang, K., Spector, A. *Green design. From theory to practice*. London: Black dog publishing, 2011. p. 144.
2. Goulet, P. *Jean Nouvel*. Paris: Editions du Regard, 1994. p. 263.

INFORMATION ABOUT AUTHOR:

Valeriy A. Nefedov, Dr. arch., Professor of Saint Petersburg State University of Architecture and Civil Engineering, 2–nd Krasnoarmeiskaya str., 4. 190005, Saint Petersburg, Russia. Tel. +7 92 19 35 89 55. E-mail: valerynefedov@yahoo.com

Kopsavilkums. Zinātniskajā rakstā ir apskatītas ainavas un arhitektūras mijiedarbības problēmas ar mērķi aptvert esošās papildus arhitektūras objekta telpiskās interpretācijas iespējas ar ekoloģisku nozīmi. Daži ainavas un arhitektūras integrēšanas priekšlikumi ir balstīti uz pētījumu, izmantojot heuristisko metodi, kuras pamatā ir starptautiska mēroga pieredzes sistēmātiska analīze. Galvenie secinājumi ir attiecināmi uz arhitektūras objekta ekoloģiskās transformācijas veidiem.

Conclusions

For the sustainable development concept realization the questions of landscape and architecture interaction move from the field mostly problematic to the field of new resources analyzing and realizing. The approach to create continued by the architecture qualitative transformation additional eco-system “building-environment” might give important vector for joint investigations over new architectural space interpretation.

Using the effect of existing additional heating processes on the external surfaces of the building in the cold time of the year the green technologies might be one of the ways towards the energy consumption reduction, giving this small portion of not lost energy for the mass of soil with the roots of plants. No less importance the creation of water effective landscapes has, where the buildings and surrounding environment might “work” together.

For the qualitatively new ideology of architecture introduction it is necessary in the countries already involved in the sustainable development concept realization to accelerate distribution of the adapted international ecological standards, such as LEED, BREEAM or DGNB, which could promote appearance of new approaches to the components of nature integration in architectural space structure. But one of important position is that in this process the landscape architects with better knowledge of vegetation peculiarities and green technologies have to be ready for the new solutions offering, based on scientific researches.

The Visual Elements Forming the Identity of the Baltic Sea and Gulf of Riga Coastal Landscape

Natālija Ņitavska, Raimonda Kanavina, *Latvia University of Agriculture*

Abstract. The impact of globalization makes one think about the identity of the Latvian landscape, particularly the rapid changes in the coastal landscape, which are connected both with nature's processes and human activities. Recognizing of landscape identity is closely connected with the identification, survey and description of its forming elements, since the landscape elements are the key to landscape perception, and these elements play one of the determining roles of identity formation. The main elements forming the landscape identity are: visual, historical and cognitive. The method of landscape recognisability is based on the research and identification of a sequential group of landscape forming elements, combining under each stage in the field of landscape research cartographic and descriptive methods and approaches. This research is a part of a combined identity determination with the purpose of defining the visual elements forming the landscape. The aim of this research is to study the visual elements forming the identity of the Baltic Sea and the Gulf of Riga coastal areas, to classify the landscape according to the characteristics of its visual perception, putting in the forefront the features which are characteristic of a coastal area. The research was carried out over the period of October 2010 to March 2011. The chosen stretch of land Ainaži – Salaca is 14 km long, occupying 11.3 km². It lies in the north-eastern part of the Baltic Sea and Gulf of Riga, north-western part of Vidzeme. The research on the visual elements forming the identity of the Baltic Sea and Gulf of Riga coastal landscape in the area from Ainaži to the river Salaca is based on the visual survey of the landscape, using landscape matrixes. The survey matrix consists of two parts – characterization of the combined image and a recording of typical landscape elements. 50 characteristic and unique landscapes were chosen over the whole researched area. As a result, basing on SPSS data, a characteristic visual landscape type and its forming elements, their interaction, which is one of the forming parts of landscape identity, were formulated.

Keywords: landscape identity, visual assessing, coastal areas, landscape elements, visual aesthetics.

Introduction

Globalization as a comprehensive phenomenon is not possible to define, determine its form of expression or content, clearly – globalization embraces and transforms everything from each person's inner world and ending with the physical changes we are watching in the landscape [14, 2]. The impact of globalization in Europe seems to wonder about the identity of the landscape, especially, in sensitive regions of the countryside, such as the coastal landscape. In Latvia, under the influence of globalization we are experiencing rapid changes exactly in the coastal area of the Baltic Sea and the Gulf of Riga subject to the impact of both natural processes and human activity.

From ancient times to the present day, the coastline attracts people – some for permanent accommodation, others for the summer season as well as tourists and researchers. It should be noted that on the coast due to storms and coastal erosion there are difficult living conditions but the coast is the force of gravity, which is often bound with unusual natural handicaps, with a special aura and unique in a sense as the coast is unique on the Latvian scale. Historically, the coast has been concentrating a considerable number of inhabitants and for a long time there has been an intensive human economic activity. There have been built up

and there are still specific, enough natural and aesthetically appealing but very fragile, sensitive to human activities natural features and landscapes that are an excellent value. Over a long period, on the coast there is created a peculiar cultural environment and each site has a unique cultural heritage. Today, the landscape is characterized by the use of power and the territorial expansion of human activities. This is demonstrated by the expansion of towns and villages, a new type of building construction in the countryside, tourism development, road infrastructure, including the development of the oil port terminal building, wind energy and other actions [21].

The Baltic Sea research nowadays is widely represented in many areas – in economy and sustainable development, policy and government cooperation, ecology, nature protection and management. The research of the coastal landscape of the Baltic Sea and the Gulf of Riga mainly emphasize the biological value of the coast, habitat protection and management in Latvia, which are also included in the project “Natura 2000” of the European Union's fund “LIFE–Nature”. Within the project, there have been surveyed and mapped all the coastal habitats and conservation and management plans have been developed [29]. The European Environment Agency

attracts the public awareness to all the European coastal changes – degradation, the increase of built – up and artificial areas [10] Latvia is currently in a similar situation. The coastal utilization, planning and management have not yet been arranged in the territory of Latvia, the ban model is still on the go. On the situation in Latvia, research is carried out concerning the shortcomings in the planning documents, which does not allow you to fully respect the diversity of the coastal situations, that's why, the coastal development is discouraged that is often associated with recreation, which needs a sustainable development model. You need to make changes in both law and in all levels of planning and development, which is an ongoing process. As the end result, there is expected for each area individually designed sustainable management, taking into account the coastal variability and sensitivity [6, 30, 4, 15]. On the coastal variability in Latvia, it is also important to talk from the angle of the coastal dynamics, understanding that the natural processes are constantly changing the coastline by washing down or, vice versa, increasing the coast. In Latvia, for a longer period there is a coastal monitoring on which classification of the sea coast is based [8, 9].

The landscape identity theme has not yet been extensively studied in Latvia. The Baltic Sea and the Gulf of Riga coastal landscape identity exploration should be based mostly on the coastal peculiar and specific landscape studies as well as on the human perception and the concept of the identity of the landscape interaction. In the European Landscape Convention, the used landscape definition – “Landscape” means an area within the meaning how it is treated by people and when its (landscape) nature is a result of natural and /or human action and interaction [11]. So, the landscape is defined by highlighting not only the natural and human interaction but also the human perception and its importance. The human perception is always associated with subjective indicators as each individual's perception of the landscape is different – it affects the mentality, sex, age, profession, previous experience, social status, place of residence in rural areas, urban, local or non – resident, as well as the emotional mood of the moment, the perception of the landscape. Therefore, in the light of the above factors, we may conclude that the landscape of the visual perception is subjective [34]. Often, landscape definitions differ and depend on the level or levels that clarify the initial impression of the controversial scenes. This means that each

landscape understanding or structural level corresponds to its own definition followed by a different understanding of the identity of the landscape depending on the landscape scale or level. From the foregoing, it can be concluded that the perception of identity of the landscape is closely linked and dependent on the understanding of the landscape itself. The concept of identity in Latvia, is mostly used in relation to the national identity, language and people's identity and it is less related to the landscape. The Baltic Sea coast is one of Latvia's national identity integral components, so this landscape is as a business card at the global level with all the major and minor cities, protected areas and the beach, which are in the ongoing development process. The landscape identity concept is viewed in the author's prior publications [26].

The landscape has holism, which does not allow you to explicitly assert either of landscape research or modeling theories if it does not apply to the multidisciplinary approach. That's why, in the beginning it is important to understand the concept of landscape, the landscape existing links and interactions and then analyze their individual components [3, 23, 24]. As a whole, the landscape is still dualistically visible. Firstly, it shows what people perceive visually. Secondly, it is an ecological system, which has been developing over an extended period of time under natural and human influences. Therefore, the landscape perception and research can be based on the above views. There are differently created landscape research approaches as well. Visually, the aesthetic approach is primarily based on the landscape visible and easily perceivable part of the research and ratings are given in the aesthetic categories. We have to admit that this approach is subject to the subjective element. The approach to the landscape and ecosystem as a natural combination of factors allows the landscape to be characterized by natural elements and factors but the human activity will be considered in addition to the factors. The landscape science uses the functional landscape research. It is based on knowledge that the landscape is a product of human and natural interaction and how the various forms of human activity produce completely different landscapes where it is possible to determine the functional types of the landscape: the countryside or rural landscape, forest landscapes, urban landscapes, transport corridor landscape, industrial landscapes, recreation landscape, the protected area. The landscape functional approach most accurately

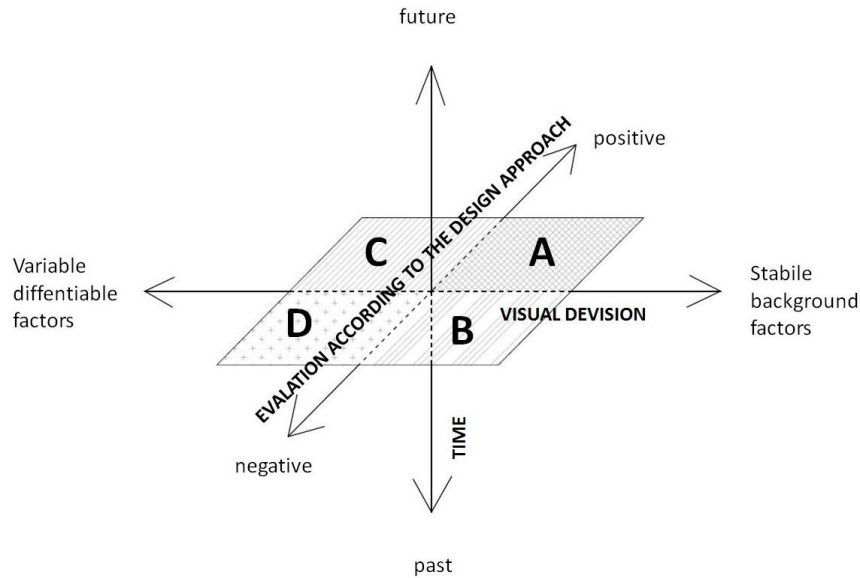


Fig. 1. The role of landscape features
A – protectable and stressed; B – transformable or visually hidden; C – provide protection and conservation;
D – transformable or removable [Source: construction by author's]

describes the landscape within the process and many of the elements as well as the landscape spatial structure and it is a material that can be used in developing planning activities [20]. The landscape functional load is an integral part of the landscape of identity as it creates the prerequisites for the both the visual and cognitive perception of the landscape. But with this approach it is not sufficient to determine the identity of the landscape as even one type of the landscape has a different identity. That's why, in the determination of the landscape identity, it is important to study all the three parties of the landscape – the visual landscape (the preserved natural and man – made elements or parts thereof), the historical one (ever been or extinct, destroyed natural and man – made elements) and the cognitive one (human memories and associations, traditions, symbols, experiences, adventure, etc.) [26]. This research focuses on the forming elements of the visual landscape.

In exploring visual forming elements of the landscape, attention should be paid to the visual aesthetic structure where the basic unit is the scene or natural view, which reveals to the watcher from a particular point of view. Analysis of the visual structure lets you see the structure of each element in the aesthetic value and position in the overall structure of the landscape and it is one of the stages of the decision-making on the landscape conservation or change. The landscape visual elements help seeing the landscape signs suggesting of the natural processes and human activities, more ancient traditions of land use [21]. The landscape visual value can be determined by the following indicators: visual accessibility, scale, naturalness, the way of use,

diversity and compliance [28]. The visual value is emphasized in the inventory of the landscape, which means that the key indicators of the quality of the landscape are as follows – the landscape relationship, diversity and aura; visibility and accessibility [25]. This measurement can be displayed in a scheme if one of the axes is a visual scale, the second one – the compositional scale but the third axis is the timeline as the landscape variability is expressed in the time dimension (Fig. 1). The visual scale is necessary for the determination of elements of the landscape – defining them as stable or changing discriminatory elements. Here you can talk about such elements of the landscape as buildings, separate architectural elements, roads, land surface and hydrology, land cover and relief, etc. The compositional scale is subjective and allows to assess the landscape aesthetics as positive, neutral, or negative, which is based on the architecture and spatial planning, architecturally applied spatial composition techniques in evaluating the landscape aesthetic quality [18, 28, 33, 34]. You should take into consideration the visual availability, scale, color, texture, materials, diversity, rarity, naturalness, movements and sensations.

The visual landscape evaluation and nomination of its criteria are covered in many parts of the geography, architecture, landscape architecture and environmental studies. Most viewed here is the following group of the criteria – the diversity of visual accessibility, land use, naturalness and coordination or harmony [27].

The landscape visual accessibility should be evaluated as the very first one – if the landscape is not visible, it is not possible to think of further indicators.

TABLE 1

Landscape perception scales (levels) and Landscape Identity elements [Source: construction by author's]

Landscape perception scale	Landscape elements and elements groups									
	Continent scale	Europe scale	Baltic sea region scale	Baltic sea and Riga's goal sea coast in Latvia	Seacoast segments	Landscape type	Landscape area or district	Individual place	Landscape space	View
Location on Earth's	+	-	-	-	-	-	-	-	-	-
Distance until equator	+	+	-	-	-	-	-	-	-	-
Climate zone	+	+	+	+	-	-	-	-	-	-
Geomorphologic structure	-	+	+	+	-	-	-	-	-	-
Ocean closeness	-	+	+	+	-	-	-	-	-	-
Seacoast line distance	-	+	+	+	+	-	-	-	-	-
Coast profile	-	-	+	+	+	+	+	+	-	-
Relief structure and forms	-	-	-	+	+	+	+	+	+	+
Greenery intensity	-	-	-	+	+	+	+	+	+	+
Greenery type	-	-	-	-	+	+	+	+	+	+
Biotopes	-	-	-	-	-	+	+	+	+	+
Area function	-	-	-	-	-	+	+	+	+	+
Tradition and heritage	-	-	-	-	-	-	+	+	+	+
Spatial structure	-	-	-	-	-	-	+	+	+	+
Building	-	-	-	-	-	-	+	+	+	+
Men, how individual	-	-	-	-	-	-	-	+	+	+
Microclimate	-	-	-	-	-	-	-	-	+	+
Light and dark interaction	-	-	-	-	-	-	-	-	+	+
Color, form and texture	-	-	-	-	-	-	-	-	+	+
Secondary objects	-	-	-	-	-	-	-	-	-	+

With the increase of visibility, the visual accessibility is increased. So you can distinguish three types of visual accessibility – inaccessibility, partially accessibility and fully accessible landscape. The elements describing the visual accessibility are the view, the view line length and width of the view. No less important there are the relief shapes that have a direct impact on the view and visibility [28, 25, 12]. In the visual estimation of the landscape, there is important the scale as well. Here you should separately take the landscape scale and perception scale. Each landscape perception scale is featured by a landscape element group, which influences the structure of the landscape itself, perception and development. In each of the perceptual scale, there are own patterns, their ways of manifestation of regularities, own capabilities to study them and use the research results. On it there is based the most important scientific research and design work rule: one level regularity cannot automatically be transferred to another level [19, 17]. In the case of a change in the perceptions scale, changes the number of the seen details and elements that feature the landscape identity [13]. In the theoretical study, the perceptual scale can be divided into three groups–near, medium and large [19]. Carrying out the practical research, surveying the landscape, it is possible to divide it

into a number of groups–the continental scale, the European scale, the Baltic Sea region, the Baltic Sea and the Gulf of Riga coast, coastal parts, landscape types, locality or region, a separate place, the landscape space, a separate view. Within the continental scale, an important role is played by the climate and location against the northern pole, the equator, etc. Within the European scale as the main landscape designer elements are the regional geo–morphological peculiarities, proximity to the sea area, the climatic zone, etc. In the Baltic Sea region– the coastal zone length, the coastal geo–morphological structure, forestation, the major port cities. Within the perceptual level of Latvia–ancient cultures, traditions, settlements, the shoreline nature, landscape types. Within the landscape typological level, the shaping factors are relief, cover, the type of land use, building and the adjacent areas functional load, etc. The locality and region are characterized by specific people and their work, traditions, natural and human resources, certain natural elements. The identity of individual places consists of both natural and man–made elements – from constructions and small shapes of architecture and installations. For a single view, as the key factor can also be a separate object's color, shape, texture, shading patterns or the sun factors, compositional regularities, etc. (Table 1).

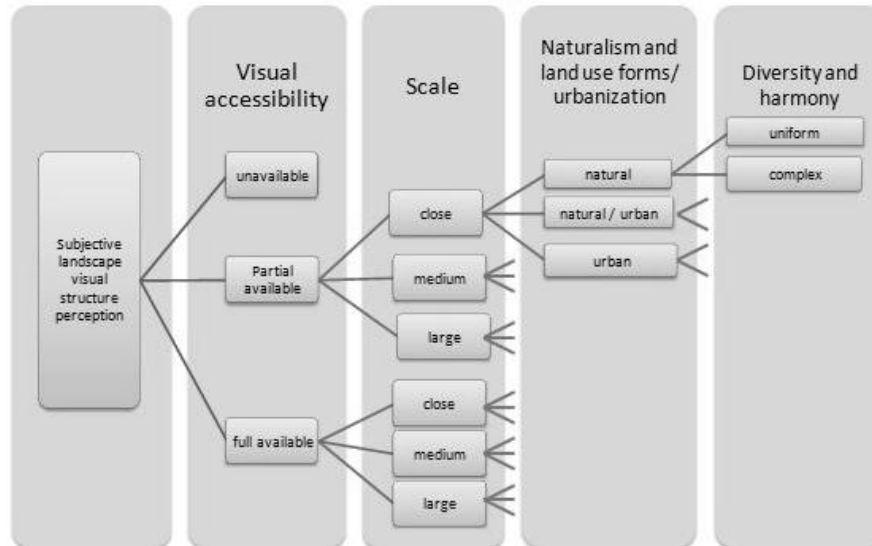


Fig. 2. Subjective landscape visual structure perception [Source: construction by author's]

The number of the landscape elements that influence the identity of the landscape strongly depends on the scale (level) of the landscape perception – the closer the scale, the larger group of elements in a landscape feature the landscape identity. These elements are often defined as place symbols and together with other factors make up the unique and recognizable aura of each landscape space [5, 32]. As the landscape describing feature, the people perceive naturalness of the landscape and the land use types. Three subgroups can be distinguished there – almost untouched landscape, partly used landscape and intensively used landscape. The specificity of the land use is closely associated with the shapes of the relief, so here it is worth noting the local – level landscape types – flat open farmland, flat woodland, flat insular farmland, undulating open farmland, undulating woodland, undulating insular farmland, hilly woodland, hilly mosaic – type landscape as well as the unique landscapes – the lake district, terraced river valley landscapes, river landscapes, wetland landscapes, moorland landscapes [25, 22]. Naturalness of the landscape and the way of uses is closely associated with the landscape's diversity and accordance, it is exposed to the subjective factor. The landscape diversity is often emphasized as the visual quality

Materials and methods

Object: the selected part Ainazi – Salaca is 14 km long and 11.3 km² large. It is located in the north – eastern part of the Gulf of Riga of the Baltic Sea, in the north – eastern part of Vidzeme (Fig. 3). All the area is part of the Northern Vidzeme biosphere reserve landscape protection zone, which is the only of such kind of specially protected natural area in Latvia. In the reserve, there will be

indicator [16]. Most people perceive diversity of elements in the landscape but often the landscape in its origin is fairly uniform, so it's important to follow the structure diversity and biological diversity. For assessment of the maximum accordance, there are used the landscape architectural – compositional approaches [28, 35]. As accordant landscapes may be named such ones where there is harmony between the nature – and man – made landscape elements [25].

Combining the visual perception criteria and placing it in the order of perception, there is created the visual structure table where the landscape is divided into 37 visual structure types (Fig. 2). The division of the landscape visual types is more theoretical and can serve as a base for the landscape visual assessment, marking the main groups of landscapes and the factors that influence the visual perception. Based on this model of the theoretical types, there is developed the landscape visual monitoring matrix that served for the data collection, surveying the area of the research.

This work aims to study the Baltic Sea and the Gulf of Riga coastal landscape visual shaping elements, classify the landscape by its shaping visual perception indicators, define specific to the coastal part visual types and define the mutual interactions of the landscape elements.

included the natural reserve Randu meadows, which is created for the seaside meadow, rare plant species and society protection [7]. The area is characterized by coexistence of almost untouched natural areas with the urban environment, which creates a specific, harmonious, identifiable landscape. In the selected area there are located such rivers as the River Salaca, the Krisupite,

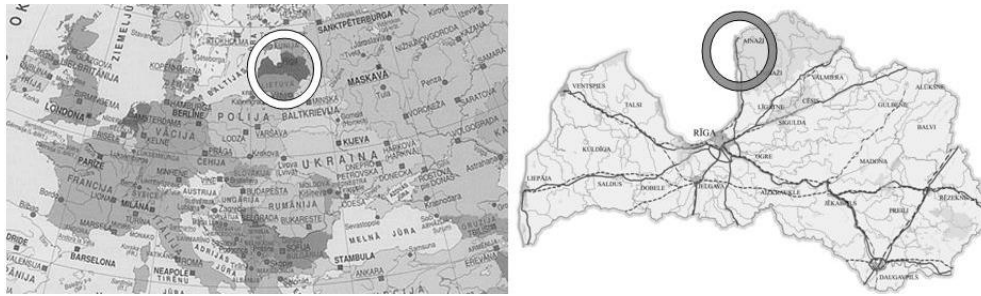


Fig. 3. Research object location in Europe and Latvia
[Source: construction by author's used google maps]

the Indupe, the Veverupite, the Rozupite and the Blusupite. The Salaca River and its valley are listed as one of the 150 European benchmark rivers, where there have been preserved particular high – quality and diverse biological resources.

The entire part Ainazi – Salaca falls within the administrative area of Salacgriva. In this part fall: Ainazi city, Kuivizi village and part of the Salacgriva city on the right bank. Ainazi city was an ancient village of the Liv fishermen, near the Estonian border. Kuivizi is a fishermen's village that was formed at the place where the Krisupite flows into the Gulf of Riga. Salacgriva city is the Centre of the municipality of Salacgriva, it was formed in the mouth of the Salaca River [1, 31].

The research of the landscape visual shaping elements is one of the stages of landscape identity recognition techniques. In the landscape study, for the visual landscape overall image evaluation there are used the following criteria: the visual accessibility, scale, relief, color, materials, texture, diversity, rarity, sensations, movement and naturalness. There are separately evaluated the landscape element groups – buildings, separate architectural elements, roads, land surface, ground cover, hydrology.

Results

The visual shaping elements of the landscape identity, using the landscape identity recognition method [26], are set for the area from Ainazi to Salacgriva, there is both the urban and rural environment. As a result of the research there are determined the landscape typical features and elements as well as unique landscape features and elements.

In the field survey, the visual study was based on the landscape description using visual perceptual criteria. For the data collection, there is used the visual landscape survey matrix and the data are collected and processed on the basis of the matrix included valuation factors: the description of the overall landscape image and the description of the landscape elements. The description of the overall landscape image is partly a subjective assessment as it is based on associative perception criteria.

Recognition of the visual shaping elements of the landscape includes the following stages – the field – research, data processing and analysis of the results. The recognition method of the visual shaping elements of the landscape identity is described in the previous publications of the author [26].

Pooling the required data for the recognition of the visual shaping elements of the landscape is carried out in January and February 2011, by analyzing separate landscape spaces using previously prepared assessment matrices. There were selected 50 typical and unique landscape spaces throughout the whole study area. In each of these landscape spaces there was found a perspective, the number was given to it, there were found GPS coordinates using the navigator Becker Traffic Assist 7926, there were completed the visual perception matrices, the photo fixation – panorama was presented. On the data obtained in the field survey, there is presented the landscape space – view point map where by entering the coordinates (Fig. 4), the matrix data are collected and processed in the SPSS environment.

As the final result, based on the SPSS data, there are defined the landscape visual type and their main shaping elements.

The area under the research is stretching along the Baltic coast in the length of 13 km and in width is less than 2 km, so it is perceived as a linear landscape space. For presenting the overall landscape, there has been created the landscape visual spatial curve (Fig. 4). The landscape visual spatial curve diagram displays the area character under the research where there can be clearly distinguished two phases of the landscape space of the urban environment – the landscape space of Ainazi town and Salacgriva town. Between the parts of the urban environment, there is the countryside environment which includes a small populated place – Kuivizi, individual residential houses but mostly it is a forest area with some agricultural land parcels. Moving down the highway, this landscape space is perceived as a narrow corridor. As a result of the visual landscape evaluation, there are determined visually different landscape spaces.



Fig. 4. The landscape visual spatial curve. Visual accessibility:

1 – a narrow, 2 – limited, 3 – partly accessible, 4 – open, 5 – fully accessible; scale: 1 – intimate, 2 – close, 3 – small, 4 – medium, 5 – large, 6 – wide; terrain: 1 – gully, 2 – smooth, 3 – flat with some hills, 4 – gently wavy, 5 – hilly, 6 – dunes, 7 – slope; color: 1 – neutral, 2 – monochrome, 3 – nuanced, 4 – vivid, 5 – with some bright elements; texture: 1 – smooth, 2 – soft, 3 – fine, 4 – rough, 5 – sharp, 6 – fragmented; diversity: 1 – uniform, 2 – simple, 3 – various, 4 – complex; rarity: 1 – common, 2 – typical, 3 – unique, 4 – rare, 5 – unique; naturalism: 1 – natural, 2 – natural with some man-made elements, 3 – anthropogenic environment with some natural elements, 4 – an urban

[Source: construction by author's]

One of them is a small town with the characteristic cultural and historical buildings, small scale and with limited views, some color accents, a large diversity of the used landscape elements and materials, it is an urban and typical landscape. Next is a forested area between the two cities and with the narrow corridor – here there is mostly a monochrome and visually uniform landscape, it is partially natural and usual landscape. Separately distinguishable there is the sea coast, the most part of which occupy the protected coastal meadows, here there are open and a wide views, it is a natural and unique area.

For the description of the whole area, there are used the following criteria: the visual accessibility, scale, relief, color, material, texture, diversity, rarity, sensations, movement and naturalness.

Visual accessibility is mostly narrow 24 % and restricted 46 % (Fig. 5). The restriction of these views consists of forest massifs, tree stands and buildings. The scale is assessed as an average – 40 % and small – 26 % (Fig. 6). Wide and large scales are prevailing on the sea coast or in rarely met agricultural areas. The average scale is most specific to the urban environment. The relief can be characterized as flat – 68 % or slightly undulated 12 %. In general, the whole survey area can be described as flat but the slight undulated relief is made up of dunes and river banks. The landscape survey took place during the winter period and the landscape color grading varies between the neutral – 30 % and monochrome – 28 % (Fig. 7). In general, both in the urban and particularly in the rural environment there are almost no individual vivid and contrasted objects. The color display can be seen along with the characteristic material diversity in the landscape. The most commonly encountered materials are wood, stone, plaster, and brick. Despite proximity of both towns, a specific material group is peculiar to each of these towns. The identity of Ainazi is created from stone and wooden heritage buildings. For Salacgriva, more common are plaster and brick buildings. The landscape texture is rough – 72 % and patchy – 12 % (Fig. 8).

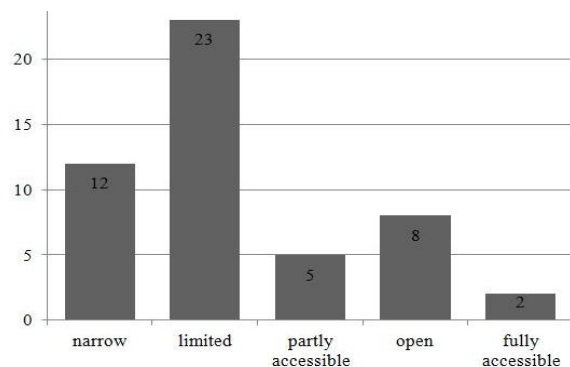


Fig. 5. Visual accessibility (number of items)

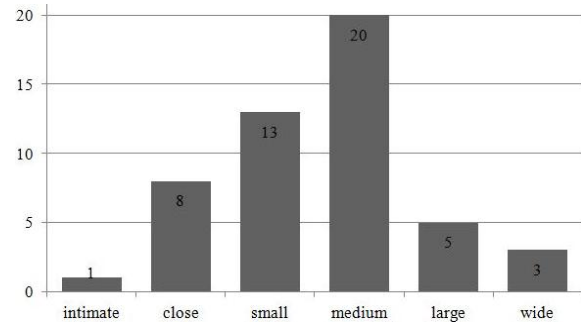


Fig. 6. Scale incidence (number of items)

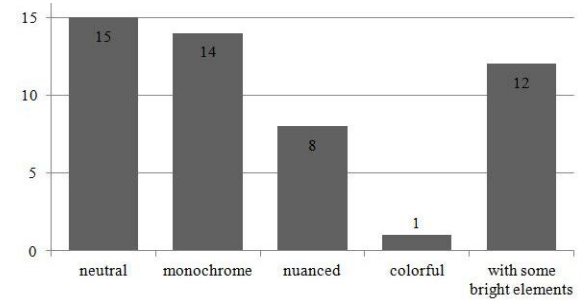


Fig. 7. Color incidence (number of items)

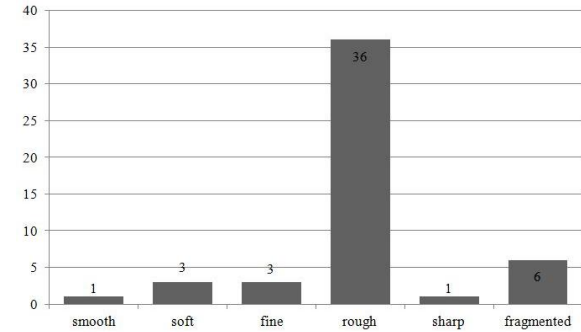


Fig. 8. Texture incidence (number of items)

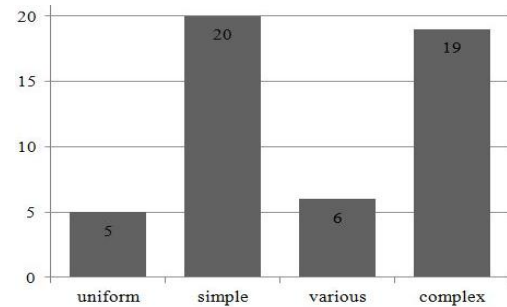


Fig. 9. Diversity incidence (number of items)

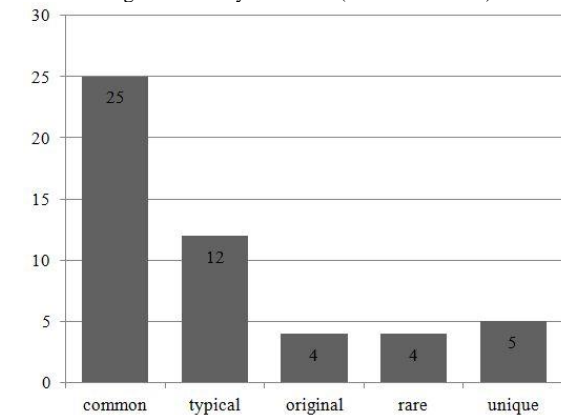


Fig. 10. Rarity incidence (number of items)

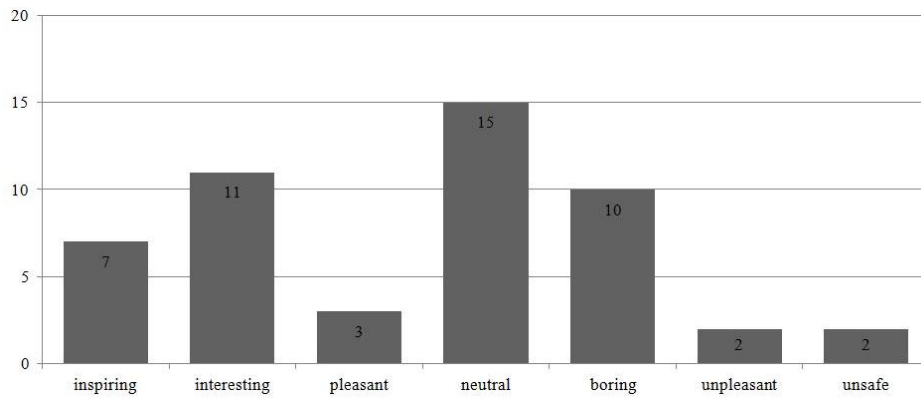


Fig. 11. Sensation incidence (number of items)

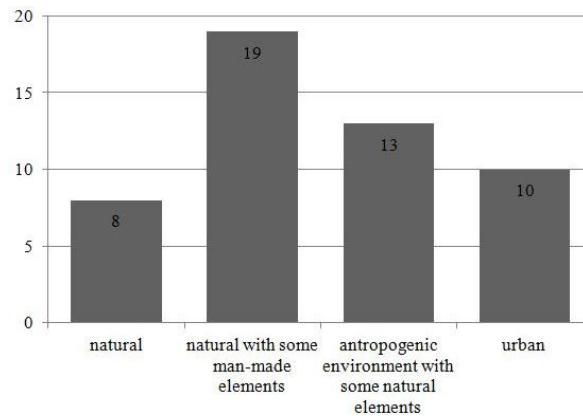


Fig. 12. Naturalism incidence (number of items)

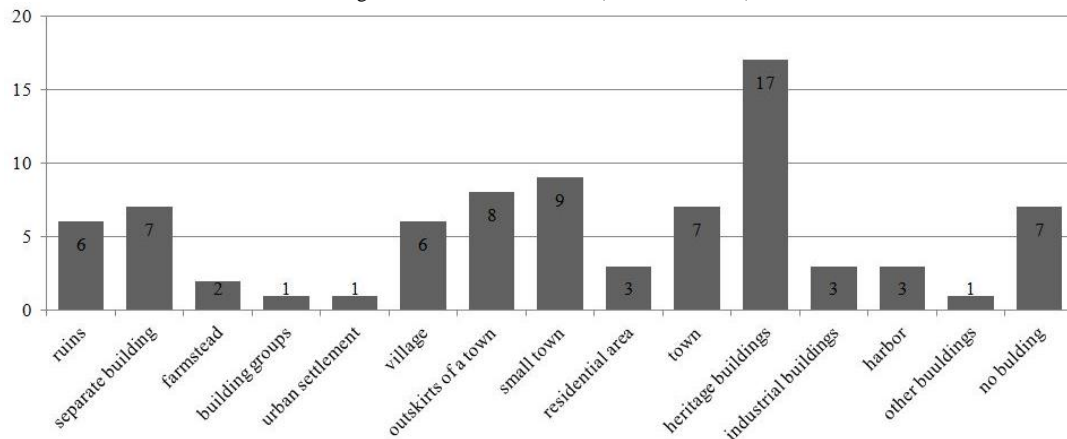


Fig. 13. Buildings incidence (number of items)

The texture formative elements are the forest and plantations, buildings, individual architectural elements and nature objects. The diversity of the research area is simple – 40 % and complex – 38 % (Fig. 9). The diversity is viewed in conjunction with rare landscapes evaluation, average – 50 % and typical – 24 % (Fig. 10). The landscape rarity and diversity effect is met in the landscape diversity and uniqueness. Sensation assessment is subjective and, therefore, depends on many factors. The overall image of the landscape from the resulting data can be described as interesting – 22 %, neutral – 30 % and boring – 20% (Fig. 11). The movement is dead – 44 %, calm – 24 % and lively – 32 %. Most of the area is the countryside landscape, which is described as calm but lively movement can be

observed in the urban environment. The naturalness of the landscape depends on the man – made elements and the weight of each definite space of the environment. As natural with some elements made by people, the landscape is described in 38 % of cases but as an antropogenous environment with separate natural elements – in 26 % cases (Fig. 12). In the visual survey matrix of the landscape, elements of the landscape are divided into six groups, for each group defining subparagraphs – the most common landscape elements. As the landscape survey has been carried out during the winter, it was impossible to evaluate the road and ground surface, therefore, the landscape elements are assessed in four categories: buildings, individual architectural elements, the land cover and greenery, water elements.

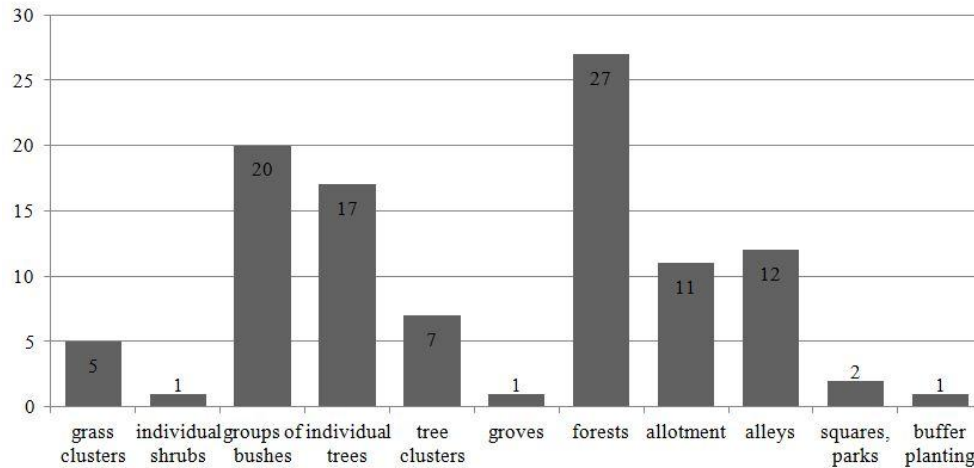


Fig. 14. Greenery incidence (number of items)

In the building element group, the most common are cultural and historical, small town and suburban buildings. Ainazi town and Salacgriva town are typical small towns with a small suburban residential area with private houses and individual service objects – fuel stations, rest areas and camps, small production facilities (Fig. 13). The most typical architectural elements are the poles and fences – they occur in both urban and rural environments. The land surface describing elements are evenly distributed – in the urban area they are alleys, kitchen gardens and individual trees but in the rural environment – forests, shrub groups and

individual trees (Fig. 14). Despite the proximity of the sea, in the visual rating of hydrology, most often there is not any water object, less visible is the river and the sea.

Assessing the overall landscape and individual landscape elements there are formed a number of relationships where the individual landscape elements make impact on some of the overall landscape elements or a group of criteria. The individual elements of the landscape and landscape structures interaction results in the landscape visual identity associated with cognitive landscape identity.

Discussion

The evaluation of the visual shaping elements of the landscape is an important part of the landscape identity determination. As it is evidenced by the results obtained, the visual image of the landscape is changing in each individual visual landscape space and depends on many criteria defining it. The landscape visual and spatial curve displays how the criteria vary depending on the landscape of urban or rural environment. Here you can see a number of landscape visual types. The first type is a natural large-scale coast with wide views, simplified visual diversity but unique and it creates pleasant sensations – such as the protected Randu meadow area. The second type is a forested area with the narrow transport corridor, a very small visual accessibility, monochrome, uniform and even boring. The third type is a small town with mid- and small-scale landscape spaces, separate color accents, beautiful cultural and historical buildings, neutral and interesting sensations. It should be noted that the visual study results show how the sea proximity basically influence the first visual evaluation type – the coast itself, since 70 % of cases do not appear in either the sea or the river proximity. This phenomenon can be explained by the protected areas forest zone, which separates the man's

everyday environment from the sea. The sea presence is reminded by the individual elements of the landscape and buildings – the lighthouse, the old warehouses in Ainazi, the individual cultural and historical objects – monuments, signs, used in the decoration, architectural motifs and elements and names of other objects.

Defining the visual shaping elements of the landscape identity, there is found relationship between several evaluation criteria. For example, evaluating the visual accessibility despite of the fact that the coast has wide views to the sea and coastal meadows, the forest zone that is located between the sea and towns of the highway restrict the views, creating small- and medium-scale landscapes. Here you can see the relationship between the visual accessibility and scale – the more limited the visual accessibility, the less is landscape scale. Described by Fisher and Nikodemus relationship between the visual accessibility and relief was proved as the sea nearby dunes fully or partially restrict the view [25, 12]. Relationship is created between color, texture and the used materials. For example, a rough structure can fully change or even hide the color peculiarities. The common materials create a different color

palette for the landscape space but in the area under the research it highlights common trends that are specific to the visual landscape types. Differences in the color—they are the palettes in Ainazi and Salacgriva. In Ainazi, the color palette and texture are affected by the stone and wood ratio but in Salacgriva – by the plaster and brick ratio in the finishes of buildings. The texture has also a close connection with the scale—the closer the scale, the finer is the texture, for example, the wood massifs of a large-scale landscape create a rough texture but individual trees in a small scale or even intimate-scale landscape create a fine texture. This relationship is also shown in the introductory part of article in Table 1.

The landscape visual diversity is associated with the landscape elements or color and texture quantity and diversity in each specific landscape space. It should be noted that the visual diversity of the landscape and rarity in the landscape positive direction study's results even prove the opposite claim – the fewer landscape elements and simpler the landscape, hence, it is often more natural if it is more unique, as, for an example, the Randu meadows. In the visual landscape evaluation it is important not to confuse the visual diversity and biodiversity as evidenced by the Randu meadow example – in a visually dull winter season but in a biologically diverse and unique landscape space. It should be recalled that the diversity of the landscape is often mentioned as the visual quality indicator [16]. However, there is no direct relationship created as speaking about the urban environment, unfortunately, it should be recognized that a too large number of elements, which increases the landscape diversity, reduces their aesthetically pleasing visual quality as inconsistencies between elements create chaos and stuffing with colors and textures as well as the materials used. This is the case in the centre of Salacgriva town where a small-scale historical and cultural fragile building is adjacent to a large scale building, offices – petrol stations, shopping centres and industrial buildings.

The criterion included in the landscape evaluation in the sensations is more vulnerable to the subjective factor but, on overall, it is the final evaluation criterion as it depends on all of the above criteria and their mutual interactions that makes up the overall landscape and causes definite sensations. This criterion is also affected by the weather conditions, the landscape elements and their groups, even the smells and sounds, so it must be concluded that the sensation criterion due to its too big variability does not give an unbiased result and it cannot be used in further studies. Therefore, this criterion should be considered separately as a phenomenon but it is not possible to analyze or compare it.

The landscape movement is linked with human activities – and in the urban environment it is pronouncedly lively not even raging but in the rural environment it is quiet and dead. In general, even in many parts of Ainazi and Salacgriva, the landscape movement is assessed to be quiet as a small town life is peaceful and leisurely. The natural landscape depends on the concentration of the economic activity as well, leaving the natural landscape of the coast and creating the anthropogenic environments only in city centres as in Ainazi and Salacgriva the landscape urbanization degree is not great, with the exception of the port area of Salacgriva where the industrial and public service objects have not left space for a natural environment, even the Salaca River banks are transformed. In general, the urban landscapes make up 20 % of the area marked landscape spaces but it is just a landscape space number which spatially is concentrated in the town and set up in the compact, without taking up a large room. We have to admit that for a true assessment of the naturalness of the area, in the future research, there will be necessary to calculate the area occupied by urban areas.

The evaluation of the landscape elements, selecting the most common object existence for each landscape space, the most common is the cultural and historical building, fences and poles, forest massifs and shrub groups but the water elements are not visible, despite the proximity of the sea and many rivers in the area being studied. In general, elements of the landscape leave an impact on many criteria of the overall image creation – the vision which is reduced with the appearance of the forest, trees or shrubs or dense buildings. The landscape elements influence the visual diversity of the landscape as well – it increases with increasing the number of elements as well as with the color palette and the diversity of the used materials and textures.

It should be noted that the seasons can significantly alter the visual rating and it has to do with the plant seasonal changes. These seasonal changes directly and indirectly influence many of the evaluation criteria. With the seasonal changes, also changes the visual accessibility – in the summer time grows the foliage volume, decreasing the visual accessibility, it indirectly leaves impact on the landscape scale.

The landscape color palette and texture are directly dependent on the seasonal changes – in the winter period of study, in 58 % of the cases the landscape is neutral and monochrome as there are not visible the coastal meadow flowering plants that form a unique habitat and have a material impact on the overall image of the landscape. For further research there is necessary to also estimate other seasons to see the ground vegetation cover and roads as well as the diversity of the color palette and texture.

The landscape holism explains the improbability of a single judge, evaluate and define the components of the landscape, without taking into account other aspects and not understanding the nature of the landscape and its notion [3, 23, 24]. The landscape visual evaluation in the Baltic Sea and the Gulf of Riga coastal landscape

identity study makes only one of the study parts and is not regarded as the final result. The visual landscape evaluation results are an intermediate in defining the identity of the coastal landscape as important there are both historical and landscape studies, cognitive awareness of identity in order to more precisely, objectively evaluate the landscape identity.

Conclusions

As a result of the visual evaluation of the landscape, using the overall image and individual landscape element evaluation matrix, the landscape space is divided into three types that are specific to the territory examined. The first type is a natural large-scale coast with wide views, simple visual diversity but unique and creates comfortable sensations. The second type is a forested area with a narrow transport corridor, restricted visual accessibility, monochrome, uniform and even boring. The third type is a small town with mid- and small-scale landscape spaces, separate color accents, beautiful cultural and historical buildings, neutral and interesting sensations.

There have been found relationship between many landscape elements: the visual accessibility and scale; the scale and the relief; the scale and texture; color,

texture and use of materials; the diversity, color, texture and common elements. With all of the criteria there are related sensations, but scored separately, not compared to other criteria as here the most gets the landscapes holism.

In future research, it is intended to study other Baltic Sea and the Gulf of Riga coastal landscapes to be able to mark out several visual types of the landscape characteristic to the Latvian coast and compare the results. It is also intended to carry out a visual survey of different seasons in order to more objectively evaluate the landscape elements under the impact of weather conditions.

The landscape visual survey results are included in the research of the landscape identity for the part from Ainazi to the Salaca River.

Acknowledgements

The work had developed within the framework of European Social Fund support for doctoral (No. 2009/0180/1DP/1.1.2.1.2/09/IPIA/VIAA/017) and master studies (No.2009/0165/1DP/1.1.2.1.1/09/IPIA/VIAA/008) program of Latvia University of Agriculture.

References

1. *Ainažu pilsētas ar lauku teritoriju teritorijas plānojums*. I. Daļa. Paskaidrojuma raksts [online 02.11.2011.]. http://www.rpr.gov.lv/uploads/filedir/Ter_plaanojumi/Pilsetas/Ainazi/I.dala-Ainazi_Paskaidrojuma_raksts.pdf
2. **Antrop, M.** Landscape change and the urbanisation process in Europe. *Landscape and Urban Planning*, 2004, No. 67, p. 9–26.
3. **Antrop, M., Eetvelde, V.** Holistic aspects of suburban landscapes: visual image interpretation and landscape metrics. *Landscape and Urban Planning* 2000, 2000, No. 50, p. 43–58.
4. **Briņķis, J., Strautmanis, I., Bērziņš, E.** Development of the Baltic Seacoast as One of the Essential Factors in Preservation of Unique Qualities of the Local Scenery. *Scientific Journal of Riga Technical University*, 2009, 10(3), p. 161–170.
5. **Carter, J., Dyer, P., Sharma, B.** Dis-placed voices: sense of place and place-identity on the Sunshine Coast. *Social and Cultural Geography*, 2007, No. 8(5), p. 755–773.
6. **Čepāne, I.** *Kā aizsargāt jūras piekrasti: Būvniecības tiesiskais regulējums Baltijas jūras un Rīgas jūras līča krasta kāpu aizsargjoslā* [online 6.10.2011]. www.politika.lv/index.php?id=4986
7. *Dabas aizsardzības pārvalde*. Dabas liegums Randu plavas. [online 10.11.2010]. http://www.daba.gov.lv/public/lat/ipasi_aizsargajamas_dabas_teritorijas/dabas_liegumi/randu_plavas/
8. **Eberhards, G., Grīne, I., Lapinskis, J., Purgalis, I., Saltupe, B., Torklere, A.** Changes in Latvia's seacoast (1935–2007). *Baltica*, 2009, 22(1), p.11–22 .
9. **Eberhards, G., Lapinskis, J.** *Baltijas jūras Latvijas krasta procesi. Atlants*. Rīga: LU Akadēmiskais apgāds, 2008, 64 lpp.
10. *Eiropas piekrastes pastāvīga degradācija apdraud dzīves līmeni Eiropā* [online on 2.10.2011]. http://www.eea.europa.eu/lv/publications/briefing_2006_3/
11. *European Landscape Convention. Council of Europe 2000* [online on 2.10.2011]. <http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm>
12. **Fisher, P. F.** Extending the applicability of viewsheds in landscape planning. *Photogrammetric Engineering and Remote Sensing*, 1996, No. 62, p.1297–1302.
13. *Forestry Commission. Forest landscape Analysis and Design*. USDA Forest Service Pacific Northwest region, Edinburgh, 1989, 118 p.
14. **Hanovs, D.** *Šeit, visur un tagad... Globalizācija Latvijā: konteksti, diskursi un dalībnieki*. Rīga: SIA Drukātava, 2008, 338 lpp.

15. **Hohlovska, I., Trušīņš, J.** Development of recreation of Vidzeme coastal zone. Issues and solutions. *Scientific Journal of Riga Technical University*, 2009, No. 3, p. 181–191.
16. **Hunziker, M., Kienast, F.** Potential impacts of changing agricultural activities on scenic beauty – a prototypical technique for automated rapid assessment. *Landscape Ecology*, 1999, No. 14, p. 161–176.
17. **Krause, C. L.** Our visual landscape managing the landscape under special consideration of visual aspects. *Landscape and Urban Planning*, 2001, No. 54, p. 239–254.
18. **Kundziņš, M.** *Dabas formu estētika*. Rīga: SIA Madris, 2004, 168 lpp.
19. **Melluma, A., Leinerte, M.** *Ainava un cilvēks*. Rīga: Avots, 1992.
20. **Melluma, A.** Landscape as a development resource: case of Kurzeme region. *Ģeogrāfiski raksti*, 2002, Nr. 10, 5.–15. lpp.
21. **Melluma, A.** *Latvijas Piekrastes ilgtspējīgā attīstība*. Rīga: Latvijas Universitāte, 2003, 16 lpp.
22. **Nassauer, J.I.** Cultural sustainability: Aligning aesthetics and ecology. *In: Placing nature: culture and landscape ecology*. Washington DC: Island Press, 1997, p. 67–83.
23. **Naveh, Z.** What is holistic landscape ecology? A conceptual introduction. *Landscape and Urban Planning*, 2000, No. 50, p.7–26.
24. **Naveh, Z.** Ten major premises for a holistic conception of multifunctional landscapes. *Landscape and Urban Planning*, 2001, No. 57, p. 269–284.
25. **Nikodemus, O., Rasa, I.** *Gaujas Nacionālā parka ainavu estētiskais vērtējums* [online 10.11.2010]. http://www.daba.gov.lv/upload/File/Publikācijas/ZIN_P_GNP_Ainavu_est_vert.pdf
26. **Ņitavska, N.** The Method of Landscape Identity Assessment. *Research for rural development 2011. Annual 17 th International Scientific Conference proceedings*. Jelgava: Latvia University of Agriculture, 2011, No. 2, p. 175–182 .
27. **Ode, A., Tveit, M. S, Fry, G.** Capturing Landscape Visual Character Using Indicators: Touching base with Landscape Aesthetic Theory. *Landscape Research*, 2008, No. 33, p. 89–117.
28. **Ode, A.** *Visual Aspects in Urban Woodland Management and Planning*. Ph.D. thesis. Alnarp: Swedish University of Agricultural Sciences, 2003, 41 p.
29. *Piekrastes biotopu aizsardzība un apsaimniekošana Latvijā* [online 12.11.2011.]. http://piekraste.daba.lv/LV/projekts/par_projektu.shtml
30. **Pužulis, A.** The Baltic coastal area management issues in Latvia. *Tiltai/Bridges/Bruken*, 2010, No.1, p. 89–100.
31. *Salacgrīvas pilsētas ar lauku teritoriju attīstības plāns. Esošās situācijas apraksts. II.sējums* [online 5.11.2011.]. http://www.rpr.gov.lv/uploads/ filedir/Ter_plaanojumi/Pilsetas/ Salacgriva/esoshaa_situacijas_ apraksts.pdf
32. **Stedman, R. C.** Sense of place and forest science: toward a program of quantitative research. *Forest Science*, 2003, No. 49, p. 822–829.
33. **Ziemeļniece, A.** *Estētiskā kvalitāte ainaviskajā telpā*. Jelgava: Latvijas Lauksaimniecības universitāte, 1998, 96 lpp.
34. **Zigmunde, D., Ņitavska, N.** *Vizuālās kvalitātes kritēriji aizsargājamās dabas teritorijās un upju ielejās*. Ainavu ģeogrāfija un ekoloģija: zinātniskās konferences tēzu izdevums. Rīga: LU Akadēmiskais apgāds, 2007, 80–81. lpp.
35. **Zigmunde, D.** Urban landscape Aesthetic Quality Assessment. *Latvian University of Agriculture Scientific Journal*, 2010, 25(320), p. 1–12.

INFORMATION ABOUT AUTHOR:

Natālija Ņitavska graduated in Architectural Sciences – Master of Landscape Architecture and Planning from the Latvia University of Agriculture in 2002. At 2010 Natālija started Doctoral studies in Latvia University of Agriculture. The theme of her PhD thesis is “The Identity of the Coastal Landscape of the Baltic Sea and the Gulf of Riga”. Currently she is lecturer and the director of Landscape Architecture and Planning study program in Latvia University of Agriculture. E-mail: natalija.nitavska@llu.lv

Raimonda Kanaviņa, Professional Bachelor in Landscape Architecture, 2010, Latvia University of Agriculture, Faculty of Rural Engineering, Department of Architecture and Building. At 2010 Raimonda started Master studies in Latvia University of Agriculture. The theme of her Master paper is “The Identity of Latvia’s Landscape”.

Kopsavilkums. Globalizācijas ietekme liek aizdomāties par Latvijas ainavas identitāti, it īpaši par piekrastes ainavas straujajām izmaiņām, kas saistītas gan ar dabas procesiem, gan ar cilvēka darbību. Ainavas identitātes atpazīšana ir cieši saistīta ar tās veidotājelementu identificēšanu, apsekošanu un aprakstīšanu, jo ainavas elementi ir identitātes uztveres atslēga, un tiem ir viena no noteicošajām lomām ainavas identitātes veidošanā. Ainavas identitātes galvenie veidotājelementi ir: vizuālie, vēsturiskie un kognitīvie. Paša ainavas identitātes atpazīšanas metode balstās uz secīgo katras grupas ainavas veidotājelementu izpēti un noteikšanu, apvienojot zem katra posma ainavas izpētes jomā kartogrāfiskas un aprakstošas metodes un pieejas. Šis pētījums ir daļa no kopējas identitātes noteikšanas un tas ir veltīts ainavas vizuālo veidotājelementu definēšanai. Šī darbā mērķis ir pētīt Baltijas jūras un Rīgas jūras līča piekrastes ainavas identitātes vizuālus veidotājelementus, klasificēt ainavu pēc to veidojošiem vizuālās uztveres rādītājiem, izvirzot priekšplānā piekrastei raksturīgās iezīmes. Pētījums veikts laikā posmā no 2010. gada oktobra līdz 2011. gada martam. Izvēlētais posms Ainaži – Salaca ir 14 km garš un 11.3 km² liels. Tas atrodas Baltijas jūras Rīgas līča ziemeļaustrumu daļā, Vidzemes ziemeļrietumos. Baltijas jūras un Rīgas jūras līča piekrastes ainavas identitātes vizuālo veidotājelementu izpēte posmā no Ainažiem līdz Salacas upei balstāma uz ainavas vizuālo apsekošanu, izmantojot apsekošanas matricas. Apsekošanas matrica sastāv no divām daļām – ainavas koptēla raksturošana un tipisko ainavas elementu uzskaitē. Izvēlētas 50 raksturīgas un unikālas ainaviskās telpas visā pētāmā teritorijā. Rezultātā, pamatojoties uz SPSS datiem formulē ainavas raksturīgo vizuālo tipu, to savstarpējo mijiedarbību, kas ir viena no ainavas identitātes veidojošām daļām.

Fluid Urbanism

Arne Riekstiņš, *Riga Technical University*

Abstract. This paper reviews the futuristic approach to urban planning – Fluid Urbanism. Research focuses on case cities of London, Istanbul and Turin (Torino) to reveal the theory and practice behind approaches to design in a before unseen ways, using parametric animation software and programmed scripts. This enables to keep the surrounding urban context untouched, implementing new grids and systems in the city fabric, seamlessly designing by new strategies in architectural design. Author explains his own project, revealing details of 3D modeling and animation with fluids to obtain the desired result – contemporary master plan in an existing urban surrounding.

Keywords: animation, fluid urbanism, liquid architectures, scripting, three-dimensional modeling.

Introduction

People have been designing our World since the times of the Ancient empires. The utmost accumulation of design in a broader scale is being seen as urban architecture. Historically, also the theories behind urban planning have been developing, but still architecture is one of the slowest to be moved along with the latest achievements in all other design industries. The reason for it is the scale and existing built structures in contemporary cities. Most large developments have happened during dynamic booming of economies. We must also be aware that incredibly complex processes of artistic expression, politics, finance, as well as most public and private interests nowadays affect any design decision. According to Karl Chu (as he said in lecture on February 29, 2008 at UIC ESARQ, Barcelona), the founder of theory on genetic architectures, we have exhausted what we have been doing.

We have somehow limited the boundaries of what architecture is. Luckily, a number of architects are pushing the boundaries of contemporary architecture well into the future. Some are working on the mathematical and technological levels and others are working on philosophical and esthetical ones. Whatever the stage, they are exploring

possibilities for architecture never ventured before. Some of them undertake projects that are a long way from realization but they manage to widen our architectural horizons [1]. Using the latest contemporary computational systems designers are trying to expand the field of architecture. To understand the reasons of this being happening, one must look in a broader scale how architecture has started to become mixed up with other design fields.

Long time architects have been tied to their tools – drawing boards, rulers etc. Since the age of digitalization not only the speed of an architect's work but also results of his work have changed a lot. We have been overwhelmed with developments in many industrial fields that shows us there are much more aspects that influence architecture as well. Architecture nowadays links to and can be linked to almost anything. The thrill of controlling form in a way computers can do it has become spectacular. Either way, directions to new form-finding, mostly inspired from nature and decoding its processes have been around for almost a century, but only now in recent technological age of digital tools these ideas are being carried out in an unseen and sometimes scandalous ways.

Pioneer of the Architecture Virtuality

Architect Marcos Novak, graduating from Ohio University with a specialization in computer-aided architecture, has remained faithful to his field. He has managed to convey his futuristic ideas wherever he could. His work has been essentially virtual. It is so advanced in this field that he is regarded as the “pioneer of the architecture virtuality” according to the organizers of the international Architecture Exhibition in Venice. He is known for projects, which in their name give hint that they consist of a futuristic element (Fig. 1).

“Sensor Space”, “Transmitting Architecture”, “Liquid Architectures”, “Metadata Visualization”, “Echinoderm”, “AlloBio” and “Alienwithin” just to name a few. Marcos Novak became the most visible proponent of cyberspace as an autonomous architectural field of inquiry. His greatest achievement is his use of non-Euclidean spatial concepts with the idea of algorithmic unfolding, that is, mathematical modeling of data space navigable computer environments to create unexpected futuristic forms.



Fig. 1. Paracube, a six parametric surface conceptual object by Markos Novak, designed in 1997 [2]

In other words, the animated mathematical forms created in the virtual reality by Marcos Novak, derive from the manipulation of mathematical fields. All these technical terms mean that throughout his immense body of work he attained forms that are “out of this world”. Forms, which resemble some neo-biological creatures floating in the extraterrestrial seas, or science-fiction beings roaming the universe. Marcos Novak’s liquid architecture seems to combine the opposite, soft with hard, real with virtual, masculine with feminine and mathematical with poetical, to create third or “alien” condition. He seeks nothing less than warping into alien territory, into unpredictable conceptual spaces, into new states of being of the future.

Back in 1995 in an interview [2] with Marcos Novak, he was asked: “As opposed to literature and music, the architectural milieu is extremely academic. What kind of sentiments are dominant regarding your and others’ talk of these liquid architectures? What kinds of critiques are coming out against you?” He replied: “Indeed, architecture has been the slowest to respond. I regret to say this, since I love architecture, but it is true. To be fair, though, there are at least two architectures, the architecture of accommodation, and the architecture

Examples of Fluid Urbanism

Big architectural firms design in expressing the utmost accumulation of capital and its vast influence over the traditions. This can be best seen in urban design. New inter-disciplines arise and the canvas of old historical sites is being opened up to new fields of experimentation.

Form Informing Urbanism - Parametric Urbanism is an animated film created by Zaha Hadid Architects for the Global Cities exhibition at museum Tate Modern in London.

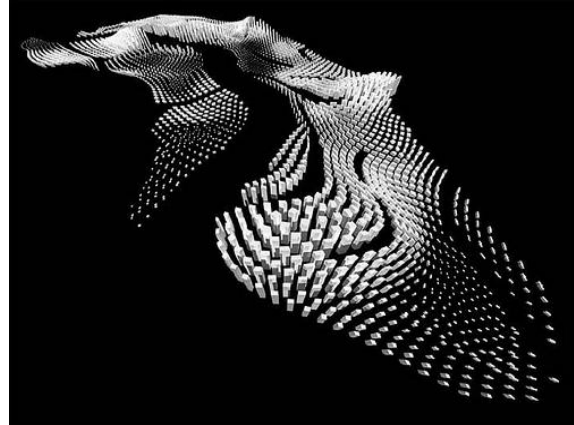


Fig. 2. Large-scale urban development on river Thames estuary, London [3]

of excess. Accommodation produces buildings, excess produces “Architecture”. This is not a question of extravagant expense, but one of vision and generosity. The architects of excess have always been leading visionaries of their times. The trouble is that we live in a world where accommodation outnumbers excess and generosity, as training outnumbers education and learning. I have had to fight with this all my life, and I expect that this will not change, since I am committed to keeping myself open and agile. The critiques are predictable and banal, on the order of “this is not architecture”. What is worth noting, however, is that the critiques do not change: the same fears are articulated again and again, true to the tiresomeness of the thinking behind them, with only the name of the “enemy” changing. The fear of computer-aided design has been replaced by the fear of cyberspace, but the negative rhetoric is identical. If I had a few more lives to spare, I’d write a history of fears. It would be very unimaginative, tedious, and repetitive [2].” Extending these ideas to urban planning gives us architecture, which blends in, weaves together, expands, syncs, contextualizes, interferes and dialogues with the city canvas. In other words it may be referred as Fluid Urbanism.

The film presents a range of experimental design solutions for the Thames Gateway regeneration corridor to the east of London, based on parametric techniques pioneered in urban planning by Zaha Hadid (Fig. 2).

Architects Zaha Hadid and Patrik Schumacher have chosen the Thames Gateway as a testing ground in which to evolve new ways of approaching large-scale urban developments. The Thames Gateway is an area stretching eastwards

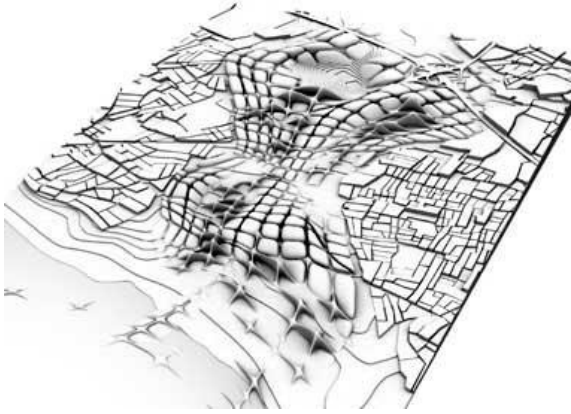


Fig. 3. Kartal-Pendik master plan [4]

from East London on both banks of the river Thames; it has been hailed as Europe's largest urban regeneration project. Driven by architectural rather than town-planning concerns, Hadid and Schumacher have used a series of new and powerful digital design techniques to develop an approach to urban regeneration which they call "Parametric Urbanism" [3].

Another great example is the Kartal-Pendik master plan, a winning competition proposal for a new city centre on the east bank of Istanbul (Fig. 3). It is the redevelopment of an abandoned industrial site into a new sub-centre of Istanbul, complete with a central business district, high-end residential development, cultural facilities such as concert halls, museums, and theatres, and leisure programs including a marina and tourist hotels. The site lies at the confluence of several important infrastructural links, including the major highway connecting Istanbul to Europe and Asia, the coastal highway, sea bus terminals, and heavy and light rail links to the greater metropolitan area. The project begins by tying together the basic infrastructural and urban context of the surrounding site. Lateral lines stitch together the major road connections emerging from Kartal in the west and Pendik in the east. The integration of these lateral connections with the main longitudinal axis creates a soft grid that forms the underlying framework for the project. Locally, this net can be bundled to form areas of higher programmatic intensity as well as a vertical build-up of the city fabric. In certain areas the net rises up to form a network of towers in an open landscape, while in other areas it is inverted to become a denser fabric cut through by streets, and at other times may completely fade away to generate



Fig. 4. Aerial view of the master plan, indicating the post-Shanghai Expo proposal for the site [5]

parks and open spaces. Some areas extend out into the water, creating a matrix of floating marinas, shops, and restaurants. The fabric is further articulated by an urban script that generates different typologies of buildings that respond to the different demands of each district. This calligraphic script creates open conditions that can transform from detached buildings to perimeter blocks, and ultimately into hybrid systems that can create a porous, interconnected network of open spaces that meanders throughout the city. Through subtle transformations and gradations from one part of the site to the other, the scripted fabric can create a smooth transition from the surrounding context to the new, higher density development on the site. The soft grid also incorporates possibilities of growth, as in the case where a network of high-rise towers might emerge from an area that was previously allocated to low-rise fabric buildings or faded into open park space. The master plan is thus a dynamic system that generates an adaptable framework for urban form, balancing the need for a recognizable image and a new environment with a sensitive integration of the new city with the existing surrounds [4]. The Kartal-Pendik waterfront regeneration plan is Turkey's most important urban infrastructure project ever undertaken. Covering an area of 3.5 million sqm in eastern Istanbul, it is also one of the largest developments of its kind worldwide.

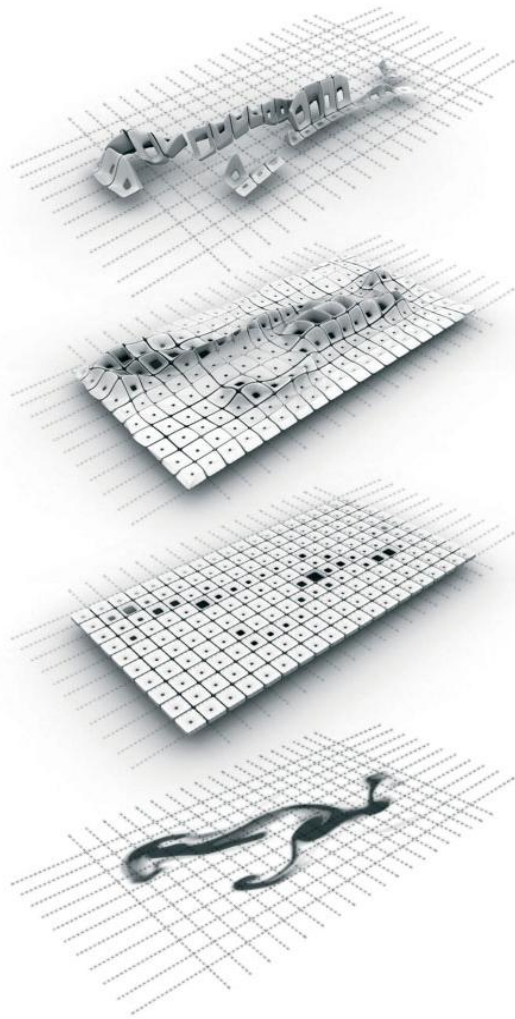


Fig. 5. Series of diagrams describing the design development of initial fluid simulations in Maya [5]

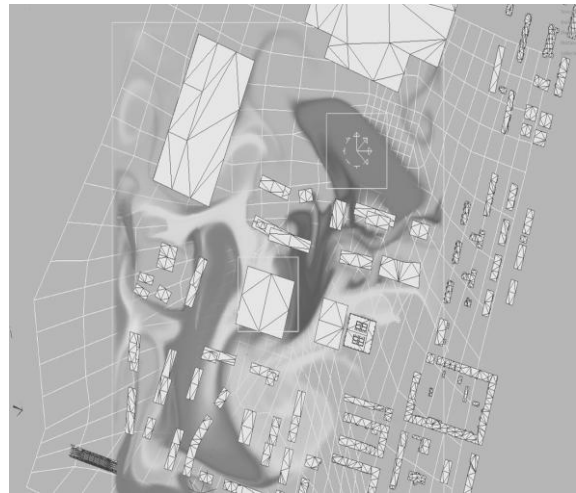


Fig. 6. Virtual fluid simulation defining building typologies
[Source: authors' visualizations]

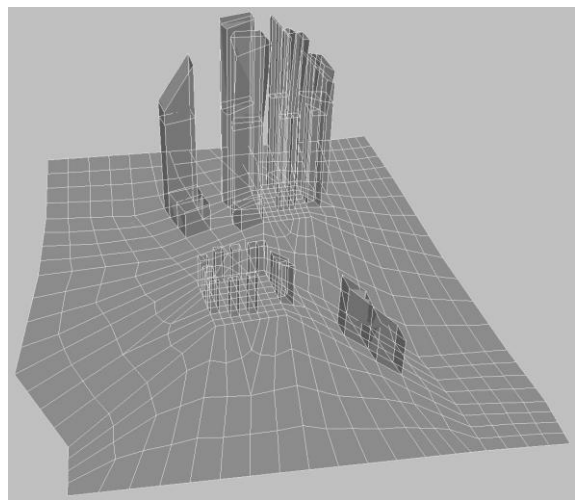


Fig. 7. Vertical elevation of high-rise structures
[Source: authors' visualizations]

Academic Experiments and Approaches to Fluid Urbanism

Design Research Laboratory at Architectural Association, London has been the leading research base for experiments related to Associative Urbanism [5]. One reason for that is the presence of Patrick Schumacher as a design tutor in the laboratory. In a joint student group they have developed a master plan proposal for the post-Shanghai Expo, once the international exhibition will be over and temporary structures removed (Fig. 4). The design includes three primary architectural typologies – fields of differentiated towers; low density yet permanent Expo and cultural facilities; and landscape spaces, also reserved for further development. Design development was obtained with fluid simulations in Maya (Fig. 5), followed by successive stages of design development and post-production scripting

and modeling, increasingly resolving and refining the model as a design proposal informed by other spatial, structural and circulatory parameters.

Author has participated in an international biennale “Advanced Architecture Settimo Tokyo” workshop “Design with Maya, MEL script and plug-in”, held in Italy, in June 2009. In the final design task author made an academic cooperation project with Matteo Lo Prete, an architect from Italy to design an addition for Torino Lingotto master plan, originally designed by architect Massimiliano Fuksas. Workshop tutors represented two leading project architects of Zaha Hadid Architects, London – Fulvio Wirz and Ludovico Lombardi.

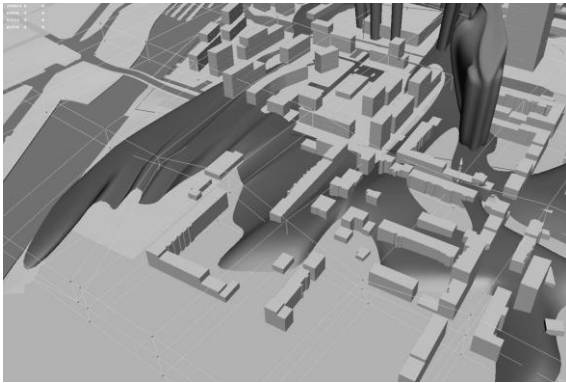


Fig. 8. Secondary control grid revealing landscape architecture details [Source: authors' visualizations]

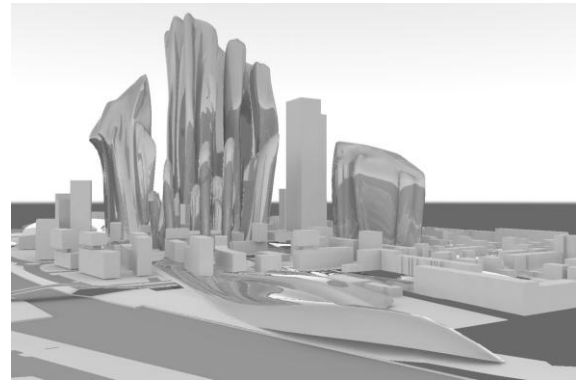


Fig. 9. Final rendering of Torino Lingotto master plan addition [Source: authors' visualizations]

Design involved several consecutive design steps and lots of modeling, programming scripts and setting parametric relations. Whole task was to experiment and find if there is any limit of possibilities in Fluid Urbanism approach using latest computational tools and theory behind generative design. Initial stage was to import existing urban canvas and street network of the Torino Lingotto area as a 3D model. After that, a new grid was formed which later on will be used to manipulate geometries and affect unexpected form solutions, obtained by previously defined and set-up design decisions. At this point authors set up programmatic rules for virtual fluid emissions in various colors that would define how the programmed script would express building typologies (Fig. 6). Three main zones were chosen and defined: blue – high-rise area, red – low-rise area and green – park area. The zones were chosen manually only defining the emission points, regarding future needs for them in the context of the planning addition. The emissions were calibrated so that they disperse in the territory taking into consideration existing built structures as obstacles to flow around them.

Authors then programmed a behavioral script that would stretch and squeeze previously set up grid to correspond the emitted flows. The new grid with its structures and street network seamlessly continued to surrounding blocks of the city leaving no traces of joining points, because any transformation that was happening inside of the new grid was still linked to surrounding area. Once the grid was animated and the right variant chosen from the sequence of possibilities that, according to authors, suited the

best – vertical elevation of new structures was modeled (Fig. 7). New high-rise buildings were adjusted to fit in major viewpoints and panoramic silhouettes. Authors did several smoothing operations and modeled the high-rises to suit aerodynamic and esthetic conditions, whereas lower level of the grid was converted into landscape architecture (Fig. 8). As authors made a decision to run all traffic underground, this decision freed up whole street level to pedestrians allowing new park structure to flow into area.

This experiment has proven that Fluid Urbanism approach may be obtained with various computer tools that derive from non-architectural fields. Today we can handle urban dynamics in animation softwares that have been developed for the use in Hollywood and other movie industries. Cleverly linking contemporary theories and visualization possibilities we may come up to the extension of the classic urban planning, that is being slowly pushed into futuristic trends and new horizons. In the design process of Fluid Urbanism there are practically no limits.

We may already say that architects have a great influence on cities that evolve and are in constant developments towards the needs of modern society. Urban planning architecture is gaining a new horizon and becoming a playground for new possibilities we never thought about before, rejecting the tired standards reserved for building and compels us to reflect on the architect's role as it is being reprogrammed by technical evolutions [6, 134]. Fluid Urbanism is ultimately balanced between radical progress, considered inquiry and poetic reflection of urbanization.

References

1. **Kozak P.** *Does the new architecture, as represented at ArchiLab 2004 and Venice Biennale, offer solutions to some of the challenges of our contemporary built environment?* [online 29.05.2010.] http://www.wkozak.com/paulkozak/architecture_files/essay_files/essay.doc
2. **Mork K.** *Interview with Marcos Novak 1995* [online 29.05.2010.] <http://www.altx.com/int2/marcos.novak.html>
3. **Fairs M.** *Thames Gateway – the Movie by Zaha Hadid Architects* [online 10.06.2009.] <http://zahahadidblog.com/movies/2007/06/22/121>
4. **Zaha Hadid Architects,** *Kartal – Pendik Masterplan* [online 15.04.2010.] http://www.arcspace.com/architects/hadid/kartal_pendik/kp.html

5. *Experiments in Associative Urbanism* [online 15.04.2010.] <http://shiftboston.blogspot.com/2009/07/experiments-in-associative-urbanism.html>
6. **Zellner P.** *Hybrid Space – new forms in digital architecture*. London: Thames & Hudson, 1999, 191 p.

INFORMATION ABOUT AUTHOR:

Arne Riekstiņš (Riga, 1982), B.Arch. (2004), M.Sc.Arch. (Riga Technical University, 2007), M.BioDigi.Arch. (Universitat Internacional de Catalunya, 2008), PhD student, research subject – *New Digital Systems in Contemporary Architecture*, tutor Prof., Dr.Arch. Jānis Briņķis (since 2007).

LECTURER at Faculty of Architecture and Urban Planning, Riga Technical University (RTU, since 2006). Guest lectures held also in universities in Trondheim, Norway and Oulu, Finland. Author of a full semester course of RTU Continuing Education Program in Architecture, *The Computer Modeling of Urban Development*. Tutor of RTU International Summer School for Architects (2006, 2007). Researcher in various scientific projects, including: *The Possibilities for Application of Imitation Models in Education and Practice of Spatial Planning*, *The Approbation of Landscape Ecological Modeling Systems in GIS*, *The Graphical Analysis of Planning and Binding Spatial Factors – Structural Plan and Interpretation* (2006–2008). SECRETARY and DIGITAL LAYOUT DESIGNER of the Scientific Journal of RTU, *Architecture and Urban Planning* (since 2009). Private ARCHITECT and owner of *Hybrid Space architecture* (since 2006).

Participant of various scientific conferences and author of more than 10 scientific publications, including a book.

Riekstiņš A. *Arquitectura Aberrante*. Madona: Hybrid Space publishing, 2008, 150 p.

Riekstiņš A. The Unlimited Possibilities of Genetic Architecture. *Scientific Journal of Riga Technical University*, 2008, Series 10, Volume 2, pp. 194–203.

Riekstiņš A. Overcoming the Third Dimension. Преодолевая третье измерение. *Project Baltia*, 2010, 04/09 01/10, pp. 50–52.

Current and previous research interests: parametric architecture, genetic architecture, biomimetics, digital tools in architecture, CNC systems and rapid prototyping, three-dimensional modeling, synthesis aspects of architecture, sustainable high-rise buildings.

Awards: *Archiprix 2007 Shanghai*, nomination for best diploma project in World's architecture, with project *Ecologically sustainable high-rise building in Ķīpsala*, being exhibited in Beijing, Shanghai and Rotterdam (2006). *Prize of Guntis Bole*, award for excellent studies and highly professional course projects (2005).

Memberships: Association of Latvian Young Scientists (2009), member in Organizing Committee of Yearly Scientific Conference of Architecture in RTU (since 2009).

Riga Technical University, Faculty of Architecture and Urban Planning, 16 Azenes iela, Riga, LV-1048, Latvia. Tel. +371 29235265. E-mail: arne@hybridspace.eu, www.hybridspace.eu, www.twitter.com/hybridspace/

Kopsavilkums. Liels skaits arhitektu mūsdienu arhitektūras robežas ir paplašinājuši tālu nākotnē. Visaugstākās pakāpes projektēšanas koncentrācija plašākā mērogā var tikt apskatīta kā pilsētplānošana. Markosam Novakam ir izdevies aprobēt savas futuristiskās idejas visur, kur vien iespējams, pēdējo divdesmit gadu laikā. Viņa darbi bijuši fundamentāli virtuāli un viņu uzskata par arhitektūras virtualitātes aizsācēju digitālajā laikmetā, runājot par “amorfaļām arhitektūrām” un citiem futuristiskiem kibertelpas projektiem. Arhitektūra, kas saplūst, saauž kopā, paplašina, sinhronizējas, kontekstualizē, iejaucas un ir dialogā ar pilsētas audeklu. Citiem vārdiem sakot – integrētā pilsētplānošana (Fluid Urbanism – angļu val.) jau pieņemta lielākajos arhitektu birojos, izpaužot maksimālo uzkrāto kapitālu un tā plašo ietekmi pār tradīcijām. Autors apraksta integrētās pilsētplānošanas piemērus, kurus īstenojuši Zaha Hadid Architects Londonā un Stambulā, kā arī akadēmiskos eksperimentus, kas veikti Londonas arhitektūras skolas Architectural Association projektēšanas pētniecības laboratorijā, un savus eksperimentus Turīnā, Itālijā. Pilsētplānošanas arhitektūra atraida nogurdinošos standartus, kas paredzēti būvniecībai, un liek mums pārdomāt arhitekta lomu, kura tiek pārprogrammēta līdz ar tehnisko evolūciju.

Context seeking of cultural heritage and green structure in urban environment

Aija Ziemeļniece, Latvia University of Agriculture

Abstract. Architecture creates the artistic image of the built-up area and it has a profound effect on human perception. People get the first emotional impression of the city when approaching it and seeing its skyline that is the most characteristic and easily perceivable spatial form and that can be taken in when the artificially created spatial form is projected on the natural scenery or the sky [1]. The evolution of the society and economic changes create dynamics in the spatial development of the city. Each stage of urban development has characteristic structures of spatial volume forming the overall urban composition of the city. Whenever the city develops, its silhouette takes shape and this process is generated by several generations [1].

Keywords: history of architecture, cultural heritage, townscape, visual space, qualities of spatial environment.

Introduction

The city environment is transforming and changing with the times. It has been in the recent and more distant past, but there are positions that remain unchanged. One of them is the interaction between society and architecture. If the society aspires to a high-quality urban environment, architecture satisfies this demand. Not infrequently in the societies that are still in the stage of stagnation, just the opposite can be observed. Architecture and, consequently, the development of urban space go hand in hand with the requirements of man as an individual towards his space of life [2].

Urban building is a continuous process. Plans and conceptions are changed, but united development idea and its co-ordination with the processes taking place around is essential [3]. Variability through stability is a principle that has to be strengthened in development of historical centre of towns. It is necessary to have balance between existent environmental and historical heritage development and economical development of territory [3].

Research methodology

The value of Jelgava historical heritage is determined by:

- 1) recognition of Jelgava as the capital of old Kurland dukedom with its castle;
- 2) pictorial banks of the Lielupe and the Driksa with the meadows;
- 3) steeples of churches bringing accents in the town silhouette from separate sight points;
- 4) preserved historical building territories in separate parts of the town.

The investigation has the aim connected with a detailed study of the historical heritage of the town building, estimating the of pre-war and present building structure and green planting zones of the town.

The principal tasks of the research reflect:

- 1) the influence of modern economic policy on the preservation possibilities of the industrial heritage;
- 2) search of the architectural synthesis of the form development of the new urban space;
- 3) the synthesis of type buildings elements of the 50-ties of the 20th century in modern tendencies;
- 4) careful estimation of existing historical heritage in the perspective development context of the town.

The heritage of the historical urban space includes both the urban building and the local architectural, archeological, historical, sacral, applied arts and nature objects.

During the war years Jelgava has lost huge building territories, preserving only some building zones or buildings, each of them having a huge value. Jelgava historical centre as the protection monuments of urban building includes the territories of the old building blocks which fragmentary are found in separate parts of the town.

The research method includes comparison of the historical building and green planting structure of the town space with the town space developed in the years after the war. The research examines the compositional solution of each street in detail. One of the research objects is approximately a 6 ha territory along Pasta street. It is characteristic with both the existing green park zone (Raina park, Alunana park, Stacijas park) and the building intensity from Raina street to Jana street characteristic with intensive new building during the last 10 years.



Fig. 1. Since the 90-ty years of the 19th century Zemgale avenue to Valnu street in Jelgava has been formed as the boulevard type with dwelling houses and tree plantings [Source: from A.Tomašūna private archive]



Fig. 2. Jelgava. Akademijas street. The Saint Trinity church and saint Simana and Annas church. (19th century 90-ty) [Source: from A.Tomašūna private archive]



Fig. 3. Jelgava. The new Swedbank and Saint Jura church (2012) [Source: photo by the author]



Fig. 4. Jelgava. Old Katolu street zone with dwelling house and S. Jana church (2012) [Source: photo by the author]



Fig. 5. Jelgava. The new street in cemetery territory S. Jana church (2012) [Source: photo by the author]



Fig. 6. Jelgava. Old Katolu street zone by S. Jana church (2012) [Source: photo by the author]



Fig.7. Jelgava. The reconstruction of composition axis in cemetery [Source: photo by the author]

Results

Pasta street is formed as a one-way transport street and the principal sight lines are in the left side of the street. As regards the architectural quality of the building, the reconstructed Swedbank building (2010).

In the crossing of Raina-Pasta streets appears well, this building has got its model by the synthesis of the historical type cinema building of the 50-ties of the 20th century with modern tendencies using successfully glass planes both in the facades and in separate roof constructions.

Two economically political power periods are seen well in the outer image of the reconstructed building. Each of them is characteristic symbolically as regards its form and the building material heavy concrete planes and light glass forms. Preserved national romanticism decors in the facades create the forms of harmonies successfully. Behind the Bank building-Saint Jura church the expressiveness of which is increased by lime-tree row plantings along Raina street. The street crossing at the Bank building is heightened up by nice green plantings. The huge parking between the bank building and the trade market-hall deranges the homogeneous scale of the block building. It is significant to regain the perimetrically completed building of Raina and Katolu streets which was lost during the war years.

The trade market-hall at the crossing of Pasta and S. Edzus streets was built (2006) in the place of old warehouses the expressions of historical elements of which-the composition of the rhythm of brick arches reflects along S. Edzus street. Particularly expressive the play of arch forms is at night lighting. In this building zone there are necessary new tree row plantings in S. Edzus street to create some connection with the Raina park.

Behind the block building-Katolu street has preserved its historical form. During the post-war years its southern direction has lost both its form and building – approximately 200 m. Only one historical five storey dwelling house behind the dwelling houses of the 70-ties of the 20th century has remained. Also sight lines to Saint Jura church are seen from this place. It is the only sight point to the church.

At present the church is located behind a one-storey monotonous long trade zone the end of which is the small Jana street. As a clumsy accent at the end of the trade building in the 2-storeid flower shop (2010) with red brick pilasters built in a semicircle form which in his heaviness competes with the elegance of the belfry of the next church. It may be referred both to the choice of the form and the material. In summer the crowns of

the trees at the church cover the sight lines, and it is difficult to perceive the church.

The Alunans park opposite the church is the historical cemetery territory done away in the 50-ties of the 20th century by building a new autotransit highway to Lithuania. In order to preserve the old unity of the historical space the longitudinal axis of the church is marked with the path bed and it is planned to finish it with a sculptural work serving as a memory mark of the historical place. In the eastern zone of the church or altar place a fragment of the old Katolu street has remained with lime tree plantings creating the connection of the green space with Stacijas park.

The old town dam was located historically parallel to the longitudinal axis (about 150 m to the north) of the church (till the beginning of the 19th century) which was filled up and changed to Valnu street with the 5-storied dwelling house building. The continuation of the historical street in the direction of Saint Nikolaja church is interrupted by the 5-storied dwelling building of the 70-ties of the 20th century. The perspective development conception of the town has elaborated a proposal to dismantle the first storey volume of the dwelling building opposite the old Valnu street bed and create it as pedestrian zone even to Pasta street, thus opening the sight points to the historical dwelling houses on Valnu street and the Saint Jana church.

In the southern part of the church cemetery territory was located, but it was destroyed in the post-war years, by dismantling the granite monuments and building a new building on the foundation. The territory was razed to the ground and Stacijas park was laid out. Only after the rebirth of our free country in 1990 Lacplešis monument made by sculptor K.Jansons was regained, the monument was dedicated to the people killed in the war during bermondiade.

In this place the town has historically preserved the green plantation zones only changing their functional meaning and structure.

Stacijas park, Alunana park and lime tree planting rows of Katolu street create the solution of united green plantings. The compositional completeness of the green space in to be searched by the creation of new plantings in the inter-block territory of the existing dwelling houses (Akademijas – Jana – Pasta – S.Edzus streets). Bringing in green “wedges” would decrease the scale and the impersonality of the inner courtyard of the dwelling building. At present the inner-courtyard zone is transformed into an autotransport parking and the conception location of public roads.

The new green territory of the block is formed to connect it with the green planting space of Raina

street enriched with the Saint Jura church garden basing walking paths. The garden is dissociate with a splendid metal fence. The pictures queers of the church garden is continued by the parade front square which is connected in the composition longitudinal axis with the plantations of Forest faculty garden. Opposite the Saint Jura church garden – the green territory of Saint Simana and Anna church. Like the Saint Jana church, the silhouette of this church is see only from the inner courtyard of the 5-storied dwelling building in a narrow sight line.

The green wedges or fingers between the historical heritage and the new territories of the post-war building are line scars searching a compositional united and harmonic balanced town space deprived by war years from Jelgava.

Since the 90-ty years of the 19th century Zemgale avenue to Valnu street has been formed as the so-called building space of boulevard type with dwelling houses and tree plantings. The bed of the new street built as on extention of Akademijas street after dismantling the town wall, created scale and character of the town space. The historical building along Akademijas street was nearer the driving part of the street and there were no tree row plantings. During the war period the historical building disappeared and the new building did not preserve the line of building, but created indention from the street. Because of it the street has got the lime planting on the both sides of it. Only along the altar end of saint Simana and Annas church which are located close to the street the border line of old building may be seen. As the new post-war building retreated, the street has got its green decoration, but lost its historical heritage.

Broad street building works have began along the Driksa left bank in 2011. The Driksa bank (parallel to Akademijas street) has been the walk promenade with lime tree lane along a dense zone of bank building, where the synagogue and rich dwelling houses belonging to German nobility and well-situated clerks of town authorities were located. The location of buildings opposite the castle played not only a symbolic but also direct influence of the town power. Historically the castle park territory was to the canal of Pasta island along the side of which the road to the town from Riga was located. Therefore the prestige dwelling building mentioned above was located opposite the castle park plantings. The inner courtyard zone of the building was at the German church – Saint Trinity church.

During the war years when the street building burnt down, board square part of the Forest faculty has been formed having a sport zone which disarrange the structural character of the old building. It refers to the exaggerated long (106 m) technical faculty building too, as well as to the hostel building.



Fig. 8. Jelgava. The reconstruction boulevard promenade and new bridge by Driksa (2012) [Source: photo by the author]



Fig. 9. Jelgava. Old boulevard promenade by Driksa (20–ty 20th century) [Source: from A.Tomašūna private archive]

Particularly well it may be seen in the sight point coming from the Riga side where the brittleness of the town silhouette is depressed by the scale and proportion of the building structure. This year the new tree plantings of the reconstructed Cakste boulevard will gain the foliage of their crowns only after 30 years.

At present not only the street reconstruction project, but also the building of a new pedestrian bridge is realized. The bridge connects the town space with the green landscape space of the Pasta island and the new plantations with Cakste boulevard. The bridge is the continuation of the pedestrian zones of Driksa street (sorb lane plantations) to the Lielupe left bank. The walk and trade zone mentioned (250 m) in the span from Katolu to Akademijas street is to create a new architectonically expressive image of the town space. It is also referred to taking off the transport load in this space. But in part of pedestrian street

From Akademijas street to Cakstes boulevard (150 m) or the connection at the bridge, reconstruction of the inner courtyard zone of hostels is to be realized. There a small square is necessary which would be compositionally as a green point at which the axis of urban space – the axis of the Driksas street pedestrian zone to which the side axis of Saint Trinity church would be connected.

It is possible to mark the building of the Saint Trinity church last in the period of war with a clipped hedge like along the building perimeter, also marking the liner of the church benches. It is one of green proposals of the solutions considered in the competition of state significance. Attachment of municipal finances for the construction of the church has already began by creating the memory mark with the fountain in the altar part. After the reconstruction of Cakste boulevard the part this entertainment zone will be one of the bank recreation space.

The part of the boulevard promenade will continue also down the existing Driksa bridge creating under the bridge the pedestrian zone with



Fig. 10. Jelgava. The S.Trinity church [Source: photo by the author]

separate stairs. The bank slope will be made with a concrete support wall with railing.

The basis of the architectonical constructive solution of the pedestrian bridge is the system of hanging shrouds at two support pilaster. It makes the bridges look visually light and attractive.

At the opposite side of the bridge Pasta island is projected as the green recreative zone for public activities and peaceful walks. It is planned to create the sculpture garden, locations for children plays and activities by additionally propping the bank line of the island. At the bridge in the island a coffee house with small boat station and roof terrace above it where the sight lines to the river and the boulevard promenade will be seen.

In the perspective transport flow during the mass activities is to be taken into consideration. One of the solution proposals is to make the green roof cover the parking to be designed at the descent to Pasta island. Such solution visually would not disturb the unsettled character of the green structure of landscape pictorial space of river.

Pasta island is narrowly stretched land stripe between the beds of the Lielupe and Driksa which is flooded partly in spring. In its farther point-southern part the project plans to built a pontoon bridge which would comfortably help the pedestrian transit from the station and new bus terminal to Jelgava castle.

While finishing the research of the landscape space of the urban space an important role is played by Lielupe right bank which creates visually united compositional structure with the Pasta island. It is necessary to mention new Lielupe bank promenade with beach very popular for the inhabitants of town in summer.

Beside the new beach zone there is former territory of the sugar factory. The problems to preserve the historical heritage have become particularly urgent in the last years. An example is the dismantling of sugar factory buildings where the economic policy of European Society is particularly merciless in the completion conditions. But no goodness is obtained without losses the compensation finances for the dismantling of sugar factory building are used for the arrangement of landscape space of Lielupe and Driksa river.

After dismantling the historical sugar factory buildings (1927) the possibility is lost to preserve the old building as an industrial park at Lielupe meadows. The meadows have no characteristic tree and brush growth, and in distant

sight lines the silhouette of town may be seen. Particularly it is significant in sight points from railway. The location of the sugar factory formed historically in geographically favourable place as sugar beets from fertile Zemgale fields were carried with barges along river to the factory.

In the silhouette of the right bank may be seen the second industrial historical heritage – the dwelling houses of workers of railway station. They are one-storey barrack-type wooden buildings with small gardens and dividing tree planting row. There are also buildings for the repair zone of old steam locomotives. The building took place during the period of first Latvian free country when one of Ulmanis slogans was to cover Latvia with the railway network.

Lielupe right bank in this territory according to town territorial planning preserves the meaning of the green recreation space with the walk promenade. In the bank building it is planned to locate the building amount having the public character which opposite the Pasta island would create new silhouette.

Discussion

While summarizing up the research the green structure in Jelgava historical centre it may be concluded:

- 1) during the post-war years the historical building of town was not restored but new compositional structure-squares, parks changed location of streets and width of street beds was increased;
- 2) new space conception has been developed for the town space creating broad street plantings even with double tree rows;

Conclusions

During the post-war years the parks, squares and tree rows or separate groups were formed as landscape plantings. But the historical town plantings till the 40-ties of the 20th century were clipped regularly and their branches were formed in definite form and proportion, trees taking into consideration the architectural expressiveness of existing building besides.

Tree plantings in urban space were to increase the expressiveness of building but not to cover up architecture and silhouette of buildings. Particularly

- 3) the change of historical building structure by creating in the location of burned out houses tree groups or separate trees with brush groups;
- 4) large role for town green decoration was played by founding the new Forest faculty which planted new trees particularly during spring joint work;
- 5) with the creation of green planting zone a symbolic opposition to the political power was created not to let inferior building in significant places of the town structure.

it may be referred to castle building at present the eastern façade of which is covered up with chestnut trees along Lielupe left bank. Tradition of university graduates to plant trees in castle park is not good idea. The location of trees cover up castle. Therefore it is necessary to choose the planting places as well as height of tree crowns at buildings, directions of dominating winds, the dendrological features of trees. It is significant to urban space which has dense underground communication network.

References

1. **Liepa-Zemeša, M., Treija, S.** The development of high-rise buildings in urban environment. *Scientific Journal of Riga Technical university*, 2009, No. 10(3), 59 p.
2. **Rukmane-Poča, I., Krastiņš, J.** Contemporary urban space in the context of formal currents of architecture. *Scientific Journal of Riga Technical university*, 2011, No. 10(5), 63 p.
3. **Jākobsone, J., Strautmanis, I.** Cultural heritage protection, preservation and development in historical centres of modern towns. *Scientific Journal of Riga Technical university*, 2009, No. 10(3), 106 p.

INFORMATION ABOUT AUTHOR:

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

Kopsavilkums. Pilsētībūvniecība ir nepārtraukts process, kurā plāni un koncepcijas tiek mainītas, bet būtiska ir vienota attīstības ideja un tās saskaņotība ar apkārt notiekošajiem procesiem. Mainīgums caur noturību ir princips, kas jānostiprina pilsētu vēsturisko centru attīstībā. Jelgavas pilsētvides kultūrvēsturiskais mantojums ietver gan pilsētībūvniecisko, gan lokālo arhitektūras, arheoloģijas, vēstures, industriālos, sakrālos, lietišķās mākslas un dabas objektus.

Jelgava kara gados ir pazaudējusi milzīgas apbūves teritorijas, saglabājot tikai atsevišķas apbūves zonas vai ēkas, kur katrai no tām ir liela vērtība. Jelgavas vēsturiskais centrs kā pilsētībūvniecības aizsardzības piemineklis ietver vairāku veco apbūves kvartālu teritorijas, kas fragmentāri ir nolasāmas atsevišķās pilsētas daļās.

Pētījuma metodika ietver pilsēttelpas vēsturiskās apbūves un zaļo stādījumu struktūras salīdzinājumu ar pēckara gados izveidoto pilsētvidi. Pētījums aplūko detāli katras ielas kompozicionālo risinājumu.

Stacijas parks, Alunāna parks un Katoļu ielas liepu stādījumu rindas veido ainaviski vienojošu zaļo stādījumu risinājumu. Zaļās telpas kompozicionālā pabeigtība ir meklējama, risinot jaunu stādījumu izveidi līdzās esošā daudzstāvu dzīvojamā iekškvartāla teritorijā (Akadēmijas – Jāņa – Pasta – S.Edžus iela). Zaļo „ķīļu” ienešana mazinātu dzīvojamās apbūves iekšpagalma mērogu un bezpersoniskumu. Patlaban iekškvartāla zona ir pārvērsta par autotransporta stāvvietu un braucamo ceļu koncentrēšanās vietu.

Zaļie ķīļi jeb pirksti, kas caurvij vēsturisko mantojumu un pēckara gadu apbūves jaunās teritorijas – ir kā rētaudi, kas meklē kompozicionāli vienotu un harmoniski sabalansētu pilsēttelpu, ko Jelgavai ir atņēmuši kara gadi. Pēckara gados ierīkotie parki, skvēri un koku rindas vai atsevišķas grupas tika veidotas kā ainavu stādījumi. Savukārt, vēsturiskie pilsētas stādījumi līdz 20. gs. 40. gadiem tika regulāri cirpti un to zarotne tika veidota noteiktā formā un proporcijā, tā ievērtējot blakus esošās apbūves arhitektoniskās formveides valodas izteiksmīgumu.

Ķirbižu manor house: architecture and cultural history

Jānis Zilgalvis, *Riga Technical University*

Abstract. Ķirbiži manor house (Kürbis) is located in the Rural Territory of Vitrupe of the Municipality of Limbaži, less than ten kilometers away from the sea. Together with the lost Bisteri (Bisterwolde) estate, it is an ancient von Aderkas family estate which belonged to it over 400 years. Despite the various changes, the manor house and several outbuildings are still adorning the centre of the estate. There is also preserved the known as the landlord's new residential building and the park near the Vitrupe River. Unfortunately, there has been lost almost all the household complex and from 52 ever existing estate buildings there are left less than ten of them. The time tooth, people's neglect and economic decline have well enough impoverished this corner of Vidzeme. In 2006, there started revival of the remaining part of the estate. There was restored the cellar granary, reconstructed and restored the manor house, removed the stable, landscaped the park. During these works and before that, there was carried out the architectural – artistic and cultural – historical research.

Keywords: architectural heritage, estate's architecture and cultural history, monument survey.

Manor house and its architecture

After the Great Northern War, the economic life was gradually restored and only in 1730, in the 40'ies there could have arisen an idea to build a new manor house in the Ķirbiži estate. Then, the landlord Otto Magnus von Aderkas in 1740 was 64 years of age and hardly in his old age he would have been planning to start building of a new home. It would be advisable to remember the bad financial situation of the estate after death of Otto Magnus in 1753. Therefore, there must be assumed that the builder of the manor house would have been his son-a lieutenant of the Swedish army – Georg Dietrich von Ardekas who inherited the property at the age of 33 years – in his prime years. It is, therefore, likely that the wooden residential building was built after 1753. In turn, K. von Aderkas writes that in the end of the 17th century, the old building of the Bisteri estate was located in the place of today's *Melbārži house* on the bank of the Vitrupe River, about six kilometers upstream from the present Ķirbiži manor house. After the fire, the estate owners moved to the Ķirbiži estate where *in the first half of the 18th century there was built a wooden residential house which in the second half of the 19th century was bricked with red bricks and plastered* [1]. In turn, the architect H. Pirang writes that *near Pernigele (Liepupe) there is located the Ķirbiži estate owned by the family of von Aderkas for 400 years and the manor house is built of wood and it is a copy of the manor house of the Liepupe estate* [2]. There is no doubt that both buildings are similar if we assume that the manor house of the Ķirbiži estate is built after 1753 and the completion year of the manor house of the Liepupe estate – in 1751 is certain. Therefore, one should partly agree to that written by H. Pirang but only in relation to the external appearance which we can see today. In Liepupe, in front of us there is a stone building, the author of

which is a bricklayer having arrived from the land of Saxony to Riga – Johann Andreas Haberland (*J. H. Haberland*), father of the famous architect of Riga – Christofer Haberland. 250 years ago, the manor house of the Ķirbiži estate was not covered by plastered bricks and, hence, its architectural image and the facade solution were different. Thus, about similarities we can only speak within the spatial solution of the volume. As concerns a specific sample search, one should recall the manor house of Ungurmuiža (*Qrellen*) where in 1762 there was discovered a rot and after that it was decided to build a new stone building. As a model, the owner of the estate Helen Julian von Kampenhausen (*H. J. von Campenhausen*) had selected the manor house of the Liepupe estate. In this context, a copy of the front yard facade project of the Liepupe manor house was made (1762) [3].

It should be noted that the new Bisteri estate location in Ķirbiži was not so far unknown since in the late 17th century-the early 18th century land plans, there is indicated a manor house (Fig. 1) with a mill at the Vitrupe River [4].

The time of building a manor house – 1750 is witnessed by the news that in 1750 the carpenter George Finck (*G. Finck* (1730–1808)) [5] arrived at the estate. He has spent the longest time of his life in this place since in 1761 in the Liepupe church there was baptized his son Georg Friedrich who also learned the carpenter's trade, worked in Pärnu and in 1793 became a citizen of this town [6].

And in 1772, at Ķirbiži there was born his second son Otto Christian who also learned the carpenter's trade, from 1803 worked in Jaunjelgava, later at Blome estate (*Kulsdorf*) in the parish of Vitrupe where he also died in 1821. In 1782, G. Finck made a palpit altar for the Liepupe Lutheran Church (1777–1784, J. K. Širmeisters) [5].

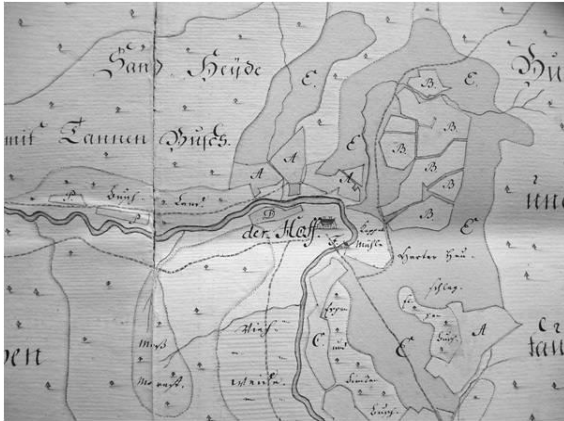


Fig. 1. A plan of Ķirbiži estate's land. The late 17th century, early 18th century [Source: Latvian State Historical Archives]



Fig. 2. Manor house of Ķirbiži estate (photo 1920) [Source: The State Inspection for Heritage Protection, Monument documentation centre]

Elsewhere, without any references it is indicated that this work was done together with the wood carver Karl August Erlich [6].

About life of G. Finch at Ķirbiži, there gives proof the fact that his services were needed for a long time and as you can see, just in 1750 when possibly began his career as a carpenter in building the new manor house.

So, the original manor house of Ķirbiži estate was a log house in the smooth corners of the house on a boulder stone socle floor. It was well proportioned, symmetric, covered with a mansard roof. The horizontal beams were covered by a 3.5 cm thick and 22 cm wide planking but from the inside they originally could be simply painted. At the building's front façade sides there were wings but in the center a mezzanine with a triangular pediment containing an oval window. In the center of the other longitudinal facade there was located a rizalite with a triangular pediment. At the main entrance, there was built a porch based on toscanic order columns. These graceful columns on high podiums with the facets decorated, existed even in March, 1952, as shown in a photograph from the Ķirbiži school materials – *Grade 7 girls organize a ousekeeping afternoon for all the pupils*. The photo is now kept in the Limbaži Museum. The original porch solution is also seen for now in the oldest known photograph of the manor house as known from 1920 [7]. The photo might be taken after the foundation of the Monument Board in 1923 but the building's roof is made of shingles, in the main facade of the window openings it is with six windowpanes without the top leveling. It must be assumed that in 1920 it has been rephotographed from an earliest photo (Fig. 2).

The columns with all the podiums in 1960's were changed to stone columns on simplified but profiled podiums as shown in several 1960's photographs [7].

The podiums lost their own profiles over time and in 2004 they had already been reduced to a simple base on a little wider elevation (Fig. 3).



Fig. 3. Manor house of Ķirbiži estate before restauration (2006) [Source: photo by the author]

Over time, the symmetric manor house has also historical layers. It is a two-storey outhouse in the left end of the building. With the gabled ridged roof covered volume part was also a log house and its ridge height coincided with the mansard roof breach eaves. This outhouse should be subject to the first half of the 19th century. Later, maybe, in the middle of the 19th century it would have been supplemented by another outhouse that was covered with a single sloping roof and architecturally it was not particularly expressive. These supplements were made in the kitchen end of the manor house and associated with the economic functions.

Cellar

Constructing a cellar under all the building, obviously, was not needed, so in the middle two sections are filled up. In general, the cellar contains ten larger or smaller rooms that are communicating but in some places available from narrow corridors. The cellar could be reached by two external staircases. One was located on the river side at the side of the rizalite, the other one – in the so called household end by lifting a trapdoor in one of the later outhouse rooms. Both parts of the cellar in which the above mentioned entrances led were not connected with each other.

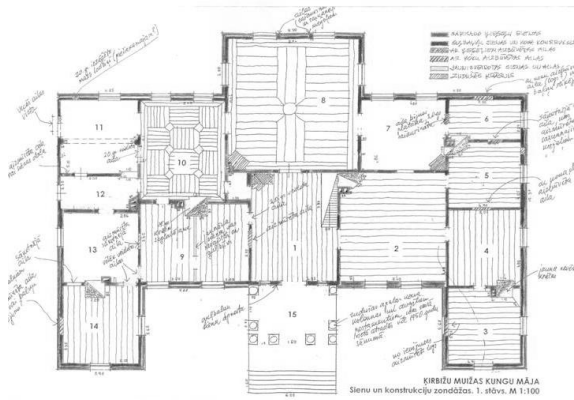


Fig. 4. The first floor layout of the manor house of Ķirbiži estate with probing and research results [Source: drawing by the author]

The cellar rooms are covered with cylindrical domes, they are built from boulder stones in mortar and plastered. Thickness of the outer wall is approximately 1.3 m, the internal walls – from 1.2 m to 0.6 m. In the ceiling of several rooms, there are walled in hooks, in the walls-rings. In some places of the thick walls there are made niches, supposedly, there were shelves. Comparing the cellar layout with first floor layout, the walls are logically arranged in both ends in which there are located toward the backyard existing wings and in the middle part where there is located the hall with a staircase. But the cellar walls do not fully comply with the first-floor layout which is located under the Great Hall in the center. Has the further construction idea changed after building of the cellar? It is also not understood why a narrow, approximately 40 cm wide aisle is created in the cellar under the floor. It is interesting to note that the floor of some cellar rooms was covered with dolomite plates approx. 40x40 cm.

Layout and the spatial structure

Layout of the manor house as a whole is traditional – in the hall or hallway which housed the stairs to the second floor symmetrically followed the Great Hall from which as it was generally accepted there was no way out to the park as in this side of the building there was basically no park but there could be a small garden. On both sides of the Great Hall in the anfilade followed rooms one by one. Also, from the hall or foyer the rooms on both sides were organized into the anfilade. As for the wings, the principle of the anfilade was not fully respected. The household entrance was located in the left end (Fig. 4).

The hall and hallway are fairly spacious rooms (as opposed, for example, to Ungurmuiža) and it also has its own representation meaning. The lightings in both sides of the main entrance and the relatively comfortable, not pressed location of the stairs in the room prove it. From the hallway to the left, we can come in a large room which could

have the role of representation, it had two windows and from it you could come in the later so-called Eclectic Hall. In the first half of the 19th century or in the middle, this room was divided into two parts, thus, dividing the historic oven – in each room half of it.

From the hallway or hall to the right there was even a larger room with two windows which, undoubtedly, had the meaning of representation. From the Great Hall on both sides, the rooms were arranged by the anfilade principle. On the right, going through one room there was seen the so-called chapel, presumably made in the second half of the 19th century, on the left – the Eclectic Hall. The second floor was probably built party or inhabited only during the summer months.

Carpentry testimonies

In a series of rooms there was preserved a 19–35 cm wide plank floor, considered to be a valuable testimony of carpentry of those times. But two other rooms impressed with their floor cover in the compositional and carpentry performance. The Great Hall floor boards consisted of an ornament in the center of which there was a circle, from all the perpendicular sides there were worked in three floor boards. Besides, in this room the floor boards were not grooved but pegged. The room around the perimeter was surrounded by two boards but the four central squares covered boarding which was perpendicular to the two side walls of the room. This floor board cover which refers to the 18th century is not very common for manor houses in Latvia and the houses of the rich townsmen. Something similar can be found only in Riga, in the Mentzendorff house.

In turn, the floor of the Eclectic Hall was covered by an oak parquet created in an ornamental design. The floor of the room around the perimeter was surrounded by two boards, in its center there were six squares through which the floor was divided into twelve larger squares. These boards were arranged in such a way that they all were mutually perpendicular. It should be noted that this unique parquet over time was covered and its coverage was countless times recolored. It was found only during probing.

A surprise occurred in dismantling of quite a historic wooden floor covering in another room. Under this cover there were ancient floor boards with a decorative paint. The floor of the room around the perimeter was painted dark brown in a band which from the rest of the floor plane, which was painted light brown, was separated by a black line. In the manor house of Ķirbiži, a series of historically valuable door leaves has been survived, one of them is in the main entrance (the inner eaves), attributable to the first half of the 19th century reflecting the classicism style.

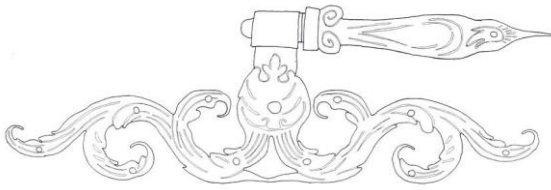


Fig. 5. Hinge of the internal door [Source: drawing by the author]

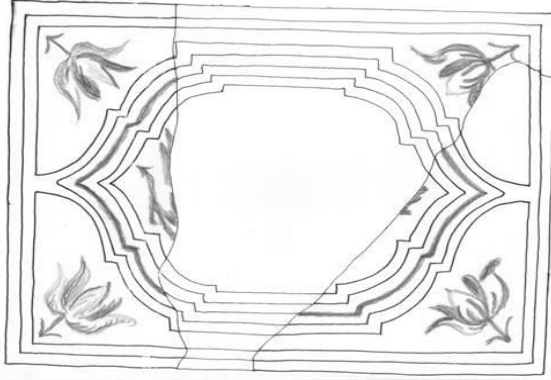


Fig. 6. An oven tile from the manor house of Ķirbiži estate. The first half of the 18th century [Source: drawing by the author]

They are divided in two door panels from which the top one is rectangular but the bottom close to a square.

Both door panel surfaces are grooved but the top door panels between the grooves are with a fold. Between the two door panels there is an ornamental spiral ornament that somewhat resembles the spiral hook hinges of this door in the horizontal position. The already mentioned hook hinges and bolt of the door have survived to our days. The door that has survived to our days which dates back to the 18th century and shows that the door leaves over time have been changed, has metal parts. Unique door leaves from the 18th century have survived in one of the upstairs rooms. They are wide, four rectangular panel doors. Such panel division is rare and unusual. The leaves are hinged up in magnificent spiral hook hinges the surface of which is richly decorated. The artistic design of these hinges is very similar to the front door leaf hinges of the manor house but the details vary slightly as an individual blacksmith's work (Fig. 5).

The stairs to the attic floor were located in the traditional place of all the 18th century manor houses. For comparison, there can be named the manor house of Ungurmuiža, the manor house of Tāšu estate, the manor houses of Liepupe and Katvari where the staircase is located on the left side of the hallway. The stair railings are believed to be rebuilt in the second half of the 19th century but the beginning of the stairs pillar and bishops are said to be the original, from the mid-18th century.

Initially, in the 18th century, on the first floor of the manor house there were six pane windows which by this division but made later in some places have

survived up to our days. In the main façade, the two windows on both sides of the main entrance in the beginning of the 20th century, were transformed – enlarged, creating rounded upper corners and panes divided according to the style of those days. In the decor there is used the so-called capital of Riga.

Ovens and elements of the heating system

During reconstruction and restoration of the manor house, there were found two parts of a tile, after which it may be concluded that in the first half of the 18th century, there was located an oven in the manor house, the tiles of which were decorated with a painting in the cobalt technique complementing the plastic decor (Fig. 6). In the center of the tile, there was a shape imitating embossed, baroque panels.

The paintings were in the corners of the panel (floral presentation), coloured was one of the panel profilings but in the center there is likely to have been a scene with some plot. It is not possible to tell what was depicted on other oven tiles glazed black with embossed ornaments and a storyline scene. This tile stove should be attributed to a later time – the second half of the 18th century.

The stoves having served their time and by the indoor furniture changes seemed outdated, they were replaced by new, according to the aesthetic and comfort requirements of the time. One stove was from the classicism period – its corners were emphasized by a decorated projection in the form of a lizena but in particular there was decorated the mantelpiece. At the top of it there was a palmete motive but at the bottom – alternatively chained rosettes and profiled parallelepipeds. A number of ovens and separate tile finds give evidence of the heating system changes in the eclectic period. One of them is a white glazed tile oven that has a simple profiled cap and a mantelpiece similar to it with a pediment close formations in the upper part.

There is no doubt that in the manor house there were placed the well-known Riga company's *I.C. Zelm* tile stoves as evidenced by the found tile fragments with the brand's name. Probably, the same firm had produced tiles for the oven in the so-called Eclectic Hall. Tiles of this oven were glazed dark brown with an embossed ornamentation. The stove or the flue door are quite interesting details in the 18th, 19th century estate houses. Such details were also found in the manor house of Ķirbiži. In the centre of one door there is a chariot with horses. In the background, this circle is crossed by arms attributes – poleaxes and spears. In the door corners, there were acanthus leave twining. The door probably came from Russia as similar door was accidentally found by the author of this article in 1978, while visiting ruins of the just burnt manor house of the Vecate estate. In the reverse side of the oven

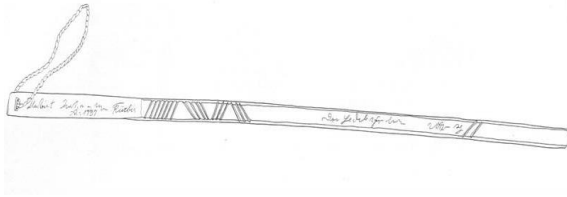


Fig. 7. A duty receipt. The mid-18th century
[Source: drawing by the author]

door, one could see the place of their manufacturing in Russian – Ludinovo [7]. The storyline and decor are almost identical.

Separate finds

During reconstruction of the manor house when the structure was seen—above the cellar cover, in the interfloor coverings, in the removal of covering of the attic wall to place a new insulation, etc., there were found several interesting and unique evidences.

About the agricultural product duties to the estate in the 18th century tells an interesting find in the attic of the manor house. They were five wooden rods of different length the meaning of which at first even very erudite specialists were unable to explain. As it later turned out, they were the duty accounting *receipts*, dated with the years 1737, 1767 and later years. Their one end was made a little thinner to be able to write the name of the estate and the year on it. In one end of the rod, there was a hole with a string loop threaded in it in order to hang this item on the wall for the sake of the order. On the rod, the length of which was different—an average of 65 cm surface there were carved stripes with different slopes, crosses, etc. And for a non-knower it was associated with ornamentation. But each cut line, probably meant either cereals or flax or one of the other products. One such *receipt* was in the estate, the other with the peasant or fisherman's homestead owner who had paid his duties. Why wasn't it done in writing? It should be borne in mind that one part of the people did not know how to write and this kind of *documentation* was simpler. It took some time and the peculiar wooden *receipts* could be thrown away but the man of those times no longer needed these things but he didn't throw them out as simple as we are doing it today. They were placed in the attic—who knows, maybe, one day they will be useful—and forgotten by the time when during survey of the manor house they again saw the light of day, this time as a unique things that tell the story of the life of the estate for nearly 250 years ago (Fig. 7).

An interesting testimony was also found on the second floor of the manor house, in the central room on the courtyard side. In order to glue wallpaper on the logwalls, at first they had to be covered with newspapers or other similar paper material. At Ķirbiži, instead of newspapers, there were used not



Fig. 8. ceiling paintings in the central room of the second floor.
The mid-18th century (2006) [Source: photo by the author]

yet bounded together pages of the book of songs, believed to be from the mid-19th century. Then, the glued wallpaper – over the course of time in several layers but in the end they were glued to slats of wood and the walls were plastered. It was possible to see all these layers in 2006 when the wall probing was done. The cultural layer is not conceivable without crockery fragments. Such ones were also found in the manor house of Ķirbiži and they belonged to four different plates and one cup. One of the plates was decorated with an ornamented border, another could represent the Meisen porcelain factory, judging by the cobalt blue ornaments, yet another was decorated with blue-green drawing and supplemented by an embossed decoration. In turn, the cup as it can be judged by the four fragments was decorated with storyline scenes with buildings and cattle near the forest, in an unusually bright greenish hue.

Interior

The most valuable discovery in the interior there was in the room on the second floor when while removing the ceiling finish of a later time, there were revealed fantastic mid-18th century ceiling paintings which comparatively to other places were in a pretty good condition. The ceiling plane of the room was divided in six parts by open cover beams. In the middle of the ceiling, on both sides of the middle symmetric beam, there was highlighted a square shaped, profiled cornice imitative a baroque square where the decorative composition of the cross beam was different. What was in this square which exposing the ceiling was tinted in a red-brown shade is not known. The ceiling beams were especially richly painted. A geometric ornament was changed by the achantus leaf twists, with rather naive spirals trying to link all this in a single composition.

The boards placed between the beams were painted with spiral shaped ornamentation which in the ends were supplemented by twists of plant leaves (Fig. 8). These ornamentations were not the same everywhere, their painting solution was different.



Fig. 9. Land division plan of the Ķirbiži estate (1920'ies)
[Source: Latvian State Historical Archives]

In order to fill the space that was formed between the spiral paintings and the ceiling beams, there were used exotic bird depictions. It is the most incredible place in the ceiling murals. These birds are diverse and represented sitting on a twig or mound. Here we see a naive depiction of a pheasant, anyone else, it seems – a ravenous bird has taken in his beak an earthworm.

There was also painted the first-floor room ceiling (from the entrance to the lobby on the right). Here the paintings on ceiling boards were different, judging from some of the board fragments that were uncovered in 2006 during restoration and

reconstruction works. On a grey background there were depicted achantus leaf twists in a baroque frame, grape leaves' twists and other motives.

Supposedly, the lobby wooden walls were covered with marble but in some other first-floor rooms, after removal of the plaster, there was revealed a blue-grey shading. An interesting discovery was the wallpaper of later periods, also the Soviet time finishing in the central rooms of the second floor. It was covered in several layers and in some places well-preserved. In the wallpaper shading dominated the reddish, brownish, greenish-grey tones. The wallpaper is related to the 19th century.

The Eclectic Hall is related to the second half of the 19th century. The room ceiling was covered by cassetted wooden ceiling based on consoles. The walls of the room were rather high covered with panels, the bottom of which was covered with panels but at the top as vertically arranged staves in a frame. A profiled cornice concluded the panel at the top. In a single artistic composition there were made the door portals and the door leaves. In the portal there were used grooved bands, positive brilliant rusts but in the supraports – at the panel bottom placed panel motives linking them with the ceiling plane ornaments.

The restoration and reconstruction works of the manor house have been finalized. All the cultural and historical values as possible have been saved. The environment has been arranged and supplemented with new elements. Unfortunately, there is gone the housing situation which we can see in the land division plan of 1920'ies (Fig. 9).

References

1. **Aderkas, C.** *Geschichte des Gutes Kürbis – Büsterwolde. 1491–1938.* Manuskripts atrodas *Domus Rigensis. Deutsch-baltisch-lettisches Zentrum*, 1938.
2. **Pirang, H.** *Das Baltische Herrenhaus.* Riga: Jonck & Poliewsky, 1926.
3. **Lancmanis, I.** Skaistā un pamestā. *Māksla plus*, 2002, Nr. 4, 51. lpp.
4. **LVVA.** *Latvijas Valsts vēstures arhīvs.* Fonds 7404., apraksts. 3., lieta 158.
5. **Campe, P.** *Lexicon Liv – und Kurländischer Baumeister, Bauhandwerker und Baugestalter von 1400–1850.* Stockholm, 1951, s. 281.
6. **Mašnovskis, V.** *Latvijas luterāņu baznīcas. Vēsture, arhitektūra, māksla un memoriālā kultūra*, 2006, Nr. 2, 435. lpp.
7. **VKPAI PDC.** *Valsts kultūras pieminekļu aizsardzības inspekcijas Pieminekļu dokumentācijas centrs.* Lieta Ķirbižu muiža.

INFORMATION ABOUT AUTHOR:

Jānis Zilgalvis 1979. gadā beidzis Rīgas Tehniskās universitātes Arhitektūras fakultāti. 1990. gadā aizstāvējis doktora disertāciju par tematu Latvijas muižu arhitektūra 19. gs. otrajā pusē – 20. gs. sākumā. Kopš 1995. gada ir Valsts kultūras pieminekļu aizsardzības inspekcijas Arhitektūras daļas vadītājs un kopš 2001. gada – Rīgas Tehniskās universitātes Arhitektūras un pilsētplānošanas fakultātes docents. Kopš 2007. gada – Latvijas zinātņu akadēmijas korespondētājloceklis. Vairāk kā 170 zinātnisku un populāri zinātnisku publikāciju un 17 grāmatu autors (atsevišķām līdzautors). Galvenie pētniecības virzieni – muižu arhitektūra un kultūrvēsture, sakrālā arhitektūra, kultūras mantojuma aizsardzība.

Kopsavilkums. 2006. gadā sākās Ķirbižu muižas atlikušās vēsturiskās apbūves atdzimšana. Tika atjaunota pagrabklēts, rekonstruēta un restaurēta kungu māja, demontēts stallis, labiekārtots parks. Šo darbu laikā un pirms tam tika veikta arhitektoniski mākslinieciskā un kultūrvēsturiskā izpēte. Šī muiža kopā ar zudušo Bīsteru muižu bija sens fon Aderkasu dzimtas īpašums, kas tai piederējis vairāk kā 400 gadus.

Jāpieņem, ka kungu mājas cēlājs būs bijis Zviedrijas armijas leitnants G. D. fon Aderkas un tā celta pēc 1753. gada. Savukārt K. fon Aderkass minējis, ka 18. gs. pirmajā pusē tika uzcelta koka dzīvojamā ēka, kura 19. gs. otrajā pusē tika apšūta ar sarkanajiem ķieģeļiem un apmesta. Par kungu mājas celšanas laiku – 1750. gadiem pārlicina arī ziņa, ka ap šo laiku muižā ieradies galdnieks G. Finks, kurš šajā vietā pavadījis ilgu laiku.

Sākotnējā kungu māja bija guļbūve gludajos pakšos uz laukakmeņu mūra cokolstāva. Tā bija labi proporcionēta, simetriska, segta ar mansarda jumtu. Guļbaļķus sedza dēļu apšuvums. Ēkas parādes fasādes malās bija izbūvēti spārni, bet centrā – mezonīns ar trīsstūra frontonu. Pie galvenās ieejas bija veidots toskāniskā ordera kolonnu balstīts lievenis. Pagrabā atrodas desmit lielākas vai mazākas telpas, kas ir caurstaigājamas, bet vietām pieejamas no šauriem koridoriem. Salīdzinot pagraba plānojumu ar pirmā stāva plānojumu, sienas loģiski kārtojas abos galos, kuros atrodas pret pagalmu esošie spārni, kā arī vidusdaļā, kur atrodas halle ar kāpnēm. Taču pagraba sienas pilnībā neatbilst pirmā stāva plānojumam, kas atrodas zem lielās, centrā esošās zāles. Vai mainījies tālākā būvniecības iecere pēc pagraba izbūvēšanas?

Kungu mājas plānojums kopumā ir tradicionāls – hallei jeb priekšnamam, kurā atradās kāpnes uz otro stāvu simetriski sekoja Lielā zāle, kuras abās pusēs anfilādē virknējās telpas. Arī no halles telpas uz abām pusēm bija kārtotas anfilādē. Spārnos anfilādes princips nebija pilnībā ievērots. Saimnieciskā ieeja atradās kreisajā galā. Lielās zāles grīdas dēļi veidoja ornamentu, kura centrā atradās aplis, uz kuru no visām četrām perpendikulārām pusēm bija iestrādāti trīs grīdas dēļi. Savukārt Eklektisma zāles grīdu sedza ornamentālā rakstā veidots ozolkoka parkets. Kungu mājā saglabājušās arī vairākas vēsturiski vērtīgas durvju vērtnes, kas attiecināmas 18. gs. un 19. gs. pirmajai pusei. Ēkas rekonstrukcijas un restaurācijas laikā tika atrasti krāšņu podiņu fragmenti, pēc kuriem var spriest par apkures elementiem 18. gs. pirmajā un otrajā pusē, kā arī eklektisma stila laikā. Darbu gaitā tika atrastas vairākas interesantas liecības. Par lauksaimniecības produktu nodevām muižai 18. gadsimtā stāsta piecas dažāda garuma koka nūjiņas – nodevu uzskaites *kvītis*, datētas ar 1737., 1767. u. c. gadiem. Interesanta liecība atklājās arī kungu mājas otrajā stāvā, centrālajā telpā pret pagalma pusi. Lai uz guļbaļķu sienām līmētu tapetes kā apakšējais ieklājums izmantotas vēl neiesietas dziesmu grāmatu lapas, domājams, no 19. gs. vidus.

Visvērtīgākais atklājums interjerā bija otrā stāva telpā, kad noņemot vēlāka laika griestu apdari atklājās fantastiski labi saglabājušies 18. gs. vidus griestu gleznojumi. Telpas griestu plakni sešās daļās sadalīja atklātas pārseguma sijas. Griestu vidū, abās pusēs vidējai simetriskajai sijai bija iezīmēts kvadrātveida, profilētu dzegu imitējošs barokāls laukums, kuru šķērsojošās sijas dekoratīvā kompozīcija bija citādāka. Pārseguma sijas bija īpaši grezni apgleznotas. Ģeometrisks ornaments mijās ar akantu lapu vijumiem, ar panaivām spirālēm to visu mēģinot saistīt vienotā kompozīcijā. Lai aizpildītu vietu, kas veidojās starp sijās esošo spirālveida gleznojumiem un pārseguma sijām, izmantoti eksotisku putnu attēlojumi. Apgleznoti bija arī pirmā stāva telpas griesti (no ieejas vestibila pa labi). Šeit gleznojumi uz griestu dēļiem bija citādāki.

19. gs. otrajai pusei attiecināma Eklektisma zāle. Telpas griestus sedza kasetēti koka griesti, kuru pasijas sienu griestu ielocē balstīja konsoles. Telpas sienas visai augstu bija klātas ar paneļiem, no kuriem lejasdaļa bija veidota kā pildīni, bet augšdaļa kā vertikāli kārtoti dēļi ierāmējumā. Paneli augšdaļā noslēdza profilēta dzega. Vienotā mākslinieciskā kompozīcijā bija darināti arī durvju portāli un pašas durvju vērtnes.

Ir noslēgušies kungu mājas restaurācijas un rekonstrukcijas darbi. Visas kultūrvēsturiskās vērtības iespēju robežās ir saglabātas. Arī apkārtējā vide ir sakārtota un papildināta ar jauniem elementiem. Izpētes darbu gaitā uzkrāta bagātīga kultūrvēsturiska informācija par savdabīgu 18., 19. gs. muižu arhitektūras liecību, kas saglabājama nākošajām paaudzēm.