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Bohdan Cherkes, Svitlana Linda, Anton Kolomyeytsev

**THEORY AND PRACTICE OF ACADEMIC EDUCATION
IN ARCHITECTURE AND URBAN DESIGN: FROM BILATERAL
COOPERATION TO INTERNATIONAL PROJECTS**

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Abstract. This article presents analyses of thoughts and ideas expressed at the international symposium, which was dedicated to the 20th anniversary of cooperation between the Institute of Architecture of Lviv Polytechnic National University and the Faculty of Architecture and Planning of Vienna University of Technology. The results of cooperation and perspectives of its further development are considered in the context of presented ideas.

Key words: academic cooperation, architecture, urbanism, EU, Institute of Architecture of Lviv Polytechnic National University, Faculty of Architecture and Planning of Vienna University of Technology.

1. Introduction

The cooperation between the Institute of Architecture of Lviv Polytechnic National University and the Faculty of Architecture and Planning of Vienna University of Technology can serve as an example of fruitful and reciprocal development of relations between the educational institutions. Thanks to the support of Austrian Federal Ministry of Science, Research and Economy as well as Austrian Agency for International Mobility and Cooperation in Education, Science and Research it became possible not only to open the scientific potential of many university students and teachers, but also to establish and strengthen personal contacts and to lay the foundations for the development of new scientific research projects.

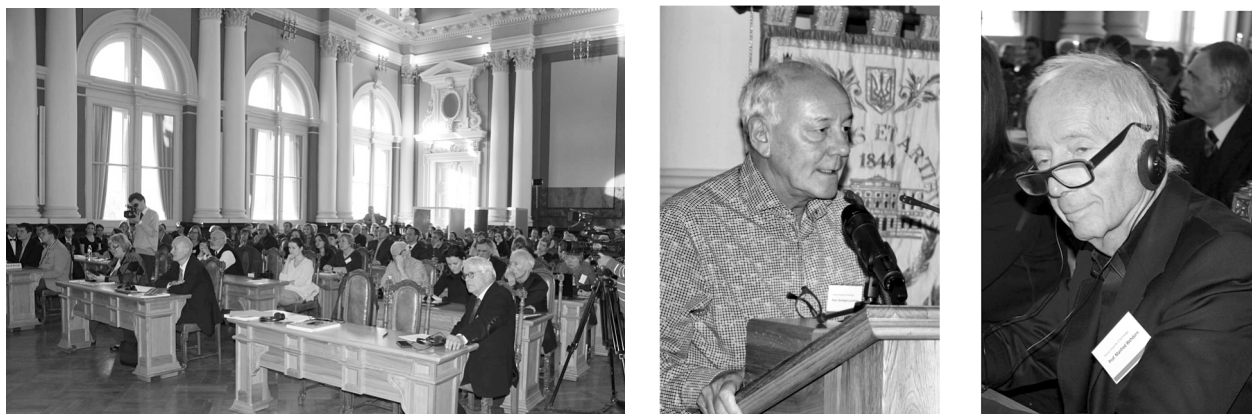


Fig. 1. From left to right: The Lviv part of international symposium dedicated to the 20th anniversary of cooperation between the major schools of architecture from Lviv and Vienna; Speech of Prof. Christoph Luchsinger; Speech of Prof. Manfred Wehdorn

This article is based on analyses and generalization of materials of international symposium, dedicated to the 20th anniversary of cooperation between the major architectural schools of Vienna and Lviv. The results and directions for the further development of cooperation are regarded in the light of those analyses. The symposium was divided in two parts and took place both in Lviv and in Vienna. The program of two parts included the speeches, statements and discussions by scientists and professionals from Lviv, Vienna, Kyiv, Delft, Cambridge, Odessa, Kharkiv, Krakiv and other cities.

2. Basic Theory Part

The first event that was dedicated to the 20th anniversary of cooperation between the Institute of Architecture of Lviv Polytechnic National University and the Faculty of Architecture and Planning of Vienna University of Technology took place between November 18th – 21st, 2015 within the premises of Lviv Polytechnic National University. It was a representative international symposium under the title “Theory and Practice of Academic Education in Architecture and Urban Design”. This event was visited by the delegation from Vienna as well as by the scientists from Poland, Great Britain, the Netherlands, Germany and other countries. This part of international symposium can be regarded as a scientific project, aiming to look at the most urgent questions of architectural education.

The plenary session of symposium was split into one ceremonial and three work sessions, dedicated to the development of architectural education, perspectives of urban planning and preservation of architectural heritage. The opening of the plenary session started in the Assembly Hall of Lviv Polytechnic National University. This session was named “20 Years of Cooperation: Lvivska Politechnica/Vienna University of Technology” and its moderators were Prof. Bohdan Cherkes and Dr. Andreas Hofer. Welcoming speeches were delivered by Prof. Yuriy Bobalo – the Rector of Lviv Polytechnic National University, Prof. Christoph Luchsinger – the Chairman of Professor Curia, Vienna University of Technology as well as by Dr. Elisabeth Hofer – former Head of Lviv Office of Institute of Eastern European Studies and current Director of Studies at Vienna Diplomatic Academy.

The former Dean of Architecture Faculty at Vienna Technical University Prof. Klaus Semsroth presented the key speech under the title “20 Years of Cooperation”. Prof. Semsroth presented the history of development of cooperation. The origins of this process can be dated back to the beginning of the XIXth century, when Lviv Polytechnic was founded. At that times architectural education in Lviv was oriented by the standards of Vienna Technical University. As a result of geopolitical divisions of Europe which took place after the First World War, the rupture of relations between architectural schools of Lviv and Vienna took place as well. After 1939, when Lviv became part of Soviet Ukraine these relations were completely broken. The contacts between two architectural schools of both technical universities were revived only after the year of 1991 thanks to the professional activity of Prof. Martin Kubelik. His initiative was supported by cooperation of Bohdan Cherkes, who was the Dean of Architectural Faculty in Lviv and Prof. Yuriy Rudavskyy from Lviv Polytechnic National University with Dr. Elisabeth Hofer, who at that time was the Head of Lviv Office of the Eastern-European Studies Institute. Mrs. Dr. Elisabeth Hofer had the objective to re-activate the old contacts and to establish new ties between the two architecture faculties.

Already in 1994 the first exchange of students from both universities took place. In 1995 a memorandum about the official start of cooperation was signed. The Austrian Ministry of Science and Research ensured a yearly financial support of cooperation. Until 1999 the cooperation from the Austrian side was guided by Prof. Kubelik. Afterwards Vienna University of Technology was represented by Klaus Semsroth and Andreas Hofer and from 2006 also by Elisabeth Leitner. From the side of Lviv Polytechnic National University Prof. Bohdan Cherkes was always the head of cooperation.

Today the variety of activities, which take place in the context of cooperation, is very broad. There is not only the exchange of students and organization of workshops going on, but also the development of scientific cooperation. More than 35 scientists from Lviv had the opportunity to work on their research in Vienna, among them: Prof. Bohdan Cherkes, Prof. Viktor Proskuryakov, Prof. Ihor Hnes, Prof. Halyna Petryshyn, Prof. Svitlana Linda, Prof. Mykola Bevz, Prof. Mykola Habrel, Prof. Yuriy Kryvoruchko, Prof. Andrii Pavliv, Dr. Yurii Rochnyak, Dr. Oresta Remeshylo-Rybchynska, Dr. Olha Kryvoruchko, Dr. Anton Kolomyeytsev, doctoral

student Natalia Mysak. Among the main publications prepared in the context of cooperation we can name the following books:

- **Identity, Architecture and Reconstruction of the city** by Bohdan Cherkes [1];
- **Linear City Kharkiv 2011** by Andreas Hofer, Elisabeth Leitner and Bohdan Cherkes [2];
- **Urban Metamorphoses for Crimea, 2006** by Bohdan Cherkes, Andreas Hofer and Klaus Semsroth [3];
- **Lvivian Lviv, Architecture and the City, 100 Landmark Buildings, 2012** by Andreas Hofer, Elisabeth Leitner and Bohdan Cherkes [4];
- **Architecture of Ukrainian Theatre: Space and Action** by Viktor Proskutyakov [5];
- **Architectural design of public buildings and structures** by Svitlana Linda [6];
- **Multifamily Housing: Tendencies of Evolution** by Ihor Hnes [7].

The key aspects of the cooperation relate primarily to current questions in city development and urban design, the dealing with historic urban structures, urban density, aspects of communication in architecture as well as the application of new technologies. The focus points in the content of the cooperation have been derived from the general framework of its existence: from the joint interests of both schools of architecture, from the specific characteristics of the cities of Vienna and Lviv as well as from the skills and primary areas of work of the persons involved. At the end of his presentation Prof. Klaus Semsroth expressed the gratitude to the Austrian Ministry of Science and Research and particularly to the Councils of Ministers in the person of Dr. Ramoser and the current coordinators of cooperation Prof. Bohdan Cherkes, Dr. Andreas Hofer, Dr. Elisabeth Leitner. Prof. Klaus Semsroth also indicated that the cooperation between the two schools presents not only potential possibilities for the students and the teachers, but also for development of Lviv and other Ukrainian cities.

After the presentation of Prof. Klaus Semsroth the Cooperation's Website was presented by Dr. Andreas Hofer, Dr. Elisabeth Leitner, Dr. Anton Kolomyeytsev. This project was launched in 2015 before the anniversary of cooperation. The site contains information about the cooperation activities from the year of 1998. On this official web-resource one can find the history of cooperation, its aim and the methods, information about the mother institutions, the coordinators and participants of the project. Among them: Dr. Andreas Hofer, Dr. Elisabeth Leitner, Prof. Bohdan Cherkes, Prof. Klaus Semsroth, Prof. Halyna Petryshyn, Dipl.-Ing. Christian Gigler, Dr. Anton Kolomyeytsev, Dipl.-Ing. Stefan J. Kubin, Mag. Arch. Nataliya Mysak. The site contains information about the most important direction of the cooperation, which is the organization of international workshops. Common workshops were organized in 17 cities, including Lviv, Vienna, Odessa, Kharkiv, Kyiv, and others. On Vienna-Lviv website one can also find statements about the scientific works, conducted in the framework of cooperation, about lectures, excursions as well as about past and future events [8].

The ceremonial session ended with the grand event – presentation of the Yuriy Rudavskyy Medal to Dr. Christoph Ramoser (BMFWF, Vienna) and Rektor Yuriy Bobalo (Lviv).

The three main sessions of the symposium were dedicated to the topics of “Architectural Education”, “Architectural Heritage” and “Urban Design”.

The main direction of the first thematic session “Architectural Education” (moderated by Elisabeth Leitner and Svitlana Linda) was set by the key speaker Sebastian Macmillan from Cambridge University. Talking on the topic of “Architecture and its Place in the Academy” Prof. Macmillan specified the unique role of architectural education and indicated problems present in this sphere today. The professor accentuated that although the designing of a building is a practical craft skill, it is also an endeavour that raises numerous issues about art and culture, practicality and efficiency, an individual and society, the environmental impact and the future of the human species. Its important for these issues to be embedded into the thought process of young architects when designing to become habits of mind. Prof. Macmillan declared that the most important quality of architectural education in academia is that it engages the head, the heart and the hand. At the same time the balance of these three qualities is challenged by the extensive pressure of research.

Prof. Victor Proskuryakov from Lviv Polytechnic National University delivered a speech on the topic “Architectural Environment and Results of Vienna/Lviv Academic Cooperation”. In his speech he talked about how we can use the experience of common design and research programs to improve our own

educational methods and procedures. His thesis was supported by a large amount of student works, created in the context of cooperation and which can be regarded as its after-effect.

This topic of architectural education was discussed even further on national and international levels in the statements of Prof. Aleksandr Buryak in “Architectural Education Policy”. His study was focused on the relationship between political reality of the last decades in Ukraine and life of the domestic architectural school. The subject of analysis was the methodological perspective of transformation of the architectural education as an active factor of positive changes in the life of the professional community and of gaining by it a meaningful position in society.

Prof. Halyna Petryshyn in her speech “Workshop as Tool in Architectural and Urban Education” spoke about the meaning and the role of architectural workshops for creation of professional world-view by the future architects and urban planners.

The second session “Architectural Heritage” was moderated by Mykola Bevz and Caroline Jäger-Klein. It was opened by the key speech of Prof. Manfred Wehdorn from Vienna with the topic “The Viennese Ringstraße and what is left of it”. Prof. Wehdorn emphasized the problems related to the presence of architectural and urban heritage inside modern developing cities. These problems are connected with both the functioning of such important street as Ringstrasse in the context of today and the issues of its preservation. He also gave specific recipes how to treat the monuments and historical environments both to satisfy the needs of today and to preserve their unique character.

This discussion continued in the statement of Prof. Mykola Bevz “The Ringroad of Lviv and the Public Space in the City Center”. This speech contained important information about the stages of formation of Lviv’s new city center in the XIXth century. Prof. Bevz also spoke about the architectural and urban similarity of the main boulevards in Lviv and Vienna. A large part of his presentation was dedicated to the contemporary issues of preservation of the central part of Lviv as UNESCO heritage object.

Prof. Caroline Jäger-Klein spoke about the common architectural heritage of Lviv and Vienna beyond the Ringstraße. The important part of this topic was dedicated to neglected but very valuable architectural complexes, that can be studied and preserved for future generations. These complexes sometimes form the historical background of physical environment of the city provide the individual characteristic image of Lviv as well as Vienna. The aim to preserve the architectural heritage beyond the historical centers becomes nowadays equally important.

Problems related to the preservation of valuable architectural ensembles of the Ukrainian capital were presented in the presentation of Prof. Olena Oliynyk “Architectural Heritage of Contemporary Kyiv”. In her speech Olena Oliynyk accentuated the problems of new city development. One of the key issues in Kyiv is the violation of high prescriptions for the new buildings and alteration of historical environments of the city.

The third part of the symposium was dedicated to the topic of “Urban Design” and was moderated by Markus Tomasell and Andriy Pavliv. The key speaker Prof. Christoph Luchsinger spoke about design competence in urban planning. He presented two visions of high-rise buildings in Vienna and the development of the city of Sinop, that demonstrated a complex approach to intensive development of historical cities.

The presentation of Lviv Chief architect Julian Chaplinsky “Contemporary Architecture and Urban Design in Lviv” confirmed the need for such strategical visions in the city of Lviv. The Lviv chief architect spoke about the historical problems connected with the development and implementation of city masterplans, designed in correspondence with Soviet visions of industrialization. This caused many problems with the transport system of the city and an inefficient use of the territories. He spoke also about new architectural and urban initiatives, which could have a positive impact on the city of Lviv and which are connected with current intensive development of the city.

Most urgent urban issues in the Netherlands were presented in the report of Prof. Cor Wagenaar “Town Planning in the Netherlands”. These problems are connected with historical circumstances of urban development (we can mention the destructions during the war) as well as with the processes of industrialization and globalization. These topics can be seen as the main issues for the future development of European cities.

In his presentation “City Development Plan and Reality” Prof. Yuriy Kryvoruchko spoke about the situation when urban visions meet reality, about conflicts and tensions inside the practice of urban planning. His speech was accompanied by the recent examples from the city of Lviv.

Finally Prof. Boguslaw Podhalanski from Krakiv in his presentation “Kracow – Metropolis of Tourism and Spirit” spoke about a series of urban contradictions, which emerge in touristic cities and have a very big influence on their development.

In his closing speech Prof. Bohdan Cherkes expressed his gratitude for the interesting and important work.

The work was resumed in Vienna. On December, 4th the symposium dedicated to the topic “Urban Dynamics within Global Changes” took place in Vienna Technical University.

The first session was moderated by David Groiss and Barbara Trausinger. Their greetings presented Rudolf Scheuven – the Dean of the Faculty for Architecture and Planning of Vienna University of Technology and Christoph Ramoser from Austrian Federal Ministry of Science, Research and Economy. Christoph Luchsinger – the Head of Department of Urban Design at Vienna University of Technology in his speech “The Role of International Academic Cooperation” spoke about historical meaning of cooperation between two universities, which developed into the sequence of important projects, seminars and workshops. Prof. Bohdan Cherkes in his presentation spoke about results of Lviv symposium. After that, one of the curators of Vienna event Dr. Andreas Hofer announced the main topics of symposium. The symposium “Urban Dynamics within Global Changes” tried in first place to analyse the current and future challenges of urban regions in Ukraine based on the circumstances mentioned above.

In correspondence with the overall topic of the symposium one of the key speeches was presented by Iris Gleichman who, at that time, curated the project “Municipal Development and Rehabilitation of the Historic Centre of Lviv” commissioned by the German Federal Ministry for Economic Cooperation and Development and implemented in the framework of German International Cooperation Agency. In her presentation “Recent Experience of Urban Renewal of Lviv” Ms. Gleichman spoke about her personal work experience in Lviv and the achievements of the project. In six years of its existence the project succeeded a lot in the provision of historically sensitive renovation, the development of new planning instruments, strengthening of awareness and participation, training for craft people as well as in improvement of public space and introduction of sustainable mobility in the city of Lviv.

Viktor Zotov (Canactions School for Urban Studies, Kiev) in his presentation “New Ukrainian Urbanism” spoke about the contemporary challenges for local architecture and urban design. The complexity of the situation is caused not only by economic instability, but also by a range of ethical and esthetical issues. The movement towards the visual comfort of the city and towards absence of visual as well as spatial noise the architect sees as the main guaranty for the future improvements.

After these two key inputs the Chief architect of Lviv, Julian Chaplinsky in his speech “Contemporary Challenges of Architecture and Urban Design in Lviv” told about urgent problems of the city of Lviv and the possibility of a new development phase. Mr. Chaplinsky also mentioned important projects, where Austrian architects participate in new architectural projects.

Christian Gigler as a long-time involved actor within the cooperation in his presentation “Abilities Know no Borders: cooperation & what we can learn from each other” spoke about the importance of such collaborations for both sides. On his personal example he described how the contacts gained on the educational stage can further influence the research and professional work.

The representative of the Ukrainian Chamber of Commerce and Industry in Austria Rainer Staltner gave a speed lecture “Austria meets Ukraine – We are up to the Challenge” [9].

The first session of symposium was concluded by a round table discussion focussing on the following questions: Which goals should be formulated to influence current urban reality? What tools within urban planning can be applied to improve the living conditions? Who might be the actors to manage that process?



Fig. 2. The Rector of Lviv Polytechnic National University presenting the Yuri Rudavskyy Medal to Dr. Christoph Ramoser from of Austrian Federal Ministry of Science, Research and Economy



Fig. 3. A Round table discussion between the participants of Vienna symposium

The next session moderated also by David Groiss and Barbara Trausinger started with the speech of vice-mayor of Lviv Andrij Pavliv. The next speech under the title “Continuity and Innovation within the Academic Cooperation” was conducted by Prof. Bohdan Cherkes, Dr. Andreas Hofer and Dr. Elisabeth Leitner.



Fig. 4. Dr. Andreas Hofer and Dr. Elisabeth Leitner – the curators of Vienna symposium; Participants of Vienna Symposium

In the framework of the session the new cooperation website was presented to the public. Prof. Halyna Petryshyn and Mag. Arch. Barbara Maschat spoke about the International Competition for the logo of cooperation between the major architectural schools of Vienna and Lviv, which took place in 2015. On the 21st of September 2015 the jury met in Vienna and with Prof. Klaus Semsroth elected as the head of the jury to decide about the competition winners. The first prize winner was Solomiya Hanets, a PhD student and research assistant from Lviv Polytechnic National University.

The event was continued by the presentation of the book “Identity, Architecture und Reconstruction of the City” by Prof. Bohdan Cherkes.

The second session of the symposium ended with presentations of young scientists, who conducted their research in the framework of cooperation.



Fig. 5. Presentation of the book “Identity, Architecture und Reconstruction of the City” by Prof. Bohdan Cherkes

Natalia Mysak spoke about “Identity of Large Scale housing Estates Built in 1960–1980 in Europe”. The researcher described the structure and the main aims of her PhD thesis. In its framework she studies possible scenarios for transformation of large scale housing estates in different European contexts as well as the place of identity in this complex process. The model of identity concept and methodology of its analyses was presented on the example of comparison of similar districts in Lviv and in Malmö.

Barbara Trausinger presented her master thesis “The Socialist Linear City Model of Kharkiv”.

3. Results and Discussion

The important result of cooperation is its further scientific influence and succession. Scientific symposiums organized in the fall of 2015 managed to collect many urgent issues from architectural theory and practice to look for the new ways of architectural discipline. Many times during the evenings it was mentioned that the important fact is to continue this critically important work on the day-to-day basis. One of such initiatives, which was partly also born as the result of cooperation became the project in the context of Tempus-IV program. This international research and educational project with the title “Regional Sustainable Development on the Basis of Eco-human Synergetic Interaction” is conceived as an initiative to develop multidisciplinary training course for MSc, PhD and LLL students in architecture, urban planning and engineering. SEHSI project (short name) during the years of its development has become a powerful educational platform for development of scientific infrastructure, integration of e-learning components as well as for development of interactive web of connections between many European universities. The work on this project started in 2013. The main coordinator from the side of European Union became the Vienna University of Technology. From the Ukrainian side it is Kharkiv National University for Construction and Architecture. Initially, it was planned that 21 organizations will participate in this project, including 9 European and 6 Ukrainian universities as well as other state-owned organizations and companies (research institutes, ministries and so on). After the annexation of the Crimea in 2014 by the Russian Federation some of Ukrainian partners were not able to resume this collaboration.

The Institute of Architecture of Lviv Polytechnic National University in this project was represented by Prof. Bohdan Cherkes, Prof. Viktor Proskuryakov, Associate professor Yuriy Dzhyhil and Dr. Anton Kolomyeytsev.

Currently this project is on the final stage. In three years time the partners have succeeded to organize a number of coordinating and educational meetings. In the framework of these common meetings a lot of events were organized by participants from EU and Ukraine, among them: important seminars, conferences, teachers’ trainings (including Lviv), three summer schools for students (in Valencia in 2014, in Split in 2015 and in Ljubljana in 2016); student workshop in Odessa dedicated to the projects topic. With the support of European grant EACEA it became possible to print 28 textbooks (4 of them were written by Lviv authors) and technically equip a computer class at the Institute of Architecture; a group of students is currently at the final stage of their SEHSI-program training.

The results of this project will also be used after its termination. The basis for that is a specially elaborated training course, which consists of 7 modules (28 course units) as well as internet data bases to know more about the SEHSI project and its materials (<http://sehsi.com>, <http://stvteam.com> and <http://omnibase.info>).

4. Conclusions

The results of 20 years of cooperation between the Institute of Architecture of Lviv Polytechnic National University and the Faculty of Architecture and Planning of Vienna University of Technology confirm the importance of bilateral scientific and educational contacts. Many urgent topics discussed at the symposium that was dedicated to the anniversary of cooperation influence the common vision about the future of architectural education. The same issues, especially in the sphere of sustainable regional development became the basis for development of new projects and new forms of collaboration.

Moreover, the importance of the cooperation consists in setting an innovative course for the Austrian-Ukrainian collaboration in the field of university cooperations beyond the above-mentioned key aspects. Finally, the cooperation is an expression of the wish for an increased linkage of academic teaching and research activities between Ukraine and the European Union.

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Богдан Черкес, Світлана Лінда, Антон Коломейцев

ТЕОРІЯ ТА ПРАКТИКА АКАДЕМІЧНОЇ ОСВІТИ В АРХІТЕКТУРІ ТА МІСТОБУДУВАННІ: ВІД ДВОСТОРОННЬОЇ КООПЕРАЦІЇ ДО МІЖНАРОДНИХ ПРОЕКТІВ

***Анотація.** Проаналізовано думки та ідеї, задекларовані на міжнародному симпозиумі, приуроченому 20-й річниці кооперації між Інститутом архітектури Національного університету “Львівська політехніка” та архітектурним факультетом Віденського технічного університету. Результати кооперації та перспективи її подальшого розвитку розглянуто у контексті поданих ідей.*

***Ключові слова:** академічна кооперація, архітектура, містобудування, ЄС, Інститут архітектури Національного університету “Львівська політехніка”, факультет архітектури та планування Віденського технічного університету.*

Klaus Semsroth

20 YEARS OF COOPERATION IN ARCHITECTURAL EDUCATION BETWEEN VIENNA AND LVIV

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Abstract. This article describes the main aims and presents the initial vision of cooperation between the major architectural schools of Vienna (Austria) and Lviv (Ukraine). These reflections are supplemented with a discussion of results obtained in the context of common activities during the 20 last years of cooperation.

Key words: academic cooperation, workshop, architectural publications, Vienna, Lviv.

1. Introduction

For the last 16 years, I, as the professor of Vienna University of Technology, have had a wonderful opportunity and an interesting challenge to work with many colleagues of the Institute of Architecture from Lviv Polytechnic National University in a close professional and personal cooperation. It has been a valuable experience, highly forming my thinking about architecture and urbanism. It broadened my mind widely into the East of Europe.

Lviv was and is still the *entrée* into the Eastern European world, where, in this city, western and eastern influences mix together into a pleasant and well-experiencing new Matter.

My friendly feelings for Ukraine, for the city of Lviv, for Ukrainian people, and especially for the Faculty of Architecture, have been sharpened crucially during the many years of cooperation ... and that all this became possible is due to the close collaboration of both our faculties since 1995.

2. Basic Theory Part

The contacts between the two faculties of Architecture, that of Lvivska Polytechnika and that of the Vienna Technical University, reach far back into times before the First World War, when Lemberg (Lviv) was still the seat of the Governor of Galicia during the K. and K. monarchy (The Austro-Hungarian Monarchy).

From 1844 until 1918 Lvivska Polytechnika was an educational establishment of the Technical University of Vienna in Galicia, at which, already at that time, the aim was to include Lvivska Polytechnika in contemporary standards of architecture schools.

Because of the political re-arrangement after the First World War, Lemberg became the capital city of a Polish voivodship from 1919 until 1939. It was part of the Soviet-Ukraine from 1939 to 1941 and was the capital city of the District Galicia from 1941 to 1944. From then on, it was part of the Soviet Union.

This political development implied that the close contacts of the period before 1918 between the two faculties have been interrupted. Only at the turn of 1991, the ties from the 19th century have been re-established.

The change in the general and political framework of Eastern Europe at the beginning of the 1990s paved the way for the first attempts by Prof. Martin Kubilik, Ordinarius for Architecture and Building Measurement at the Vienna Technical University, followed by first contact conversations with the Dean of the Faculty of Architecture in Lemberg Prof. Dr Bohdan Cerkes and. Lemberg, at that time, being the leader of the East-Southeast-European outpost. Mrs. Dr. Elisabeth Hofer had the objective to re-activate the old contacts and to create new ones between the two Faculties of Architecture.

From the start of these activities in 1994 many exchanges of students from both Faculties to the relative partner city have taken place.

Beyond that, the Faculty of Architecture and Planning could send some of the teaching staff of the Technical University Vienna with actual themes about architecture and urbanism to Lemberg to inform the local students and teachers about the newest developments in Europe.

Finally, in February, 1995, a memorandum to create an institutional cooperation between these two Faculties of Architecture was signed. In 1995 the Austrian Ministry of Science and Research ensured a yearly financial support for this cooperation that is still valid today, what we are all thankful for. Without this financial support many things within this cooperation could not have been possible.

The purpose of the agreed memorandum was, above all, to establish an institutional cooperation on the level of the Faculties of Architecture promoted by the Austrian Ministry for Education, Science and Culture.

This memorandum has been extended every second year since 1995 by the relative academic institutions, as arranged in the contract.

During the first years since the foundation of the cooperation until the year 1999, Prof. Martin Kubelik from the Institute of Architecture and Building Measurement at the Vienna Technical University and Prof. Bohdan Cerkas, Dean of the Faculty of Architecture in Lemberg, have been the “engines” and responsible for the agreement.

After Martin Kubelik left the Technical University in winter semester 1999/2000, I, together with Dr. Andreas Hofer from the Faculty of Architecture and Planning, were assigned as substitution and now as the advisors of the mentioned memorandum.

In the year 2009, the number of advisors extended including Mrs. Elisabeth Leitner of the Faculty of Architecture and Planning in Vienna.

On the part of Lvivska Polytechnika, the coordination of the agreement remained with Prof. Bohdan Cerkas.

In this new constellation, we started to fill the memorandum with new life. Our collective contents of scientific collaboration and cooperation in teaching Architecture have soon become a fixed-point in architecture education in Lviv and in Vienna alike.

With the foundation of the new state of Ukraine 1991, the effort to declare the old city center of Lviv, that was also essentially built by Austrian architects in the 19th century, part of UNESCO world cultural heritage, was supported within this cooperation-memorandum. In the end they were successful and in 1998 the old city center of Lviv was recorded in the list of the UNESCO.

An additional goal of the memorandum was, and still is, the assistance to overcome the still noticeable border between East and Central Europe.

What was it about in that time? What is it about today?

- integration of the Faculty of Architecture of Lvivska Polytechnika as a former establishment of the Vienna Technical University in Galicia (1844–1918) into the network of Europe’s architecture schools;
- preparation of the students to the actual and future scopes of duties of their professional life, in particular, in the Eastern and Central European context (teaching);
- advancement and exchange of information and skills on the level of teachers and students (research);
- practice of the teaching content and the reviewing of the suitability of daily use through shared projects (applied teaching and research);
- support in the management of their cultural heritage (the recording to the UNESCO-List. Lemberg 1998, Vienna 2001) through the academic activities of both faculties.

The scientific cooperation between Vienna and Lemberg has intensified not only the dialogue between East and Central Europe, but it should also serve to overcome the new European Union’s external borders from 2004.

3. Results and Discussion

What has taken place within these 20 years?

Since the year 1999 we have realised important and, above all, future-orientated architecture and urbanism projects on the level of research, scientific publication, exchange of professors, collective excursions of the yearly design-workshop – very close to practical assignments of Ukrainian cities.

Over all, more than 20 scientists from Lemberg have had the possibility to work, in the context of support of their scientific projects, on their research work for a certain time in Vienna. The results of their work have been published.

The interest, which Bohdan Cerkas, in particular, has inspired in students, through his scientific input and lectures on subjects of architecture and urban development in Eastern Europe within the frame of the memorandum, has produced, in the meantime, a broad effect. Which is why many students and graduates have dealt with the subject of Ukraine’s new orientation in their seminar or diploma thesis.

Out of many publications, I want to name just the following exemplary titles:

- **Identity, Architecture and Reconstruction of the City** by Bohdan Cherkes;
- **Linear City Charkiv 2011** by Andreas Hofer, Elisabeth Leitner and Bohdan Cherkes;
- **Urban Metamorphoses for Crimea, 2006** by Bohdan Cherkes, Andreas Hofer and Klaus Semsroth;
- **Lemberg Lviv, Architecture and City, 100 Landmark Buildings, 2012** by Andreas Hofer, Elisabeth Leitner and Bohdan Cherkes.

Overall, many students have dealt with actual problems of architectural and urbanistic developments of Ukrainian cities.

In 2007 **Andrea Überbacher** wrote a much-respected work about “**Aboard Settlement in Ukraine. From a Peripheral Large Housing Estate to an Urban Quarter**”.

One year later **Tanya Mayr** dealt with “**The URBAN SPACE IN DNIPROPETROVSK**” after an intensive on-site study.

And in 2012 **Christian Gigler** wrote a fundamental work about the perspectives of urban development of “**ODESSA**”.

Much can be reported about the urbanistic and architectural workshops, favored by many students, which have been held since 1994 due to the support of the memorandum. From the first urbanistic workshops in **Lviv** (1998 and 1999), followed by others in the **Crimea, Jalta** and **Alushta** (from 2000 to 2004), in **Kiev** (2004) to the point of the town planning activities and developments of restructuring measures for **Odessa** (2005 to 2008 and 2012), in **Lviv** (2009), in **Charkiv** (2010 and 2011) and in preparation of the European soccer championship 2014 again in **Lviv**.

The most recent workshops 2015 and 2016 were held in Vienna, due to the tight political situation in Ukraine. We hope to continue our urbanistic workshops in Ukrainian cities soon.



Fig. 1. Harbourpolis Odessa 2007



Fig. 2. Harbourpolis Odessa 2012



Fig. 3. New Urban Density. Vienna 2015

Three short comments of students will show how favored these workshops have been:

Jean-Philippe Bellemare, an exchange student from Montreal wrote after the workshop in Odessa 2007:

“During the workshop in Odessa, I had the opportunity to discuss with other students from diverse Universities and countries the future expectations and the learning paths in their particular countries. The differences were huge; however, I found the discussions very helpful and I learned a lot about the particular critical perceptions through this comparison”.

Christian Gigler wrote as a memory of the workshop in Odessa 2005:

“The most important and interesting experience in this workshop for me, was an open collaboration with the students from Lviv and Odessa, although we had big communication problems. It was a highly interesting experience to see what great hopes and motivations Ukrainian students put into the future of their country after the political changes. I am convinced that the various contacts that we made during the days of collaboration will develop into long-term friendships”.

Dagnija Smilja, Erasmus-exchange student from Riga, 2008:

“I have truly enjoyed the workshop in a team ... also the many animations of the professors. It was important to concentrate entirely on your thoughts and create a solution that you could also show to the others. We had to compare one position with another and to harmonize and connect everything...and it worked”.

4. Conclusions

These collaboration activities between the two Faculties of Architecture are highly visible and successful. The results meet a big response in Ukraine.

A great gratitude should be given to the Ministry of Science and Research, particularly the Council of Ministers Dr. Ramoser, as well as to the coordinators of both Faculties of Architecture Bohdan Cherkes, Elisabeth Leitner and Andreas Hofer.

This intense academic collaboration represents a large knowledge and discussion potential for students and teachers, but also for the development of Ukrainian cities. I wish to bring the results of our cooperation, stronger to the public, for the good of the country.

Above all, such future-orientated insights could put focus on the Austrian-Ukrainian collaboration, so that one day Lviv finds itself in the middle of this big European Nation instead of having entrée-functions at the border of European Union-external frontiers.

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Klaus Semsroth

20 РОКІВ КООПЕРАЦІЇ В АРХІТЕКТУРНІЙ ОСВІТІ МІЖ ВІДНЕМ І ЛЬВОВОМ

Анотація. Описано основні цілі та подано первісне бачення кооперації між головними архітектурними школами Відня (Австрія) та Львові (Україна). Ці міркування доповнені обговоренням результатів, які отримано під час спільних заходів упродовж 20 років кооперації.

Ключові слова: академічна кооперація, семінар, архітектурні публікації, Відень, Львів.

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ARCHITECTURAL EDUCATION POLICY

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Abstract. The study focuses on the relationship between the political reality of the last decades and life of the domestic architectural school. The subject of analysis is the methodological perspective of transformation of the architectural education in an active factor of positive changes in the life of the professional community and gaining by it a meaningful position in society.

Key words: architectural education, self-repression, pedagogy of freedom, methodological thinking, super-schools.

1. Introduction

Consideration of architectural education in the context of political reality is vital for the Ukrainian architecture, which still has not overcome the effects of the social revolution of the early 1990s. Nevertheless, not just for it. Without such a review the entire social pathos of the modern movement would remain in the history as an irresponsible blather. The article presents three ideas born in this field of analysis, – the political nature of the preservation of old and of appearance of new taboos in a system of architectural education; removal of the ideological monism in the educational sphere; and the idea of the Policy-As-Management.

2. Taboo – old and new

The contradictory relationship between architectural and artistic education and the political reality of post-Soviet societies results in collisions that significantly distort the reproduction mechanism of the professionalism [1]. Due to the conservation of the old political and ideological taboos and the appearance of entire groups of new ones, the contents, essential for coordinate system of professional culture, are being washed out of education. The crucial social and political fracture has forced to introduce new ones and delete many old units of “educational material” due to, so to speak, “purely political” reasons. New systems of permissions and standards, which are normalizing the proper text behaviour, are imposed from the outside of schools – through TV, press, exhibitions, performances, and so on, primarily through artistic texts – drawings, projects, films.

However, in the contemporary art the cultural and creative sense of a sample is the most often found not so much in itself, but in the discourse, which accompanies the exemplary work. For the post-Soviet art schools, for its students and teachers, this meaning is practically inaccessible, because the accompanying discourse (“theory”, “concept” and so on) is either simply a foreign-language one or – what is even more difficult – other-philosophical, i.e. from another cultural world. This is already quite invincible for the Soviet and post-Soviet creative psychology. Hereof – wild rethinking and incomprehension of what is taken by a school as new samples and what is replicated in a so-called “learning process”.

Additional reasons for new taboos in the school are ignorance and poverty; such “beggars” taboos come just from the teaching staff (*faculty*), which has grown up in the old system, and now has neither desire nor vitality to relearn. A simple base of their pedagogic behaviour is claiming that “students do not understand”, that is, if I do not understand – my disciples the more will not. Therefore, everything is tabooed. In traditional societies taboo violations are punished by death or exile. Architectural and art schools are in the most traditional societies with the clan structure and tribalism customs. The only exception are schools of avant-garde art, as

Ecole des Beaux Arts in Paris in the nineteenth century, Moscow Vkhutemas or German Bauhaus in the early twenties; today we have no such schools.

Of course, this is not good – from some external, abstract cultural point of view. If we look inside, due to the mechanisms of self-censorship and self-restraints schools retain their functioning and the possibility of at least a kind of reproduction – it does not matter, of what and how. The nature of new taboo is essentially different in different communities, situations and places; but since they are formed and operate in the channels of reproduction, they deserve to be identified and described. This is equal to their cultural burial and to liberation of an area in which the buried taboo acted. For the life of schools such an action is similar to a psychoanalytic treatment of complexes in relation to an individual.

3. Public policy and professional ideology

The removal of mandatory ideological monism was always perceived in the Soviet society as a tragedy. A striking example of this we saw in the late 1970-s, on the rise of Brezhnev's "stagnation" era. Then the aggressive frivolous postmodernism has jokingly destroyed the evaluation criteria system in the top architectural schools (which, by the way, was built over the years and was established with difficulties). Immediately from the "bottom", from faculties, there were cries about the need to invent and put by themselves above themselves a kind of a new professional and ideological standard, as far as those, who should do it, were unable to do it (i.e. the Union of Architects, the Ministry of Higher Education, finally, the ideological department of the Central Committee of the Party).

It's extremely scary to live in an open society; lack of conventional means of ideological repression in the post-communist world creates an increased demand for the means of self-repression. A new generation in this sense differs surprisingly little from the generation of their parents; and if differs, then is characterized by a greater conformism. Students, including those of so-called "creative" universities, seem not at all happy of pluralistic horizons, which have opened in front of them. They willingly give themselves to every carrier of a ready-made ideology – the more dogmatic, the better – (the so-called "parametrysm" rather successfully applies for the role of such ideology in modern architectural schools [2]).

It is difficult to evaluate system changes (and, perhaps, devastation), which numerous ordinary (not always ideological) educational innovations sow in the system of professional reproduction. Among them, for example, the rampant computerization, continuous history rewriting, regulatory restrictions of "Bologna process" and others. This is not only a local feature. For example, in many American universities programs of history for designers and architects contain more or less random set of historical episodes, without any attempts to build a generalizing consideration of the history of profession development. Based on these programs, life on the ruins of crash, on the socio-cultural dump is presented as a norm – just not to create any cultural or political confrontation in a school and to avoid any political situations.

The actual teaching experience demonstrates how politically immature student or ex-Soviet teacher, facing socio-political changes and their socio-professional and ideological consequences, either become extremely politicized (in a stupid Bolshevik sense of struggle for power), or (more often) fall into a complete political indifference. Culture and professionalism suffer anyway.

The focus of professional (and thus of educational) attention should be shifted from the question "how?" to "what?", "whom?" and "what for?". A future arts worker has to be done independent, that is responsible, – and socially lonely (implementing thus *chez nous* Renaissance individualism, to the establishment of which we are resisting so successfully already for six centuries, surprising the West). This means to make enter the future creators of human environment, moulders of opinion and feelings into the political society – humanistic, democratic and Christian one, – in short, into the promised open society with its cruel laws of competitive games, political struggle and legal regulation.

If in this society an antagonist can not be killed, then the motives of his/her actions should be recognized and taken into account, and a game should be led with an opponent according to the known rules. Among the motives one has to learn to distinguish:

- direct interest, economic or authoritative;
- effect of relationships and connections in which opponent or partner is included, i.e. what limits the partner, and in what he is weak;

- opponent's ideological background (professional, group, individual), how he/she will behave most probably;
- finally, the type of his worldview, that is what he would never step over.

All this requires from the student (and, therefore, from his teachers) fantastically rich possibilities of distinction, in principle – endlessly rich ones. Therefore, the idea, that it's always necessary to listen to the opposite side, which was heretical for the Soviets, becomes the guiding one. It obliges the school to present within any academic subject the entire available spectrum of opinions (especially if the difference of opinions is dictated by various professional and political orientations), that prohibits indoctrination, implementing the regulatory requirement of “pedagogy of freedom” [3].

4. Policy is to manage the future

In the current transitional socio-cultural situation, some specific expectations are linked just with the education of the artistic type. The fact that only for art education the human sense of future activities and the ways of socialization, coupled with the necessary moments of “*techné*”, are located in the substantive centre of professional activity. Here the construction of human sense is marginal – that is why art education in accordance with the level of its intellectualization serves as a model for the entire higher education and, therefore, for any education at all. (This may be compared with very unbanal English design-centric concept of education [4]. The latent defect of the concept was in the fact, that it was based on a socio-cultural model of the commodity market).

The embedding of education into the socio-culture of the “open society” should go through the Policy-As-Management idea. At the time, in methodology of education a lot was said about design as a necessary component of modern culture. In fact, implantation of political culture into the system of educational content is only the more general formulation of the same problem. In terms of the basic methodological idea of development, managerial thinking as thinking about development becomes the basic content of educational reform. Concretization of this idea is introduction of students into the world of programme, project, planning and other subtypes of managerial culture.

Unfortunately, our education is defenceless before politics in its most vicious, just Lenin's sense – as a struggle for power. Therefore, “complete depoliticisation” in the higher school takes the form of destruction of any possibilities of self-motion and self-organization. In Ukraine after 1991 the sign of modern times was the actual elimination of universities autonomy, which persisted even in totalitarian times, and a new wave of unification – though not of the standard of education, but of the training programs and of so-called “learning material”.

I prefer to consider politics, after Friedrich Hayek [5], not as a struggle for power, but as the work and game of the managerial decision-making and of decisions implementation within the limits of real possibilities. Then now, when management has ceased to be an exclusive prerogative of the centre, everybody, in principle, should be able to realise management by himself, or at least to take part in it deliberately. This is the way to sovereignization, decentralization, democratization, privatization and other attributes of the open social model.

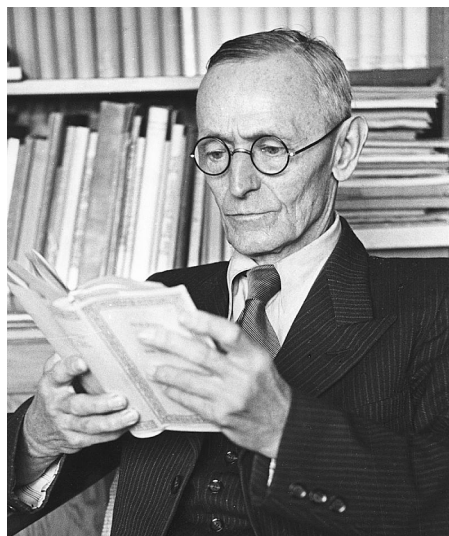
Reforms require also a corresponding method of teaching that can not be anything else, than a practical work on mastering the techniques of political action. In the global pedagogical forefront this method, oddly enough, is being elaborated again in architectural and artistic education or somewhere nearby. We can enumerate, for example, a multidisciplinary design “studio”, conducted by D. Scott Brown and Robert Venturi at the University of Pennsylvania, similar design and research cycles by Ricardo Porro at the Higher School of Arts in Havana, participatory Kreuzberg's project in West Berlin in the late 1960-s – the first half of the 1970-s and many others. The content of all these pretty similar training and project cycles is that an artist (architect, designer) is deliberately trying to be a tool that mediates subtle, but cold-academic professional techniques and naive but genuine desires of “consumers” – of a rural community, urban communes, inhabitants of a street or a courtyard. Art action merges with a political one.

Religious wars, media industry, show business, Industrial Design, Haute Couture – all of them are significantly artistic, but also essentially political organizations. Things are presented here not by their objective characteristics, but as a content of managerial solutions and the corresponding communication.

5. Conclusion. Methodological prospect

Observing the actual situation of architectural and artistic education, it is necessary to state a certain paradox – recent decades have not brought any social and cultural change in artistic life and education. The years, that have broken the spine of the System, meant only socio-organizational, almost everyday life changes for the artistic life of the country; substantively artistic life has long been essentially separated from the Soviet society. But this just means the total dysfunction of the artistic sphere towards the whole public life. Statements about the genesis of this dysfunction in Stalin era do not clarify the current national-cultural problem.

The situation is generally favourable for the possible implantation of methodological thinking into architectural, artistic and design education. Though today there are no art groups like Bauhaus, that would teach while experimenting, but there appear the so called “super-schools”, intended to create new models of professional culture. Students and teaching staff of architectural and artistic schools are more educated and receptive comparing to many others.



Portrait of Herman Hesse

Perhaps the main argument in favour of the increasing interest to the topic is that the workplace in architectural and design education corresponds in the “style of life” to the prospects of professional methodology, artistically bringing together its image and importance with Hermann Hesse’s “Pedagogic Province” [6]. Coming out to the area of art and architecture is a natural stage after the game one, the stage, that assimilates the experience and value of direct subjectivation of senses, which were opened in organizational and activity games, and discovers the opportunities for paradygmatisation of this experience and its putting into the centre of methodological work. This is an important issue in real politicization – in its positive sense, – i.e. in the evident and commonly understandable structuring of the social life.

Image source:

<http://www.gahetna.nl/collectie/afbeeldingen/fotocollectie/zoeken/weergave/detail/start/0/tstart/0/q/zoekterm/Herman%20Hesse>

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Олександр Буряк

ПОЛІТИКА АРХІТЕКТУРНОЇ ОСВІТИ

Анотація. Дослідження зосереджено на взаємозв'язках між політичною реальністю останніх десятиліть та життям вітчизняної архітектурної школи. Проаналізовано методологічні перспективи перетворення архітектурної освіти на активний чинник позитивних змін у житті професійної спільноти та набуття нею значущої позиції в соціумі.

Ключові слова: архітектурна освіта, самопригнічення, педагогіка свободи, методологічне мислення, супершколи.

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L'VIV PUBLIC SPACE IN THE POST-SOVIET PERIOD

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Abstract. The article presents an analysis of changes in the public space of Lviv that allows subdividing the city into districts according to the typical authorities and the intensity of changes. Nine types have been singled out; and the space of the historical centre, which underwent the greatest changes, occupies a special place. According to the intensity of changes, the second place belongs to the communication public space and the space of new public centres. The public space of residential districts of the Soviet time has changed least of all.

Key words: city, public space, communication space

1. Introduction

Ukrainian cities entered the 21st century with new phenomena and problems of social stratification, enclosure of exclusive zones with no access, removal of a considerable part of the society from active processes of socio-economic life, intensification of problems with space disorder, problems with real estate loans and homelessness, etc. Urban environment is figuratively divided into territorial zones with various spheres of people's activity, but in the city planning context, all of them are definitely associated with urban public space. Its role is to regulate relations arising outside private spaces where legal status and possible presence of certain citizens are limited due to private norms. The public space is viewed as space with free access for everybody, where a person can be admitted free of charge. It can be *subdivided* into the space of the city centre, new residential districts, communication space, recreational and park space, the space of new trade and entertainment centres which are emerging on the outskirts of the city. In the article the author examines its main types and changes throughout the last 20 years. Classifications of public space are established in the context of certain legislative and normative acts within the borders of particular state features. These specifications are determined by norms of architectural and spatial as well as administrative competence of the state and local authorities. The typology of public places in different countries varies. However, the same type of public place in different countries presupposes different requirements, limitations and prohibitions.

2. Basic Theory Part

Public spaces in Ukraine include places meant for temporary use and the latter include institutions where access for citizens is limited by the order of the day or other reasons. In all countries, there are limitations concerning behavior in public places which are based on national and religious traditions as well as specific moral norms and hygiene. Certain countries and cities may introduce limitations on a seasonal and permanent basis. Thus, a number of cultures consider it inappropriate to commit actions associated with private life in public spaces.

Urban public spaces perform the following functions:

- social and culturological as a place for social contacts;
- spatial and ecological (landscape formation, conservation and protection)
- economic and marketing (to commercialize urban life and increase competitiveness of cities).

A city café is a symbol of a public place; it is simultaneously a territory for communication, a recreational zone and a workplace for people of creative professions. Nowadays, as the share of services and creative industry increases in urban economy, public spaces are more often used for business talks and workplaces. Public spaces determine the quality of life in the city. They structure cities, enrich urban space with human dimension, comfortable density of the environment and infrastructure objects. Another important function of the public space consists in opposition to social and property segregation. Mini-parks, cafés, trade and entertainment centres, sports complexes become buffers between quarters of elite and social construction. Residents of different social layers interact in such places. Therefore, public spaces serve for social development. In specially established public places, groups of citizens can organize various events, development centres, games and entertainment. Such spaces boost creative possibilities and motivate citizens to get involved in events that develop the city.

According to the accepted classification and functions of the public space, the author has chosen *methods of research* which presuppose characteristics, analysis and assessment of changes in Lviv public space in the post-Soviet period (social and culturological, spatial and ecological, economic and marketing aspects), twenty-year period of the most recent urban studies does not give the possibility to carry out periodization of changes in organization of public spaces, they may be figuratively and generally divided into the initial period when attempts to ruin old stereotypes were made, the mid-period with efforts to master new approaches to organization of spaces and the latest period which continues up till now and which is characterized by increasing interest to such processes. On the basis of classification and analysis of the functions performed by public spaces in the cities, the author has explained the index system of organization and change assessment in the given spaces.

Assessment indices of organization and changes in urban public space:

- intensity of residential construction, i.e. correlation between finished and open construction per one resident;
- introducing objects of technical and social infrastructure into spaces;
- the structure of public territories in the city (correlation between its different types);
- percentage of the territory within ecological limitations;
- the amount of public space in an urban territorial unit (heterogeneity of distribution in the city structure);
- architectural and aesthetic organization and condition;
- space accessibility and organization of external contacts;
- sanitary and hygienical condition;
- space structuring and the level of organization.

Particular types of public space (namely, recreational and park space, the space of a municipal centre, housing development areas, new trade and entertainment centres as well as Lviv communication space) are examined in the following order: 1. the condition of a certain space at the end of the Soviet period is characterized, 2. examples of its changes in post-Soviet times are given and analyzed. Eventually, changes are generalized and assessed.

Changes in Lviv recreational and park space. City recreational zone plays a dominating role in formation of public space: parks, mini-parks, city-forests and tree belt areas within the city. A modern city, which exhaustively exploits every square meter of its territory, makes greenery around the place of residence a considerable luxury, and anthropogenic influence on the territories intensifies. Greenery was systematically planted in the Soviet period of city development. Firstly, city-forest zones, which were preserved though with some losses, were included into the city network almost everywhere. Secondly, planting trees and flower beds in the streets of the city had considerable dimensions. Thirdly, city planning presupposed that every residential district had at least one park or very often more. The lower level of the greenery system belongs to elements within a mini-district. At the beginning of the 1980s, a complex greenery program for Lviv was developed with the author's participation in it. The planning structure of the city includes a green diameter, based on forest areas, parks and mini-parks. It is complemented with the south-east green semi-circle at the joint of central and southern planning districts. In order to form city ecological framework, the city planning documentation presupposed that development of territories located between separated green areas should be less dense and have a high percentage of greenery.

Nowadays, there are nearly thirty major recreational and park zones in Lviv. Each park has its individuality. These are: Franko Park, Culture and Leisure Park, Stryiskyy Park, Znesinnya, Shevchenkivskyy

Haj, the High Castle, Tsyttadel, the Garden of St. George Cathedral, Zalizni Vody, Snopkivsky Park, Pohulyanka, Lychakivsky, Levandivsky and Zamarstynivsky city-forests, the Park of Lviv 700th anniversary, Kortumova Hora, Yaniv Cemetery, the Student Park, Piskovi Oзера, Horikhovyy Haj, Bondarivka, Sknyliv Park, Sykhiv city-forest, Lychakiv Cemetery, the Botanical Garden, Vynnyky and Briukhovychi city-forests. Below is presented a brief characteristic of some of them with an emphasis on changes that can be traced in space in the post-Soviet period. In the post-Soviet period the first skating park in Ukraine was opened in the upper part of Stryisky park. In 2009, the monument to Jan Kilinski was restored for the funds granted by the Polish Government. After 2009, reconstruction of the park has accelerated, in particular, outer illumination is being repaired and footpaths are being paved.

Stryisky Park (former Kilinski Park) was founded in 1879. This is one of the oldest and most beautiful parks in Lviv, a monument of garden art of national value. It was designed by the famous park architect Arnold Rering in 1876-1877 and it occupies 58 hectares. Planning of the park's territory is based on a deep erosion valley where the Soroka brook flowed; now, there is a footpath connecting the upper terrace with the lower part of the park. There are more than 200 trees and plants in Stryisky Park. In 1894, it housed the regional exhibition and numerous pavilions were built there. The main entrance to the park is decorated with an arc, constructed by the project of H. Shvetsky-Vinetsky in 1952. The park houses Lviv Polytechnic sports complexes, the main department of Ukrainian Design Academy, the cinema "Lviv", 3 restaurants and Lviv Chamber of Commerce and Industry [4].

Bohdan Khmelnytsky Culture and Leisure Park is a monument of gardening art of local value. It was founded in the 1950s on 20 hectares. The park is viewed as an entertainment park. It was one of the most well-organized green zones that houses the Concert and Dance Hall "Romantyk", the stadium "Yunist", an amusement park, the main stage, numerous bars and cafés, an observation wheel from where you can get a city view. The entrance to the park is decorated with a colonnade.

In 2010, only two architectural objects, namely the colonnade of the central entrance and the building of the cinema "Druzhba", remained from the original Stalin version of the park. The given park complex is considered an example of skilful adjustment of architectural objects to landscape specificity and successful use of historicism in architecture. The park remains one of the most popular parks in the city. However, by the data given by park administration, its attendance decreased twice as compared with the 1980s. Exhibitions and meetings of Lviv region agrarians "Golden Autumn" take place here annually in October. The stadium "Yunist" had to be reconstructed in the process of preparation for the football championship Euro-2012. The development of the park has not undergone any changes in the post-Soviet period.

Ivan Franko Park had several names throughout its history. Up till 1779, it was called the Jesuit Garden, in 1779-1919 – the Post-Jesuit Garden, in 1919-1945 – Tadeusz Kosciuszko Park. After the Second World War it was renamed to Ivan Franko Park. It is considered the oldest city park in Ukraine. Since its foundation time, here are still preserved some three-hundred-year oaks and maples. In 1855 the famous urban gardener Bauer organized the territory in a landscape style, and the majority of trees were planted during 1885-1890. In the centre of the park, there is a summerhouse, the only one from several summerhouses which survived. Since 1964, a monument to Ivan Franko is located in the parterre part of the park in front of Ivan Franko National University. The park occupies 14 hectares.

In 2009, the park was reconstructed, in particular, footpaths were newly paved, the cinema "Park" was dismantled, the summerhouse was renovated. Commercialization of the city life explains the fact why the summer café was located at the main entrance to the park from Sichovi Striltsi Street. The public succeeded to prevent the planned construction of a "MacDonald's" in the park area at the corner of Krushelnytska and Slovatsky streets [4].

The Park "Znesinnya" is a regional landscape park, located near the city centre. The park is declared a Ukrainian object of nature for preservation. It was founded to conserve and reproduce unique nature and historical complex of the ridge Znesinnya and it is adjacent to territories of old settlements Znesinnya and Kryvchytsi. The park is situated on the densely wooded hills of Roztochchya, in the locality of Kayzervald. The park itself occupies 312.1 hectares, but in order to regulate the impact of urban environment, to form a single nature and architecture ensemble of the park and to be adjacent to these areas, the protected zone extends to 473.6 hectares. It is quite understandable that on such a big territory there are unique nature landscapes, certain

valuable complexes and objects of nature, history and culture that are subject to special protection; low-rise residential houses with summer cottages as well as historical quarter medieval mid-rise houses, the Museum of Folk Architecture and Everyday Life “Shevchenkivsky Haj”; an industrial zone; educational and medical establishments, churches, monasteries, sports and military objects, engineering constructions and networks, the Church of God’s Ascention and St. Elias, the former Roman Catholic Church of St. Wojciech, the old Znesinnya cemetery, the pharmaceutical factory and glassworks. On the territory of the park, there are also foundations of a 13–14th century-old defense tower and the track for downhill skiing [2].

“**The Museum “Shevchenkivsky Haj”**” appropriately combines hilly landscape, reproducing Carpathian vegetation and transferred historical houses from different regions of West Ukraine. The Museum’s exposition counts 124 monuments of architecture that are grouped in 54 dwellings. The Museum has 4 exhibition halls and 2 of them have permanent expositions. The territory of the Museum amounts to 60 ha and it is figuratively subdivided into 6 ethnographic zones, each of which appears to be a mini-village, consisting of 15–20 monuments of folk architecture. Residential and household premises house about 20 000 items of everyday life and applied art. Mini-villages are called Boykivshchyna, Lemkivshchyna, Hutsulshchyna, Bukovyna, Podillya and Lvivshchyna. A village house of 1749 is the oldest exhibit. It is also possible to see smithery, timber works, a fullery, a water mill and a wind mill. However, its territory is, nowadays, more and more used for folk holidays and mass festivals. On weekdays one can feel emptiness and desolation in this part of urban public space [1].

The Park “Vysokyy Zamok” towers over the city on the Knyazhyi Hill. Here you can have a beautiful view of the city and remnants of the castle wall that survived. The park is located on the highest hill in Lviv and it extends over 36 hectares; it consists of the lower and the upper terrace where a television tower and an artificial hill are situated. The park was opened in 1853. In post-Soviet times, some work to beautify the park was carried out. However, the lower observation platform and the majority of stairs to the upper observation platform remain rather neglected. The characteristics and analysis of changes in Lviv’s recreational and park space in the post-Soviet period allow to make certain generalizations and evaluation of changes in the recreational and park space of Lviv. This space is predominantly desolate. In the last 20 years, repairs have been unsystematic and fragmentary, almost no greenery has been planted, the environment of parks and mini-parks looks “littered” with patchy block pavement, billboards seem not skilful and improperly located, they do not artistically correlate with the scale, colour, material, style, small architectural forms and city facilities [1].

The analysis shows that where vast areas for extension of recreational and park spaces were, conditions for people’s mass recreation in Lviv forest-park zone, in fact, have worsened. The most valuable natural components of the locality have become major objects of mass disorganized recreation and they have obtained visible features of natural landscape degradation. There are some other negative tendencies in the residential development and use of green territories, namely: unauthorized use of valuable landscape plots for construction of residential housing, garages and parking areas, transformation of valley lines into waste deposits, arrangement of low-expressive architectural objects on conspicuous spans of landscape. The hilly territory of Lviv green zones is well visible from different points of the city and requires individual architecture and composition approach, and also conservation of its observation points. The practice of recent years demonstrates that views onto unique park objects, namely Vysokyy Zamok gardens, are obstructed by new objects. As an example one can mention formation of the space in Viacheslav Chornovil Avenue where new multi-storied buildings block the view onto Vysokyy Zamok.

Nowadays, only 30 % of needed funds are granted for park maintenance. Major reconstruction in parks is executed rather *pro forma* and this negatively affects how the greenery looks and how the facilities are re-arranged. The technical documentation to determine park limits, as the lack of it leads to unauthorized use of territories, has been worked out and affirmed for 10 years. The condition of parks requires city planning decisions and development of a complex program and measures to improve the city and to plant the greenery.

Changes in the space of Lviv municipal center. The historical part of the city, where buildings from different periods dominate, is very well preserved, and since 1998 it belongs to UNESCO cultural heritage. Lviv is proud to have about 11 % of historical monuments of architecture of Ukraine. The city has preserved different elements of urban structure, landscapes and buildings of different historical epochs, beginning from the 14th century. Lviv’s central part is unique with its planning structure, architecture of complexes and background construction. Its picturesque nature is complemented with the relief of the Poltava low and vast areas of greenery.

The historical center occupies 140 hectares and includes the zone of the Old Rus and medieval city. Within those limits, there are 1276 monuments of architecture, in particular, 216 monuments of national value. Along with important positive changes of the post-Soviet period, there still remain many problems from the previous period and those arising under new conditions [2].

They are the following:

1. Social and political changes that happened in Lviv after the Second World War: nationalization of private property, as well as the fact that there were not undertaken any systematic restoration and repairs during Soviet decades, which results in a rather poor condition of the centre of Lviv with its 2 700 buildings. During the first 10 years after the declaration of the Independence of Ukraine and privatization of housing, no systematic repairs and modernization of the houses were executed. Restoration was done predominantly in buildings serving public purposes.

2. Intensification of investment activity has brought about powerful pressure on real estate market in the city centre and leads to social changes in economic life and socially attractive sites of the central part of the city, while changing patterns of ownership of historical objects of the given part strengthens opposition and incoherence of different patterns of ownership in the process of reconstruction.

3. In the post-Soviet times, the number of city holidays and festivals has increased considerably – every year Lviv hosts over 10 festivals and this boosts interest and the number of tourists visiting the city. In 2000, Lviv was visited by 122 000 tourists, 4 800 of whom came from abroad, in 2005, correspondingly, 64 000 (51 500), while in 2008 – 305 000 tourists (more than 70 000 came from abroad) [3]. Construction of new hotels intensified.

Other problems of public space of Lviv municipal centre include the following:

- bad condition of pavements of the square and street furniture;
- negative influence of outdoor advertising on the quality of public space;
- overloading of certain parts of public space with business functions;
- lack of play and sports grounds in the centre, the condition of their organization;
- insufficient use of the green circle potential around city historical centre due to poor organization of connections;
- yards of residential houses are more and more often used for parking which leads to deterioration of their state and living conditions;
- considerable amounts of street sick trees in this part of the city.

Assessment of changes in the public space of Lviv centre at the end of the 20th and at the dawn of the 21st centuries:

- extension of functional composition of public spaces, as a result of active social and economic changes in the given period;
- intense use of ground floors for in-built objects used for trade and everyday life purposes and concentration of subject and spatial environment;
- non-standard approaches to environment reconstruction caused by changes in customers' likings which required constant search for new decisions by architects;
- in the reconstruction of public spaces and objects, the architects take into account the level of clients' income, expensive hotels and boutiques are built etc.;
- within the central historical nucleus, new construction in the form of separate buildings and complexes intensified violating the scale of historical space and limitations of superficiality and density of construction;
- loss of organization and ensemble character of construction. Changes are introduced into development of streets, the majority of new buildings were designed by different architects, buildings have no similar features and this does not ensure subordination of the street front to general architectural intention.

The speed of deterioration of buildings exceeds progress with restoration and renovation works. When at the beginning of 2009 scientists analyzed 150 historical buildings, they found out that only 2 % of them are in good condition, while 41 % of objects are in a bad or extremely bad condition, sometimes there is a threat of destruction. Destruction poses a threat to separate elements of buildings. It mainly concerns parts of roofs, façades, windows, doors, balconies and decoration elements. Many owners changed original wooden windows

into vinyl ones which do not correlate with historical windows in colour, structural division and material. Up till 2007, only in Halytskyy district over 12 000 windows were changed [2]. There is no efficient mechanism of restoration works in places of public use (basements, attics, staircases). In spite of cultural value, façade decoration is being ruined. When the danger arises for their elements to fall, they are disassembled. Besides, part of decoration is destroyed and lost for ever. The bad condition of the parts leads to a considerable loss in value of the whole building. In recent years, there dominates the tendency to concentrate budgetary and private investments in order to achieve visible effect of renovation of the central part of the city. It proves necessary because the city's current financial possibilities do not suffice to simultaneously implement necessary measures concerning modernization on larger territories in the city. The development conception of Lviv centre, which is considered to be a planning instrument, formulates the development strategy of the old city. General aims are specified in projects and measures in thematic branches. They have to be implemented during the following 10 years. The conception formulates historical and architectural, normative and legal as well as economic framework conditions for further development of the historical centre as the main public space of Lviv.

Examples of changes in public space of Lviv new residential districts. Levandivka is located in the western part of Lviv. The district is connected with other parts of Lviv by Syayvo and Levandivska Streets. In the post-Soviet period, 4 churches have been opened, as well as the Kingdom Hall of Jehovah's witnesses, Levandivsky market, the supermarkets "Vopak", "Barvinok", "DTs" and "Bila Vorona", also the polyclinic of Lviv Railway Hospital has been reconstructed.

The residential district in Viacheslav Chornovil Avenue is characterized by multi-storey buildings and separate houses with large territories around them. The district was being created in several stages, that is why the buildings, their planning structure and style differ. Namely the existing buildings differ in the number of stories. The district lies close to the mini-district with a dominating detached house construction. In recent years, transport infrastructure has stopped developing: the lack of parkings causes the encumbrance of areas around houses with cars, especially during off-hours. The condition of inner-yard spaces is getting worse.

Assessment of changes in the public space of residential districts. A rise in social protests against Soviet standards and colossal dimensions of construction, the movement for revival and development of originality of urban architecture is changing the old order of architecture. The decrease in the number of storeys, renovation of the inner yard and flats with reasonable dimensions started bearing the first fruit in Soviet times, namely: the use of ground floors for in-built objects of trade purposes and the concentration of object and spatial environment. Higher land prices and more concentrated urban development; non-standard implementation, caused by changes in customers' style and aesthetic preferences require from architects to constantly search for new decisions.

The tendency towards organization of development intensities. The situation with public space of residential districts focuses on two problems: firstly, humanization of the environment of Soviet times mass construction through transformation of existing public spaces; secondly, creation of public space samples in zones of post-Soviet construction where high density of construction practically minimizes spaces of general use and isolates these zones from the urban environment.

The problem of humanization of the environment with mass construction areas in Lviv in the second half of the 20th century belongs to topical architectural and city planning problems. It can be explained by a number of reasons; first of all, the amounts of housing, built in mass construction areas, several times exceed everything that was built during the whole historical period according to the occupied territory and the number of residents. The districts which initially occupied suburbs now are located in the mid-zone, which is well supplied with engineering, transportation and some elements of social infrastructure, at the same time the consumer's quality of housing and environment in these districts does not meet modern consumer's requirements. Therefore, problems of reorganization and renovation of territories of residential districts, built in the second half of the previous century, reproduction of the system of public functions and public space here, systems of social and spatial connections and public transport have to belong to city's most important problems for the next decades.

Architectural and city planning activity in the post-Soviet period, its character, directions and dimensions are predetermined by global changes in political, social and economic spheres, culture, public mind and residents' behavior in the space. In general, it is possible to mention several positive changes in the sphere of residential housing construction during the independence period affecting the quality of public spaces as well: denial of typical design and orientation in design on individuality, extended typology of residential housing, increased nomenclature of housing, integration of housing and social infrastructure objects. These positive

tendencies are back-pedaled by officials and bureaucracy as well as imperfection of material and technical base. The overall volume of new residential housing construction decreased in the post-Soviet time from 350 000 sq. m annually in 1985–1990 to 100 000 sq. m in 1995. At the same time, the share of individual construction rose to 25 %. Since 2005, building activity has intensified and in 2007 the volume of new construction reached 185 000 sq. m, and abruptly declined due to 2008 crisis [2, 3].

Naukova Street residential district is located in the southern part of Lviv. Since Soviet times, in the mini-district there have been the Central Universal Department Store “Lviv”, a school and a college. In the last 20 years, they built an “Aquapark”, the food products supermarkets “VAM” and “Arsen”, the building and furniture supermarket “Mark”, a produce market, a consumer goods market as well as some restaurants, cafés, bank branches and 4 churches. The mini-district has a potential to be developed further, namely to lengthen Knyahynia Olha Street through the village of Sokilnyky and to the by-pass.

The problem of new construction in Lviv consists in the fact that it contributes greatly to space disorder and exclusion of public space. Space order starts outside the limits of a building land plot. However, it is known that the quality of housing is also determined by its environment which is proved by the real estate market. Excessive construction intensity, lack of common spaces and spatial chaos are felt. It can be noticed that in the post-Soviet period they return to classical urban studies with the clear structure and separation of public (streets), group (yards), private (residential housing) spaces and even some conservatism, where such structure of spaces is identified with social order. These spaces are formed by architectural objects.

Zones of individual construction also lack public spaces. Territories that were presupposed by the project for public needs with time are sold for the purpose of residential housing construction. Modern housing architecture is formed under the influence of tendencies when the buildings which are considered as good and become popular on the market, are characterized by the organized environment, convey an image and functional idea of open spaces around which qualitative architecture is created. Buildings grow simpler and more rational, excessive details are denied for the benefit of integrity of shape and skilful use of the material. Such architecture forms public space of residential housing construction.

Intensification of business activity has promoted development of infrastructure that is necessary for modern business, credit and banking system, new forms of social and political activity, the realization of which requires concerted action. What is special about it, is substantial rise of the number of investors and customers that requires to intensify mechanisms of coordination and search for compromises, to develop national and municipal city planning choice of the general strategy concerning development of the territory and associated current programs. Privatization of city real estate resulted in changes in the system of functional zones, the traditional system of spatial connections and spatial behavior the population. '

New centres of trade, entertainment and services in Lviv. The public space for spending free time is an important component of the urban environment. Many centuries of urban life have worked out a rule according to which places for spending free time were and still are places for informal meetings. Such establishments in the urban environment belong to social infrastructure. In the post-Soviet time, especially after 2000, there actively appear super- and hypermarkets, trade and industrial complexes (“Pivdenny”, a row of supermarkets “Arsen”, “VAM”, “Metro”, “Epitsentr”), polyfunctional centres start to form, namely entertainment complexes “Leopolis”, “Kvadrat” etc. A classic example of the post-Soviet centre is the new **Central Universal Department Store in Knyahynia Olha Street**, one of Lviv arterial streets crossing Volodymyr the Great and Naukova streets. In 1980, Bozhenko Street was widened, there was introduced tram route No. 3, later route No. 5 was added. In the post-Soviet period, tram track along Truskavetska Street and the plant “Intehral” was planned to be built, but due to the economic situation, the construction remained unfinished. There survived a bridge across Naukova Street as a continuation of Knyahynia Olha Street in the southern direction; from mid-1980s the bridge was reorganized into a parking. Youth leisure centres have been forming lately. Now, they are not only music clubs, but multi-component and multifunctional communication centres. It is not the architect who includes leisure centres into the city plan according to his own views, the task of designing the system of leisure centres is solved through a dialogue between the designer and the staff who organizes the leisure. There appeared new entertainment establishments with a new set of functions. Moreover, such centres started to associate with trade or even office centres into modern multifunctional complexes which, in turn, adopted functions of new urban public

spaces. Therefore, polycentricism of the city becomes more visible. The functional structure of public spaces was extended as a result of change in priorities of socio-economic development of the city

The “Pivdenny” Market is the largest trade complex in Lviv founded in 1996. It is located in the southern part of the city. The market territory was wasteland where over time appeared an unorganized market. The territory of the market is 10 ha. Here are 10 trade complexes, supermarkets, a food market, a hotel and a church. On the territory of the market, there are about 2000 shops, a sports complex and a fitness centre. Civil law notaries, banks and post-offices offer their services here. There are restaurants and numerous cafés, as well. The market is visited by 15 000 up to 30 000 people every day. There is the medical centre “Fitoriya” with modern diagnostic equipment and ambulance cars. The sports complex “Olimpik” is opened for mini-football, there also function gyms and swimming pools. There is the hotel “Pivdenny” and the kindergarten “Dyvosvit” for 150 children. The “Pivdenny” employs about 17 000 people, among them 2 500 represent small and middle businesses. In the last 5 years, the building activity is concentrated on developing the territory in Stryiska Street, not far from the newly built Euro-2012 stadium and the main bus station. This part of Lviv has a great potential for creation of new centres: sports, business, trade, education and entertainment centres. New public centres with a great number of functions will be established soon.

The King Cross Leopolis is a trade centre in Stryiska Street in Lviv. It is the biggest trade centre in Western Ukraine. Its overall territory occupies 116 546 sq. m: a supermarket, building materials, a skating rink, bowling and a multiplex. Its official opening took place in March 2010. During the first phase, the King Cross Leopolis let out for lease 50 000 sq. m of the overall area on two levels, including the building materials hypermarket DIY (Praktiker). It also comprises the hypermarket “Ashan Sokilnyky” with the territory of 13 000 sq. m, and more than 100 trade places: boutiques, household ware, cafés, restaurants etc.; the cinema “Planet” with 7 cinema halls, a bowling alley, an indoor skating rink, a large recreation complex, the ground-level and underground parkings for 1 800 parking lots. The second development phase will make it possible to let out 20 000 sq. m of the overall territory for lease. Here will be located another 30 trade premises. The parking will increase by 600 additional lots for visitors.

Public space of the airport “Lviv” is undergoing now the biggest transformations since the time it was built. The airport was constructed in 1940 and after the Second World War, it was reconstructed and re-developed many times. The airport terminal was built in 1953. In Soviet times, the airport terminal received 125 passengers per hour, and the international sector worked with 200 passengers per hour, the overall area of these buildings covered 6 700 sq. m. Next to the airport, there is a 3-storey hotel for 90 people. The takeoff runway is 2 500 m long and it is located completely outside the city. The distance between the airport and the city centre amounts to 6.5 km and it can be covered by a trolleybus whose terminal stop is in front of the airport building. Within the frame of preparation for Euro-2012, the airport was reconstructed and extended in order to receive up to 00 passengers per hour. Besides, the takeoff and landing runway is lengthened, the square in front of the airport was improved, the parking for 900 lots was built and the access ways were reformed [2].

The Eurostadium. To locate the stadium, a land plot of 25 hectares was chosen in the southern part of Lviv, next to the hippodrome. Its complex presupposes objects and facilities that were necessary for servicing the Euro-2012 championship. The development of the territory went through several stages: construction of a new stadium, creation of the multifunctional spot. The overall development area is 25 hectares; construction of a new first-class office centre, shops and a new exhibition centre. The overall development area is 100 ha [2].

Communication space

Transport occupies a special place in urban public space. The space next to the railway lines within the city, the squares near railway and bus stations, the stations of external passenger transportation appear to be rather special, the railway from the east to the west (Lviv–Krasne) as well as the line Lviv–Khodoriv make a curve within the city which separates the central part of the city from its northern and southern areas. This complicates the connection of new districts with the city centre and requires development and reconstruction of the existing crossovers. Within the city, at the junctions of the railway and the street network, there are 15 crossovers and 20 crossings.

The Lviv by-road with multi-lane traffic was constructed back in Soviet times. However, the problem of cars in the city still remains topical. There were radical suggestions – wide arterial roads ran across the city in certain directions (the link road: north-south, or up at the overpass with its other engineering structures instead

of the railway in the northern part of Lviv). A part of roads should be hidden in artificial valleys and underground tunnels. The price of these works is exorbitant, ecological, social and even practical effects are barely predictable. In the post-Soviet period, such ideas are still mentioned in the general plan, but their implementation seems nearly impossible.

Recently, the development of the system of city entrance could be observed due to preparation to Euro-2012. It was necessary to arrange large parkings outside the city when the passengers could leave their cars and take the public transport. However, city line parkings were organized near suburban electric train stations, from them one could move by the electric train to the station and then take public transport there. It appears quite natural that Lviv road construction architects and engineers were busy searching for and analyzing possible ways of traffic which would be optimal in every particular case [2].

Analyzing and assessing Lviv streets (as public space) and changes in their space, I painfully notice intensification of spatial chaos where in recent decades styles are mixed and designers compete in using new, rather absurd architectural forms. The spatial disorder of communication space is complemented by new residential housing construction where non-scale “fillings” of unusual shapes and details are introduced between old buildings. Obviously, such architecture could be valuable, but in another neighborhood and in another place. Besides, in new construction quarters, it is possible to observe the disease of “multi-storied residential districts” and there appear new residential formations which preserve all characteristics of residential districts (from the 1960s), although they are a little newer now.

3. Conclusions

During the last 20 years, the dimensions have extended and the quality of architecture of public spaces has improved. This is largely explained by significant socio-economic changes in society. Public space starts to correspond to certain criteria more slowly: *scientific and information criteria* – the unique nature of information whose carrier are objects of historical, culturological, composition and artistic, stylistic, engineering and construction, technological and regional integrity; *sociocultural* – satisfaction of aesthetic and inquiring needs of the modern society; one of the means helping to pass nation’s spiritual and intellectual achievements to future generations, to raise and strengthen national self-consciousness; *economic* – commercial prospects of observance of public functions, namely comparison of expenditure assessment and perspectives of their reimbursement in the process of commercial use; *functional* – the level of correspondence between structural characteristics of an object and modern functional requirements as well as an alternative way of using it and adaptational capabilities of the object in the context of limitations which are imposed by the environment; *composition and image* enrichment of a certain fragment of urban construction.

Major threats and problems of the public space in post-Soviet Lviv may include the following:

- lack of municipal public space where the main functions of the city are localized. The municipal centre of Lviv does not extend territorially;
- structuring of urban space according to social characteristics (private, group and public space) is rather slow and their opposition intensifies;
- investment pressure on the public space in order to own it is becoming more intense, erroneous understanding of market relations as growth of economic value only and ignoring socio-economic components happen more often;
- residents’ public mind is rather weak, they do not wish to take part in organization of the space of general use;
- low-efficient connection of urban and extra-urban public spaces.

This analysis gives the possibility to divide the city into districts according to typical authorities and the intensity of changes in public space. Here, we single out 9 types and among them, the space of the historical centre, that went through the greatest changes, occupies a special place. According to the intensity of changes, the second place belongs to the communication public space and the space of new public centres. The public space of residential districts of the Soviet time was changed least of all.

The conformity with the established architectural and urbanistic conditions resulted in the creation of a homogeneous spatial base of the urbanistic canvas which takes into account a person’s scale. What is the most

important is the spatial harmony. If in Soviet times under conditions of the industrial and typical construction the architecture lacked details, nowadays, it is possible to observe their excess, inappropriate inclusion into the shape and function of the building, when the architecture of the building would be improved but not spoiled without them. To improve the situation with the public space in Lviv means:

- to combine dispersed elements of the public space into an integral system (intensification of space integrity);
- to improve functional connection of interactivity of public space and the space outside the city through the system of communication spaces as well as visual connection.

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Микола Габрель

ГРОМАДСЬКІ ПРОСТОРИ ЛЬВОВА В ПОСТРАДЯНСЬКИЙ ПЕРІОД

Анотація. Аналіз змін громадських просторів дає змогу поділити їх за характерними ознаками та інтенсивністю функціонування..

Ключові слова: місто, громадський простір, комунікаційний простір.

Sebastian Macmillan

**THE HEAD, THE HEART AND THE HAND:
ARCHITECTURE AND ITS PLACE IN THE ACADEMY**

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Abstract. Architecture is a mainstream subject in the academy. While the development of spatial imagination and aesthetic judgment are among its core components, a wide range of knowledge, skills and sensitivities are delivered as part of the design curriculum. This paper discusses the potential benefits, but also the risks, associated with the growing emphasis on academically-focused research in schools of architecture.

Key words: education, research, design, knowledge.

1. Introduction

Architecture has successfully established itself as an academic discipline in universities right across the world, from the most prestigious [1] to those with more modest reputations. Demand is high and growing; in the United Kingdom, for example, the University of Reading launched a new Department of Architecture in 2016 and the University of Loughborough is to offer its first undergraduate degree in Architecture from 2017. Heriot-Watt University has launched its first Architecture course, initially at its Dubai campus. A private venture, the London School of Architecture, is being formed [2].

Meanwhile, however, universities themselves are changing with a growing emphasis on research; all UK university departments have their research assessed on a cycle of five or six years. Architectural departments are no exception with their staff increasingly expected to become research active. These changes are part of a historic trend in which architectural education moved from being purely office-based to a mix of office-based and academy based, in which leading practitioners taught in the academy. It was more formally institutionalised in the years before the First World War, and after 1958 became virtually an all-graduate profession although most teachers had a background in practice. In the last thirty years the rising expectation in universities for staff to be research active has made practitioners less and less likely gain full-time employment for they lack the necessary research credentials. Instead schools of architecture have recruited those mostly or wholly devoted to research activity, and whose research activities relate not to new design-focused knowledge but to traditional academic publication. At worst, this leaves or will leave schools of architecture with a shortage of studio leaders to teach the drawing and design skills that traditionally have engaged not only the head, but the hand and the heart. This is a direct consequence of architecture being expected to align its educational process to a system of university-wide research assessment whose roots lie not on the creative arts but in the sciences.

2. Architecture in the academy – pupillage and part-time study, 1750 to 1900

Architectural education in the academy can be traced back to at least the seventeenth century. According to Neil Bingham [3], the Academie Royale d'Architecture was founded in 1671 to standardise French architectural education, and the Ecole des Arts in 1743. The Ecole was open six days a week, with the mornings given over to discussions with the professors and afternoon lectures on fortification, mathematics, geometry, perspective, water supply and draining, and regular visits to notable buildings. In Britain conversely, architectural education was seen as a supplement to apprenticeship; students at the Royal Academy Schools worked in the day in offices as articulated pupils typically of prestigious architects. Much of the emphasis was on drawing from antique fragments or plaster casts, and on the production of

measured drawings of classical buildings such as St Paul's Covent Garden or parts of Somerset House. Lectures from the professors were in the evenings, and access to the library, which was open only from 10 a.m. to 4 p.m., was limited. Criticisms acknowledged at the time were that the Schools were only a supplement to apprenticeship. There were neither organised discussions nor requirements for written work. By 1836, A. W. N. Pugin was highly critical of the activities of the architecture section of the Royal Academy Schools, commenting of successful candidates who were sent abroad to study classical architecture: "... three or four years of the most precious period of his life is spent in going over, for the thousandth time, the same set of measurements on the same set of cornices and columns" [Pugin, cited in 3].

Richardson [4] describing the system of pupillage in the office of Sir John Soane, notes that in offices too it was the custom for pupils to begin their pupillage by learning the orders and drawing classical fragments and ornaments, often returning to these tasks months or years later. Also:

"The Soane office did not, it must be stressed, offer the pupils an opportunity to produce their own designs, for that they had to enter the Royal Academy Schools and work, as Soane had done himself, in the early mornings, late at night and on Sundays" [4, page 20].

3. Institutionalised architectural education in the Red Brick universities, 1900 to 1958

The architectural historian, Andrew Saint notes that: "Schools of architecture started in Britain later than in continental Europe and the USA. Before 1900 budding architects learnt their trade as articulated pupils or assistants in offices, supplementing their knowledge in the Victorian cities with evening or day-release classes. The Edwardian years saw a stampede to create a proper system of architectural schools" [5, page 1].

But it was not only a coincidence of timing but also one of character. According to Powers "The character of most of the institutions now existing in architectural education was formed during the period 1900 to 1914" [6]. Powers suggests that in the nineteenth century, architectural training was chaotic and underfunded, and that it was only with the establishment of the red-brick universities at the end of the nineteenth century that architecture became accommodated in the formal academic establishment. In London, University College and King's College offered part-time courses dating back to the mid-nineteenth century, but these were only an adjunct to pupillage. The Architectural Association offered evening classes. However, by 1900 there was only one full-time university course, at Liverpool University, which had been started in 1894 and was considerably expanded by C. H. Reilly following his appointment as Roscoe Professor of Architecture in 1904. "Reilly had a genius for promoting his ideas and his school, using the architectural journals to publish school drawings and reports with unprecedented frequency" [6, page 36]. Reilly encouraged measured drawings and studies in composition and, becoming editor of the *Builder's Journal* from 1912, he promoted 'Monumental Classic'.

Other British universities in cities like Birmingham, Edinburgh, Glasgow, and Leeds, established new full-time courses, generally built on the foundation of existing evening classes. Cambridge offered its first course in Architecture in 1912 [5], and in London University College and King's College Schools amalgamated to form the Bartlett School in 1913 [6]. Generally, "The training was based on the Beaux Arts tradition: large-scale, classical in style and intended for the public sphere" [7, page 43] attributes which according to Walker gave women specifically the confidence and experience to design grand public buildings.

4. Third phase: the Modern Movement and an all-graduate profession, 1958 to 1986

If the Beaux Arts tradition underpinned architectural education before the First World War and partly after it, the emergence of the International Modern Style in the 1920s and 30s also had a considerable impact. For example C. H. Reilly, who had initially promoted Monumental Classic at Liverpool, later turned towards modernism, espoused the work of Le Corbusier and encouraged visits by Mendelsohn, Chermayeff and Gropius in 1934 [8]. Teaching of the Classical Orders was generally abandoned in the mid-1930s, although the Bartlett held on to the Beaux Arts tradition through to the 1950s. Elsewhere, modernism was widely promoted by staff and students from the leading schools by individuals who went on to become promoters of change after the Second World War: influential figures like William Holford, Richard Llewellyn Davies and Leslie Martin [8].

The 1958 Oxford Conference [9] is widely regarded as a turning point in architectural education in Britain for it was there that the historic decision was taken to turn architecture into an all-graduate profession, thereby limiting a long-standing route to qualification that had involved pupillage, night-school and RIBA examination. In fact, as a compromise between a purely college-based system and traditional pupillage, two years of practical training in offices was required alongside a five year college course. Leslie Martin's write up of the event made a case for the move of architectural education into universities both to raise standards but also because the widely different types of knowledge required in architectural education and its teaching at the highest standard would be found only there [9, page 280]. In a separate report prepared for the conference on 'Deeper knowledge, better design' [10] Richard Llewelyn Davies identified the need for *research architects*, those who would remain architects first and foremost, but specialize in the sort of research that would support the profession. The interpretation of Lubbock and Crinson is that the historic conference also changed the education policy of the Institute: "... from a liberal even-handed balance between Beaux-Arts and modernist tendencies to a firm commitment to modernism" [8, page 49; see also 11, page 137 ff. for an extended discussion].

What was implied by modernism? It was a catch-all term with a wide variety of interpretations. Contrasted with the formula of the Beaux Arts tradition it meant an end to lettering, the orders, measured drawing, perspective and sciagraphy as well as to a reliance on Greek and Roman precedents, forms and rules. More broadly it meant a move beyond the gentlemanly figure of the private architect concerned with a market niche focusing on private houses for the well-off, churches, major public and commercial buildings, and the better class of offices and factories, instead towards greater engagement with mass housing, schools, hospitals, railways industry buildings, ordinary offices and a concern for modern town planning. In this, it took into account not only the difficult conditions after the First World War and the economic challenges following the 1929 slump, but also the potential of an architecture intended after the Second World War to support a political vision of the emerging welfare state with its concern for the enlightened application of technology to promote social well-being. Finally as Lubbock and Crinson further explain, central to modernism was a belief that the modern world was in a process of continuous flux, and the hallmark of the system was 'education for change'; as a consequence there was no fixed architectural curriculum [8].

Leslie Martin himself had been appointed Professor of Architecture at Cambridge in 1956 where among many other achievements [see 12] he established the Centre for Land Use and Built Form Studies (later renamed in his honour The Martin Centre for Architectural and Urban Studies) the first architectural research unit. Much of the early work of the Centre was concerned with mathematical modelling of alternative configurations of three dimensional built form to assess geometrical possibilities and their implications for site coverage, height and density. In joining Cambridge, of course, Martin found himself in a strongly research-led university, where recent developments and discoveries in his sister departments included the jet engine and the double helix structure of DNA.

5. Fourth phase: Architecture and the research-led university, 1986 to the present

Three decades after Leslie Martin helped to launch a research ethos in architecture, the significance of research for all UK universities and specifically in relation to the government funding they received, rose dramatically. In 1986, the first exercise to assess research was conducted by the University Grants Committee, as a means of allocating so called 'quality-related' funding. A subsequent exercise was conducted in 1989 under the term 'research selectivity exercise' by the Universities Funding Council. Then in 1992, the binary divide between UK universities and polytechnics was abolished, and regional funding councils were established such as the HEFCE, the Higher Education Funding Council for England. Over time, the former polytechnics, many of which contained schools of architecture with excellent reputations for their technical teaching of the subject, acquired university status. At the same time there was a recognition that the assessment of research needed to become more transparent, explicit and rigorous than it had been in past assessments. By 1996 the former polytechnics were competing for 'quality-related' funding with universities. Subsequent research assessment exercises took place in the UK in 2001, 2008 and 2014, this last termed the 'Research Excellence Framework'.

While many schools of architecture had begun their own research programmes, the roots of the discipline in teaching the practical skills of designing buildings and with strong links to the needs of practice, went very deep. For example, in the *Architects Journal*, prior to the 1996 RAE, Dave King wrote an article headed ‘Research is at odds with Architects’ Education’ [13]. Following the 2001 research assessment exercise, there was not only considerable unhappiness at the result where several leading architecture schools were rated lower than they had expected, but an antithetical attitude towards the very notion of research and the production of new knowledge and new theory. One disgruntled academic wrote: “I think the teaching of architecture is just about the most important thing we can do, and that this whole research thing is rubbish” [14]. These and other comments revealed not just the lack of an established research tradition in schools of architecture with their strong emphasis on studio teaching and design work, but indifference and suspicion towards it. In a previous article, I argued that in the university system, and particularly within research-led universities, such attitudes made schools of architecture particularly vulnerable and that they risked becoming their own worst enemy [15].

The solution at the Cambridge Department of Architecture has been a radical one and has transformed both research and teaching. Following a major review of the Department’s research activities during the 2000s, the last decade has seen major staff changes including the recruitment of several new, young research-active lecturers to tenured full-time positions. At the same time a more formalised system of Design Fellows has been introduced. They are offered fractional appointments of between 20 % and 35 % between October and June, and are expected to devise studio projects and organise external visiting studio critics, arrange site visits, and offer tutorials and supervisions. Those appointed are expected to be practising as architects or undertaking similar studio tutoring elsewhere [16]. Although unstated, it is clear that those recruited as Design Fellows lack the research track record that would make them eligible for a post as a University Teaching Officer, while their appointment releases the full time staff to spend more of their time undertaking research, writing and publishing in their own specialised academic field.



Architecture design studio, University of Cambridge: an emphasis on creativity and model-making

Clearly there are implications of being a practical discipline in a research-led university. As this example shows, at Cambridge there are now in effect two sets of staff – practitioners attending part-time leading the studio teaching with its emphasis on design, drawing and model-making (see Figure) and with formal lectures and written examinations led by the full time academic staff. At best for students, they are exposed to both sets of instructors – practitioners and research-active academics. However, it can also lead to an unwelcome separation between academic learning represented by written examinations and a written dissertation on the one hand, and studio project work on the other in which the relevance of academic work may be unclear to students since there is no obvious cross-over. At worst, separating research activity from the studio design work negates a fundamental principle espoused by Leslie Martin when he wrote about research: “Without it, teaching can have no direction and thought no cutting edge” [9].

Costs are also significant. Architecture is renowned for being an expensive discipline to teach given the prevalence of the studio project system compared with ‘chalk and talk’ and two sets of staff clearly increases teaching costs; only if research funds can be raised externally is this arrangement likely to be financially viable. Eventually it was revealed that the threat of closure faced by the Cambridge Department following the 2001 research assessment exercise had financial shortages at its root [17]. So the financial viability of adopting this dual staff arrangement generally in schools of architecture is highly questionable.

6. Implications of a research-led ethos in academia

There are other implications too for the teaching of architecture implied by the rise of the research culture across universities. Architectural education is a very broad discipline which, teaches not only the head, but also the heart and the hand. In terms of the head, it engages its students in developing a wide range of intellectual skills, ranging from mathematics and physics to knowledge of art history. Architectural education develops skills in geometry, measurement, computing, building physics, architectural history and conveys a wide variety of practical and theoretical knowledge about a range of issues from comfort conditions to global climate change. In terms of the heart, architectural education inculcates in its graduates a love of the built environment and respect for the built achievements of our forefathers, of the role of art, architecture and culture to underpin the identity of a place or a nation, and the passion needed to devise, explain, justify and defend the student’s own design proposals. In terms of the hand, more traditionally, architecture promotes the practical arts, the world of ‘making and doing’ and develops skills such as drawing, sketching, modelling, thinking and representing in three dimensions and even the fourth dimension, time, working with diverse materials and developing awareness of their properties and how to shape them and connect them.

Architectural education blends the arts, the humanities and the sciences, and promotes both numeracy and literacy. It demands of its graduates the ability to analyse a problem into its constituent parts and to reassemble them to a self-consistent whole. It promotes divergent thinking in the search for alternative potential design solutions, and convergent thinking to identify and isolate good solutions. It helps students to develop both creative and evaluative skills: creative imagination to envisage alternative possible futures, and judgment to determine the strengths and weaknesses of different approaches. It is concerned with both the natural world, natural materials and forms, but also with the sciences of the artificial. There is in addition an ethical dimension: what is the role of the designer in relation to the society that he or she serves; for example, is it to design for people, understanding and meeting their needs, or is to use skill and imagination to propose possibilities they could never have anticipated; as the expression has it, ‘exceeding their expectations’?

7. Concluding remarks

Designing a building is a practical craft skill but it is also an endeavour that raises numerous issues about art and culture, practicality and efficiency, the individual and society, environmental impact and the future of the human species. What is important about all of these issues, is not just that they are made the

subject of lectures with the student demonstrating understanding in an examination, valuable though this is, but that they are embedded into the thought process of young architects when designing to become habits of mind. This connection was a strength of architectural education between 1750 and 1900, that theory learned in the academy was implemented in the office. The institutionalisation of architectural education in the period 1900 to 1914 began a process of disconnecting education and practice, while the historic decision in 1958 to make architectural an all graduate profession extended that disconnection, although with the positive potential of new design-relevant knowledge being produced within universities, and the benefits for training of high level connections across academic faculties. However, Llewelyn Davies' notion of *research architects* has been lost. Instead the expectation for lecturers to be research-active and to publish academic research has forced places like Cambridge to provide two different and separate sets of staff: visiting practitioners on part-time short-term contracts who lead, devise and examine the studio project design work, and academic lecturers with limited experience of architectural practice, who focus on their own specialised academic research field and have minimal involvement in studio design projects.

Architectural education may be regarded as rather broad and shallow, but the range of issues to which it introduces and exposes its students is extensive, and the abilities they acquire wide-ranging and potentially valuable far beyond architecture itself. At best architectural education engages not only the head, but the heart and the hand. What remains a challenge, however, is how to preserve its significance and ensure its strengths are not lost in the quest for architecture schools to be the academic equivalent of other disciplines in research-led universities. A debate is needed, surely, about the relationship between architectural research and studio design project work. Is the solution at Cambridge one that should be repeated elsewhere, given that it separates out practical design work from academic learning, the two delivered by different sets of staff? And if the research staff become too engaged in their own academic research unrelated to the needs of practice, and do not engage in teaching in studio, even if students learn about their work, will it ensure that latest university research ideas and innovations are embodied in their design proposals? Or, conversely, might it lead a new generation of student architects to come to believe that academic research is irrelevant to design work? If this is the case, it would be a perverse outcome of the general attempt in higher education in the UK to embed a research ethos into university education.

It is also both ironic and unfortunate that the criteria used in the Research Excellence Framework, despite their aim to support innovation and research in universities, do not credit the sort of learning and outputs that take place in the creative arts, or the production of the sorts of knowledge needed in design, which is:

“... equivalent to but distinct from other forms of knowledge that underpin the sciences and the humanities..... These distinctive qualities include its open-endedness, its concern for action and what ought to be rather than what is, its value-laden nature, and its integrative rather than fragmentary possibilities” [18].

Architectural education is not without its faults, but it does have a well-established mode of operation that has developed from more than two centuries of dedication and experience. Project-based learning, peer-to-peer learning, experiential learning, and the emphasis not only on the head, but also the heart and the hand, have the potential to provide a very well-rounded individual with knowledge, enthusiasm, skill, expertise and cultural awareness. The application of a science-based model of research in academia risks placing much of this in jeopardy, and destroying the very qualities it is intended to support.

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Себастьян Макміллан

ГОЛОВА, СЕРЦЕ ТА РУКА: АРХІТЕКТУРА ТА ЇЇ МІСЦЕ В АКАДЕМІЧНІЙ ОСВІТІ

Анотація. Архітектура є одним з основних напрямів академічної освіти. Розвиток просторової уяви та естетичного бачення є ключовим елементом цієї освіти, а навчальні програми передбачають також передачу багатьох інших знань, умінь та навичок.

Ключові слова: освіта, дослідження, проектування, знання.

THE MAIN FEATURES OF HOUSING DEVELOPMENT IN LVIV OVER THE PERIOD OF 2008–2015

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Abstract. The article describes the patterns of housing development in Lviv over the recent years. It explains the basic causes and conditions of such development. It provides the findings of the study of the modern state of the real estate market of the city including the level of prices, quality of the architecture and the participation of foreign investors.

Key words: housing in Lviv, reasons, preconditions for the development of housing and modern housing market conditions, foreign investment.

1. Introduction

The most common and important type of building in Lviv is residential architecture. The desire to achieve an average rate of housing population and the popularity of investing in real estate leads to a considerable demand for housing. In order to make a reliable prediction of the further processes in housing and management we need to analyze the basic patterns of the industry, causes and preconditions of this development, to explore the current state of the real estate market in Ukraine on the whole, and in Lviv, in particular.

2. Basic Theory Part

2.1. Analysis of recent research and publications. The problems of residential architecture and trends of investment in residential construction are discussed in both architectural publications and those of economic direction. Monitoring of housing in Ukraine including the promotion and optimization of investments was conducted by L. G. Levit and described in his abstract [1]. Organizational support for the development of residential real estate in the city was explored by I. M. Kornylo and P. G. Kurgan [2]. European and global experience in the sphere of housing was analyzed in the articles of O. Nepomnyaschyy [3], D. Isayenko [4]. There are also numerous legal documents devoted to the formation of principles of the housing policy in Ukraine and in Lviv, in particular [5].

The purpose of the article is to highlight the main patterns of housing development in Lviv over the recent years, to find out the preconditions and background of this development and to explore the current state of the real estate market of the city.

2.2. Patterns of housing development in Lviv. The author analyzed *the actual laws* under which the city developed its housing construction over the period of 2008–2015.

Projected in 2008–2010, on the second stage of the general plan adjustments, annual dynamics of housing construction in Lviv is presented in Fig. 1.

Shares in land plots including those of land owners for housing to the Trust Fund for the development of social infrastructure of Lviv made 20780 mln. UAH in 2008, 23719 mln. UAH in 2014, 30599 mln. UAH in 2015 and significantly exceeded the level of 2009–2013. (5320 mln. UAH -11215 mln. UAH respectively).

Actual housing construction rates were higher than those projected in 2008, 2014, 2015 (Fig. 1, Tab. 1): in 2014 – twice (105 %) to October 2015 – in half (66 %), which was caused by the reasons discussed below. Note that in Ukraine overall, unlike the city itself, construction volume decreased by 26.7 % over the past 7 months [6].

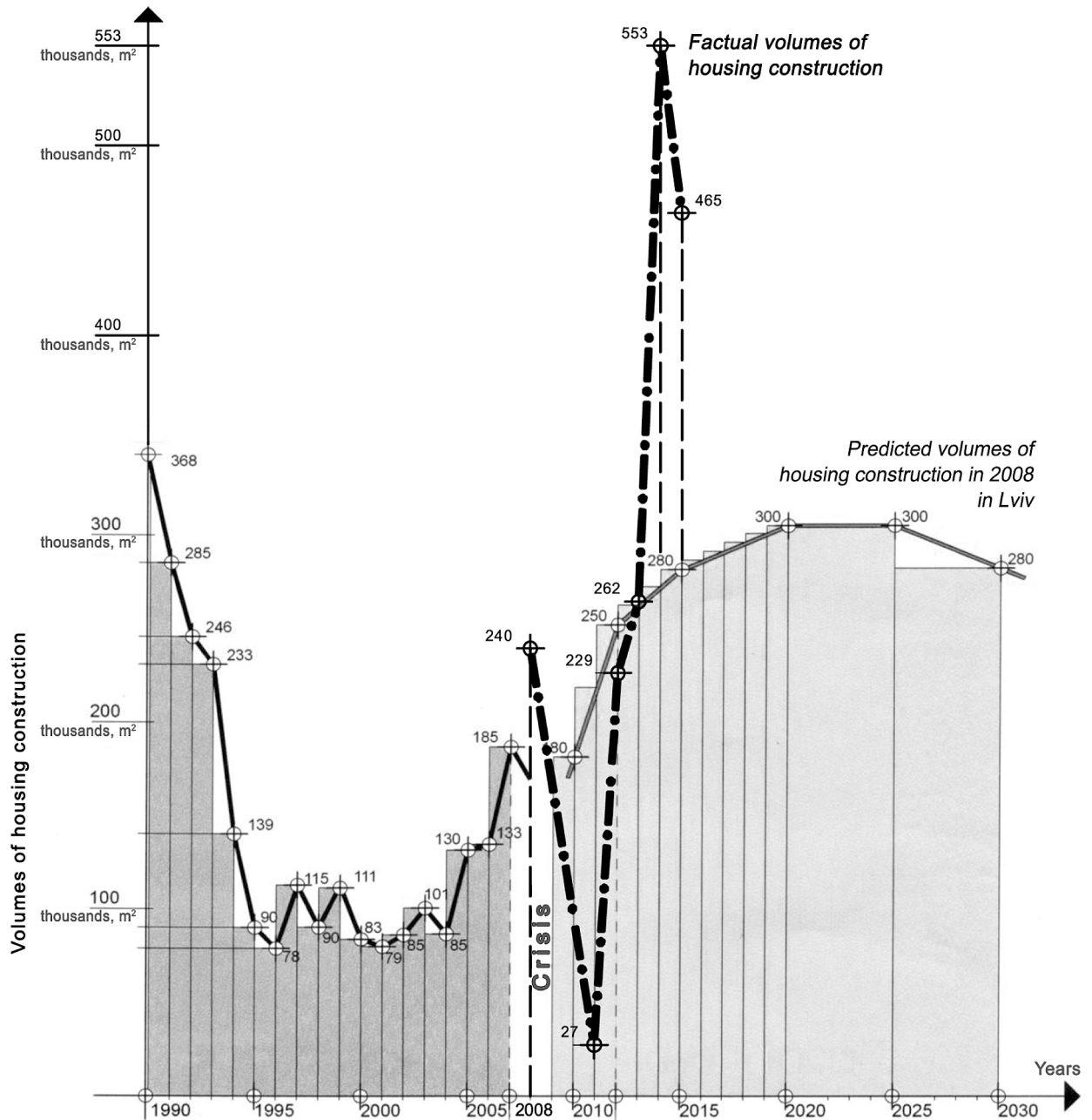


Fig. 1. Projected [5, c. 14] and the actual dynamics of annual volumes of housing construction in Lviv

Table 1

Comparison of generalized projected and actual indicators of residential development in Lviv over the period of 2008–2015

Year	Estimated total area of residential development, thousands, m ² (with graph in Fig. 1)	Actual total area of residential development, thousands, m ²	Difference, thousands, m ²
2008	Less than 185	240,019	More than 55,019
2011	215	27,264	-187,736
2012	250	229,479	-20,521
2013	260	262,310	2,310
2014	270	552,697	282,697
until 10.2015	280	464,840	184,84

Due to the influence of significant rates of housing construction on both the price and demand-supply formation, this results not only in increased competition but also in moving this competition to a new level. This, in turn, leads to the failure of many “old school” Ukrainian projects, who are reluctant to change their approach or fail to catch up with the changes of modern trends.

2.3. Reasons and preconditions for the development of housing in Lviv. The processes described in the previous paragraph can be explained through the following reasons:

1) *economic*: crisis of 2008; unstable banking system and as a result, the unreliable bank deposits; the citizens lost trust in the national currency due to its weakening. This led to the withdrawal of public funds from deposit accounts in banks and to increased activity in the economy segment¹, in early 2015, which manifested itself in the first place in citizens with low income investing in relatively inexpensive, mainly residential real estate. Investing in real estate moved to the premium segment as well, but a bit later, after the stabilization of the political situation (after frustration and broken hopes for the changes in the country);

2) *political*: change of power as a result of social and political upheavals of 2013–2014; military action in the East of Ukraine.

Having analyzed the current situation in the housing market in Lviv, the author states that there have been formed the following preconditions for sustainable development of the industry:

1) *demographic*: there are 33 higher educational establishments, 26 vocational schools, ample opportunities for employment and development which attracts migrants for permanent residence from smaller towns and villages, as well as other regions of Ukraine;

2) *social*: the city established itself as a safe place which made it attractive for migrants from unstable regions of Ukraine;

3) *economic*: the city has a significant number of local developers and construction materials producers; a significant share of investment in housing construction belongs to foreign investments, this trend has increased since 2014;

4) *legal*. The Master plan of the city indicates that the estimated average housing is classified in accordance with the standard of living into social or affordable (economy class) and business class for different categories of the population and its structure is predicted by the number of family members ranging from 20,6 m²/person to 29.4 m²/person. There are no standards set for luxury and individual housing standards [5, c. 13]. Housing in Lviv, which is approximately 17.6 m²/person, is lower than the average in Ukraine, which can be viewed as a serious argument for the increase in housing of different classes.

Rapid construction led to the formation of such alternatives and adjustments to the master plan as detailed plans for areas of the city. Over the period of 2010–2015 the detailed plans for 19 areas were developed and approved, 15 of which – during 2013–2015; 11 of them through public hearing; other 21 – are currently being developed [7].

5) *availability of local resources*. The city has sufficient territory for residential buildings which is specified in the Master plan within the city and within urban planning system “Great Lviv”.

In the city – these are the following types of areas:

1) free unoccupied areas – Ryasne 2, Levandivka;

2) the territory of communal gardens – the “North” district, Ryasne- 1, Warshavska str;

3) the territory of inactive or transferred industrial plants, warehouses and depots – Zelena Str.; Washington Street, Khutorivka and Stryiska streets;

4) the territory of former military units which were transferred to other parts of the city.

Within the urban planning system “Great Lviv” there is a free area of suburban settlements which are being developed, in particular: Lysynychi, Sokilnyky, Sknyliv, Malehiv, Soroky Lvivski.

Available resources in the city allow the city planners to main use of 998 hectares of the territory and build 6.8 million m² of housing increasing the housing stock of the city to 18.8 million m² and providing an additional housing for approximately 765 thousand residents. There is a possibility to build 3–3.5 mln m² of additional housing in suburban towns thus resettling additional 80 thousand of residents [5, c. 14].

¹ Internationally they distinguish between four price segments: 1) *Low-cost segment* or a segment of special (saving) offers; 2) medium-range segment mentioned here as a comfort segment; 3) high-priced segment mentioned here as a business segment; 4) premium segment.

Consequently, the potential settlement in the city and suburban settlements which are specified by the general plan are considered as sufficient for a significant rate of housing construction.

Many different sites for housing in Lviv are now being offered for sale. In this case it all depends on the financial capacity of potential buyers, class of the areas including their location.

The areas of the greatest demand are those of historical value, and/or near parks and green areas as well as in the southern part of the city, especially Frankivskyy and Zaliznychnyy districts.

The land market also offers some lots of urgent sale, but most of them are overpriced. At the same time, the cost of land pays back in 80 % of cases after the construction of the house and/or selling of residential apartments.

In some cases, with some of these sites there are problems with histories of ownership, which result in the long-lasting suits of purchase and sale.

As for foreign investors, they are only interested in offers to purchase plots for own property. In choosing the sites they take into consideration mainly the cost and the location details, such as it is located near the historic site, the proximity to former factories and industrial zones. If the cost of land is acceptable, the difficulties associated with clearing the territory and its reopening under the appropriate category and functionality, is not viewed as a problem.

2.4. The current state of the housing market in Lviv. Subjects under research are *the price level, quality of the architecture, the participation of foreign investors.*

The level of prices. Nowadays, in Ukraine under the conditions of large variety of real estate property and land their cost indexes reached their minimum. Although analysts argue that further price reductions will not come – we are at the beginning of the 2–3 year period of stagnation in the industry, only then it is predicted that there will be its gradual growth. The potential investors are still waiting though hoping for further price reduction of land and real estate.

The price of 100 m² of land depends on:

- Its location within the city borders. For instance, the plot of land of 100m² located in historical area, along with parks and green areas varies slightly and amounts to 50 thousand USD. The price of the same size plot of land (100 m²) but located in former industrial areas, on the contrary, varies significantly and fluctuates at the level of 10–15 – 20–25 thousand USD;

- Potential of the area, namely, the volume of residential area itself that can build on it (typical areas of former industrial sites). Surely, the price of 100 m² of large building plots for quarters would make 10–15 thousand USD (or 10–20 % of future building structure), and plots with the area of 0.3 hectares for building of detached houses will cost 20–25 thousand USD respectively.

It is also worth mentioning, that the prices of actual transactions differ significantly from the declared prices.

The quality of the proposed architecture. There are still not enough of projected residential facilities in Lviv that would fully meet the needs of consumers who are interested not only in the quality, which includes also rational planning, but also in aesthetics and originality of the object including its architectural style and composition. Constantly increasing levels of customer requirements create demand and stimulate the development of high quality residential architecture.

The participation of foreign investors in housing in the country overall and the city in particular. Foreign investors play a significant role in a housing development in Ukraine and in Lviv in particular. Their main principle of work is – no partnership with local businessmen and no joint investments. This approach is the result of the reputation of the most local market participants.

It was found that the investors from different countries have developed their own approach to housing investments in Ukraine and in Lviv housing in particular.

Some investors, particularly from Europe and the United States, hoping for simplification of bureaucratic issues associated with obtaining permits, a supply of communications and commissioning, initiated their projects in our country following the events of 2014. While others, for example Turkish investors, are well aware that they invest in the sector of the economy of a weak country. But they expect a significant growth of Ukraine's economy within five years.

While representatives of investors from Turkey, the USA, Azerbaijan, Lithuania are only sending their application; Polish, Belgian and Israeli companies have already implemented their projects in Ukraine in the construction of club houses ².

From October 1, 2015, Polish investors have been firmly keeping the leading positions on the housing investment market in Lviv (332.0 mln. USD), followed by Austria (141.3 mln. USD) and Cyprus (112.6 mln. USD) (Fig. 2).

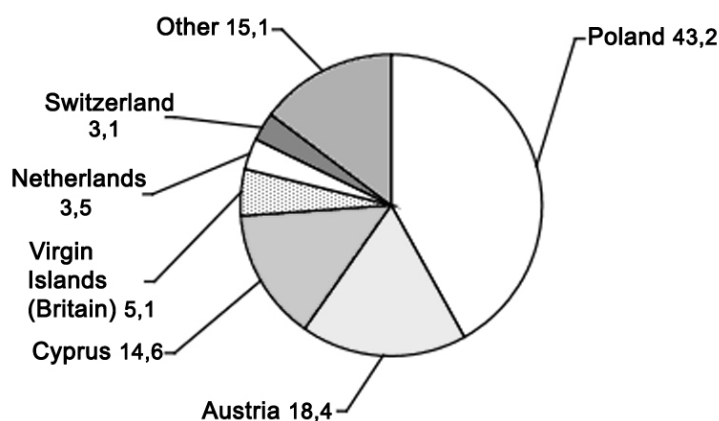


Fig. 2. The structure of FDI by country as of 1/10/2015 [9, c. 2]

As of 10.01.201, FDI in construction in Lviv, including housing made 14.9 mln. USD [9, c. 2].

Foreign investors are interested in such types of real estate in various segments:

- commercial property of a premium segment – these are investors- representatives of developed countries. They are willing to invest, despite the risks;
- real estate of economy or comfort segments – these are investors- representatives of the Eastern states. They are oriented to the fast pace of construction and sales, their plan is to relatively quickly withdraw from the market;
- house insertion or separately located clubhouse of a premium class on a small plot in the prestigious area – especially appeals to some groups of individual investors who have no history of previous housing investments.

Among all the above-mentioned segments, a business segment is notably absent. This can be explained due to the fact that the middle social class in the country in recent years is not clearly identified or is even absent.

Foreign investors prefer short-term investments. Algorithm of investment is the following: to enter the market at the time of the biggest recession, to purchase the land at lowest price, to construct at the time of stagnation, to implement during the demand of recovery period, and eventually – out of the market at its peak. Housing of economy and comfort class is the most appropriate for such investment. The duration of such projects in these segments – is an average of 2.5 years, ROI is 30–40 % per annum.

Analytical forecasts indicate that initiating of a housing project now and its completion (in the absence of force majeure) with the release of a new product within 1,5–2 years would be the most profitable in the meaning of maximizing profits in the long run over the next five years.

3. Result and Discussion

As a result of the study we found that in 2008, 2014, 2015 there was a sharp growth in the rate of construction far exceeding the forecast. The reasons, preconditions and background as well as a current state of the housing market have showed that the city is a “fertile ground” for intensive housing development. At the same time, the lack of quality in architecture, the reputation of local businesses- these are the factors which do

² Club house – elite-class house with the limited number of apartments for residents of same social level and life philosophy [8].

not contribute to the development of cooperation with foreign investors and are viewed as highly negative for the development of the industry overall.

Activation of foreign investors in residential construction in Lviv, though not acquired a massive scale, can lead to fundamental changes in the positioning of forces in the real estate market. This will improve the quality of city residential architecture in all segments.

4. Conclusions

The development of housing construction in Lviv is a part of the construction process in the city as a whole. Patterns of developing of other types of constructions deserve a separate study.

Obtained as a result of the analysis, the findings of this study are recommended to be used in the future to better forecasting of housing development as well as further providing of favorable conditions for its development, such as more professional approach to policies in this sphere.

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Андрій Павлів

ОСОБЛИВОСТІ РОЗВИТКУ ЖИТЛОВОГО БУДІВНИЦТВА м. ЛЬВОВА 2008–2015 рр.

***Анотація.** Розглянуто закономірності розвитку житлового будівництва м. Львова впродовж останніх років. Висвітлено основні причини та передумови такого розвитку. Досліджено сучасний стан ринку житлової нерухомості міста, зокрема рівень цін, якість пропонованої архітектури, участь іноземних інвесторів.*

***Ключові слова:** житлове будівництво Львова, причини, передумови розвитку житлового будівництва, сучасний стан ринку житлового будівництва, іноземні інвестиції.*

**CHANGES IN POPULATION
IN THE CONTEXT OF URBAN DEVELOPMENT OF UKRAINE
THROUGHOUT THE 20th AND 21st CENTURIES**

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Abstract. With the return of Ukraine's independence, its settlement system has received the opportunity for self-formation within the national territory. The cities of various evolution, magnitude, and importance with a long historical development comprise the backbone of this system. In modern conditions the formation of regional settlement system takes place, changes in the functioning of individual cities and the formation of spheres of influence of major cities become more vivid.

Key words: settling, a network of cities, agglomeration, metropolization, the level of urbanization.

I. Introduction

Historical development of the network of urban settlements has gone a long way: *“On the border of the forest belt and forest – steppe zone where agriculture had found good conditions and the communication was not difficult, Ukrainian population became more concentrated and the first Ukrainian state organisms emerged”* [1].

The most important impulses of urban development were caused by the development of trade relations, provision of protection of external borders, the establishment of power of the Kyiv Prince in each of the newly incorporated land and development of internal urban creating processes [2].

Analysis of changes in population density and cartography of the cities during the 19th century indicate the continuation of historical traditions of urban creation, the dominant of which is the latitudinal extension of the historic core of the density of population and cities in the forest-steppe zone due to the variety of natural landscape factors.

The most significant population growth is observed on the Livoberezhzhia (the Left bank of Dniپر river), where under the influence of Magdeburg law a dense network of urban settlements was formed. The late industrial revolution and political factors of the end of the 19th and beginning of the 20th centuries led to the loss of identity of settlements.

2. Basic Theory

Territorial and qualitative imbalance of the urban development of Ukraine took place throughout the whole 20th century and particularly it became evident in the period of socialist industrialization. The change of the demographic situation in Ukraine during the 20th century is closely tied to the processes that took place in countries that included Ukraine, first and foremost, in the Soviet Union: revolutionary events, civil war, world wars, famines and actions of the totalitarian regime. Only in 1959 the population of the republic reached pre-war level [3]. The end of the 20th century and the beginning of the 21th century is a period of the transition from urban dispersion to its concentration.

3. Results and Discussion

The second half of the 20th century is a period of transition in the morphology of the urban creation of Ukraine and marks the transition from urban dispersion to its concentration (1950–1970). The Ukraine's

population, according to the census of 1959, reached nearly 42 million people. Compared to 1939, a high dynamics of growth of urban population in general and of urban settlements in particular is fixed. Only the urban population during this period was increased by 41.1 % [4], and in general, the urban population accounted for 45,7 % [4].

The specific feature of the urbanization processes in Ukraine in 1950–1970-ies was the functioning of a large number of small cities. At the same time the urban agglomerations with the centers – Kyiv, Kharkiv, Dnipropetrovsk (Dnipro), Stalino (Donetsk), Odesa, Lviv started to be formed. The East–Donetsk–Dniper economic area was the most dynamic and urbanized during this period.

In 1980–1990-ies the agglomerating phenomenon of urbanization development spread on a big scale. Compared to 1970, where the urban population rose to 54.5 %, the population census of 1979 recorded continued high dynamics of growth of urban population, in general and of urban settlements, in particular. At the same time, the population of the Ukrainian SSR increased to 49.8 million people. It was in the 1970-ies when for the first time in the Ukrainian SSR population became predominantly urban. The number of urban settlements in the Ukrainian SSR had grown, in particular, the number of medium-sized cities (50–100 thousand of persons) was increased. At the same time the population in the biggest cities had grown as well. They became the centers of large settlement systems, and in 1979, the urban population amounted to 60.8 % [4].

The Donetsk-Dnipro economic region where the urban population ranged from 71 to 89 % remained the most urbanized. Forced industrialization of the Donbass, the collectivization and mass repressions of the 1930s caused significant changes in the economic, social and demographic development of Donbass, including in the size and composition of the population of the region. Donbass was the main fuel and energy base of the country, constantly experiencing labor shortages [5].

For comparison, in the West of Ukraine, Lviv oblast was the most urbanized area (53 % of urban population). In Metropolitan region, Kyiv region, the urban population amounted to 45 %, however, in some areas, urban population ranged from 31 % to 38 %.

On the eve of independence growth in urbanization is noted in Ukraine. Urban population grown mainly due to mechanical growth as a result of extensive development of the industry has led to a constant decrease in the rural population. The volume of migration of the rural population was always high. As a consequence, the urban population on January 1st, 1992 reached 68 % of the total population of Ukraine. The number of cities becomes almost stable, thus the number of large cities has increased and five cities have the population of one million people, the formation and development of agglomerations, primarily industrial, continues. In the 1980s the process of suburbanization i.e. the growth of settlements in suburban areas becomes more expressive. In Ukraine, there were already 19 urban agglomerations — monocentric, polycentric, protoagglomerations.

Urbanization processes in Ukraine were incomplete in nature as the most important task in this period was industrialization and the quality of the urban environment was low. Urbanization was characterized by the asymmetry of urban settlement, deformation of the functional structure of cities, the predominance of non-diversified highly specialized centers [4]. During the Soviet period the approach was formed in which economic and defense objectives were dominant in the implementation of population policies and, in particular, in addressing issues of urban development. The population of cities and urban-type settlements was seen as a labor resource, the parameters of which should be consistent with the structure of the industrial, military and transport complex [6].

The period of independence began against the background of the breakdown of social and economic formations of the early 90-ies of the 20th century, which has only accelerated the manifestation of the underlying processes, which were laid by the economic and social policies of the Communist regime during the 20th century [7].

The largest population was recorded in Ukraine in 1993 i.e. 52 244 million people, after that there was a steady trend of population decline due to the excess of deaths over births and emigration, including labour emigration. Moreover, Ukraine is in a demographic crisis since the 1980s due to high mortality, especially of working-age men and rural population, and low fertility of it [8]. A rapid population decline began in 1993, as a consequence of economic collapse [8]. During 1993–2013, the population of Ukraine decreased by 6.7 million people. Positive demographic trends appeared in 2002, when a slow increase in the birth rate was noted [8].

The total population of Ukraine in 2012 was more than 45.59 million, Ukraine remains a predominantly urban country, with a numerical predominance of the urban over the rural population: 68 % of the urban residents. Like the most of European countries, Ukraine has a high population density of 77 people per sq. km. The lowest density is in the North, in Chernihiv region – 39 persons per sq. km., the highest is in Donetsk region – 183 persons per sq.km. [9].

A qualitative change of the demographic situation in Ukraine in the last century (1913–2010) was mainly due to the rural inhabitants, whose number decreased every year since 1913. In general, in the villages the population decreased for 14.1 million. But the number of inhabitants in the cities of Ukraine, due to the relocation of the people from the villages, grew until 1993, and only since 1995 it began to decrease. Depopulation of Ukraine took place almost simultaneously over twenty years (1991–2010), the number of urban residents decreased by 3.7 million and the number of inhabitants of villages decreased by 2.5 million people [3].

Traditional urban forming factors undergo changes – their potential and importance in the urbanization process changes. The process of concentration of population becomes tangible. The analysis of the dynamics of the population share of largest cities of Ukraine had shown steady annual growth in the period of 1979–2009, the proportion increased from 20.66 % to 23.53 %. It happened primarily due to the increase of the population of the capital [10]. At the same time, the concentration of the largest cities in the East and the lack of them in the West leads to the deformation of the planning structure of the settlement system.

According to the General Scheme of planning of the territory of Ukraine, the centers of such systems should become the major cities and their agglomeration formations – Kyiv, Kharkiv, Dnipro, Donetsk, Odessa, Lviv. The peculiar features of contemporary urban growth, the differentiation of the territory from the point of view of its characteristics, demographic and economic zoning determine the allocation of another two planning centers – Vinnitsa at Podillia (geographic and ethnic region of the West-Central Ukraine) and Lutsk in the Volyn region (Nord-West Ukraine) [7]. Contemporary events in the East of Ukraine have destroyed Donetsk agglomeration, respectively, the other Central-Eastern agglomerations have been increased because of population movements. In the General Scheme of planning of the territory of Ukraine the system of measures has been defined that should contribute to the development of regional centres of settlement systems, which over the last 10 years has not reached its goal [10]. However, in recent years, the urban planning process becomes a compaction process of development of the territory of existing cities, which leads to lower cultural, ecological qualities of the environment and the increasing complexity of living conditions [11].

The positive phenomena of urbanization of recent decades are such as the population growth of individual cities: Kyiv suburbs; regional centers of the Western region (except for Lviv); towns with nuclear power plants (Kuznetsovsk, Netishyn, Energodar, Yuzhnoukrainsk, Slavutych); port cities (Chornomorsk, Yuzhne); centers of low urban areas where continued significant in-migration of the rural population takes place (Kamenetz-Podilsky, Vinnytsia, Bila Tserkva etc.); some industrial cities (Novodnistrovsk, Ladyzhyn) [4].

Today, the formation of new approaches to the solution of urbanization problems in Ukraine takes place. As the researchers note, in recent decades, the formation of a national urban network occurs in conditions of increased spatial competition, underutilization of the existing capacity and significant differentiation in terms of economic development. In these circumstances, Ukraine needs a focused national policy for the development of the urban network, the goal of which should be the restoration of balance in the national hierarchical urban system, namely the transformation of large cities due to the growth of their economic potential to the centers of national and international development; the strengthening of regional centres as centres of economic development of the regions; the growing of the role of medium and small towns in intra-regional space [12].

Ukraine also declares the registration of the requirements of the guiding principles for sustainable spatial development of the European continent and other CEMAT documents that must refocus the development to ensure social cohesion of the country [14].

Urban development relies on the creation of the decentralization process of the regional and local management. The problem of overcoming of the considerable imbalance in socio-economic development of the regions i.e. “centre” and “periphery” in the European space, as a more balanced polycentric development can contribute to reducing of social tensions. One of the main principles – “achieving of more balanced and sustainable development of the regions and a better understanding between them” becomes relevant not only to

social and environmental aspects, but also in the political and cultural dimensions. For Ukraine, in overcoming of negative demographic dynamics of the past two decades, it is necessary, while maintaining the incentives of childbearing, to focus efforts on improving overall quality of life, social and economic security, living conditions and improved medical care for the population [3].

Urban planning and regional planning is the material expression of state policy. Now Ukraine has formed a new urban mindset, which is necessary to determine the priorities of regional development. These priorities include a proper physical and spatial realization of external and internal policy of the state. Reconstruction and strengthening of networks of the cities has to improve the complementarity between cities, to create their total growth, to change specialization and enhance the positive effects of competition.

Balanced regional development in Ukraine is possible thanks to the modernization of relations between regions, between small and medium-sized towns and rural settlements with transeuropean networks and existing transport hubs.

The presence of Ukraine on the border of two world areas, dissimilar in their political and ideological position between the West and the East, determines inter-regional relations, which are the legacy of the history of the formation of separate regions under the constant influence of their external environment. Now it becomes more and more clear that it is necessary to define a unifying national idea, which would have contributed to the consolidation of the Ukrainian people irrespective of the existence of objective socio-economic and ethnic-cultural regional characteristics. We think that only spatial definition of such a consolidating national idea could be a conceptual interregional project of the Lviv–Luhansk planning axis. Such idea was proposed by the research institute “Mistoprojekt”, and on the base of this project the interregional communication region was worked out. [15].

One of the strategic priorities of development of Ukraine and its economy is the formation of a balanced urban network. In this context, Ukraine would have to abandon the extensive pattern of urbanization. On the other hand, the inclusion of Ukraine into globalization processes, formation of post-industrial segments in the Ukrainian economy provides an unconditional monopoly of megacities as centers of basing and development of science and technology. A chance to become a platform for the development of new high tech companies have to get not only megacities, but also other regional centers that are able to offer an attractive investment climate and an appropriate level of infrastructure development and the quality of the workforce [16].

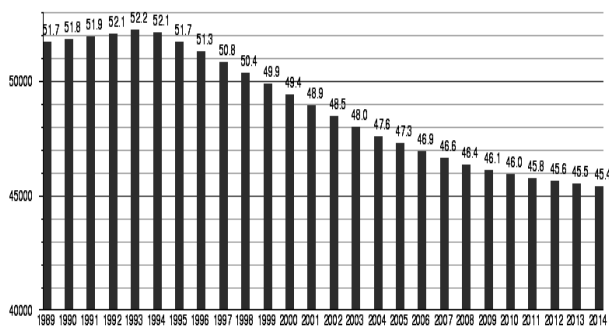


Fig. 1. Depopulation of Ukraine since its independence [8]

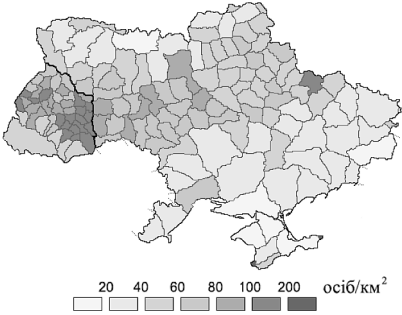
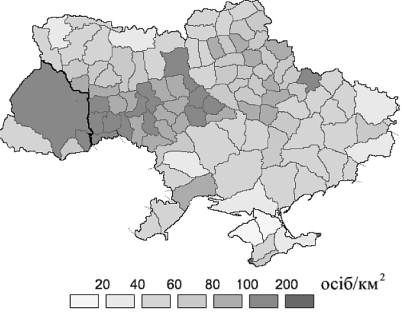
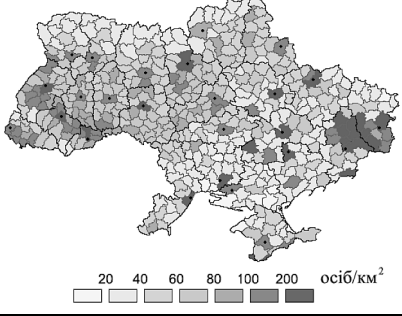
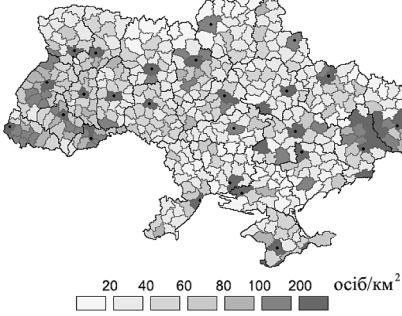


Fig. 2. The losses and displacement of the population because of military actions in Ukraine [21]

The turn of 2013–2014 was marked by the abrupt withdrawal of Ukraine from the former Soviet Union. As the result of Russian aggression Ukraine suffered significant demographic losses in the East. Because of the war 2.3 million inhabitants left Donbass [19], nearly one million of which left Ukraine [20]. From the occupied Donbas and Crimea nearly 1,3 million people escaped and dispersed throughout Ukraine [21]. The urban population of Crimea in 1.01.2013 was 1233135 persons. [22]

Mortality of the population is increased due to the decrease in social standards and reduced fertility. Industrialized regions have actually stopped working due to the loss of productive infrastructure [20].

Characteristic features of urbanization in Ukraine

Maps of population density on the territory of Ukraine [8]	Characteristics of urban changes
<p>1887</p> 	<p>1 – in the resettlement the latitudinal historical strand plays a major role (at the junction of forest and forest-steppe zone); 2 – the creation of industrial zones in the West and North East: Carpathian region, Kharkiv region.</p>
<p>1913</p> 	<p>1 – in the resettlement the latitudinal historic strand plays a major role; 2 – the territory on the left bank of the Dnipro river is developing more dynamically.</p>
<p>1970</p> 	<p>1 – the historical latitudinal density of the population is hollowed out; 2 – the powerful industrial regions are formed: the Carpathians region and Donbass region; 3 – sparsely populated areas in the steppe zone; 4 – the weak role of the central integration core (the capital city is a low-power).</p>
<p>2013</p> 	<p>1 – there has been loss of the historic latitudinal core of density of the population; 2 – the power of industrial zones (Carpathian zone, Donbass zone) are reduced; 3 – the population is concentrated around large cities; 4 – the “wasteland” appears i.e. sparsely populated areas (with population density less than 20 persons per square kilometer) in the South, in the North (“Chornobyl zone”); 5 – the polarization of the density of settlement to the East West; 6 – the absence of a central integration core i.e. the developed capital region becomes noticeable; 7 – a new urbanization strand of latitude oriented metropolital centers and large cities is outlined.</p>

4. Conclusions

– The development of a network of the cities of Ukraine is influenced by several factors, the main of them are geopolitical factor, energy factor, level of development of productive forces and socio-demographic factors. Under the influence of political factors Ukraine has always been inherent in territorial and quality imbalance of urban development. The concentration of urbanization and polarization of settlement in the last

century in the background of equally favourable conditions for resettlement in Ukraine is a consequence of the introduction of models of ideological orientation and operational approach to society.

- Significant amounts of migration of the rural population was supplemented by frequent changes in the administrative and territorial organization, administrative transformation of rural settlements into urban and new cities and towns did not create a full-fledged urban environment. Among the new cities that arose in Ukraine in the second half of the twentieth century, industrial cities composed the largest number as well as the centres of local importance and agro-industrial complexes (mainly the centres of agricultural districts), and transportation hubs [4].

- Urbanization in modern Ukraine takes place against the background of depopulation in combination with the economic crisis, and contemporary urbanization due to migration is a threat to the existence of rural settlements [7].

- For today the largest urban settlements have the best conditions for further growth. The greatest socio-economic changes occur in them [7]. In conditions of socio-economic crisis, such cities become centers of progressive changes in the restructuring of the economy, and their inhabitants become carriers of new social relations [20]. The absolute majority of medium and small towns are unable to retain the existing population. The purely agrarian regions are not the exception, the rural population is actively migrating to the cities from there [7].

- The process of post-industrial metropolization takes place replacing in this way the industrial agglomerating. Despite the quantitative loss of the urban population, the process of pulling of the population into the largest urban centres continues, resulting in the strengthening of ties between the largest cities and their surrounding areas on the basis of labour migration, common markets of labour, land, financial resources, etc. (Kyiv and Kharkiv regions, to a certain extent, Odessa and Lviv regions). Suburbanizing outflow of wealthy population into a suburban areas, construction of cottage townships, and reorganization of the surrounding villages contribute to the emergence of agglomerating forms even near much smaller cities in traditionally rural regions (Vynnytsia, Ternopil, Zhytomyr). In the industrial regions of the East the beginnings of a new post-industrial agglomerating are combined with the traditional industrial agglomerations [7].

- In the future the restoration of urban growth is predicted, especially in the Western and Central parts of the state because of the inevitable growth of labor productivity in agriculture to the level existing in the developed countries. In this case the released labor force will be free to flow to the cities. Thus, the urbanization levels of the regions of Ukraine with time will level off. The development of existing agglomerations and the formation of new will continue, in particular in the coastal part of Ukraine [7].

- Large cities of Ukraine play a leading role in the economic, cultural and political life of the country. Their economic development has a decisive influence on the economic growth of the country. If in 2001 in Ukraine there were 5 cities with population over 1 million inhabitants, but, despite the migration of population to the largest cities and the government's attempts to improve the demographic situation, in 2012 there were only three cities left with the population over 1 million.

- Number of inhabitants in Kyiv (2,8 million inhabitants) by a considerable margin (about half) is ahead of other cities – Kharkiv (1,4 million inhabitants) and Odessa (1 million inhabitants). Two cities during this decade have come down below the milestone of a million inhabitants (dnipro and Donetsk). In the major cities, where the number of inhabitants has fallen in the last decade, under the influence of migration from the Eastern regions threatened by the war, there was an increase frequencies residents. Risk because it moved the business, it was observed even at present construction boom in the housing sector. In three Ukrainian cities (Zaporizhzhya, Lviv and KryvyiRih) the population exceeds 500 thousand inhabitants.

- Now, economic, financial, cultural, historical, political, scientific, spiritual values and resources are concentrated, first of all, in the capital and to a lesser extent in the regional centers. If you compare the sizes of the budgets of the largest cities of Ukraine, as of incomes and expenses, there is a significant gap between the capital and other cities (its indicators are almost equal to the sum of the other 7 largest cities) [17].

- During the years of independence the gap in socio-economic indicators between Kyiv and other major cities of Ukraine has increased. Mainly in the capital financial resources are accumulated, political developments take place there, the places of cultural and spiritual values are situated there as well. The specified disparity, with its tendency to increase on the background of ecological and man-made threats of life of residents of the capital can only be considered as an example of extremely bad management of regional development. If you look at the situation that has developed as a result of urbanization in the Ukraine, from the

point of view of the need to diversify risks to national security, we shall come to the obvious conclusion about expediency of transfer of resources from the capital to other major cities of Ukraine [18].

– It is the more important for Ukraine to achieve the coherence of strategic development plans of major cities of Ukraine with the strategy of regional development [18]

Translation of the article from Ukrainian into English is made by Bohdan Horbovyy

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Галина Петришин

ЗМІНИ В НАСЕЛЕННІ У КОНТЕКСТІ МІСТОБУДІВНОГО РОЗВИТКУ УКРАЇНИ ВПРОДОВЖ 20–21 ст.

Анотація. Із прийняттям незалежності України її система розселення отримала можливість самостійного формування в межах державної території. Каркас цієї системи становлять міста різної еволюції, величини та значущості із тривалим історичним розвитком. У сучасних умовах відбувається формування регіональних систем розселення, зміни у функціонуванні окремих міст та формування сфери впливу найбільших міст.

Ключові слова: розселення, мережа міст, агломерація, метрополізація, рівень урбанізації.

KRAKOW, A METROPOLIS OF TOURISM AND SPIRITUALISM

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Abstract. The architecture and art of Krakow has clear traces of the influence of Rome, Byzantium, as well as the theological thought of the Greeks, Greek Catholics, Orthodox Christians, Protestants and adherents of Judaism. Currently, the two main monotheistic traditions of the East and the West remain connected in the works of Nowosielski, as well as in the form of one of the newest and largest churches. It is similar in Lviv, which remains an important part of the myth of Galicia. The myth itself remains a nostalgic memory of the past in the everyday life of Krakow, adding to its already substantial attractiveness to tourists. The third metropolis, Vienna, was once the place that used to establish the standards that the other two tried to emulate. Lviv will, quite soon, just like Vienna and Krakow, become an important hub of mass tourism, which is why the adaptation of its city center to the mass movement of tourists needs to be done carefully, so that its picturesque and unique nature will not be lost.

Key words: metropolitan Krakow, the myth of Galicia, spirit, tourism.

Motto:

Everything which I have accomplished in painting afterwards was, even though it might have been seen as a sort of departure, influenced by that first contact with the icons at the Lviv museum.

*J. Nowosielski
(Czerni, 2011)*

1. Introduction

When we say that Krakow is a metropolis, a lot of people say that this statement is not true, reminding us of the definition of a metropolis, which states that it is a city which has over 1 million inhabitants. Currently (in 2015), the population of Krakow within its city limits does not exceed that number. This is why it does not meet this requirement in the strictly arithmetical sense. Another group of people think that if a city plays an important and unique part that has an influence that far exceeds that of its immediate region, then that city should be called a metropolis. Furthermore, if the city is attractive, then it should be called a metropolis. In the case of Krakow, its attractiveness can be confirmed by looking at the sheer number of tourists who visit it every year, which has exceeded 10 million [1], surpassing such well known cities like Venice or Barcelona. Furthermore, the citizens of the city are not protesting against this, as those of Barcelona do. When we take into account the fact that the city has a substantial amount of historical monuments, in addition to possessing that one unique trait that puts it right in the league of metropolises like Rome, Constantinople or Jerusalem – it is that certain spiritual quality which makes it a goal of religious pilgrimage. Krakow is becoming a city of prayer. The planned World Youth Day of 2016 is to be held in the city from which the Saint John Paul II traveled to Rome, and who is still present in the minds of not only the Catholics of the two denominations – the eastern and the western, but also among people who are indifferent to religion. The tradition of Krakow is filled with elements of Byzantium (the chapel of the Holy Cross at the Wawel Cathedral) and Rome (the “Il Gesu” of Krakow – the Church of St. Peter and St. Paul), as well as elements that combine both traditions in the form of the modern works of Nowosielski [2], in addition to the presence of Judaism (Kazimierz) and even Islam, although the latter is expressed not in the manner of temples, but rather a historical house [3] (Długa street). This constant broad stream of theological thought and the coexistence of the traditions of the East – the Greek, Greek Catholic [3], Russian Orthodox [5],



Fig. 1. The interior of the Remuh synagogue, Kazimierz in Krakow

with the West – the Evangelical [6] and especially Roman Catholic, the most visible and the most actively present in the current spiritual tradition of the city [7]. Some of the newest projects among the temples of Krakow, like the one being part of the Saint John Paul II Center, have an architectural form and interior design that is reminiscent of the eastern traditions [8]. Krakow is also an important academic city, with the second highest number of university students in the country [9], which makes it appear as an attractive city not only because of the opportunities it provides in terms of education, but as a potential job market for the alumni of the country's universities.



Fig. 2. The interior of the basilica of St. John Paul II in Łagiewniki

2. What we are left with from those olden years – the myth of Galicia and the yearning for the landscapes of Lviv

Krakow is becoming a true hot spot of international tourism. In 2014, the city was visited by 2 650 000 foreign tourists, with many of them coming from Ukraine. Krakow also came in first place in the ranking of preferred travel destinations of the Zoover [10] website. The statistical data for the year 2015 is not available yet. The city is still far more attractive to domestic tourists, the number of which rose to 4 600 000 in 2014 – nearly twice as much as the number of foreigners. Taking into account the many different factors which make the city attractive to the various social groups, the issue of nostalgia is one of the most important – it is tied to the rich and intriguing local history of the city. One of the strands of this history is without a doubt the myth of Galicia [11], in particular the once-strong ties the city had with the other two important cities of the Austro-Hungarian monarchy: Vienna and Lviv. When compared to these cities, Krakow was a rather small city during the period of its inclusion in the Austrian Empire. Nevertheless, the dynamic cultural and intellectual exchange that took place at that time, in addition to the newly developing economic ties have caused the local populace to become aware of their higher needs – that of possessing the proper education, and attending spectacles at operas and theatres in Vienna and Lviv. The alumni of the universities of the three cities also chimed into the cooperation, aiding in the continuation of contact. The myth of Galicia is currently an interesting cultural phenomenon [12], which has led to a rise in interest in the history of not only the aforementioned three great cities, but acting as a catalyst for maintaining cooperation and tourism among the smaller towns of Ukraine, Austria and Poland. The field of the arts is especially active in this regard: the graphic arts, theatre and literature are full of examples of the fascination with phenomena that are taking place, with artistic styles and works of art that were once forgotten, but are now the prized possessions of many a gallery or museum. The most well known artists here include the avant-garde painters like Jerzy Nowosielski or Tadeusz Kantor, whose paintings and plays have become inscribed into the cultural landscape of Krakow and many other cities around the world, in a manner similar to that of the other members of the “Krakow Group”. The mutual permeating between the cultures of the east and the west has resulted in the creation of works which bridge the gaps between divided groups – something which will probably be appreciated by the wider audience only after some time has passed. For the time being it fascinates a small group of scholars, arts critics and those with a passion for such things. The artistic and theological thought contained within the paintings of Nowosielski, the theatric and sculptural

forms of Kantor – a publically exhibited in both catholic and orthodox churches, museums and private collections in every city of Galicia, allowing those who are interested the ability to combine their reading of the many published works on the subject with personal and direct contact with the artworks themselves. Cities, as Zipser writes [13], can be divided into the picturesque and those worthy of painting, while he himself, being born in Lviv, embodies a symbol of a creative flow of ideas between architecture, literature [14], ideas and landscapes – both those that he knew from his childhood and those that he got to know later, under different conditions and different skies. The myth of Galicia makes itself evident in the everyday life of Krakow – as a nostalgic remembrance of the olden times by the older generations, while to the younger – in the form of a tourist attraction worth seeing, with numerous references in the names of restaurants (for instance: the Imperial Royal Brewery), or the portraits of Franz Joseph hanging on the walls. In high culture, the motifs that can be identified as truly belonging to Galicia can be found in the plays of Kantor, works of both art and literature. In terms of urban planning, many of the buildings that were erected during the Austrian occupation survive to this day, typically adapted for educational purposes (the buildings of the Krakow University of Technology were formerly the barracks of Arch-prince Rudolph, built in the years 1871-7). The system of fortifications that was built around the Krakow fortress became one of the most interesting landscape complexes. Sadly, not all of the forts have survived in excellent condition. Nevertheless, the transportation infrastructure from the era became the framework for that of the entire modern city, forming the backbone of modern housing developments. This is why when we ask the inhabitants of the metropolis about where they would prefer to live, they often point to the areas of the city with nearby parks, open spaces and easy access to services, particularly regarding education and culture. Such preferences are typical of the inhabitants of metropolitan cities, where the need to consume is regulated only by what's in stock at the supermarket.

3. The Sounds and Tastes of Vienna: Musikverein, Sachertorte, Beisl [15]

Vienna, the third metropolis, which once set the standards for the other two: Lviv and Krakow, perhaps still does so today. The ability to travel in a fast and comfortable manner by rail from these two cities to that which was once their capital is now a thing of the past, however road and air transport have improved substantially. Some older citizens of Krakow still reminisce of the times when one used to travel to Vienna in order to experience the “sacrum” of the Musikverein, the sweetness offered at Sacher’s, in addition to the “profanum” of the Prater, along with a visit to one of the Beisl or to one of the coffee shops. In terms of administration and planning, Vienna was the place of origin for practices which turned out to be quite effective in a wide number of scenarios, especially in terms of spatial planning. The cadastral map is still in wide use, while modern urban planning practice still references the experience obtained during the development of the master plan of Vienna. The housing policy of the city, which has for long been one of the most successful in the world, can easily serve as a great example to other municipal authorities. The effective Viennese policies in terms of keeping the historical substance of the city center in good technical condition through continuous maintenance can be viewed as a sort of stretched out revitalization, without the need to resort to sudden bursts of wide and sweeping one-off projects, which often lead to irreversible changes to the social structure – replacing the old one with a new, yet artificial structure, mostly in the form of transforming an area from a residential complex into an office park, without the qualities that allow it to be used by the local community. In terms of modern architecture, many of its buildings remain in the memory of persons who take an interest in the matter, especially those by Hundertwasser, which can be described as a joyful manifest of an artist who was not an architect, but a painter, and which can be viewed as a certain form of protest directed against the wholly glass and concrete nature of today’s anonymous architecture. Other,



Fig. 3. Krakow. The myth of Galicia

bolder projects include the modern redesigns of public spaces, especially those located in much frequented areas, like the direct vicinity of the Stephansdom (Haas Haus), the cubist form of the new building within the Museums Quartier (Museum Moderner Kunst Stiftung Ludwig Wien), or those which show us the possible directions of revitalizing post-industrial areas, which have distinguishing stylistic properties, and turning them into residential areas (the Gasometers). In terms of large scale engineering projects, Vienna can proudly boast about the Donaukanal, its network of highway bypasses, or its rail transport network, including the design by Zaha Hadid or the ongoing expansion of the existing Underground.

4. The Center of Krakow – A Cultural Park or A “Cult” Place For Tourists?

In times of the “Iron Curtain”, the ability to travel to cities that were on its eastern side by Westerners was quite difficult, but thanks to the development of cheap airlines, cities like Krakow and Lviv, which are attractive to tourists both in terms of architecture and culture in general, have become much more accessible. This development has resulted in Krakow becoming a place that is easy to get to from the majority of large cities, whilst the hotel and restaurant owners in Prague have raised their prices due to increasing tourist traffic, making Krakow a more affordable destination. Since then, a steady rise in short-stay tourism has been observed in the city. The massive amount of tourist traffic forces the city center to change its functional profile, which seems only natural when looking at it through the prism of the law of supply and demand. This process, however, leads to a reduction in the number of permanent residents in those parts of the city which are frequented most. It is important to rearrange the functional profile of an area in a proper manner, which should be done through a process of evolution, rather than revolution. The complete commercialization of the city center can lead to it becoming a certain “pseudo-Disneyland” for tourists, which is easily “consumable” by those with low expectations, while at the same time perverting the atmosphere and the function of the city center itself in a manner which makes it no longer recognizable by its inhabitants. The center of Krakow is filled with interesting places to see, but it is the inhabitants that create the unique feel which makes or breaks the intellectual quality of a city center. This feel is, of course, imperceptible to a tourist who stays there for only three days to drink some cheap beer. But it makes it possible for persons with a certain amount of refinement to actively participate in cultural events that are accessible in various languages.



Fig. 4. The “Disneylandization” of Krakow

The entirety of the available cultural program is, sadly, limited to those tourists who fully understand the Polish language. This is why it is especially important to increase the role played by music and the graphical arts, which can be fully appreciated without the need to understand a foreign language. The content itself is usually universal enough to be understood right away and with the right accessibility and presentation, can be served to tourists instead of the typical cheap beer – like small bites of culture, which could potentially entice some tourists to return again – not as ravenous consumers, but those who seek a bit of culture in their lives. This type of tourism is far more desirable to most cities that have a rich culture and have the means to propagate it. In terms of spatial management, it requires the common effort of the inhabitants in order to transform the dominating residential functional profile into a service-based one. It is imperative to provide the proper conditions for persons who nevertheless wish to live in areas that are frequented by large numbers of tourists, which is not easy to tolerate in day to day situations due to the immense discomfort that this entails. Converting too much space into service areas or offices is not conducive to the long term development of city centers. When a certain threshold in their share of the space of a given area is reached, a process of slow self-destruction automatically initiates itself. The mutual competition between the same types of

services, like hotels, leads to the emergence of generally detrimental factors to other types of businesses. The form of the buildings themselves is also important – the more authentic it is and the higher the quality of the surrounding public spaces – the better. Pseudo-modern architectural styles quickly go out of fashion and instead of attracting – they repel, which is why the areas where the tourists appear the most should not look like supermarkets adorned with advertisements for virtually anything that can be sold! The tourists already have such sights in their own countries and do not want to see them in a place to which they have travelled for a completely different purpose than shopping. Due to the character of the city as a destination of pilgrimages, it is important to differentiate the various types of services by the level of their accessibility. The creation of areas which offer services that are easily accessible and widely popular with the common tourist or pilgrim is needed as much as the providing of exclusive, high-quality services for the affluent. When designing the adaptation of common areas, we should also take into account the needs of disabled persons, which, in light of the aging of the European population, are slowly becoming a more and more important factor. In order to properly harness the attractiveness of a city, it is necessary to provide it with a well functioning transport system that places an emphasis on rail transport which can connect the city with its airport. This system should incorporate and be in tune with pedestrian walkways, which in turn should be completely unhindered by vehicular traffic. This solution greatly increases the safety of walking tourists and the city's inhabitants in the city center. Great care should also be taken when considering bicycle traffic and the entire spectrum of electricity-powered vehicles – they often appear in large numbers in predominantly pedestrian zones and can reach relatively high – and dangerous – speeds.



Fig. 5. Lisbon. A ride in one of the old tram cars is perceived as one of the most important tourist attractions



Fig. 6. Krakow. The center devoid of permanent inhabitants outside of the working hours of the local businesses

As tourist traffic increases, so do the potential profits of all sorts of businesses that are located in pedestrian zones – on the condition that these businesses have made the necessary preparations. These include matters of both logistics and personnel – the staff needs to be able to communicate in at least one of the popular foreign languages. We can currently make limited forecasts regarding the directions that the transformation of the city of Lviv is going to take, based on our experience with similar cities. It seems that there is still time – time to prepare in order not to make the same mistakes that have been made in Krakow and other Polish cities.

5. Plans Regarding The Future of the Krakow Metropolis

The current stage of planning regarding the Krakow metropolis is not yet as impressive as many would want it, nevertheless, we can observe slow and steady progress in that regard. When we examine the matter on the urban scale, we can see that the city is not yet entirely covered with approved zoning plans. The state of affairs for the end of 2015 in regards to this is the following [16]: over half of the city does not have a zoning plan in effect – most of the time there is either no plan at all, or one is currently in development (51), while 48,1 % of the area of the city is covered by enforced zoning plans (136 plans in effect).



Fig. 7. Areas with an approved and implemented zoning plan – December 2015

The historical city center, within its borders as delineated according to its entry on the UNESCO World Heritage Site List, has been turned into the Old Town Cultural Park, an act which established detailed provisions and regulations for the area, ranging from guidelines on shaping the architectural form of newly designed buildings to the quality of public spaces. Another, third edition of the Spatial Development Conditions And Directions Study was approved in July 2014, encompassing the area of the city within its current administrative limits. It needs to be highlighted that the Study is not a zoning plan, it is only a document that is an “official internal directive”, serving the City Council to coordinate its urban planning endeavors. On the regional scale, there is the Spatial Plan of the Małopolskie Voivodship, which has not been changed since 2003, with its provisions being mostly outdated due to the dynamic conversion of the spatial structure of the areas under the direct influence of the metropolis. Work on updating the plan has been ongoing since 2009. The Landscape Act, approved by the central government in 2015, will surely cause some of the provisions of the various zoning plans to be changed, which means further delaying their approval, leaving their respective areas unregulated. Furthermore, the ongoing discussion regarding the meaning and rank of the metropolis, as well as attempts at outlining Metropolitan Functional Areas, will surely influence the views on the matter of their establishment. Attempts at tackling this problem are going to result in new ideas on the regulations governing the spatial development of the most dynamically developing parts of the settlement structure around Krakow, as well as other metropolitan cities. In the near future, especially in light of the coming end of the financial support from the European Union's development funds, we can expect to see shifts in both the economy and the approach to spatial planning. In the event that a profound shift in development goals does not occur, the socio-demographic conditions will affect the speed with which spatial structures change – in terms of quality, quantity and time. In the case of the Krakow metropolis, we can observe a positive development trend in relation to other cities, which causes the need to provide more residential space in the city. In smaller cities, especially those located a considerable distance away from metropolitan complexes, we observe the opposite – the number of inhabitants is steadily declining, which is causing difficulty in the functioning of local authorities and the resultant increase in the costs that municipal authorities must pay for technical and social infrastructure. This is a troubling phenomenon, as the increase of living costs in cities – where there is already considerable difficulty in finding employment and the mean wages are substantially lower – causes the widespread migration of employable persons. The result is that the mean age of the population of smaller towns is quickly rising, causing the detrimental effect of a rising economic pressure which pushes the most industrious individuals to migrate to metropolises or even other countries.

It is evident that policies which aim to increase the economic development of areas that are the farthest from the area influenced by metropolises can lead to nullifying the trend of the degradation of smaller towns. This can be made possible by promoting a pro-regional economic policy, which involves improving transportation and communication infrastructure. This in turn allows jobs to be located away from metropolises, thus causing a more positive economic environment for the residents of smaller towns. The result of this approach can lead to a more harmonious development of larger areas, rather than just the metropolises. They can keep this development sustainable and reduce the growing developmental disproportions, which seem to be inevitable at this stage of the free market economy.

6. Conclusion

It is important to keep those in power conscious of the future shape of the public spaces of the city of Lviv – their adaptation and tailoring to the needs of the expected tourist traffic should be done properly, instead of chaotically, so that the greatest qualities of the city itself can be preserved – its picturesque and unique nature.

The development of the municipal transport system should be preceded by an in-depth study of the role of the tram in a city's landscape – not in the manner in which it can be made the most efficient at the cost of everything else. The example of Lisbon, where the city preserved its historical tram cars, indicates that this can be a deciding factor in establishing a unique and readily identifiable quality which can increase the attractiveness of a city to tourists. Everyone that's been to Lisbon wanted to ride one of its old trams, even though they are reportedly plagued by pickpockets.

Work needs to be initiated on the establishment of a cultural park, with its borders encompassing at least the city center of the city, which has been put on the UNESCO World Heritage Site List in 1998. The area should also be provided with a spatial development plan which can establish proper rules regarding the shaping of public spaces and architectural forms. This should in turn be preceded by the development of spatial studies which can allow for the introduction of planning regulations in regard to the proper management of the historical substance of the city.

The expected dynamic development of the Lviv metropolis in the future, as well as the estimated rise of the importance of its historical city center should be accompanied by a well thought out and properly prepared system of policies regarding the improvement of the quality of its public spaces, the technical and aesthetic condition of its buildings and that of the transport system. In terms of functional changes, the expected flight of permanent residents from the city center should be prevented, as it will bring about a rapid decrease in the share of residential spaces in the area.

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Богуслав Подгальянський

КРАКІВ – МЕТРОПОЛІЯ ТУРИЗМУ ТА САКРАЛЬНОСТІ

***Анотація.** Архітектура та мистецтво Кракова мають чіткі сліди впливу Риму, Візантії, а також теологічного мислення греків, греко-католиків, ортодоксальних християн, протестантів та юдеїв. Сьогодні дві монотейстичні традиції Сходу та Заходу залишаються поєднаними у творчості Новосельського у формі одного з найновіших та найбільших храмів. Подібне можна спостерігати і у Львові, який залишається важливою частиною міфу про Галичину. Сам міф залишається ностальгією пам'яттю про минуле у повсякденному житті Кракова, роблячи свій внесок у важливу атрактивність міста для туристів. Третя метрополія, Відень, колись була місцем, що встановлювало стандарти, яких два попередні міста намагались дотримуватись. Львів достатньо скоро, як Відень та Краків, стане важливим місцем масового туризму. З цієї причини важливо адаптувати міський центр до масового руху туристів. Це має бути зроблено надзвичайно обережно, аби не втратити дивовижну та унікальну природу цього міста.*

***Ключові слова:** метрополійний Краків, міф Галичини, дух, туризм.*

**ARCHITECTURAL UTOPIA THROUGH THE PRISM
OF CINEMATOGRAPHIC ARCHITECTURAL IMAGES
OF THE XX–XXI CENTURIES**

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Abstract: The top informatisation of the world community is a phenomenon of the XX–XXI centuries. New means of communication and information transmission accelerated the dissemination of ideas, facilitate access to sources and their authors. And new forms of art such as cinematography, helped to gain the widest possible audience. Throughout the XX century architecture – the most public of the arts, and cinematography, the most popular and available one, were working in a kind of "tandem" and finally created a powerful tool which influences human consciousness, the ability to adjust and to build person's relation to the real world. Most of architectural utopias were tested in a kind of the cinematographic virtual images. Cinematography reflected a look from outside, revealed both values and disadvantages of architectural utopias long before its implementation.

Key words: architectural utopia, architectural image, virtual images of architecture in the cinema.

Introduction

It is considered that the notion of "utopia" appeared in literature in 1516 with the release of the novel with the same name by Thomas More "Utopia". Science and knowledge were presented as the defining component in building a perfect society by Tommaso Campanella, a Dominican monk, and Francis Bacon, a philosopher of the Renaissance Age. Also, "New Atlantis" by the latter became the first work of art of the peculiar genre of literature called science fiction, which is established on the hypotheses of scientific and technical progress. Descriptions of an ideal city, its arrangement and its vital activity were given separate chapters in all philosophical utopias of the XVI–XVII without exception. For example, T. Campanella's "The City of Sun" or D. Varasse's "History of Sevarambes". Thus, it can be claimed that utopias in the form of architectural fantasies were always an integral part of innovational thinking.

First architectural utopias that conform to the precise definition of this concept¹ have appeared in the XVIII century. Their authors are Étienne-Louis Boullée and Claude Nicolas Ledoux. A sign and metaphor system was developed in their works, which was necessary for the formation of images of utopias. Another important point was that self-sufficiency of these projects was confirmed as they were not meant for implementation, and therefore, they were not limiting thought with real technical possibilities of the time. The XVIII century also became the time of implementation of several social utopias. The Great French Revolution has shown not only the possibility of social reform, but also the price that the society has to pay for the implementation of utopian ideals.

¹ Utopia is derived from the Greek words ο, "not", and τόπος, "place"; or, according to another version, ο, "good", in other words, "good place" – is a genre of fiction, close to science fiction, which describes the model of ideal society from the point of view of the author. Unlike dystopia, it is characterised by the author's belief in the impeccability of the model.

The name of the genre comes from the book of the same title by Thomas More – "A truly golden little book, no less beneficial than entertaining, of a republic's state and of the new island Utopia", in which "Utopia" is just a name of an island. As for the first use with the meaning of "a model of an ideal society", it occurs for the first time in the travel journal of an English priest, "Pilgrimage" (1613) by Samuel Purchas [1].

The industrial revolution of the XIX century, which led to fundamental transformations in the society, has given a powerful push not only in the development of architectural utopias, but also in their realization. The most striking examples are the experiments by Marie Charles Fourier and Robert Owen. Both, having sufficient financial means, tried to organise ideal settlements and, although in many ways these endeavors were not successful, still these experiments have had a huge effect on the development of utopian thought, on the whole, and architectural thought, in particular. For example, the idea of a multifunctional building suggested in Fourier's Phalanstery, excited the professional imagination of many generations of architects. According to A. V. Ikonnikov, by the end of the XIX century, architectural utopia was ultimately separated as a specialized type of utopia.

The XX century became the century of realization of many social utopias and global social shocks caused by them. The collapse of the Russian Empire and the formation of the USSR, Nazi ideology, World War I and II, the failure of Soviet socialist ideology and the break-up of the USSR, the construction of nations of social justice in the Scandinavian countries, the birth of a single European Union – these processes were happening against the background of rapid development of science and technology, growing awareness of exhaustion of natural resources and environmental pollution. All these social and political events influenced the formation of architectural conceptions of the XX century, which took shape in various architectural utopias, theories and manifests. Below is laid out a consideration of defining factors, which influenced architecture and society on the whole in the XX–XXI centuries.

The first technologic leap, related to the development of machine technologies and means of production, helped the formation of architectural world view of the founders of modernism: Le Corbusier, Richard Neutra, Mies van der Rohe and others. With the help of new architectural conceptions they strived for a new social order and aspired to find a spatial expression for it. Consequently, social and architectural utopias began to supplement each other.

The second technologic leap is related to the development of space technologies, mass media and the formation of a new society, “consumer society” by J. Baudriard's definition. Architectural fantasies by Archigram, Superstudio, Rem Koolhaas' OMA, Japanese metabolists' conceptions and others model a new environment, “alternative” to the existing one. Postmodern architectural avant-garde is actively searching for a new architectural paradigm, which would let architecture get out of the framework of the “Athens Charter” and the “Five Principles”. From the modernist axiom «Less is more» by Ludwig Mies van der Rohe to R. Venturi's retort “Less is bore”.

The third technologic leap is related to the development of computer technologies including CAD-programming. Greg Lynn, Asymptote, Thom Mayne and others were pioneers of this field. Architecture ceases to exist only in the limits of the physical world, it moves into the world of virtual images from the physical world. The computer world of networks and information streams expands the real world, image turns into reality.

In 2007, the President of European Commission J. M. Barroso announced the beginning of a new industrial revolution in one of his interviews, the essential principles of which include the principles of energy saving and eco-technologies. Eco utopias of the American architect James Wines and the SITE group laid the foundation of the “green movement” in architecture in the end of the XX century, which, in turn, became part of a social phenomenon – the society of “sustainable development”².

It is also important to mention various forms of fixation of architectural utopias. Initially utopian conceptions used to be fixed verbally (literary descriptions), later in graphical models and models, and with the appearance of new technologies, such as photography, film, computer modelling, new forms of presentation of architectural utopias appeared – collage, video, 3D dynamic model. It is important to emphasize that cinema among these is one of the most important and diverse-acting instruments of fixation and approbation of architecture. Since the earliest stages of its formation, cinema generates architectural visual images very often, using various architectural utopias. With the film the viewer gets the opportunity to appreciate the spatial-volumetric model of the scene of the film as a real architectural phenomenon or experience. That is exactly the specific difference and importance of film from other types of fixation of architectural utopias: the fact of movement of an external subject of perception (the viewer) in the virtual space. We'll examine cinema as a modelling and approbation instrument of architectural utopias in combination with social phenomena.

² The term “sustainable development” has been introduced into widespread use by the World Commission on Environment and Development in 1987 [2].

Objective of the article

Using the method of pseudogenesis (B. A. Grushin) and periodization, proposed by the American architectural theorist D. Goodman, let's single out such ages of socially-cultural transformations of the worldwide society of the XX–XXI centuries: machine age, space age, media and information age, environmental age. On the basis of above-mentioned periodization, let's examine the evolution of architectural utopias in the light of social and cultural changes that happened in the society. Let's give special attention to cinema as one of the mechanisms of fixation and approbation of utopian thought in society and architecture.

Hypothesis

As A. S. Tokarev points out, "in the modern society the value of the phenomenon called "image" over the "thing" phenomenon. Consequently, the virtualization of the modern society has influenced both the understanding of the essence of architecture organizing the physical world and the cinema's part – modelling the world of images" [3]. It can be assumed that cinema is becoming one of the ways of fixation and approbation of architectural thought (sometimes projecting the reality, sometimes utopic). It can be assumed that the author's utopias have a considerable influence on the creation of architectural cinematographic images, their interaction with the socially-cultural undertones in the plot of the film. Such "turnover" of images from architectural reality into the cinematographic world lets the aesthetics of avant-garde visual architectural images to be imprinted in the mind of a potential consumer of the finished product and to check how a particular utopia works in the social and cultural context and to reveal its strong and weak points.

Research findings

Since its moment of appearance, the cinema had begun to use architectural images, creating a three-dimensional space for its characters. German expressionists, who have explored the capabilities of architectural fantasies and unveiled their potential in full after World War I, can be rightly called pioneers of this field. The newly created three-dimensional reality amplified and emphasized the characters' internal world. Since this moment architecture and cinema have been strongly influencing the processes occurring inside each kind of art.

Let's examine the stages of formation of utopic images in cinema and architecture. **Machine age.** The growth of industrial production at the beginning of the previous century has led to rapid growth of population in cities. "The process of urbanization has been changing the structure of landscapes and settlement in spacious regions with destructive rapidity" [4]. Contradictory views on the rapid growth of cities, admirations and fears are the main topics of works of leading sociologists and philosophers of the beginning of the century. For example, a prominent American theorist of urbanism of the beginning of the XXI century. Mumford has considered it useful to develop the typology of cities by their negative qualities, which he has called and described as: "Tyranopolis" with its parasitism and gangsters-dictators, "Megalopolis" with its avidity, detachment and barbarism and "Necropolis" with its looting and primitivity, which follow war, famine and diseases. The research by a German philosopher and sociologist G. Simmel appears to be interesting. He has spent a large part of his life in Berlin and has been a witness of the city's influence on the world view of its "new" rural residents. Among his theories there is a claim that the new city lifestyle is composed of rapidly changing, dynamic "pictures", which is very similar to the feelings of a person, who is sitting in a cinema in front of a screen. The philosopher draws a parallel between the cinema and a city area. Architects have devoted themselves with fervour to formation of a new future and improvement of existing living standards. Town-planning projects by Le Corbusier, R. Neutra, F. Wright, I. Leonidov, N. Ladovski have not only been symbols of new architecture, but of a new lifestyle, based on rationalism, efficiency, new technologies and standards, but most importantly – on the faith in better future. A "composite image" of a future city created by the cinema fits these conceptions, which has been in many ways reflected by the visual representation of a cult film "Metropolis" by F. Lang (1927). It has shown the world the exciting views of Metropolis – a visual model of a future city. In this film the city itself is one of its main characters, making the viewer fall in love with it and pushing him away. The film takes place in the future. "Metropolis" is a cyclopean city, the location of which in space and time is never revealed. An interesting fact is that the biased professional consciousness of architects and town-planners of the beginning of the previous century did not seriously consider the signs of a ripening crisis of the still-forming Modernism. The cinema reflected a view from the outside. For example, a huge

futuristic city is separated into two parts – higher “heaven”, which is inhabited by “masters of life”. And underground industrial “hell”, workers’ quarters, who are reduced to appendages of giant machines. “Workers’ city” with its cheerless typical boxy buildings, heaping up over each other, does not evoke viewers’ optimism. In the image created by Lang there is a sensation of warning, that a building submitting only to the “spirit of utility and expedience”, can easily turn from a “machine for living” into a “box for living”, which essentially happened if we look carefully at cities of the age of “developed socialism” and post-soviet period. Despite the foreseen multilevel junctions and division of transportation, chaotic movement of transport in the frames of a film created almost a hundred years ago, reminds more of the main arteries of Moscow or Kiev of the end of the XX – beginning of the XXI on pre-holiday days.

Admiration of machines and mechanisms is an integral part of architectural utopic thought of those years. The description of “Realized utopia” by Boris Arvatov, published in the magazine LEF in 1923, can serve as an example: “A city in air, a city of glass and asbestos. A city on springs.” The realization of “culture-forming” potential of machinery has become an obligatory component of genre cinema. In the frames of the most well-known science-fiction films of that age: “Metropolis” by F. Lang (1927), “High Treason” by M. Elvey (1928), “Just Imagine” by D. Butler (1930), the viewer becomes a witness of a certain “embodiment” of science-fiction conceptions: complex mechanisms, automatically creating and assembling prefabricated elements of construction of buildings, atrium spaces with elevators, large stair-well underpasses, travelators, dynamic, streamlined vehicle shapes, monorail trains, huge interactive screens, light plastic furniture. Land and water are pierced with multitudes of underpasses, in which various vehicles are moving on different levels. In them a bright and – most importantly – visual metaphor of the age of machines and future is created. An abundance of glass vitrages and light, open spaces, monolithic framework, which lets overhung gardens to be made on every floor – all these features of fiction films we will see realized, but much later, in the architecture of the second part of the XX. Thus, it is established that *avant-garde* cinema became the experimental ground for later realization of architectural ideas and fantasies.

Space age. Unofficially the beginning of the space age of humanity’s life is considered to be 1957, when the USSR has launched its first unmanned satellite. By this time the dominating modernist ideology and the “spirit of utility” were realized in full extent in buildings in residential areas of after-war Europe with single-type high-rise apartment houses. Especially large-panel construction peaked in the USSR, it began with a fight against architectural excess in the mid-50s and has ended with the creation of the notorious soviet micro districts, which have been built on large areas from the Baltic to the Pacific. As Jakub Wujek wrote in his famous book “Myths and utopias of architecture of the XX”, “it seemed then that “Modern Movement” with its emasculated, “machine” ideology possesses the “magic formula”, which will give answers to all social demands of postwar society”. In place of the cult of “machine” appears the cult of “machine shapes” [5]. However, by this time many of the things that futurists admired in the beginning of the XX became a part of everyday life of an average man. A great number of “living units” all around the world were fitted with an air-conditioner, a refrigerator, a TV set and other “indispensable items”, there was a car or a motorcycle in the garage. Cars lost their mystic image and became a part of everyday life of millions of average men. The improved quality of life of post-war world called into question the ability of modernist doctrine to solve the relevant issues of the modern technocratic society, a society ready to consume more and more of new achievements of the civilization. The average man did not want to accept the role, in which “...future consumers were appointed as dummies in spaces, designated on perspective images” [5] any more. High tech, aerodynamic shapes, new materials, the ability of technology to transform depending on the objective inspired architects experiment boldly with shape, function and construction. This way new architectural ideas of a new generation of architects were conceived, which rebelled against the cheerlessly rational architecture of modernism. “We are in pursuit of the new idea and vernacular language that could coexist with the space capsules, the computers, and the throwaway packages of an atomic/electronic era” [6]. This is the wording one of the participants of a British group Archigram, W. Chalk used to formulate the objectives of architects of a new era. “...architecture has to be mobile as a cloud, responding flexibly to the changing requirements of the people” [7], echoes him W. Prix, the creator of the Coop Himmelb(l)au bureau, The brightest science-fiction films of that time imprint a new “space reality” in the mind of an average man. In the films “2001: A Space Odyssey” (1968) by S. Kubrick and “Star Wars” (1977) by G. Lucas the emphasis is on autonomous, isolated from the external world, inhabited structures with complex architectural and engineering solutions. Robots and computers support the life activity of space

settlements, and battle machines defend from external threats. Architectural fantasies by B. Fuller (Dome over Manhattan (1960)), Archigram group (“The Plug-In City” (1964), “Walking City” (1964)), works by C. Price, Y. Friedman, Japanese metabolists K. Kurokawa, A. Isozaki, K. Tange can be clearly seen in the architectural images created on filming sets. Images created in the films have been endlessly quoted not only by cinema-men, but also by architects – echoes of the aesthetics of “A Space Odyssey” and “Star Wars” can be sensed in the realized “high-tech” projects of the architectural avant-garde of 70–80s of the XX. Such large projects as Hong Kong Bank Headquarters by N. Foster (1979–1986), London office of the Lloyd’s society by R. Rogers (1979–1984) or the famous Centre Pompidou in Paris by R. Piano and R. Rogers (1971–1978) can be used as examples. Use of high technology in design, construction, and engineering of buildings became a distinctive feature of this style of architecture.

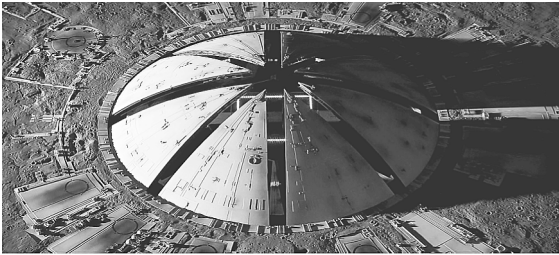


Fig. 1. Frame of the film “2001 A Space Odyssey” by S. Kubrick, (1968)



Fig. 2. Poster for the film “Silent Running” by D. Trumbull, (1972)



Fig. 3. Model for the film “Logan's run” by M. Anderson, (1976)

Media age. The second part of the XX century became a time of re-evaluation of the results of various “scientific leaps” and industrial revolutions. Optimism, with which the society perceived “machines” and modernism in the beginning of the XX century, bold assumptions that “The new era will offer a new model of city to man..., new city will ensure the cooperation of machines, man and environment” [8] gave place to apathy and disillusionment. Modernists did not manage to create a new model of a better future, a model of cooperation of the City, the Man and the Machine. Instead, mass panel construction, which gained momentum all around the world, called into question the person’s individuality itself, depersonalizing his human environment, and the nuclear arms race, pollution of the environment and rapid population upsurge called into question the existence of human civilization itself. Correspondingly, in science-fiction films of the end of the XX century such as “Soylent Green” by R. Fleischer (1973), “Brazil” by T. Gilliam (1985), “Blade Runner” by R. Scott (1982), cities appeared as an embodiment of human fears, symbols of overpopulation and chaos, an ideal place for dystopias of destruction and degradation.

Changes in social and architectural consciousness, which began in 60s, took definitive shape in 80s of the XX century. The development of mass media and communications, which sped up the exchange of information and knowledge, greatly influenced the transformation of social consciousness. In his book “Ways of Seeing” John Berger claims that sight is primary to speech. “Understanding of our place in surrounding world is formed by none other than sight” [9]. Visual sources of information helped the average man to experience “involvement” in events and made him a “participant” of processes all around the world, became his own “window into world”. Reality is what the TV shows. “Anything that is not in the field of vision of the mass media is as if it did not exist at all. At the same time what the TV shows does not reflect what “actually is happening”... From the point of the most radical post-modernists, the reality itself disappears” [10]. Colorful pictures, that replace one another on the TV and monitor screens, have plunged the post modern society into a simulative world of hyperreality of images and fantasies. In their philosophy research Jameson, Fukuyama, Baudrillard made a suggestion, that in the end of the XX the history has ended and the traditional notion of space and time ceased to exist. What seemed as an end of the world to some sociologists and philosophers has been perceived among architects as a break in the deadlock, in which the architectural society of the second part of the XX found itself. Many architects spoke of the phenomenon of Postmodernism with the same enthusiasm as of Modernism in the beginning of the century. “In short the content of our buildings is not the Space Age of the Energy problem, not the Machine age or High Technology, but the variety of cultural experience, the

plurality of psychic, social and metaphysical states possible to people” [11]. A distinguishing feature of postmodernist doctrine was the desire to level the boundaries between the traditional cultural layer and the so-called “mass culture”. Organize the cross-cultural dialogue between “high culture” and “mass culture”, erase the boundaries between the elite and the masses: from Italian Renaissance and the Dutch painters to the plastic bag with an image of Gioconda and a can of soup by A. Warhol, from antique porticoes of Greece and Rome to the huge AT&T portico skyscraper (1984) by P. Johnson. But most importantly, Postmodernism brought back variation into architecture, brought back the architectural thought’s ability to invent and contrive. Robert Venturi stated: “I like elements which are hybrid rather than ‘pure.’ Compromising rather than ‘clean,’ distorted rather than ‘straightforward,’ ambiguous rather than ‘articulated,’ perverse as well as impersonal, boring as well as ‘interesting,’ conventional rather than ‘designed,’ accommodating rather than excluding, redundant rather than simple, vestigial as well as innovating, inconsistent and equivocal rather than direct and clear. I am for messy vitality over obvious unity” [12]. Such declaration caused a great effect, which was reflected in both architectural and cinematographic works. The topic of dialogue of man and architecture found an interesting interpretation in “Dark City” by A. Proyas. There is no longer anything constant and unambiguous. In this film the city, its spaces and shapes are presented as a living organism. On them hopes, wishes and fears of its inhabitants are projected, physically changing the architecture and the human environment. Architecture becomes not only more varied, but more plastic, informative and ambiguous.



Fig. 4. Frame of the film “Blade Runner” by R.Scott, (1982)



Fig. 5. Frame of the film “Blade Runner” by R.Scott, (1982)

Information age. Unfortunately, appeals by the theorists of Postmodernism to use complex metaphors and cultural codes to communicate with the consumer have been interpreted by the practicing architects literally and led to excessive keenness on historic subjects, chaotic “devouring” of all styles of the past, “potpourri” on historic topics. The past has been disassembled into “spare parts” and “quotations” for a constructor, from which a limitless number of variants can be mechanically assembled. Cinema, as if foreseeing the imminent architectural riot of the 00s, produced images of a megapolis in the film “The Fifth Element” by Luc Besson, that seem like a tracing copy of illustrations of the famous book series of the past century “King’s Views of New York”. No hidden undertones or meanings, only a skillfully made applique on the topic “Futuristic city of the beginning of the XX in Art Deco style”. Owing to the development of innovative technologies, in the last two decades of the XX architects received a new instrument of modelling (design) of virtual reality – systems of automated design. While researching the past, postmodernist ideology has been neglecting the capabilities of technologic progress, that’s why, evidently, it could not become a firm basis in the development of architectural trade. In the book “Theories and Manifestoes of Contemporary Architecture” C. Jencks considers that the transformation of Postmodernism in the beginning of the XXI has ended with the creation of a so-called “New Paradigm”: “Instead, the pluralism and complexity that Jane Jacobs and Robert Venturi supported have developed to a new level. To signify this new stage it might be called Complexity II, one influenced by what are generally called ‘the new sciences of complexity’ – fractals, nonlinear dynamic, chaos, and self-organizing systems. These are particularly illuminated by the computer, both visually and conceptually, the post-modern instrument, the equivalent to the modern telescope and microscope” [11]. In his book “Form postmodernism to non-linear architecture: Architecture in the context of contemporary microscope and science” A. Dobrytsyna also emphasizes the importance of interaction of architectural activity and new technologies: “the XXI is a beginning of an era of technogenic architecture. Non-linear experiments of the mid 90s were a trial in a new direction. The dialogue of the trade with techno-science awakens the spontaneous internal forces of architecture, intensifying the intension of selection of development choices, which contribute to the preservation of its stability” [12].

A distinguishing feature of modern architectural practice is a large number of various outlines and graphs. They contain all necessary information to understand why exactly the object designed looks like it does. Graphs and algorithms give birth to shape, and computers simulate the “new reality”? Both architects and film directors proposed to reflect upon this as early as at the dawn of 00s. In architectural practice an American duet Asymptote with their project “New York Stock Exchange” (1997–2000) and a Dutch quartet MVRDV with their installation project “Metacity/Datatown” (1999) were pioneers in mastering of virtual space. In cinematograph they correspond to brothers Andy and Larry Wachowski with their “The Matrix”. Despite the clear affiliation with pop culture, plots of such blockbusters of the beginning of the XXI as “Clones” (2009) by J. Mostow, “Inception” (2010) by C. Nolan, “Repo Men” (2010) by M. Sapochnik contain serious philosophical questions. What is primary – reality, created by our mind (or imposed on it) or the environment, in which the body is located? And what place in this virtual world does the architect’s trade have, if anyone can model space and create architecture by himself?

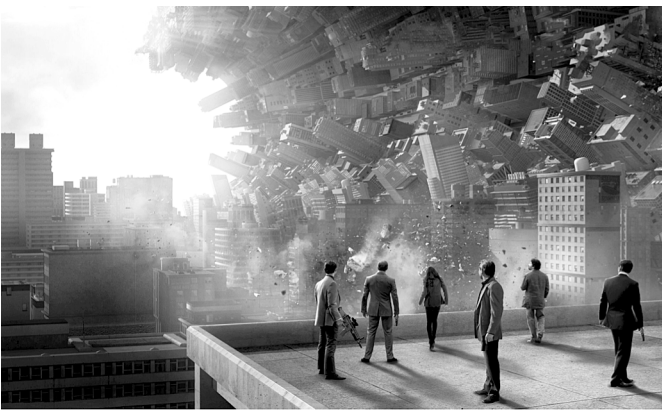


Fig. 6. Frame of the film “Inception” by Ch. Nolan, (2010)

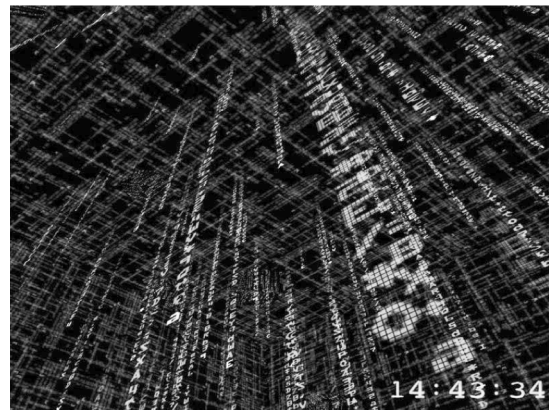


Fig. 7. Frame of the film “The Matrix” by The Wachowski Brothers, (1999)

Environmental age. Possibly, “green architecture” and energy-saving technologies will become the new “-ism” that will unite the architectural society. Marginal experiments of the “pioneers of green building” in the second part of the XX by P. Soleri, the Arcosanti settlement (building began on 1970) and J. Wines from the SITE group, “Green Manhattan” project (1979), have shaped into a steady architectural trend of the first decade of the XXI. The topic of “sustainability” is one of the favorite topics of architectural avant-garde of the beginning of the XXI.



Fig. 8. Frame of the film “Wall-E” by A. Stanton, (2008)

Both beginning architects, for example, collections of works, presented in the framework of the third international competition “Self Sufficient City”, organized by the Institute for Advance Architecture of Catalonia (IAAC) in 2008 or the internet-project eVolo, and practicing megastars of modern architecture are occupied by the search of the most effective sustainable systems. For example, N. Foster and partners have created the Masdar project in UAE (2006–2016), which proposes the erection of the first city in the world supplied with solar energy and other renewable energy sources, which has a stable ecologic environment with minimal emissions of carbon dioxide into

the atmosphere, and a system of complete recycling of waste of city activity. No wonder the topic of careful treatment of nature and its eco resources runs through such cinema hits as “Wall-E” (2008) by A. Stanton, “Avatar” (2009) by J. Cameron. Their plots imprint in the viewer’s mind the thesis that saving of eco resources is an indispensable condition of continuation of the existence of human civilization.

Conclusions

Thus, a short excursus has shown a steady interconnectivity of seemingly independent creative fields. In historic aspect five main stages of this evolution were revealed, namely: machine, space, media, computer and eco ages. However, the described phenomena had local manifestation and not the same in a global context. In conclusion it’s important to emphasize, that scientific and technologic progress, stimulated by social and political processes, has greatly influenced both the development of architectural utopic thought and the architectural activity on the whole, which was reflected in various science-fiction films of the XX–XXI centuries, which advanced the architectural realization by several decades and as if preparing the society for their realization. We can assume that in our research we can rely on the Jung’s theoretical model on collective unconscious. The main difference of ‘collective unconscious’ from ‘individual unconscious’ is that it is common for different people, does not depend on individual experience and history of development of the individual, constitutes some “common denominator” for different people. The cinema can be viewed as one of the instruments in formation of images of new architectural paradigms by the viewers (potential clients of the architect). In the process of viewing the film in the viewer’s subconscious a peculiar individualization of the architectural image through film playback and fixation will take place. What if the architect, while presenting his project to the client, will not operate complicated wordings and terms, but will appeal to architecture as some archetypal model, which is fixed in the cinematographic image of the film? It’s not inconceivable that the path the architectural avant-garde image has taken through the cinematograph and the cinema hall, from the ideal to the realization, will turn out to be more effective, than architectural presentations in the offices of the world of money and capital.

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Олена Ремізова, Костянтин Русев

АРХИТЕКТУРНІ УТОПІЇ КРИЗЬ ПРИЗМУ АРХИТЕКТУРНИХ ОБРАЗІВ КІНЕМАТОГРАФА ХХ–ХХІ ст.

***Анотація:** Феномен ХХ–ХХІ століть полягає у граничній медіатизації. Нові засоби зв’язку і передачі інформації прискорили поширення ідей і полегшили доступ до джерел та їх авторів, а нові види мистецтва, такі як кінематограф, допомогли охопити максимально широку аудиторію. Протягом усього ХХ століття архітектура – найбільш публічне з мистецтв, а кінематограф – найпопулярніше і доступне, працювали у своєрідному «тандемі». Більшість архітектурних утопій пройшли своєрідну апробацію у віртуальних образах кінематографа. Кінематограф відображає погляд з боку, розкриває як переваги, так і недоліки архітектурної утопії задовго до її реалізації.*

***Ключові слова:** архітектурна утопія, архітектурний образ, віртуальні образи архітектури в кінематографі.*

Cor Wagenaar

**PAST AND FUTURE CHALLENGES OF URBAN PLANNING,
AS EXEMPLIFIED BY THE NETHERLANDS**

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Abstract. This article describes the urgent issues of contemporary urban planning from economic, social, political and medical point of view. Discussion about urban opportunities and threats is accompanied by examples and historical cases from the Netherlands.

Key words: urban planning, Netherlands, sociology, economy.

1. Introduction

Discussing urban planning during the heydays of neo-liberalism resembles writing about the rise and fall of the Roman empire: urbanism once shaped and reshaped the spatial framework of millions of people, but now the very notion of planning appears to be incompatible with neo-liberalism (a term that, like ‘globalism’, obscures its true contents and represents a philosophy that in many ways is the exact opposite of liberalism; it destroys rather than enhances equality and civic liberties, and ridicules the notion of shared interests once summarized as ‘brotherhood’). Planning implies interventions in the so-called free market, sometimes even forcing people to leave their hometowns and move somewhere else. This history of urban planning begins with a history of changing justifications for these interventions, and culminates in a wide range of spatial strategies. Invariably, urban planning targets urgent problems that were believed to threaten society as a whole. By nature, therefore, it is linked to the public realm, to politics and administrative bureaucracies. The Netherlands is no exception, though few other countries can boast a planning tradition that dates back to the Middle Ages. Already then, the need to keep out the sea and prevent the polders from flooding called for collective measures, a financial infrastructure to cover the costs, and administrative bodies to decide which steps to take (these ‘water boards’ are credited for being the oldest democratic institutions in Western Europe).

2. Basic Theory Part

Although in the Netherlands, urban planning is always linked to what is now often dubbed hydraulic engineering, it developed independently from it, its object being cities and settlement patterns rather than canals, drainage systems and dikes. The first problem urbanism addressed were the disastrous hygienic conditions in the cities. In the nineteenth century, medical geography drove the point home: there was a direct and undeniable link between the places where people lived and their health conditions: the effects of cholera epidemics proved to be much worse in some parts of the city than in others. Although the scientific explanations were not always correct, the solution to the problem it inspired was immensely effective. The introduction of sewage systems (often associated with the work of Joseph Bazalgette in London) and the provision of pure drinking water improved public health in ways never surpassed since. In practice, this required a subterranean infrastructure that could only be realized underneath streets, parks and squares. Designing public space is the object of urbanism, and that explains why urbanism developed into the most powerful tool of the hygienic revolution. In only a few decades this revolution reversed the traditional health relations between town and countryside: for the first time in history, cities were healthier than rural villages. Urban planning also played a dominant role in the next phase: improvement of the housing stock, especially for the urban poor. Here, building codes were the principal instrument; the one developed for Berlin became exemplary.

The late nineteenth century enriched urbanism, until then predominantly a technical profession run by engineers, with artistic ambitions that were also justified as instrumental in counteracting imminent dangers: the beautification of cities should help to ease social tensions and restore the urban community, repairing the damage attributed to the industrial revolution and the chaotic urbanization processes it unleashed. Again, building codes

proved an effective tool. When public housing was introduced urban planners could actually fill in the plans they designed, provided they managed to get a hold on public housing institutions. The Netherlands issued its public housing law in 1901; it provided the framework for H.P. Berlage's expansion plans for Amsterdam, which became famous for the exuberant architecture of the so-called 'Amsterdam School'. Working for the municipal housing department of Rotterdam, J.J.P. Oud designed what appears to be the opposite of this buoyant style: the sober brick blocks in the district of Spangen, and the white, modern buildings of the Kiefhoek, for instance.

In the 1920s, the scale of urban planning increased beyond the borders of the city. General expansion plans invaded the environment, anticipating the concept of the regional city. Shedding its original anti-urban tendencies, the Garden city movement merged with the technically oriented and the artistically inspired brands of urbanism at the International Town Planning Conference in Amsterdam in 1924. The design of a traffic infrastructure and largescale zoning schemes provided the backbone of most regional plans. W.G. Witteveen General Expansion Plan for Rotterdam, completed in 1927, represents the modern town planning ideals of those days: the central district (the 'city') is dominated by offices, administrative buildings and cultural facilities. Surrounding it, the urban tissue opens up to the countryside in a fan shaped pattern that is permeated with green wedges. Inspiration for them came from the United States; Werner Hegemann, possibly the most influential urban theoretician between 1910 and 1930, introduced them in Europe. They provide easy access to greenery in a city that remains remarkably compact, in spite of its projected 2.5 million inhabitants. Housing for the working classes is located next to the zones of factories: back then, long working days and low wages prevented the workforce to spend time and money on public transportation – most working men walked to work... In the 1930s, the scale of planning increased even further; planners dreamed of national and ultimately even continental plans. When these ambitious were incorporated in totalitarian regimes – Hitler's Germany, Stalin's Soviet Union – these plans developed into powerful political instruments, and ultimately provided the utopian perspectives that represented the goals the Second War was fought over.

In the reconstruction years that followed the Second World War, urbanism was closely linked to the social and economic planning machines that aimed at the realization of entirely new societies: the Welfare State in the countries west of the Iron Curtain that split Europe in two since 1948, socialism in the countries to the east of it; the latter were forced to participate in the political experiments that had started with the emergence of the Soviet Union in 1917. However different both models were, they shared the ambition to be rational and scientific – a managerial approach that was hard to reconcile with urbanism's artistic aspects. These were now discarded. This trend is clearly manifested in several urban plans that were designed in the late 1940s and early 1950s. Whereas Witteveen's reconstruction plan of 1944 still treated the city as a work of art, the plan of Van Traa, his successor, is primarily geared to the need to speed up production – the second dimension (functional zoning and the infrastructure) is virtually cut loose from architecture and thus from the third dimension, a separation that ultimately destroyed much of the urban design vocabulary built up since the late nineteenth century. Another break with pre-war years was the modular approach to urban expansion ushered in by the introduction of the neighborhood unit concept. In the Netherlands, this marked the beginning of the suburbanization of a large part of the country, notably in the so-called 'Randstad' in the Western provinces. Suburban lifestyles developed that are characteristic for the 'megalopolitan' concepts that separated urban form from urban life, spatially fragmented urban life between mono-functional zones, and reduced public space to traffic and communication devices between these zones and the homes of the citizens (which witnessed an invasion of electrical household appliances and, another link with the outside world, the television set).

One of the most successful episodes in the twentieth century Dutch architecture and urbanism, at least in terms of the international attention it attracted, is the movement around Jaap Bakema, Aldo van Eyck and Herman Hertzberger, who on the eve of what proved to be the last CIAM-conference in Otterlo in 1959 managed to get hold of the journal *Forum*. They completely changed its template and turned it into a platform for the ideas of Team X. These were triggered by harsh criticism against post-war architecture and urbanism in general, and specifically targeted its devastating effects on inner cities and the complete failure – in their eyes – of the new housing estates. Promoted as healthy (low densities implying lots of greenery) and a catalyst of social cohesion (their spatial setup allegedly coinciding with social bonds), suburban settlements were already heavily criticized for having the opposite effects: numerous medical conferences identified them as catalysts of stress, and sociologists soon condemned their alleged community enhancing qualities as a myth. *Forum* celebrated man as a social animal with psychological needs that could only be accommodated if their living environment was infused with artistic meaning. Literary fragments, poems, sculpture, the visual arts and images of African tribes allegedly not yet corrupted by modern life filled the pages of the journal between 1959 and 1963; in that year a new editorial board inspired by N. J. Habraken shifted attention to the urban tissue and the ways it changed over time without the city losing its identity – a theme Aldo Rossi explored in the same period. In practice, the ideas of the Dutch Team X group

revolutionized urban renewal, which moved away from the traditional *tabula rasa* approach and emphasized the need to maintain as much of the physical substance and the social structure as was deemed feasible. Inner cities should no longer be sacrificed to the car, streets and squares should be returned to the citizens. They should be transformed into theaters of modern life, a spectacle where passersby were actors and audience at the same time; in order to show the 'wholeness' of life, public spaces should show a multitude of functions – Team X wished to break away from the mono-functional ideology usually associated with the Athens Charters (arguably the least innovative document in the history of urbanism). New housing estates were now designed as so-called 'cauliflower neighborhoods' with intricate street patterns and numerous dead-end streets that forced the car in a straightjacket. Although these estates manifested the impact of new ideas on urbanism, the *Forum* generation was completely dominated by architects and their work lacked the broad perspectives that are the heart and soul of urban planning.

The economic crisis of the 1980s destroyed the basis of Europe's post-war recovery. Industry died, the Netherlands lost most of its textile factories and many shipyards, to name but two of the most deplored casualties. The crisis also destroyed the economic principles of the recovery: the idea, associated with J.M. Keynes, that investments in social security and the redistribution of wealth towards the lower income brackets results in economic growth. Now, investments were channeled towards promising economic sectors and the so-called 'main ports': Schiphol international airport and the port of Rotterdam. Neo-liberalism began to affect politics. Subsidies in public housing were reduced, in the new housing estates, owner-occupied housing became the norm. Urbanism faced new challenges. Though these cover very different fields, many of them involved the need to reconstruct already built-up areas. The economic power that made their transformation possible was provided by the emergence of the personal computer, the internet, and a service economy that promised unlimited growth; this opened job opportunities that supported the growth of what at the time was dubbed 'young urban professionals', yuppies, who showed a marked preference for living in cities – and found living in suburbia boring and distasteful. They ushered in processes of gentrification that, especially in Amsterdam, gradually changed depressed nineteenth century neighborhoods like De Pijp in the most popular districts in the city. Urban planners didn't need to intervene – processes like these were entirely market driven. Since many of the lost industries occupied terrains nearby city centers, these now abandoned areas offered excellent opportunities for redevelopment. Here, urbanism faced the need to design attractive urban districts – attractive implying that they should offer something more than decent, car accessible housing. The new challenges called for a re-invention of urbanism, notably the re-introduction of design work with artistic intentions at the urban scale – the approach that was ousted immediately after the war and, even though the *Forum* group had called for a return of the artistic dimension, was still largely ignored. Inspiration came from landscape architecture, where design at the very large scale had never disappeared... Sjoerd Soeters' plan for the Java island in Amsterdam is exemplary, but the first experiments in this field took place in Rotterdam, where the reconstruction of the so-called 'Kop van Zuid' started with a competition that introduced, among other novelties, Aldo Rossi to the Netherlands. The post-war housing estates provided the next big reconstruction challenge. The epitome of modern ways of living in the time they were built, they were now seen as obsolete and desperately in need of upgrading; according to the now dominant idea that the market should play a primary role. This implied the introduction of owner-occupied housing for middle income groups. Ideally this should result in a population mix that was capable of solving its own problems (many of these problems were associated – sometimes with good reason, often without – with the influx of so-called guest laborers from countries like Turkey and Morocco). Amsterdam's post-war housing districts in the so-called 'Western Garden Cities' witnessed reconstruction processes that eliminated many of the original qualities of Van Eesteren's master piece, the General Expansion Plan of Amsterdam that he completed in 1934 (and that were modified to fit the requirements of both the neighborhood unit concept and industrial building technologies in the late 1940s). It proved to be particularly difficult to renew these areas without impacting their most innovative aspects. A uniquely successful project in this field is De Nijl's reconstruction of Haaglanden near the Hague; here the interplay of volumes and open spaces pays tribute to the neighborhoods original design intentions...

3. Results and Discussion

What is the predicament of urbanism in our days? Is the discipline really reaching its final stages as we suggested at the beginning of this article? Even though the need for urban planning may very well be more urgent today than it has been in years, changing perspectives are threatening its survival. Its rise to prominence coincided with continuous and very rapid processes of demographic growth in the countries where it originated – now these countries face the *shrinking* populations and the problems of aging. Technology, notably the prospects of the Internet of Things, promises instant satisfaction of personal needs that are – literary – broadcasted whenever people browse

the internet, either at home or on the road, and complemented by the messages almost all electrical gadgets, household appliances sent off. There is no way to control this constant flow of information, which have become the monopoly of a small number of companies (Google, Facebook). Using the data of millions, maybe already billions of people, businesses accumulate financial power even they bill them for very minor sums of money (selling ‘apps’, for instance). Often, the financial links between companies, for instance newspapers that pay for investigative journalism, and companies – for instance news sites – that have a much bigger outreach, is lost: the latter collect income from advertising that is not benefiting the actual producers of the product they offer. Ultimately, this may lead to the disappearance of these products – in this case professional journalism – and its replacement by ‘infotainment’ which is bound to destroy one of the major pillars of democracy: well-informed, critical citizens. Automation and robotizing, appear to rob large layers of what since times immemorial has been one of their most important assets: the power to produce – machines promise to do a better job. Since this implies that many can no longer earn a living, it ultimately reduces their purchasing power, without immediate effects on the profits of businesses built on selling low-cost digital products. Nevertheless, economic growth has become very low and there are no signs that this will change any time soon. Moreover, the new economic realities favor extreme forms of social segregation and growing levels of inequality, creating a small class of the superrich, and vast numbers of people who face the prospect that their children receive lower levels of education (allegedly compensated for by the internet), lower incomes, less leisure time, and growing difficulties getting access to the few public amenities that survived. Thus, technological innovation appears to result in a form of disempowerment that, obviously, is bound to have economic as well as political implications: the public domain that is a *conditio sine qua non* for democracy is disappearing. Though there is no direct relation with fears caused by terrorism, the latter appears to enhance growing feelings of insecurity, creating audiences that are increasingly susceptible for populist rhetoric (resulting, among many other things, in the re-emergence of all kinds of nationalism, which promise illusory ways to re-empowerment with the help of digital infotainment that ignores or denies the devastating effects of these sentiments in the twentieth century Europe).

4. Conclusions

Are the public (the masses of citizens who benefited from the economic and demographic growth since the mid-nineteenth century) and the public domain withering away? In recent years, private clients have become increasingly important, some of the design objects that used to be a public monopoly – streets, squares – have become privatized, and with few exceptions the large scale – regional and national infrastructures and settlement patterns – present only a marginal part of the work of urbanists. In neoliberal times, nothing seems to justify the persistence of a discipline that serves public goals. Maybe, however, the first public threat that justified its emergence will also cause its revival: public health. In the last decades, however, the conviction gains ground that it is becoming imperative to address suburbia and the phenomena now associated with it: inefficient, relatively chaotic and completely car dependent settlement patterns that result in pollution, sedentary lifestyles, inaccessible public spaces which are poorly designed (if designed at all) and are wanting of ‘positive distractions’, densities that are too low to allow affordable public transportation and result in unwalkable and often even uncyclable distances to the facilities that support everyday life, among them nearby restaurants, bars, clubs and other social hubs. These spatial characteristics are concomitant with unhealthy behavioral patterns that result in obesity and stress. Thus, the contribution to healthy cities might trigger a renaissance of urban planning after all...

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Кор Вагенаар

МИНУЛІ ТА МАЙБУТНІ ВИКЛИКИ МІСТОБУДУВАННЯ НА ПРИКЛАДІ НІДЕРЛАНДІВ

Анотація. Описано актуальні питання сучасного містобудування з економічного, соціально-політичного та медичного поглядів. Аналіз містобудівних можливостей та загроз супроводжується прикладами та історичними зразками з Нідерландів.

Ключові слова: містобудування, Нідерланди, соціологія, економіка.

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Figures and tables must be inserted into the text and additionally submitted by separate files.

Composition of the manuscript:

1. The first page of the article should contain:

- Full first and last names of the author and all collaborators;
- The title of the article typed in capital letters, font size – 14;
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2. **Abstract** should contain no more than 50 words. It should represent the essence of the article and its novelty.

3. **Keywords** (a maximum of 5–6) should reflect the contents of the article and be specific to the field of study, avoiding general forms of wordiness, abbreviations (only abbreviations conventional in the certain field are allowed).

4. **Introduction** should be brief and clear. It may indicate the connection with previous works.

5. All materials and methods used for obtaining results of the article should be depicted in the **experimental or basic theoretical section**. The subheadings for different sections may be used (e.g. 2.1 (2.1.1., 2.1.2...), 2.2.)

6. **Results** should be present accurately and clearly. The **Discussion** should deal with the results and depicts their analysis. Subheadings can be used in this section. Discussion of the already known data should be avoided. Descriptions of methods or examples of achievements, formulas should be presented in experimental or theoretical base section.

7. **Conclusions** should emphasize main achievements of the work, underline its importance and give examples of possible application.

8. The **gratitude** for financial support, technical assistance and other forms of assistance can also be mentioned at the end of the article.

9. **References** should be numbered in the order of their appearance in the text in square brackets. Names of the books should be referenced, titles of articles – shouldn't. Authors' first and lastnames and names of journal originally written with Cyrillic alphabet should be typed with Latin letters without translation.

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[1] Kovalskiy D. and Plekhov V.: Neorganichna Khimiya. Naukova dumka, Kyiv 1990.

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Patents: Authors, country and patent number, date of publication

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Conference: author, title of the conference, country, city, year, initial page.

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10. **Illustrations** (figures, graphics, photos) must be inserted in the text and be given by separate graphic files as separate objects, suitable for corrections or changes, and which fit the page size. All illustrations should be signed and numbered (if more than one) under the illustrations, with centered alignment, fontsize – 9. Photos and photocopies must be of high quality, suitable for copying.

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