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ORGANIZATION OF THE URBAN PUBLIC PARK OF CULTURE AND RECREATION IN THE CITY OF UZHGOROD

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Abstract. The parks of Uzhgorod have been studied, the culture and recreation park relocation expediency from Pidzamkovyi to Bozdoskyi has been proved. The Pidzamkovyi park, with an area of only 4 hectares, has not withstood the load placed on it for a long time and does not meet the requirements of the Building code for such facilities. Further use of this park for cultural events will lead to the loss of valuable plantations and the destruction of the historic landscape of the city. Therefore, the issue of removing the functions of the culture and recreation park from it is now extremely acute. Instead, this area can be used as a place for local recreation of the surrounding residents. Bozdosky Park, which contains all the necessary components for the organization of leisure activities of the city population: accessibility, sufficient space and recreational resources is offered as the alternative for the function of an urban public park of culture and recreation.

Key words: culture park, recreation, landscape and recreation area, monument of garden and park art.

Problem statement

Parks play a key role in forming a landscape-recreational zone of the city. They create aesthetic attractiveness, regulate temperature and clean the air, positively influence the psychological state of a person. Parks attract most of all the inhabitants during their leisure time, that is why it is important to define their functional purpose for the organization of landscaped territories that consist of green plantations of general use, green plantations of limited use and special assignment (DBN B.2.2-12:2018).

General city park of culture and rest is the centre of recreation where the main culture-mass events connected with leisure take place. Its planning organization should provide the combination of the main functional zones that will allow having rest for various categories of the city inhabitants. The location of

such a park should blend into the planning structure of the city to provide comfortable accessibility. The evident advantage is the existence of inhabitants of those residential areas that are located within pedestrian accessibility to the park. However, we should remember about the distant city districts which should also be provided with access to the general city centre for rest and leisure. For achieving this it is necessary not only to connect the main functional park connections with the stops of public transport but also to organize the places for private cars parking. For organizing such a type of park it is necessary to allocate a considerable area within the city limits, that is why the minimal area of the general city park of culture and rest should constitute 15–20 hectares (Mistobudivne proektuvannia, 2016).

In the historically formed cities often parks, which perform the function of the general city park of culture and rest, do not correspond to the main demands concerning the organization. A similar situation is in the city of Uzhhorod, where the role of the general city recreation centre is played by the park Pidzamkovyi.

Analysis of recent research and publications

Green plantations are a natural element that provides a comfortable environment for living for a person. The geographical position and the warm, humid climate of the Mid-Danube lowland contributed to the spreading of various types of trees in Uzhhorod (Soima, A. D., 2011).

For the first time about the landscape gardening of Uzhhorod, it was mentioned in the XVII century. The history of the city's landscape gardening was described by the well-known botanist S. Fodor (1957). In his work on the city's landscape gardening, the author defines four historical periods.

To the first one, S.Fodor dates the period of the feudal formation, during which, starting with the XVII century and up to the year 1848 the first measures on landscape gardening were taking place. There took place the first artificial forest plantings in the valley of the Uzh river, around the Uzhhorod castle. These forests were the hunting grounds for the feudal. A small part of these plantations has been left until now in Pidzamkovyi park.

To the second period belong the plantings of the trees from 1848 to 1914. On the created by the feudal small holdings, there was taking place successful acclimatization of the South-European, Asian and American types.

The third period started in 1919 when the Transcarpathian region entered the Czecho-Slovak republic and lasted until 1944. During this period the main attention is paid to the landscaping of streets and the reconstruction of the earlier laid parks, public gardens, and green areas. There is a system of green plantations near newly-built quarters. To these plantations belong many exotic and decorative forms of autochthonous species.

The fourth period is landscape gardening in the Soviet period (Fodor S. S. 1951; Fodor S. S., 1957).

Nowadays, Uzhhorod is one of the greenest oblast centres. The researchers pay much attention to the study of the city environment of embankments, defining the factors of forming the landscape-architectural organization of the embankments (But N. K., 2013).

Objective of the article

The parks of Uzhhorod have been researched, the expediency of relocating the park of culture and recreation from Pidzamkovyi to Bozdoskyi park has been rationalized.

Results and discussions

Among the parks and squares of Uzhhorod, the Pidzamkovyi park is considered to be the oldest one. According to certain sources, the park started existing in the mid-XVI century to breed wild animals for king's hunting. In different times it was named Zvirynets', Horkyi's, Pidhradskyi and Pidzamkovyi. At the beginning of the 1870s, this territory was named Seczeni Park, in honour of the well-known civic-political figure (Kobal, Yosyp, 2008).

In the times of Czecho-Slovakia in Pidzamkovyi park, the stadium “Spartak” was created (1901) for the sports club Rus’. At the same time, the city swimming pool appeared in the park. In August 1947 the children railway was opened (Kobal, Yosyp. 2008).

The main part of the greenery constituted the following species: *Populus×canescens* (Aiton) Sm., *P. nigra* L., *P. alba* L., *Carpinus betulus* L., *Fagus sylvatica* L., *Qercus robur* L., *Pinus sylvestris* L. *Tilia cordata* Mill. The first exotic plant, that was planted in this urban forest is *Platanus occidentalis* L. It is considered to have been planted in the XV c. by the proprietor of Uzhhorod castle Drugget. He came from Italy and probably, brought with him many popular in the south plants. Out of them, only this plane tree was preserved, it is considered to be above 500 years old. It is the oldest specimen among the Uzhhorod plantations. (Soima, A. D., 2011). Until today there have been preserved some age specimen of *Fraxinus excelsior* L., *Tilia cordata*, *Populus ×canescens*, which are over 300 years old.

During the reconstruction (at the beginning of the XX centuries) the plantations were completed by the groups of *Pinus sylvestris*, *P. nigra*, *J. F. Arnold*, *Robinia pseudoacacia* L., *Aesculus hippocastanum* L., *Populus pyramidalis* Rozier., *Morus nigra* L., *Philadelphus coronarius* L., *Deutzia scabra* Thunb., *Syringa vulgaris* L. etc. (The Plant List, 2013).

As for today, Pidzamkovyi park is a monument of garden and park art of local significance. From the north-east of the park the sports complex “Spartacus” is situated, from the south – city swimming pool (aquapark) (Fig. 1). On the territory of the park, one can single out the following functional zones: of children’s leisure, Uzhhorod children railway, parking, food service.

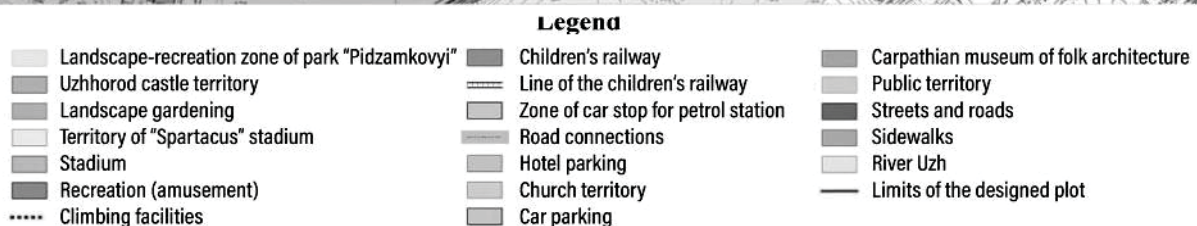


Fig. 1. Key plan of the Pidzamkovyi park (Authors: Mariutsa V., Denysenko M., Horovyuk O.)

The park, park, having an area only of 4 hectares, has not withstood the load placed on it for a long time and does not meet the requirements of the Building code for such facilities. The climbing facilities on the trees destroy precious species and lead to the destruction of nature's monument in general. The existing here transit functional connections need proper organization and convenience. Further use of this park for cultural-mass events will lead to the loss of valuable plantations and ruining of the historical landscape of the city. That is why the issue of removing the functions of the culture and recreation park from it is now extremely acute. Instead of it, this territory can be used as a place for the local rest of the residents living around (Fig. 2, 3).



Fig. 2. Scheme of functional zoning (Authors: Mariutsa V., Denysenko M., Horovyuk O.)

When the city is already formed, it is quite difficult to define, the territory of which of the existing parks is the most suitable for the organization of such type of objects. If one considers the planning structure of Uzhhorod, the most favourable place for the organization of the general city park of culture and rest is Bozdoskyi park. The great territory of the park (over 50 hectares), its location in the central part of the city, combined with the landscape-recreation zone of the Uzh river gives us grounds to maintain that the given territory is the most favourable for fulfilling all the functional processes which should be encompassed by the general city park of culture and rest.

Bozdoskyi park was established in 1954 and divided into three main zones: zone of green plantations, zone of amusement rides and the zone of business activities. At present, there is functioning and is supported in the proper state only in the southern part of the park (Fig. 4).

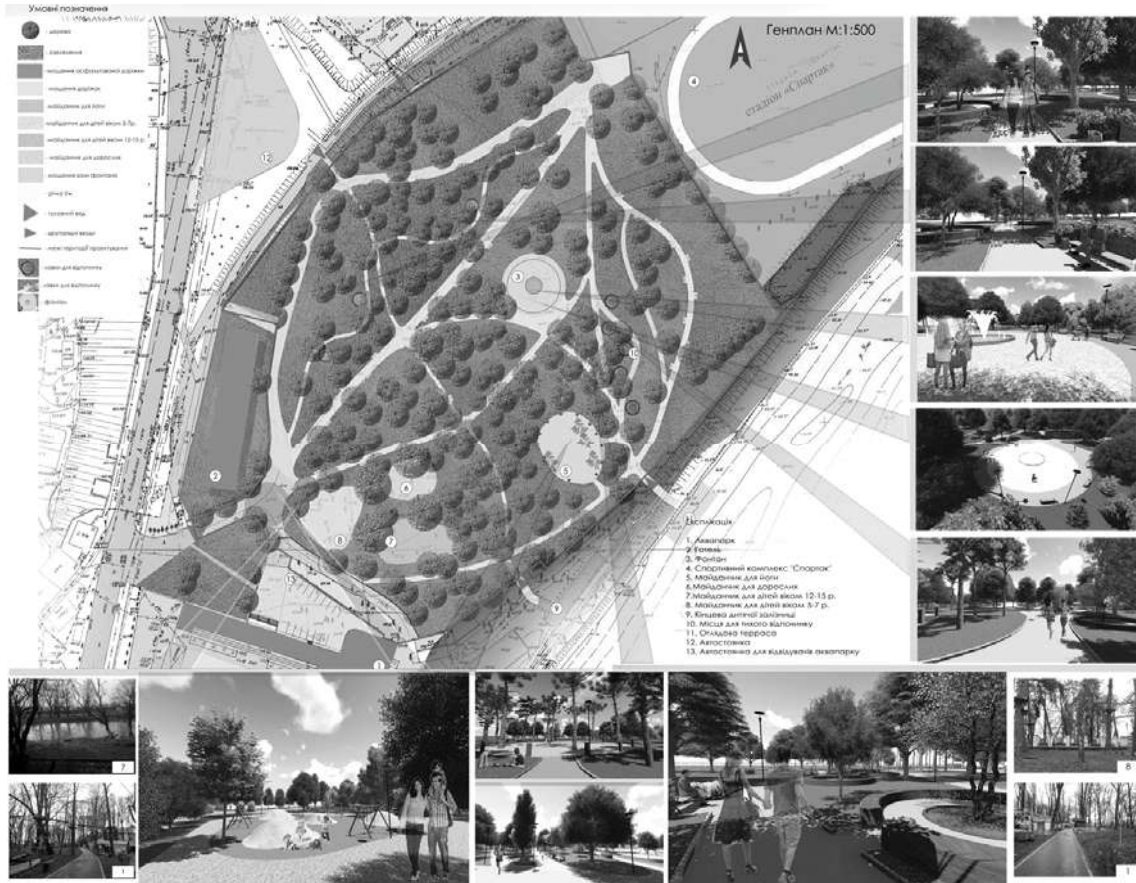


Fig. 3. Concept of development of Pidzamkovi park (Authors: Mariutsa V., Denysenko M., Horovyuk O.)

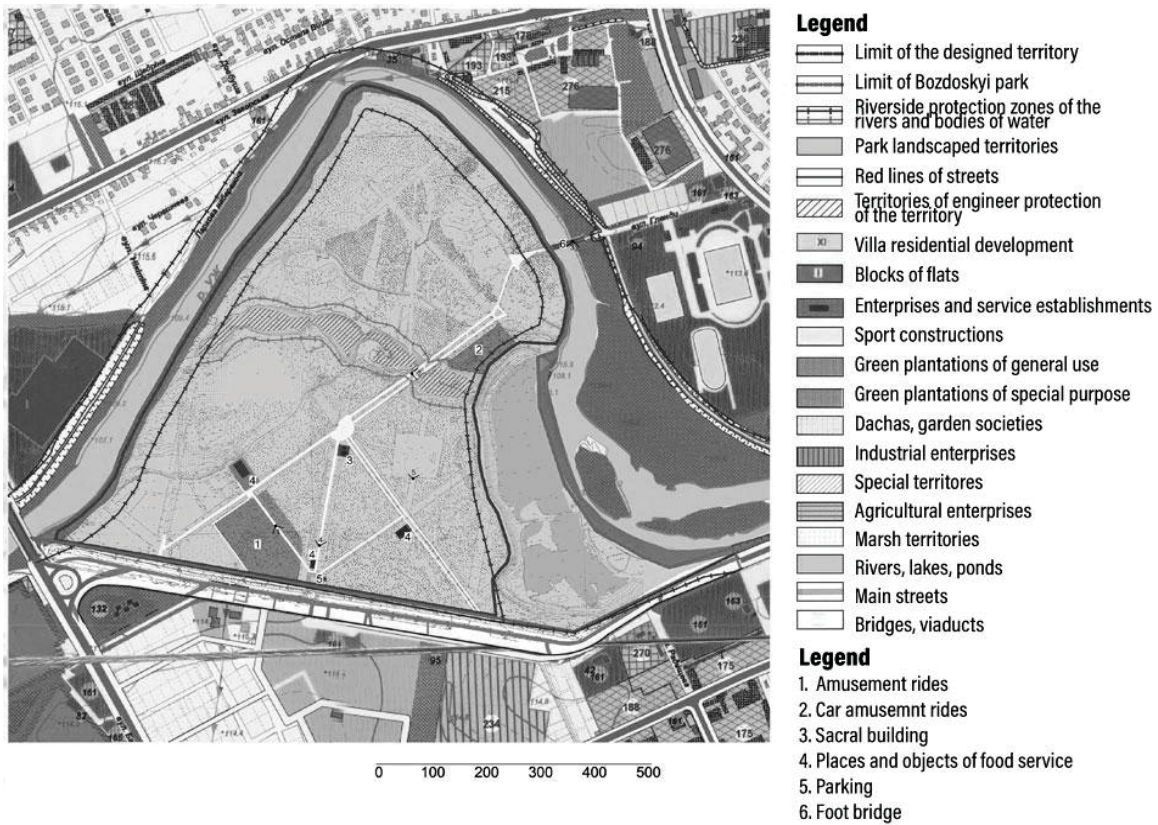


Fig. 4. Key plan of Bozdoskyi park (Authors: Rakochiy Ya., Rakochiy S.)

A part of the park that adjoins the river Uzh is in a neglected state and needs arrangement. It is necessary to state that the territory itself is very attractive both from the aesthetic point of view, as well as from the urban development one. From the territory of the park, one can see beautiful landscapes over the river and the bank opposite it. From the territory of the park, there are beautiful views over the river and the opposite bank. Such places are distinct by greater attractivity and draw the population to themselves. The not less important factor is the accessibility and wonderful location in the city. The existing bridge provides accessibility from both parts of the city.

Today the necessity has arisen to renew the concept of Bozdoskyi park development and bring it to modern demands. In the north-eastern part of the park, it is expedient to place a sports area, which will be a logical continuation of the sports function of “Avant-garde” stadium, that is situated on the opposite side of the river (Fig. 5). Besides sports zones, it is necessary also to foresee territories for cultural – mass events, for children’s plays, for walks, for modern attractions and a network of walking paths that will unite the main parts of the park. In general, the functional-planning structure should be oriented at the correspondence to the demands of the park of culture and rest, and the location to be harmoniously combined with the zone for rest on the city embankment (Fig. 6).

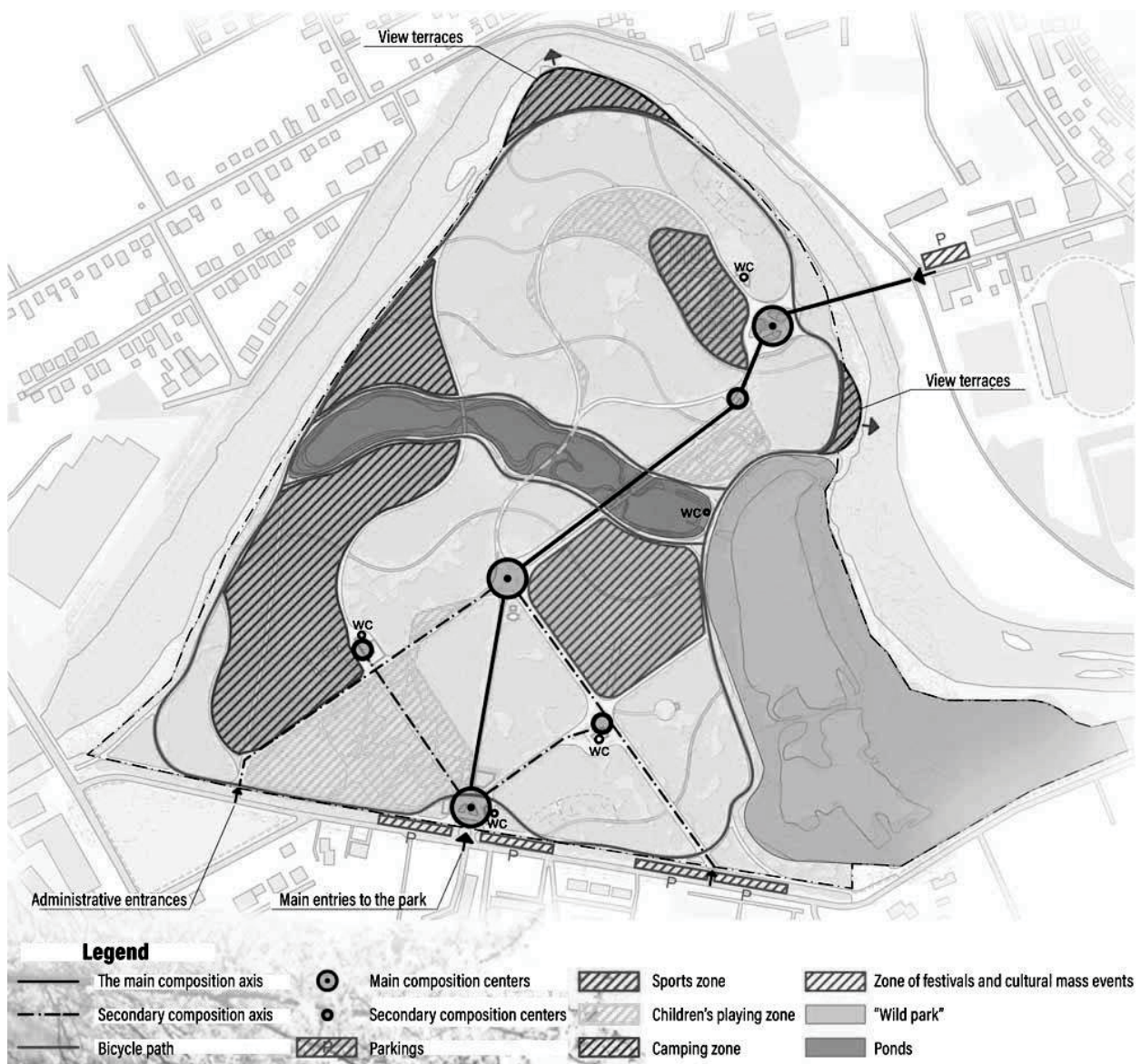


Fig. 5. Scheme of functional zoning of Bozdoskyi park (Authors: Rakochiy Ya., Rakochiy S.)

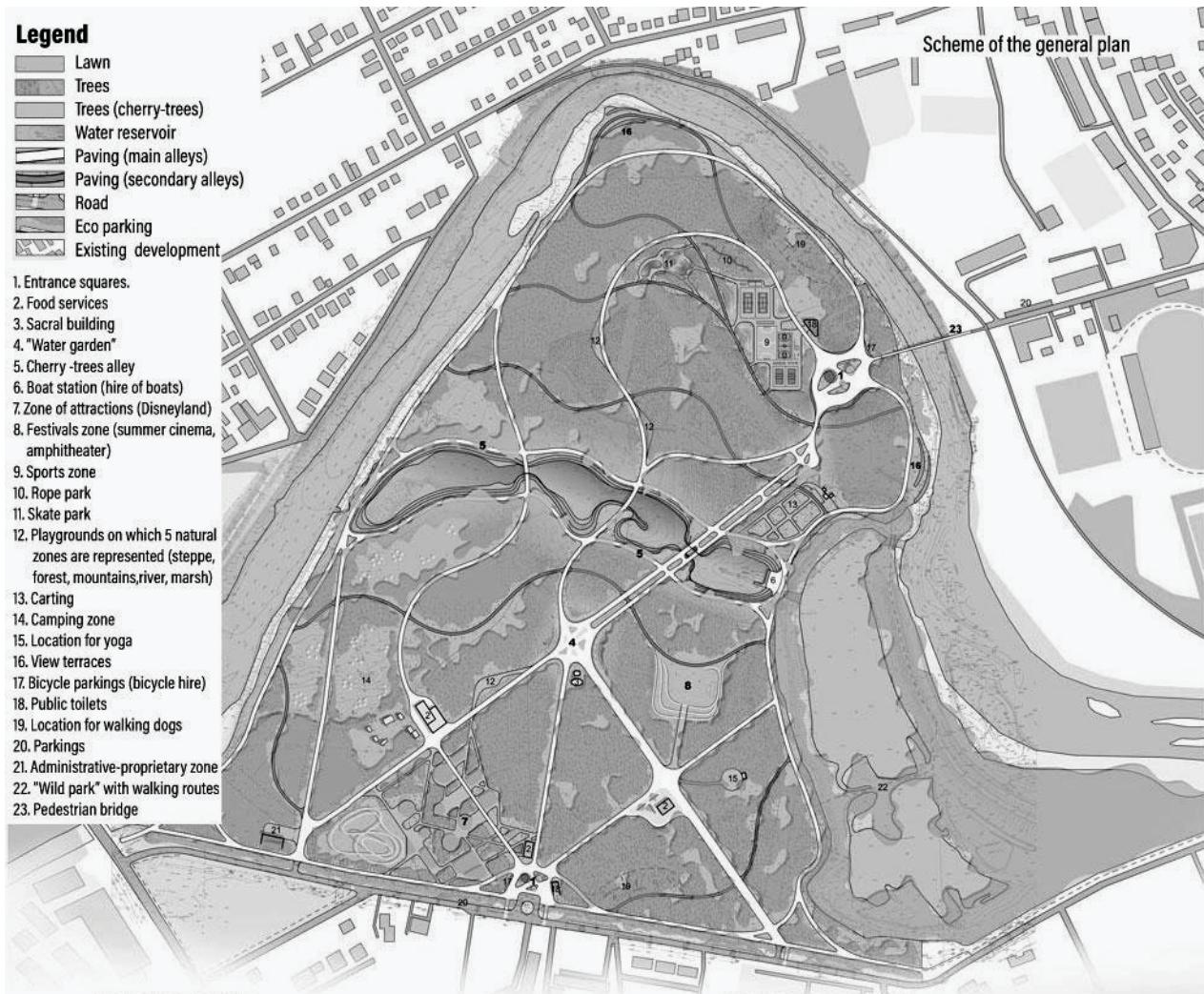


Fig. 6. Scheme of the general plan of Bozdoskyi park (Authors: Rakochiy Ya., Rakochiy S.)

Conclusions

As a result of the researches held it was ascertained that the Pidzamkovyi park cannot fulfil the function of the general city park of culture due to the following reasons:

- Pidzamkovyi park contains several valuable species of trees (ancient plane-tree of Druggets, ancient lime trees and ash-trees) and is a monument of garden and park art of local significance. On the territory of the park, the monument of garden and park art, any activity is prohibited that is not connected with fulfilling the tasks given to it and endangers its preservation;
- the park area does not correspond to the demands concerning the organization of culture parks;
- impossibility to provide the necessary functional-planning connections with the settlement territory of the city.

According to the results of the research of the landscape-spatial structure of Pidzamkovyi park, it was suggested to put it to reconstruction and to form in it the following zones: representative one, of children's rest, landscape-recreative, of quiet rest, of children's railway and parking. It is suggested to hold monitoring and preservation of green plantations, measures on optimization of anthropogenic loads.

Analysing the existing parks of Uzhhorod it was defined that for the function of the general city park of culture and rest the most corresponding is Bozdoskyi park which contains all the necessary components

for organizing the spending of leisure of the city population: accessibility, sufficient area and recreational resources. There was fulfilled the proposal of the general plan of the park for the public discussion.

References

- Jan Maciej Chmielewski. 2010. Teoria urbanistyki w projektowaniu i planowaniu miast. Wyd. 2-e. Warszawa. 416 s.
- The Plant List: Version 1.1 (2013). [online]. Available at: <<http://www.theplantlist.org>> Name from the screen. [Accessed date: 14.09.2020].
- But N. K. 2013. Pryntsypy arkhitekturno-planovalnoi orhanizatsii naberezhnykh Uzhhoroda. Naukovyi visnyk NLTU Ukrainy : zb. naukovo-tekhnichnykh prats. Lviv : RVV NLTU Ukrainy. Vyp. 23.9. S. 148–153.
- DBN B.2.2-12:2018. Planuvannia i zabudova terytorii. – Kyiv : Minrehion Ukrainy. 179 s.
- Zakon Ukrainy pro PZF (H. 11. St. 38. Osnovni vymohy shchodo rezhymu parkiv-pamiatok sadovo-parkovoho mystetstva) [online]. Available at: <<https://zakon.rada.gov.ua/cgi-bin/laws/main.cgi?page=2&nreg=2456-12#Text>> [Accessed date: 14.09.2020].
- Kobal, Yosyp. 2008. Uzhhorod vidomyi i nevidomyi. Wyd. 2-e, vypr. Lviv : Svit. 196 s.
- Mistobudivne proektuvannia. 2016. Ch. 1: Misto yak obiekt proektuvannia: navchalnyi posibnyk. H. P. Petryshyn, B. S. Posatskyi, Yu. I. Kryvoruchko ta in.; za red.: H. P. Petryshyn, B. S. Posatskoho, Yu. V. Idak. Lviv : Vydavnytstvo Lvivskoi politekhniki. 328 c.
- Mistobuduvannia: Dovidnyk proektualnyka. 2001; za red. Panchenko T. F. – K. : Ukrarkhbudinform. 192 s.
- Systema monitorynhu dovkillia Zakarpatskoi oblasti [online]. Available at: <<http://ecozakarp.net.ua/parks/park-pamiatka-sadovo-parkovogho-mistietstva-mistsievogho-znachiennia-pidzamkovii>> [Accessed date: 14.09.2020].
- Soima, A. D. 2011. Ekzoty dendroflory m. Uzhhorod, *Naukovyi visnyk Uzhhorodskoho universytetu. Serii Biologia*, Vyp. 30. Uzhhorod. S. 32–37.
- Fodor S. S. 1951. K voprosu ob yzuchenyy ekzotov Zakarpattia. Naukovi zapysky. T. IV. biolohichna seriia. Uzhhorod : Oblasne knyzhkovo-zhurnalne vydavnytstvo. S. 68–86.
- Fodor S. S. 1957. Ystoria y puty yntroduktsyy drevesnykh y kustarnykh nasazhdeniy v Zakarpate. Nauchnye zapysky, botanyka. T. XXIII. Uzhhorod. S. 167–182.

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ОРГАНІЗАЦІЯ ЗАГАЛЬНОМІСЬКОГО ПАРКУ КУЛЬТУРИ ТА ВІДПОЧИНКУ У м. УЖГОРОДІ

Анотація. Досліджено парки Ужгорода, аргументовано доцільність перенесення парку культури та відпочинку з Підзамкового до Боздоського. Підзамковий парк, площею всього 4 га, вже давно не витримує навантаження, яке на нього покладене та не відповідає вимогам ДБН, щодо подібних об'єктів. Подальше використання цього парку для культурно-масових заходів призведе до втрати цінних насаджень та руйнування історичного ландшафту міста. Тому, питання винесення з нього функцій парку культури та відпочинку на даний час постало надзвичайно гостро. Натомість, ця територія може бути використана як місце локального відпочинку навколишніх мешканців. Для функції загальноміського парку культури та відпочинку запропоновано Боздоський парк, який містить всі необхідні компоненти для організації проведення дозвілля населення міста: доступність, достатню площу та рекреаційні ресурси.

Ключові слова: парк культури, рекреація, ландшафтно-рекреаційна зона, пам'ятка садово-паркового мистецтва.

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SACRED IMAGE OF TERNOPIL REGION

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Abstract. The article highlights the stages of formation of the architecture of temple complexes in the Ternopil region, which today form the sacred image of the region. The set of sources used in the study has different origins, gives researchers information for analysis of sacred architecture in the modern Ternopil region, which can be used in further research. The source base of the study are churches of different denominations – Orthodox, Catholic, Greek Catholic, Jewish, Armenian, as well as the remains of pre-Christian complexes. Such ethnic and confessional heterogeneity, complex socio-political processes on the territory of the region have given rise to a typological diversity of temples, which differ in style, dimensional solution, decoration. The analysis of sacred complexes was carried out by the method of field surveys, historical and comparative analysis and was based on reliable archival sources, data from research institutions, reserves and publications of leading scientists.

European periodisation system was used in the analysis of the formation stages of sacred architecture: the Middle Ages, Renaissance, Reformation, Enlightenment, the period of XIX–XX centuries and the modern period. Each stage is marked by the appearance of majestic temples, which are bright dominants in the architectural space of settlements and creating a unique sacred image of the Ternopil region.

It is shown that there are almost no sacred objects of the early medieval period left in the study area, except for mounds and cave temples. The High Middle Ages are represented by single temples. The Renaissance period declares the adoption of Western European construction technology. Temples have a pronounced defence function. The Ternopil region is most vividly represented by the Baroque temples of the Enlightenment. The period of the XIX–XX centuries. marked by the search for a national style in sacred architecture. Modern temple complexes are built according to the traditional planning system, but some have modern forms.

Key words: sacred architecture, temple complexes, sacred image, architectural style.

Problem statement

The sacred architecture of the Ternopil region, which has a high degree of historical and cultural value and was formed over the centuries, is not fully explored today. At the same time, it reflects the

course of national history, culture, art and the worldview of society. The attitude to their shrines, architectural monuments, the state of their preservation and use demonstrates the development and maturity of society.

The research is related to the scientific work of the Department of Fine Arts, Design and Methods of Teaching at the Ternopil Volodymyr Hnatyuk National Pedagogical University (topic: Spiritual Shrines of the Ternopil Region, state registration number: 0120U102295). The conducted scientific research opens the way for further scientific research in Architectural Studies.

Analysis of recent research and publications

The information in this article is based on the works of modern Ukrainian scientists. Many scientists have devoted their works to the classification, typology, and planning structure of individual sacred objects and monasteries in the Ternopil region: Rudnytsky A. and Chen L. (2006), Dyba Yu. (2001); Kryvoruchko Yu. (2006), Stankevych M. (2010), and others. Regional features of development and fortification functions of sacred structures and complexes of the Ternopil region are studied in the works of Bevz M. (2001), Hudyma A. and Ivakhiv G. (2008), Pavlyuk S. (2018), Rybchinsky A. and Khokhon M. (2015), etc. Traditions in the architecture of Ukrainian churches and issues of national identity were studied by Cherkes B. (2008), Bevz M. (2001), Hnidets R. (2015), Taras Ya. (2013), and others.

The analysis of publications showed that information about the architecture of the modern Ternopil region is not complete, and the sights of sacred art were ignored by researchers. All this proves the topicality of the study.

Purpose of the article

The purpose of this work is to highlight the stages of formation of the sacred image of cities and villages in the territory of the Ternopil region.

Results and discussion

Ternopil region is one of the richest regions in terms of cultural heritage in Ukraine. About 1.5 thousand architectural monuments on its territory are the most valuable asset of the Ukrainian people and are an identifier of nationality. The Ternopil region is also rich in sacred monuments of various faiths, which are important for world culture. They are the decoration and architectural dominants of settlements. Among them, 122 objects are included in the state register of national cultural heritage, many temple buildings and structures are protected at the local level.

The oldest archaeological sites of the Ternopil region are the remains of pre-Christian places of worship and structures, mounds, ancient settlements, ramparts, burial grounds, rock carvings, etc. Among the most famous and largest pagan sacred complexes is the Zbruch cult centre, near which in 1848 a sculpture of the Zbruch idol, presumably Svyatovyd, dated to the IX century, was found in the river. Archaeologists consider it one of the rare monuments of Slavic pre-Christian worship, which, unfortunately, was taken to Poland on May 12, 1851. Nowadays, the statue is kept in the Krakow Archaeological Museum, and its life-size copy is located in the Ternopil Regional Museum of local lore (Duda, 2004).

On the register of the Ternopil Regional State Administration there are 16 preserved cave temples. Among them is the Rukomysh cave church, cut out of a travertine rock near the village of Rukomysh, Buchatsky district. It is part of a cult complex, which also includes the Church of St. Onuphry, dated to the XVIII century. The main hall of the rock temple has an area of about 25 m², several smaller grottoes, which, according to scientists, served as cells, are located on the north of the cave. In the recent period, the complex has been supplemented with a Way of the Cross, a swimming pool for consecrating water, sculptural compositions, stairs, etc. (Duda I., 2004).

The oldest church in the Ternopil region of the medieval period, built during the existence of the Galician-Volhynian principality, is the stone church of the Transfer of the Relics of St. Nicholas in Zbruchansky. Architectural experts date the building to the XIV century and refer it to unique archaic monuments of sacred art with a stone altar partition (Fig. 1). Partially preserved in the Ternopil region is the rotunda church of the XII–XIII centuries in the village of Chernykhivtsi. Nowadays it is part of the Church of the Holy Trinity (1768) and serves as the church's sacristy (Dyba Ya., 2001).



Fig. 1. St. Nicholas Church in Zbruchanskyi: 1 – view from the north-west; 2 – window niche; 3 – interior fragment; 4 – plan (1, 3 – own photos; 2, 4 – photos from the archive of the Department of Culture of Ternopil Region State Administration)

The period of revival is marked on the territory of the Ternopil region by sacred complexes, which, after the land became part of Lithuania and Poland, demonstrate the establishment of the Western European construction system with the preservation of local traditions and flavour. Complex socio-political events in this territory led to the fortification of buildings and structures, including sacred complexes. Churches of different faiths of this period have a pronounced defensive function (Rybchinsky O. and Khokhon M., 2015).

The Church of the Holy Cross is the oldest in the city of Ternopil, presumably built before 1570. The temple has undergone numerous reconstructions and changes, so only the central part has been preserved in its original form. The architecture of the church has old Rus, Byzantine-Romanesque and Renaissance style elements and indicates the fortification function of the shrine – it has a three-tiered defensive tower-bell tower above the main entrance, high windows, large wall thickness, etc. The tridilny temple is built of sandstone and consists of a rectangular nave, a square narthex and a semicircular apse. A semicircular arch with demoulders covers the nave, a cross arch covers the narthex, and a quarter – spherical arch covers the apse (Hudyma A. and Ivakhiv H., 2008).

The defence churches of the Ternopil region, built during the Reformation period, are known far beyond the borders of the region and belong to the objects of cultural heritage. They include St. George's Church in Kasperivtsi (XVI century), St. Nicholas Church (the end of XVI – beginning of XVII century) in Terebovlya, the Church of The Ascension in Vyshnivka and St. Nicholas Church in Kolodne (XVI century) and others.

The central part of the city of Ternopil is decorated with the Cathedral of the Nativity of Christ, which architectural researchers refer to as the best examples of Podillia architecture (Fig. 2). The church is three-domed (after completion, the structure is crowned with three domes, two of them are decorative), with a pronounced defensive function located near the former Kamenetsky gate and was part of the general complex for the protection of the city (Boitsun L., 2008). Reconstruction, which was carried out in 1936–1937, gave the building a modern look.

In the XV–XVI century, churches of other faiths began to appear en masse on the studied territory – synagogues, Armenian churches, which are partially preserved to this day. Their thick walls, high-raised

narrow windows, loopholes, and open combat areas indicate that in addition to their sacred function, the buildings were adapted for protection from attackers and were located near the city gates or in the central part of settlements as autonomous defence objects. Synagogues in Husyatyn, Pidhaitsi, and Kremenets have been preserved to this day, but they need to be restored. In Berezhany and Yazlovets, which were the Centers of Armenian colonization, communities are carrying out restoration work, churches remain an ornament of the historical central part of cities (Dyachok O., 2018).

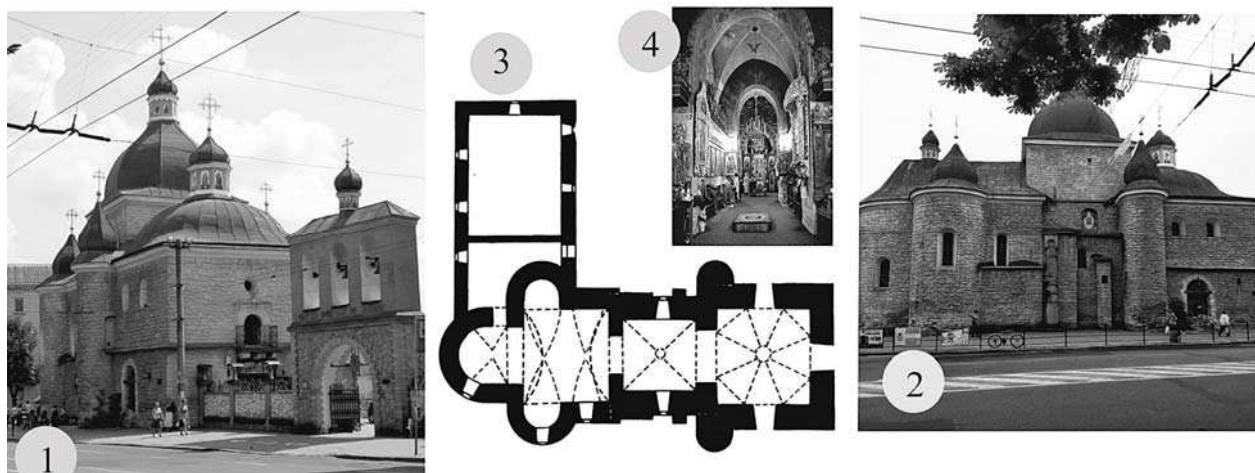


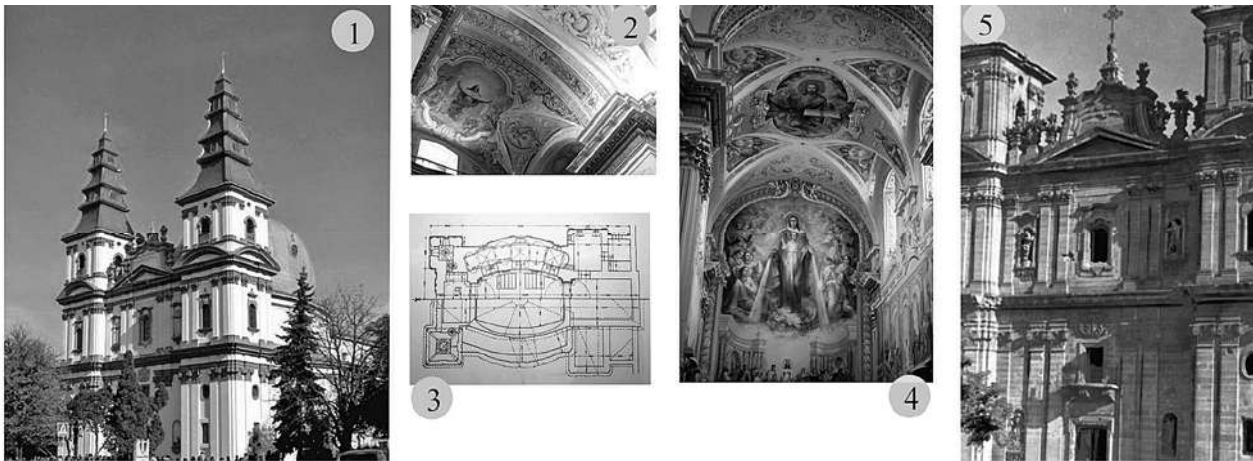
Fig. 2. Cathedral of the Nativity of Christ in Ternopil:

1 – north-western facade with Bell Tower; 2 – view from the Central Street; 3 – plan; 4 – fragment of the interior (1, 2, 4 – own photos, 3 – photo from the archive of the Department of Culture of Ternopil Region State Administration)

In the second half of the XVII century, stone construction was carried out on the main roads of the Ternopil region according to the projects of invited foreign architects. With the support of the state, Roman Catholic churches were massively built, which had planning three-dimensional forms of Gothic, made in monolithic and restrained forms, marked by monumentality and simplified nature of the architectural design. The Gothic influence is reflected in the neural arches, in the proportions and shapes of windows and buttresses. Facades dissected by pilasters, frames, high external cornices indicate Renaissance motifs (Bevz, 2001).

The Ternopil region is most vividly represented by Baroque churches built in the XVII–XVIII centuries during the Enlightenment under the influence of European culture according to the projects of certified Austrian, Polish and Ukrainian architects. Among the most significant Baroque churches, there are the Ternopil Ensemble of the Dominican Monastery (1749–1779) (Fig. 3), churches of Berezhany: the Church of the Holy Trinity (1768) and the complex of the Armenian Church of St. Gregory (1764), Buchach shrines: Church of the Intercession (1755–1764), Church of the Assumption of the Virgin Mary (1761–1763), Church of the monastery of the Exaltation of the Holy Cross, baroque sacred complexes of Kremenets, Trinity Church of Mykulynets (1779) (Bilokin, S. I., 2009; Diachok O. M., 2017; Pavliuk, S. P., 2018; Stankevych, M. Ie., 2010). One of the greatest Baroque churches in Ukraine is the Church of the Assumption of the Blessed Virgin Mary in the Pochaevska Lavra, built in 1771–1783 during a large-scale reconstruction of the monastery (Lukomska Z., 2015, 2017).

Temple architecture of the period of the XIX – early XX centuries in addition to stone shrines, was presented by a large number of wooden churches. Parish communities continued to build traditional three-part churches, but with a more complex configuration. However, in the part of the Ternopil region that was part of the Russian Empire after the partition of Poland, churches form a separate group and contrast with authentic Ukrainian samples. Rebuilt or built according to synodal models, the shrines acquired Orthodox-Russian features and became an expression of the colonial policy of Tsarist Russia. The image of the Ukrainian Church was replaced with a Russian one for a long time. Almost no Catholic churches were built on this territory (Dyachok O., 2018).



*Fig. 3. The architectural complex of the Ternopil Dominican monastery:
1 – general view; 2, 4 – Modern Painting of the temple (1,2, 4 – own photos); 3 – Plan; 5 – old postcard
(3, 5 – photo from the archive of the Department of Culture of Ternopil Region State Administration)*

In the second half of the XIX century, the style of historicism was widespread on the territory of the region. Temples of different faiths reflected the best features of past eras and national architectural traditions (Linda S., 2013). Roman Catholic churches marked by stylistic diversity (built in neo-Romanesque, neo-Gothic, with Baroque and Classicist features) mostly remained basilic, the western facade was crowned with one or two towers. In the territory that was part of the Austro-Hungarian Empire, the national and social rise led to the search for own identity and national style in the architecture of churches (Obidniak M., 2004; Taras Ya, 2013; Cherkes B., 2008). Lviv architects such as S. Havryshkevych, Lev and Ivan Levynskyi, Vasyli and Yevhen Nahirnyi, R. Hrytsay, O. Lushpynskyi, Ya. Rudnytskyi, M. Shashkevych left Ukraine a legacy of churches that were fundamentally different from Western Catholic churches and pointed to the image of the Ukrainian authentic church (Lev Kh., Slobodian V. and Filevych N., 2013, 2015; Cherkes b. and Hrytsiuk L., 2000) (Fig. 4).



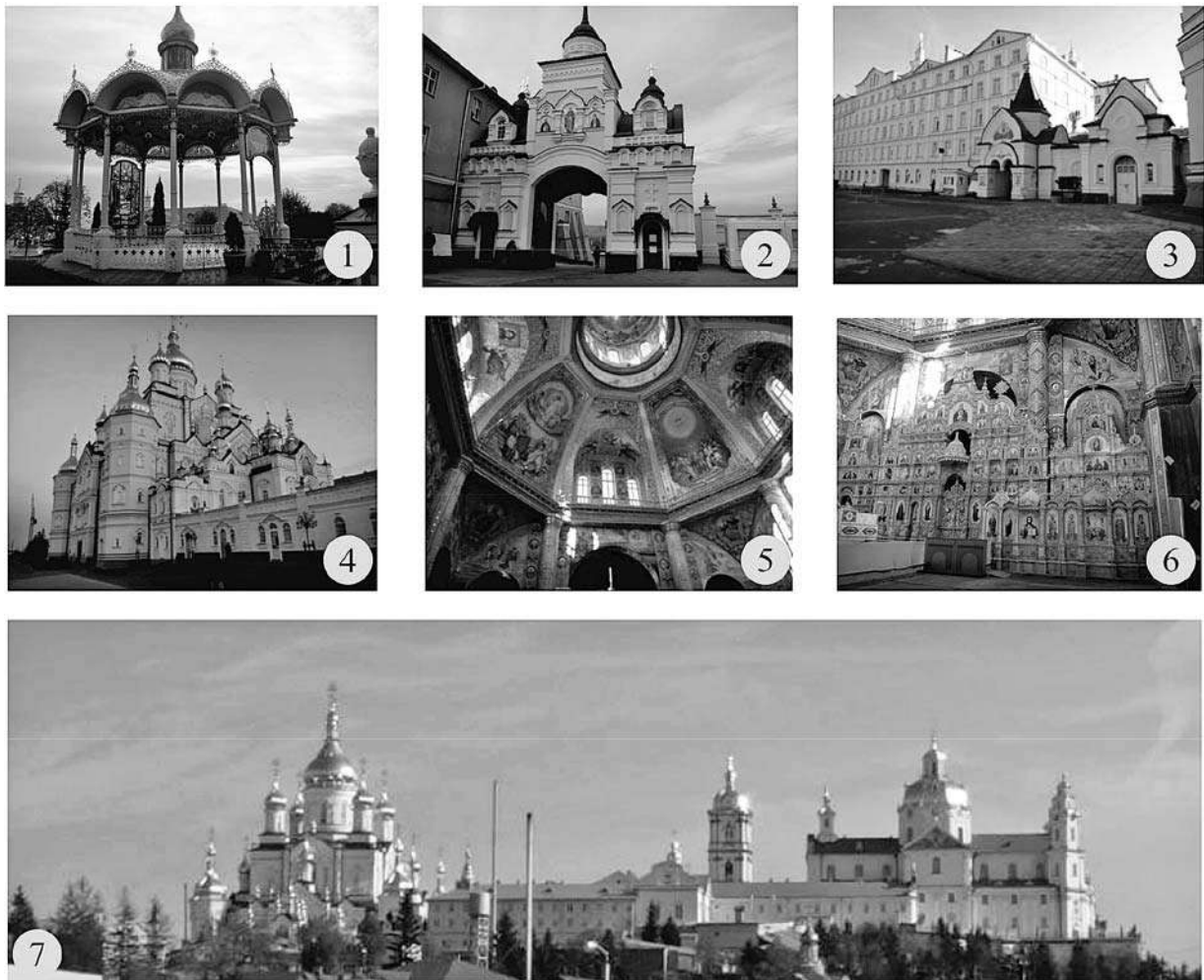
*Fig. 4. Church of The Assumption of the Blessed Virgin Mary. The Virgin in the village of Verbiv (arch. O. Lushpynsky):
1, 2 – general view of the church; 3 – figure of the Mother of God in the courtyard of the church (1–3 – own photos)*

Any experiments in sacred architecture were interrupted with the coming of Soviet atheist power. Shrines were turned into warehouses, factories, gyms etc., and many valuable monuments were destroyed. Only with the declaration of independence did large-scale construction and restoration of churches begin. A majestic temple complex of the Mary's Spiritual Center in the village of Zarvanytsia was built in the Ternopil region with donations from believers, the diaspora, state authorities, and the public. The main church of the complex is the Cathedral of the Mother of God in Zarvanytsia (arch. M. Netrybyak). The architectonics of the temple indicate continuity and tradition in temple construction. The temple is crowned

with domes that have modernized forms, the project uses modern building structures and techniques (Diachok O. M. and Datsiuk N. M., 2018). In August 2018, the Mary's Center was named and consecrated as "Ukrainian Jerusalem" – a new complex that includes copies of the largest monuments of the Holy Land.

Some temples built after 1995 are marked by the search for modern forms and techniques in construction. Modern facade plastic is usually superimposed on the traditional layout system. Among such churches is the Church of St. Peter, designed by the Ternopil architect S. Hora for the Franciscan monastery complex in Ternopil (Diachok O. M., 2018 a). Modern forms are also reflected in the Ternopil Church of God's Mercy of the Virgin Mary of Tireless Help – the highest church in the city. Architect I. Chuliy managed to emphasize the Roman Catholic affiliation of the church with modern forms. The combination of traditional layout with an original three-dimensional solution is the Ternopil Church of St. Volodymyr and Olha, designed by architect D. Chepil. It should be noted that in small towns and villages of the Ternopil region, more traditional temple buildings predominate (Diachok O. M., 2018 a).

The newest church in the Pochaev Lavra complex is the Cathedral of the Transfiguration of the Lord, designed by Kharkiv architect V. Novhorodov in 2010–2013 (Diachok O. M., 2018). The artistic value and richness of the building's decoration are undeniable, but the architectural solution causes a lot of discussion among architectural experts. It dominates the complex with its shape, size, and decoration (Fig. 5).



*Fig. 5. Modern buildings of the Pochaev Lavra:
1 – Summer Church; 2 – Economic Gate; 3 – Hotel and underground passage;
4 – Transfiguration Cathedral; 5 – central dome of the Cathedral;
6 – iconostasis in progress; 7 – panoramic view (1–7–own photos)*

Conclusions

1. Analysis of the study shows that the sacred image of the Ternopil region was formed over the centuries. Heterogeneity of ethnic composition, confessional differences, socio-political transformations have led to a variety of religious buildings that are decorations and architectural dominants in the architectural image of historical cities. At each historical stage of the formation of sacred complexes, temples differ in their three-dimensional and constructive solution, style, decoration etc.

2. The Western European construction system took place during the period of revival after the entry of the Lands of Ternopil region into foreign states and the transition of the united kingdom to the Catholic faith. This period left behind temples with Byzantine-Romanesque forms, stylistically combined with gothic elements.

3. During the Reformation period, Roman Catholic churches were massively built, which had schemes, architectural and structural forms of Gothic architecture. Jewish and Armenian communities created their churches following their canons and traditions. Common to the shrines of all confessional communities was the combination of cult and fortification functions.

4. During the Enlightenment, majestic baroque complexes were created on the territory of the modern Ternopil region as a result of the construction and major alterations of existing shrines

5. In the period of the XIX – early XX centuries, in the territories divided between the two empires, large-scale construction of stone churches was carried out according to the projects of Western European and Russian architects and differed stylistically. After 1939, the construction of churches stopped, the revival of church construction and the reconstruction of shrines distorted by the Soviet government began with the independence of Ukraine.

References

- Bevz, M., 2001. Historical cities of Galicia: problems of study and preservation. *Zapysky Naukovoho Tovarystva im. Shechenka*. Pratsi Komisii arkhitektury ta mistobuduvannia, 241. S. 84–112.
- Bilokin, S. I., 2009. Kremenets Holy – Bohoiavlenskyi monastery. V: V. A. Smolii, hol. red. *Entsyklopediia istorii Ukrainy*. T. 5. Kyiv : Naukova dumka. S. 318.
- Boitsun, L., 2008. Dominican church in Ternopil. V: H. Yavorskyi, B. Melnychuk, M. Onyskiv ta in., red. *Ternopilskiy entsyklopedychnyi slovnyk*. T. 3. Ternopil : Zbruch. S. 521.
- Hlubish, O. (otets) ta Shpodarunok, N., 2006. *Zarvanytsia*. Ternopil. Lviv : Piramida.
- Hudyma, A. ta Ivakhiv, H., 2008. Rizdva Khrystovoho Tserkva (Serednia). V: H. Yavorskyi, B. Melnychuk, M. Onyskiv ta in., red. *Ternopilskiy entsyklopedychnyi slovnyk*. T. 3. Ternopil : Zbruch. S. 18–183.
- Hnidets, R. B., 2015. National identity of architecture of Ukrainian churches in the tradition and innovation of their expression. *Visnyk Natsionalnoho universytetu "Lvivska politekhnika"*, 836. Arkhitektura. S. 168–175.
- Dyba, Yu., 2001. Two little-known rotundas of the princely era. *Zapysky Naukovoho tovarystva im. Shevchenka*. 241. S. 248–274.
- Duda, I., 2004. Zbrutskiy idol. V: H. Yavorskyi, B. Melnychuk, M. Onyskiv ta in., red. *Ternopilskiy encyclopedic dictionary*. T. 1. Ternopil : Zbruch. S. 640.
- Diachok O. M. ta Datsiuk N. M., 2018. Mykhailo Netrybiak in the sacred space of Ternopil (25 – litnii tvorchyi vnesok fakultetu mystetstv.) Ternopil, TNPU. S. 396–407.
- Diachok O. M., 2017. Sacred monuments of urban planning and architecture in the process of forming the space of the city of Kremenets. *Suchasni problemy arkhitektury ta mistobuduvannia: nauk.tekhn.zbirnyk*. K. : KNUBA, 49. S. 74–81.
- Diachok O. M., 2018 a. Ternopil architects in the process of reviving the sacred construction of Ukraine. *Suchasni problemy arkhitektury ta mistobuduvannia: nauk.tekhn.zbirnyk*. K. : KNUBA, 51. S. 26–34.
- Diachok O. M., 2018 b. Historical stages of formation and development of architecture of sacred buildings of Ternopil region. *Arkhitekturnyi visnyk KNUBA : zb. nauk.-vyrobn*. K. : KNUBA, 16. S. 98–108.
- Kryvoruchko, Yu. I., 2006. Canonicity and creativity in sacred architecture. *Visnyk Natsionalnoho universytetu "Lvivska politekhnika"*, 568. Arkhitektura. S. 27–46.
- Lev, Kh., Slobodian, V. ta Filevych N., 2013. 100 churches of Nagorny. Ch. 1: tserkvy Vasylia Nahirnoho. Lviv, b.v.
- Lev, Kh., Slobodian, V., Filevych, N., 2015. 100 churches of Nagorny. Ch. 2: tserkvy Yevhena Nahirnoho. Lviv, b.v.
- Lukomska, Z., 2015. Implementation of baroque urban traditions on the example of the city of Mykulyntsi. *Visnyk Natsionalnoho universytetu "Lvivska politekhnika"*, 836. Arkhitektura. S. 189–196.

- Lukomska, Z., 2017 v. Historical urban complexes of the XVII–XVIII centuries in the modern spatial planning structure of the cities of Ternopil region. *Naukovyi visnyk budivnytstva*, 4 (90). S. 42–48.
- Linda, S. M., 2013. Historicism in the development of architecture: avtoreferat dysertatsii na zdobuttia naukovooho stupenia doktora arkhitektury 18.00.01. Natsionalnyi universytet “Lvivska politekhnika”.
- Obidniak, M. M., 2004. Problems of national identity in the new church architecture. *Visnyk Natsionalnoho universytetu “Lvivska politekhnika”*, 505: Arkhitektura. S. 78–90.
- Pavliuk, S. P., red., 2018. Church art of Ukraine. T. 1. Arkhitektura. Monumentalne mystetstvo. Kharkiv : Folio.
- Plamenytska, O., 2001. Defensive temples of Podillya. *Pamiatky Ukrainy*, 1–2. S. 32–34.
- Rybychynskyi, O. ta Khokhon, M., 2015. Peculiarities of the formation of the defensive fortifications of the Dominican monastery in Pidkamen. *Problemy doslidzhennia, zberezhenia ta restavratsii istorychnykh fortyfikatsii*, 7. S. 268–273.
- Rudnytskyi, A. M. ta Chen, L. Ia., 2008. The role of monasteries of the rank of St. Basil architecture in towns and villages in Ukraine. *Visnyk Natsionalnoho universytetu “Lvivska politekhnika”*, 632. Arkhitektura. S. 44–51.
- Stankevych, M. Ie., 2010. *Buchach and surroundings. Small samples*. Lviv : SKIM.
- Taras, Ya., 2013. *National identity in the sacred architecture of the Ukrainians of the Carpathians*. Ch. 2. Hileia, 74. S. 149–152.
- Chen, L. Ia., 2013. Temple and monastery complexes in the planning and spatial structure of the city of Buchach. *Visnyk Natsionalnoho universytetu “Lvivska politekhnika”*, 757. Arkhitektura. S. 315–320.
- Cherkes, B. ta Hrytsiuk, L., 2000. Architect Eugene Nagirny. V : Kh. Lev ta N. Filevych, red. Nahirni, Levy: istoriia rody. Lviv : b.v. S. 138.
- Cherkes, B., 2008. National identity in the architecture of the city. Lviv : Vyd. Natsionalnoho universytetu “Lvivska politekhnika”, 2008.

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САКРАЛЬНИЙ ОБРАЗ ТЕРНОПІЛЬСЬКОЇ ОБЛАСТІ

Анотація. У статті висвітлено етапи формування архітектури храмових комплексів на Тернопільщині, які сьогодні формують сакральний образ регіону. Джерела, використані у дослідженні, мають різне походження, дають дослідникам інформацію для аналізу сакральної архітектури сучасної Тернопільської області, яка може бути використана для подальших досліджень. Джерельною базою дослідження є церкви різних конфесій – православна, католицька, греко-католицька, єврейська, вірменська, а також залишки дохристиянських комплексів. Така етнічна та конфесійна неоднорідність, складні соціально-політичні процеси на території регіону породили типологічне різноманіття храмів, що відрізняються стилем, розмірами, композиційним вирішенням, оздобленням. Аналіз сакральних комплексів проводився методом польових обстежень, історичного та порівняльного аналізу і базувався на надійних архівних джерелах, даних дослідницьких установ, заповідників та публікаціях провідних учених.

Європейська система періодизації була використана для аналізу стадій формування сакральної архітектури: Середньовіччя, Відродження, Реформація, Просвітництво, період XIX–XX століть та сучасний період. Кожен етап відзначається появою величних храмів, які є яскравими домінантами в архітектурному просторі поселень та створюють неповторний сакральний образ Тернопільської області.

Показано, що на досліджуваній території майже не залишилось священних предметів ранньосередньовічного періоду, крім курганів та печерних храмів. Високе Середньовіччя представлено одиничними храмами. Період Відродження декларує прийняття західноєвропейських будівельних технологій. Храми мають яскраво виражену захисну функцію. Найяскравіше Тернопільщина представлена Бароковими храмами епохи Просвітництва. Період XIX–XX ст. ознаменований пошуками національного стилю в сакральній архітектурі. Сучасні храмові комплекси будуються за традиційною системою планування, але деякі мають сучасні форми.

Ключові слова: сакральна архітектура, храмові комплекси, сакральний образ, архітектурний стиль.

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**ZAERA-POLO'S ARCHITECTURAL COMPASS
AS A RESEARCH TOOL FOR MODERN CONCEPTS
OF ARCHITECTURAL ENVIRONMENT DESIGN**

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Abstract. The article examines the trends in modern architecture, outlined in the studies of architectural critic Alejandro Zaera-Polo and his team. The tool they've created was named "Interactive Map of Modern Architecture". Charles Jencks's 'Evolutionary Tree' (diagram of 20th-century architecture) had a significant influence on this tool. The functionality of Zaera-Polo's map has been examined for five years by the author of this article while tutoring future architects at the Department of Architectural Environment Design at Lviv Polytechnic National University. These examinations allowed us to formulate a number of proposals to improve both – the structure of this map and the methodology of its creation.

Key words: modern architecture, interactive map, political compass.

Problem statement

The problem that is covered in this publication is related to changes in the concepts of development of modern architecture. This is primarily due to rapid changes in all areas of the globalized world. The generation of architects who in the 20th century and until recently had no alternative influence on the development of the profession was replaced by representatives of the young generation, who managed to make themselves known with their architectural works over the past less than two decades. These processes did not leave indifferent researchers of modern architecture. In particular, the Spanish architect and theorist Alejandro Zaera-Polo in 2015 together with his team, developed the so-called Map of Modern Architecture, which also received the name "political compass diagram of the architectural landscape".

There is also a generational change in Ukrainian architecture. Older architects who were educated in Soviet times are gradually being "replaced" by the generation of architects, who have already acquired a

speciality in independent Ukraine. However, to this day, domestic construction and architecture are still based on an outdated regulatory and theoretical basis from the Soviet past. Ukraine's strategic desire for membership in the European Union requires adaptation of our norms and standards to European ones. Now the younger generation of architects who were born in independent Ukraine is entering an active professional life. A big role in their professional development will be played by how much they will be able to integrate into the processes that are taking place in the modern world architecture, in particular, processes that affect social progress and are reflected in foreign research. Not only the appearance but also the quality of the future environment of Ukrainian cities and settlements will depend on which of these architectural ideas our young people will be able to adopt and adapt to their projects. In this, I see the **topicality of the research**, and its **purpose** is to popularize the progressive foreign experience of architecture development on the basis of relevant modern research, including the Map of Modern Architecture (hereinafter referred to as the Map). **The novelty** of this study is a methodology for working with the Map, that is proposed, which will allow a more comprehensive assessment of each of the segments identified in it.

Results and discussion

The history of architecture of the second half of the 20th – beginning of the 21st century is described in the works of foreign [Jenks, 1985] and domestic (Circassian, Linda, 2010) researchers. When creating his Map, Alejandro Zaera-Polo was inspired by the diagram of the evolution of architecture in the 20th century by Charles A. Jenks (Fig. 1) (Jencks, 2000).

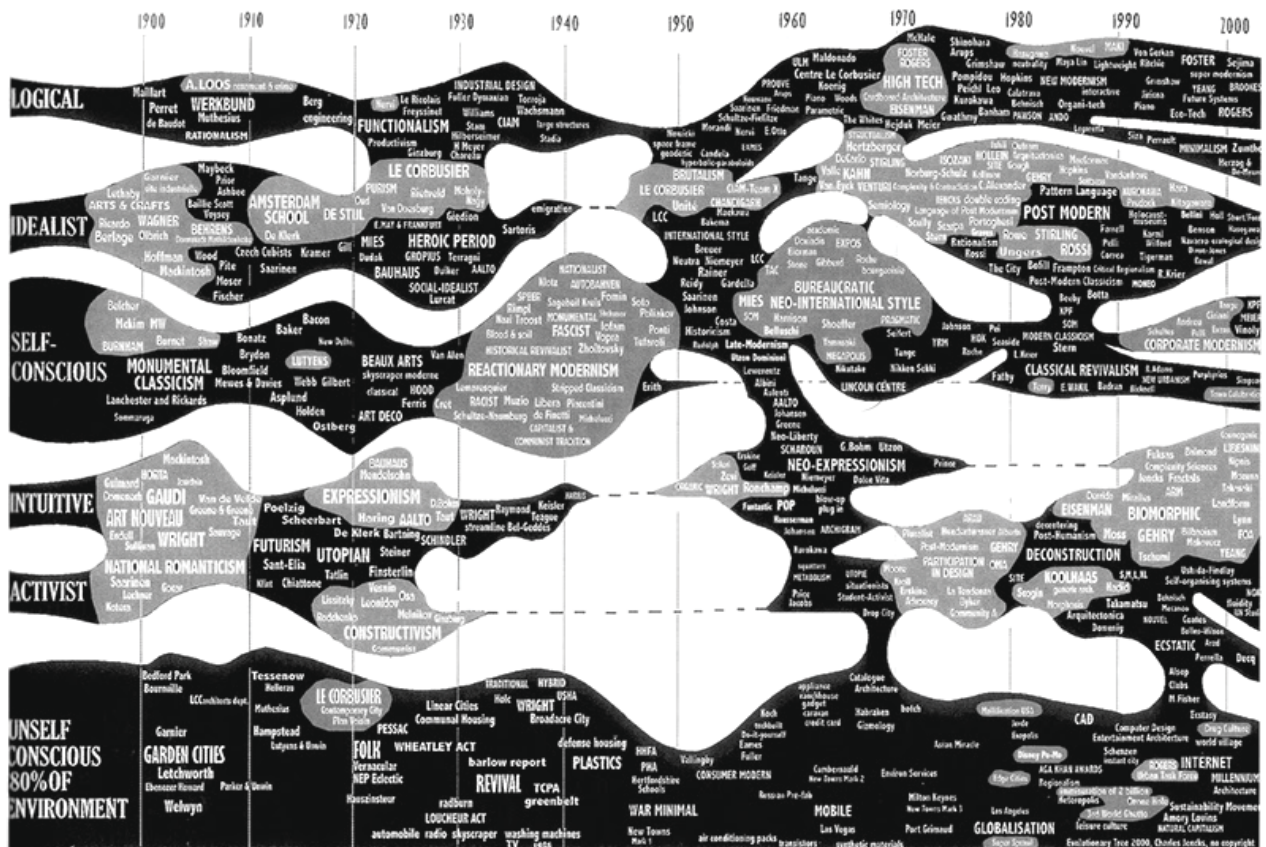


Fig. 1. The evolutionary tree or diagram of Charles Jenks' theory of evolution (Image © "July 2000: Jenks' theory of evolution, a review of 20th-century architecture") [Jencks, 2000]

The history of creating the Map is described in detail (Arch: speech .2017 a) and is not the subject of this study. However, I would like to emphasize some principled positions that clarify my interest in this Map.

Firstly, the methodology of creating the Map developed its features according to the diagram of Charles Jencks. In particular, in 2016, a team led by A. Zaera-Polo made the Map interactive. Alejandro Zaera-Polo, along with his colleague Guillermo Fernandez-Abascal, brought it to the Internet so that anyone could change the scheme at their discretion. (Alejandro Zaera-Polo, Guillermo Fernandez Abascal. 2016) Researchers expanded the possibilities of working with the Map, which allowed to:

- delete any bureau or move it to another zone;
- add new names to create an architectural map of your country/city/region;
- change direction boundaries;
- download the result;
- see where the participants identified themselves and find out their reaction to the result.

Secondly, starting 2017, I have included Map research in the program of the discipline “Modern Concepts of Architectural Environment Design”, which is studied by 5th-year students specializing in “Architectural Environment Design”. In particular, when they perform independent research in this discipline, I focused students' attention on studying the Map and preparing a presentation in one of the areas that are presented on it. Each student should defend their research in the process of presenting it and discussing it in practical classes on this course. At the same time, current trends should be linked to the processes that took place in the architecture of the second half of the 20th and early 21st centuries.

To reveal my suggestions for improving the Map, I have to reveal some of its well-known methodological and structural characteristics. To begin with, it all started with the appeal of the magazine “El Croquis” to write a short article about the state of the profession in our time. However, A. Zaera-Polo did not limit himself to the selected column of text and drew a whole diagram. In its seven sections, he placed 181 bureaus: this included only young teams that were formed in new, post-crisis times. According to the author, it ended along with the financial collapse of 2008. It was replaced by new concepts that the authors combined in one Map. They outlined the taxonomy of 21st-century architecture, trying to identify and classify various new forms of practice that gained popularity after the economic crisis. (Arch: speech. 2017 a)

In contrast to the linear evolutionary scheme of Charles Jencks (Fig. 1), A. Zaera-Polo built his scheme based on a circle divided into seven sectors by the content concepts of style directions, behind which clear theses were hidden: context, materials, form etc. (Fig. 2).

According to the plan of Alejandro Zaera-Polo, the categories defined by him were supposed to identify the main directions of development of modern architecture with seven generalized broad political positions. So he gave them the following names: Activists, Cosmopolitans, Material Fundamentalists, New Historians, Populists, Skeptics, Technological Utopians. These names are listed in alphabetical order.

The authors of the Map presented it in the form of a kind of compass dial, which made it easy to identify certain architectural firms with the presented division into seven concepts. Company names are grouped into specific sectors that have been highlighted in different colours. No clear boundaries were drawn between the seven groups represented. In some places, colour spots were superimposed on each other, which indicated the ambiguity of the author's classification.

The methodology of the map was simple: on the periphery of the circle are the brightest representatives of a particular direction, who are more orthodox in relation to others. Bureaus that were located closer to the centre borrowed more from other directions and had signs of a combination of styles (hybrid). At the time of creating the Map, there were almost no world-renowned architects among the 181 design firms represented in it. The authors of the Map deliberately gathered young teams that were formed in the new post-crisis times.

Imagine that a square can rotate (like a rotating arrow in a compass), but the circle of the map remains stationary, like the dial of a compass. Thus, you can put one of the vertices of the square opposite one of the sectors of the circle, which indicate the main seven directions in modern architecture. This will mean that this will be a factor from which we will evaluate the other three in this direction. For example, the aesthetics of activists from the standpoint of unresolved contradictions (antinomies), which are laid down in the Triangle of Social-Technical-Resource problems. Or we can analyze their social orientation through the prism of aesthetic-technical-resource factors. And so on.

The possibility of interactive work with it set by the map authors, namely: update the directions of authors and groups of creative teams; supplement the map content with links to their sites; change the areas of influence of certain areas over time. The next step in the development of the map could be to record such changes in a certain time sequence, which would make it possible to obtain its spatial image similar to the geological core. After all, immersion of the well deep into the rock allows you to extract fluids from the core, which with each meter leaves its unique cross-section pattern, which studies the history and structure of the Earth's crust. Like a geological core, the vertical cylinder of such a compass could periodically accumulate new information and, as it sank, provide information about new works of Architecture, new architectural firms, and changes in style features in the directions of modern architecture. This would allow us to look at the process of changes in modern architecture more clearly. That is, to go to a three-dimensional model, as opposed to a sequential linear-plane disclosure of the dynamics of this process, as shown in the diagrams of Ch. Jenks (Jenks, 1985. P. 79; Jencks, 2000).

Conclusions

The interactive map of Alejandro Zaera-Polo and Guillermo Fernandez Abascal developed Charles Jenks' ideas on the evolution of modern architecture based on trends that emerged in the first 15 years of the 21st century. The interactive map has become a widely recognized tool for learning and comparing work methods and stylistic features that are manifested in the work of modern architects from around the world. My 5-year experience of working with this map in the framework of the course “Modern Concepts of Architectural Environment Design” allows us to conclude that it is a powerful tool for students to master knowledge in this academic discipline. I believe that this Map in the future can become a prototype for creating a similar diagram, in which it would be possible to see the current state of Ukrainian architecture.

References

- Jencks, Charles. 1985. *The language of post-modern architecture* / Translated from English by A. V. Riabushin ... – Moscow : Stroyizdat.
- Cherkes, B. S., Linda, S. M. 2010. *Modern architecture. The last third of the XX – early XXI centuries: a textbook*. Lviv : Publisher Lviv Polytechnic.
- Jencks, Charles. 2000. *Jencks' theory of evolution, an overview of 20th Century architecture*. [online] The Architectural Review / 12 July 2000 by Charles Jencks archive. Available at: <<https://www.architectural-review.com/archive/jencks-theory-of-evolution-an-overview-of-20th-century-architecture>> [Accessed date: 26 March 2021].
- Arch:speech. News. 2017 a. *Modern architecture map: 7 directions, 181 bureaus* [online] Arch:speech / 09.06.2017. Available at: <<https://archspeech.com/article/karta-sovremennoy-arhitektury-7-napravleniy-181-byuro>> [Accessed date: 27 March 2021].
- Alejandro Zaera-Polo & Guillermo Fernandez Abascal. “Architecture’s “Political Compass”: A Taxonomy of Emerging Architecture in One Diagram” 16 Dec 2016. ArchDaily. Available at: <<https://www.archdaily.com/801641/architectures-political-compass-a-taxonomy-of-emerging-architecture-in-one-diagram>> [Accessed date: 26 March 2021] ISSN 0719-8884.
- Arch:speech. News. 2017 b. *An interactive map of the directions of modern architecture has been launched* [online] Arch:speech / 05.12.2017. Available at: <<http://archspeech.com/article/zapushhena-interaktivnaya-karta-napravleniy-sovremennoy-arhitektury>> [Accessed date: 26 March 2021].

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**АРХІТЕКТУРНИЙ КОМПАС А. ЗАЕРА-ПОЛО
ЯК ІНСТРУМЕНТ ДОСЛІДЖЕННЯ СУЧАСНИХ КОНЦЕПЦІЙ
ДИЗАЙНУ АРХІТЕКТУРНОГО СЕРЕДОВИЩА**

Анотація. У статті розглядаються тенденції сучасної архітектури, викладені в дослідженнях архітектурного критика Александро Заера-Поло та його команди. Створений ними інструмент отримав назву "Інтерактивна карта сучасної архітектури". "Еволюційне дерево" Чарльза Дженкса (схема архітектури ХХ ст.) справило значний вплив на цей інструмент. Інтерактивна карта стала загальноновизнаним інструментом для вивчення та порівняння методів роботи та стилістичних особливостей, що виявляються в роботі сучасних архітекторів з усього світу. Функціональність карти Заера-Поло протягом п'яти років вивчалася автором цієї статті під час навчання майбутніх архітекторів на кафедрі проектування архітектурного середовища Національного університету "Львівська політехніка". Ці експертизи дозволили сформулювати низку пропозицій щодо вдосконалення обох – структури цієї карти та методології її створення. Зазначається, що інтерактивна карта є потужним інструментом для здобуття студентами знань з дисципліни "Сучасні концепції проектування архітектурного середовища". Передбачається, що ця карта може стати прототипом діаграми "Сучасний стан сучасної української архітектури" у майбутньому.

Ключові слова: сучасна архітектура, інтерактивна карта, політичний компас.

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**IDEOLOGICAL ASPECTS OF THE ARCHITECTURE
OF NATIONAL DETERMINED HISTORICISM ON THE EXAMPLE
OF UKRAINIAN, POLISH AND RUSSIAN NARRATIVES**

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Abstract. This article explores the ideological and narrative foundations of various forms of architectural historicism, marked by the identities manifestation which emerged in the era of modern nations appearance. The difference between the concepts of the three national communities – Ukrainian, Polish and Russian and how these concepts were conveyed with the help of architectural stylistics is outlined. It is determined that in all three cases, the main source of style-creation was the idea of the Ideal Homeland, which in all three national narratives accounts for the late Middle Ages (XVI–XVII centuries.) Also is suggested the concept of evaluative delimitation of this kind of heritage, depending on the inherent symbolic ideals.

Key words: historicism, nation, modernity, narrative, identity.

Introduction

Over the past few decades, the concept of “historical heritage” has undergone significant expansion and thematic diversity (Lamprakos M.. 2014), the value of certain objects has been determined not only by their artistic and aesthetic qualities, or historical significance. Gradually, there was an idea that even insignificant elements of the subject environment have value because they carry “evidence of their time” Thus, a situation arose when virtually the entire space of settlements became possible to interpret as a heritage, regardless of its ideological, functional and artistic content. On the one hand, this approach serves for a more respectful attitude to oneself living environment, information intellectualization of residents and diversity of space. However, on the other hand, there is a threat of devaluation of the very concept of value. If all objects that appear in the city automatically become heritage, such categories as artistic value, functional convenience, ideological motivation lose their significance. Therefore, there is a need to formulate new criteria for heritage gradation to avoid nihilistic monotony.

In this case, it is not an issue of proposing to eliminate some objects from the category of “heritage”, but to develop its interpretation, so that the messages inserted by creators of such object during their

design, were more understandable. At the present stage of heritage discourse, the concept of identity is considered to be the most promising platform for such a gradation (Jokilehto J., 2008).

While in North America and Western Europe the category of “identity” is understood more in terms of protecting groups vulnerable to discrimination, in Eastern Europe “identity” is associated rather with religious and national groups. Collision of various confessional and ethnic projects here in the past became the basis for the emergence of architectural manifestations designed to fix in the space the identity of this kind. Until now, all these manifestations were perceived equally as heritage, the heritage characteristics of which included only chronological and stylistic data. Aspects of identity and the meanings associated with it were not mentioned.

Eastern Europe, with its kaleidoscope of identities, is a specific area where this kind of expanded interpretation of the heritage category has great prospects and a wide range of development. The diversity of identities of national groups that emerged in the nineteenth century and the search for their architectural manifestation is seen in the example of comparing the implementation of Ukrainian, Polish and Russian narratives, which became the source of numerous experiments with architectural form.

Results and Discussion

The issue of national identity in itself has an extensive literature and goes beyond the scope of this article. In our context, it is important that during the transition from the feudal to the modern paradigm, emerged new groups, which received the conditional name of “nations”, or “political nations”. Through education and communication tools, during the XIX-th century, they took the form of political communities united by name, territory, historical narratives, and a number of other factors (Smit E. 1994). Since culture and art played an important role in uniting national identities, architecture faced the task of forming a stylistic series associated with a particular national narrative and bringing it into space, fixing it for a particular national group. The trends and tendencies that emerged in this regard became the object of theoretical reflection, especially in the postmodern era, when the fundamental principles of the New Age were critically rethought.

Among the works devoted to this topic is Lawrence Vale's monograph “Architecture, Power and National Identity”, published in 1992 (Vale L., 1992) and later republished. The author focuses on the architecture of the capitals of major powers and historical cultural centres, tracing the relationship between government institutions and the symbolism of urban space, which was closely associated with them. It is important that Vale traces certain longevity of modern identities with the feudal – a kind of multi-layer of ideas and practice of metaphors and signs, which were involved by constructors of the new national groups.

An important work on the study of the relationship between modern identities and architecture was the monograph by Bohdan Cherkas “National Identity in the Architecture of the City” (Cherkas B., 2008). The author considers examples of several, primarily Eastern European cities, whose central parts have become a medium of manifestation of identity symbolism. The transformation of the concept of identity in the postmodern era is demonstrated by Kim Dovey's work “Places of formation: urbanism, architecture, identity, power” (Dovey K., 2009). These and other works laid the foundations for understanding the significance of the category of identity for the development of XIX–XX centuries architecture, including in a context that is close to the subject of this article.

The material elaborated by the above-mentioned authors has, to a large extent, an urban character and considers the ensemble complexes of cities, mostly their central, representative parts. In connection with this, the logical development of this topic is the analysis of morphological data itself, applied stylistics and the ways in which the visual demonstration of the presence of some newly emerged identity was achieved.

During the XIXth century in Eastern Europe took place the processes of mastering new political models, which were formed in the West as a result of the French Revolution. The feudal system of establishing and legitimization of power through “divine law” gave way to modern ideas about the people as a basic political category, the source of power and the legitimacy of its authority (“le principe des nationalites”). As a result, the process of forming new collectives began, which received the definition of “political nations”. Peoples who were ruled by certain feudal began to govern themselves, and this required intensive work to reform them into collectives of new quality. In this context, it has become important to create national narratives – a set of facts and evidence about some group, primarily on the basis of memories and recollection of the past. These testimonies gave the newly created national collectives a sense of their own identity, place in history and the world (sometimes messianic). Although the narratives tried to be based on historical facts, they focused primarily on emotions and feelings.

In Eastern Europe traditions and conceptualism of democracy were weak due to the special way taken by feudalism in this region, becoming here a kind of form of slavery (Adzhemohlu D., Robinson Dzh. 2016). As a result, strong feudal elites, without much pressure from other social classes, had the opportunity to create their own modern identity of their subjects, or to take an active part in the creation of new collectives.

To the greatest extent, this process was inherent to the Russian Empire, where during the reign of Nicholas I started a concept of “Russian nationality”. Having the state status and support of the empire’s bureaucracy this concept has received significant materialization in various forms of culture, including architecture. To understand the project language, which arose as a result of the development of the concept of “Russian nationality”, it is necessary to consider the main features that distinguish it from others and the ideological structure of this narrative.

After the Napoleonic Wars, the ideas of republicanism and constitutionalism began to spread among some of the Russian nobility. In December 1825, they initiated a failed uprising that forced the new Emperor Nicholas I to consider anti-monarchist and modernist movements. The following year, the Censorship Charter was amended banned now historical works that were not in favour of the monarchical type of government, banned the works of French Enlightenment and a positive assessment of any people’s protests (Hrynchenko N., 2001). As a representative of the German dynasty, guided by the European example, Nicholas, however, understood the need to respond to nation-building processes. A detailed strategy for preserving the autocracy under the new conditions was entrusted to the President of the Imperial Academy of Sciences, Count Sergei Uvarov, who received the post of Minister of Education. As a result of the activities of Uvarov and a number of others, the concept of Russian “nationality” was developed, which in fact became the opposite of the European “nation” and “the principe des nationalites”. Based on the historical works of Nikolai Karamzin, the Russian nationality was conceptualized not as an ethnic group but as a community “united by boundless devotion to its rulers”, thus differing from Western peoples “corrupted by the philosophy of the Enlightenment” (Zoryn A., 1996). On the ground of such considerations, arose a well-known triad – “orthodoxy, autocracy, nationality”, in which nationality was understood primarily as monarchical lower social groups, whose habit to autocratic rule became a new stronghold of Russian absolutism. For the historical substantiation of such a “nation”, were used an episode of the so-called “vocation of the Varangians”, when the Slavs of future Russia called for a Scandinavian dynasty to rule, complaining about the lack of order within them. This chronicle was favourably consonant with the then situation of the rule of the German dynasty, which thus received the support of the validity of the autocratic power of foreigners over the Russian people.

Such a concept required indoctrination into the mass consciousness with the expectation that the general public would independently support it. A combination of education and pathos was a way to achieve this goal. The Russian people should be proud of the autocratic form of rule, and the lack of political rights should be seen as an advantage. A picture of a happy and harmonious world based on the triad of “Orthodoxy, autocracy, nationality” was to appear. During the reign of Alexander III

(1881–1894) an aesthetic system was developed, which primarily affected the architecture. If within the reign of Nicholas I, the spontaneous desire of the Russian people to obey the tsar was associated with the historical episode of “vocation of the Varangians”, now more attention is paid to the events of the early seventeenth century, when the Romanov dynasty was called to power after the expulsion of Poles from Moscow. Having won a victory over the foreigners, the Moscow people did not want to rule themselves, or even limit the rights of the monarch, but set up an autocrat who had full power over them. Thus, the kingdom of the last Rurikids of the XVI–XVII centuries in Great Russia (Zalesye), began to be imagined as a kind of Ideal Homeland when the people lived happily and harmoniously under the rule of the tsar.

These considerations formed the framework for the architectural style, which was based on the representative construction of Moscow Rus` before its Europeanization by Peter I. The starting examples were such buildings as St. Basil's Cathedral, the Kremlin, Kolomenskoye and others. The first markers of a new direction were the Church of Christ the Savior in Moscow (1839–1883) and the Church of the Savior on Spilled Blood in St. Petersburg (1883–1907).

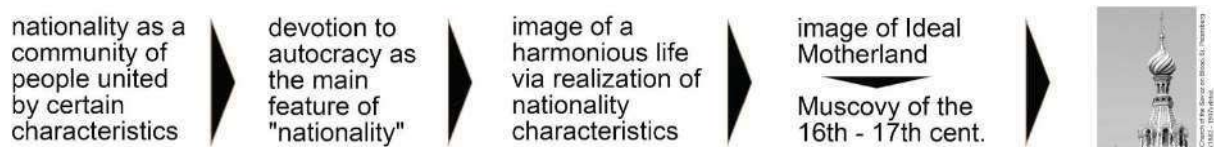


Fig. 1.

Thus, we can say that the objects of historicism, the style which emerged in the Russian Empire in the mid-nineteenth century, expressed the identity of the *subject nation*, formed for the duration of the autocratic monarchy and opposed to *the modern nation* concept. This kind of architecture marked the pathos of some Ideal Homeland from XVI–XVII centuries Muscovy (Fig. 1).

A special feature of the Polish nation-building was that this process took place in the absence of a full-fledged state of its own and the appropriate mechanisms that it could provide. In the XIXth century, the Polish ethnic area was divided between the German, Russian and Austrian empires, which differently ensured the religious, linguistic, and cultural rights of the Polish population. The matter of conceptualizing the modern nation began in part in the last years of the Polish-Lithuanian Commonwealth, and is connected with the adoption of the so-called “Constitution of 3 May”. The document did not contain any truly revolutionary changes, such as those that took place at the same time in France (Skavronskyi P., 2020), but became a kind of legend about the unfulfilled nation-building for those generations who had to live in a period of statelessness. The creation of the Polish modern nation is characterized by several features that influenced the final result. In the era of Romanticism, with its idealization of the past, the plots of “old Poland” gradually lost their objectivity and were painted in positive and pathetic tones, which contributed to its rapid transformation into the Ideal Homeland. The search for modern conceptualization began to revolve around her image. This was facilitated by the unique political system of the First Rzeczpospolita, based on “noble democracy” and the concept of “Sarmatian noble nation” with an elected monarch and a noble parliament (Seim), which were perceived as very own version of modernity. The medium of the Polish nobility was probably influenced by Hungarian practice of contractual relations between the nobles and the king (Frankiv R., 2019) and was far from full-fledged republican traditions. In the XVIth century, the humanist S. Orzechowski stated with admiration that in Poland “royal freedom” was available to every nobleman, who were all equal to each other, regardless of wealth (Orzechowski S. 1919). However, such proto-modern features were characteristic only of a small privileged class. The largest social group in the country – the peasants were deprived of any rights and were in the position of slaves. The romanticization of the XVIth and XVIIth

centuries thus led to contradictory results; on the one hand, the noble nation and its republican traditions were the basis for the creation of its modernism, on the other hand, division of society into two unequal groups – the upper privileged class of “sarmatians” and the lower lawless “hams”, did not allow to consider this modernism as real. The proposal of the Polish Romantics to build a new nation as a process of inclusion of “hams” in the number of “sarmatians” constantly encountered inconsistencies with the realities of the Ideal Homeland of the XVI–XVII centuries, a mandatory element of which was the opposition of the higher race to lower groups.

Under the conditions of divisions between the various states, the Roman Catholic Church was an institution that continued to unite the former body of the Polish-Lithuanian Commonwealth. Its structures, sceptical of the processes of modernization and secularization, thus got a chance to form a national narrative in their favour. In this regard, the elements of the Renaissance and Baroque, which symbolized the XVI–XVII centuries, gradually added the aesthetics of the Middle Ages as a period of the Ideal Homeland of Catholicism itself – with images of typical for Poland brick gothic. This kind of style successfully combined the colour combination of red brick and white stone as a paraphrase of the colours of the white and red national flag, but in the sense of historical symbolism, appealed only to the memory of the Polish ethnic lands on the Vistula without foundation in Rus’ and Lithuania, which in the Gothic era professed Orthodoxy and paganism, respectively.

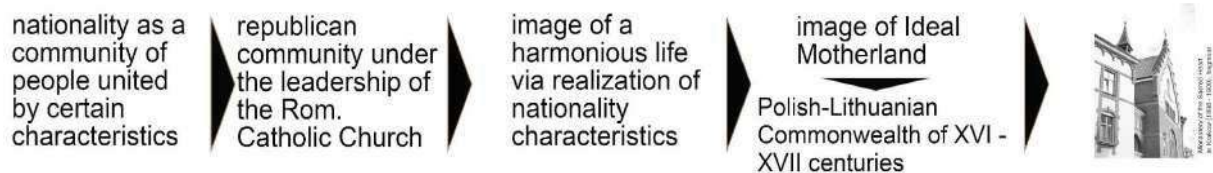


Fig. 2.

Thus, we can say that the narrative of the Polish modern nation is conceptualized as a community based on the traditions of aristocratic republicanism of the Ideal Homeland, but under the authority and control of the Roman Catholic hierarchy. In architectural language, this narrative was expressed in two ways, a combination of Renaissance elements (attics, pilasters etc.) and red-brick Gothic with elements of stone masonry (Fig. 2). An example of such a style can be some works of Felix Ksenzarsky, such as the chapel of St. Bronislawa (1856–1860) and the building of Collegium Novum (1883–1887). An interesting example of the combination of two language systems – representatives of modern Polish identity can be the monastery of the Sisters of the Hearts, designed by architect Vaclav Kachmarsky (1896–1900). All buildings are in Krakow.

The conceptualization of the Ukrainian modern nation took place in even more difficult conditions of statelessness than the Polish one. If the Russian national identity was formed at the initiative and support of the state, and the Polish – well-secured in rights Roman Catholic Church and the feudal corporation, the Ukrainian did not have any of these factors. In the Russian Empire, where from the first half of the nineteenth century was banned the promotion of republican ideas and any criticism of monarchism, in the second half of the same century, were introduced a ban on the Ukrainian language. In the Austrian Empire, the curial system of elections and the establishment of foreign minorities governing in territories with a Rusyns demographic majority also hindered the development of modern nation-building. Nevertheless, it is likely that these factors were the reasons for the relative success of Ukrainian identity, which is clearly seen in the example of Austrian-ruled Galicia, where the ethnonym “Ukrainian” was previously used mainly to the inhabitants of the Dnipro lands.

Comparatively, Russian and Polish national projects supported by state and clerical institutions, the relative success of the Ukrainian one can be explained by its pure modernity. As of the beginning of the

XIXth century, the Little Rus` (Ukrainian) lands were part of the Russian Empire, which was perceived as a monarchy of the Orthodox Tsar, equally close to the Great, Little, and Bela Russians. Thus, at the time of the start of nation-building processes in Europe, the chances of creating a single political nation of all three ethnic groups were quite high. However, the state program of Nicholas I to form a “Russian nationality” as a community of loyal subjects of the autocratic tsar, blocked the natural nation-building historically related to Rus` ethnic groups of the empire. This process, however, was not stopped at all and found its expression in the conceptualism of the Ukrainian modern nation. The pathos of romanticism at that time was used to actualize the experience of Zaporizhzhia (Cossack) democracy of the XVII–XVIIIth centuries. In fact, promoters of the Ukrainian idea contrasted it with the official “Russian nationality”. If the “Russian nationality” was seen as a community characterized by voluntary submission to the autocratic power, the Ukrainian nation acted as a self-government community that existed without the help of the monarch or feudal lords.

Important monument to the conceptualization of the Ukrainian modern nation is the so-called “Book of the Genesis of the Ukrainian people”, which arose among the underground Cyril and Methodius Brotherhood in Kyiv. In it, Ukraine is seen as a source of freedom and equality in Eastern Europe, from which originates the Polish constitutionalism of the XVIIIth century and the Russian Decembrist movement. Zaporizhzhya democracy, after the uprising of Bohdan Khmelnytsky, became the political system of a new state – the Hetmanate (wider Ukraine). Because the Book of Genesis is written in the form of a sacred text, the values of radical egalitarianism and personal freedom without division into ruling and subjugated classes, interpreted in a religious paradigm. The natural state of man is to obey only the Christian God, who acts as a good father and serves his creations, not dominate over them. If in the Russian project the people were seen as a stronghold of the autocracy, in the Ukrainian one they became its main opponent (Zaionchkovskiy P. 1959).

In this regard, the materialization of the Ukrainian political concept in architecture was seen as an appeal to the Ideal Homeland – a Cossack country on the Dnieper, and in a broader sense, to folk-building, because the people were perceived as the main bearer of memory about lost but not forgotten perfect society (Krychevskiy, V., 1914). The visualization of the national narrative, therefore, received two potential directions: one of them – the reproduction of a regional version of Baroque architecture of the XVII–VIII centuries, the second – work with the folk architecture of about the same period. The first tended to decorativism and sensual pathos, the second to monumentalism and abstract geometry. In practice, in experiments with the expression of national identity by means of architecture, these two tendencies were often mixed, which was characteristic also in original samples of the XVII–XVIII centuries (Fig. 3).

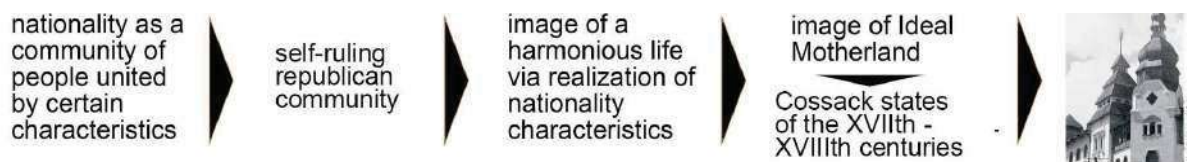


Fig. 3.

As can be seen from the analysis above, the nationally determined historicism of the XIX – early XX centuries cannot be considered only as the introduction of elements of ethnic culture and national memory into architecture. These elements are vocabulary that conveys a certain view of the social system and the place of man in it. Although the architectural materializations of the Ukrainian, Polish and Russian national narratives discussed here operate on different decorative materials and can be visually easily distinguished, the difference between them is not exhaustive.

All three “national styles” are the representations of different reactions to modernity's proposal to say goodbye to feudalism. In some cases it is negative, and in others it is positive. Such features of nationally determined historicism remain outside the cultural studies and institutional definition of these objects, are absent in media and scientific interpretation, as well as in the heritage certification of those buildings when its value is recognized at some state level.

Conclusions

In the context of the constant expansion and diversification of the category of architectural heritage, the question arises about a new understanding of the “value” concept of the building. In this regard, was outlined the problem of potential devaluation of the very concept of “value” and the need to formulate new criteria for the gradation of heritage. One of such criteria is proposed to be the identity that reflects a particular architectural object.

There were reviewed some examples of ideological conceptualization of three modern national identities: Ukrainian, Polish and Russian and the image of their Ideal Homeland, which became the source of an architectural plot for each of them. It is determined that each of these images has its version of the response to modernity, from its full acceptance to rejection.

The ideological program of a nationally determined historicism and its views on modernity, as the article shows, may be different. Just as different are the views of these programs on such categories as human rights, the level of freedom and access to progress opportunities. In this regard, it is proposed to include data on the appropriate ideological positioning of a nationally determined historicism in the structure of value description of architectural objects of their certification in the case of acquiring the status of architectural monuments and historical heritage.

References

- Dovey K. 2009. *Becoming Places: Urbanism / Architecture / Identity / Power*, London, Routledge.
- Jokilehto J. 2008. The idea of conservation: An overview. In *Conservation and Preservation: Interactions between Theory and Practice: In Memoriam Alois Riegl (1858–1905): Proceedings of the International Conference of the ICOMOS International Scientific Committee for the Theory and the Philosophy of Conservation*; Polistampa : Vienna, Austria. P. 1000–1015.
- Lamprakos M. 2014. Riegls “modern cult of monuments” and the problem of value. *Chang. Time*, r. 418–435.
- Orzechowski S. 1919. *Polskie dialogi polityczne*. Biblioteka pisarzy Polskich. Krakow. S. 231.
- Vale L. 1992. *Architecture, Power, and National Identity*, New Haven Yale University Press.
- Adzhemohlu D., Robinson Dzh. 2016. *Why Nations Fail; The Origins of Power, Prosperity, and Poverty*. Kyiv : Nash format. S. 105.
- Hrynchenko N. 2001. History of censorship institutions in Russia in the first half of the XIX century. *Tsenzura v Rossyy. Ystoriya y sovremennost. Sb. nauch. tr. No. 1. S.- Petersburg*. S. 15–46.
- Zaionchkovskiy P. 1959. *Kyryllo-Mefodyevskoe obshchestvo*. M. S. 149–159.
- Zoryn A. 1996. Ideology of “pravoslavyya-samoderzhavyia-narodnost’”: reconstruction experience, Moscow : *Novoe lyteraturnoe obozrenye*, No. 26. Moscow, NLO. S. 86–87, 92–101.
- Krychevskiy, V. 1914. Understanding of Ukrainian style. *Siaivo Ch. 3. Kyiv*. S. 89–91.
- Smit E. 1994. *National identity*. Kyiv. *Osnovy*.
- Skavronskiy P. 2020. 3 maia 1791. The constitution that became a revolution. [online] *Novaia Polsha*. [Available at:] <https://www.novayapolsha.pl/article/3-maya-1791-konstituciya-stavshaya-revolyuciei/> [Accessed date: 15 August 2020].
- Frankiv R. 2019. The people and power in Halych as a example of the “Byzantine Republic”. Halych : *Collection of scientific works*. No. 4. S. 82–94.
- Cherkes B. 2008. National identity in architecture of the city, Lviv : *Vydavnytstvo Natsionalnoho universytetu “Lvivska politekhnika”*.

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**ІДЕОЛОГІЧНІ АСПЕКТИ АРХІТЕКТУРИ НАЦІОНАЛЬНО
ДЕТЕРМІНОВАНОГО ІСТОРИЗМУ НА ПРИКЛАДІ УКРАЇНСЬКОГО,
ПОЛЬСЬКОГО ТА РОСІЙСЬКОГО НАРАТИВІВ**

***Анотація.** Стаття присвячена проблематиці тлумачення об'єктів архітектурної спадщини, в контексті постійного збільшення їх кількості та розширення їх типологічного спектру, що веде до загрози релятивізації поняття "цінності"; в зв'язку із цим, виникає необхідність розширення формулювання категорії цінності тих чи інших об'єктів спадщини. Одним із досі не задіяних ресурсів, у цьому контексті, може вважатись поняття ідентичності, розуміння якої потребує теоретичної кваліфікації.*

В рамках цих пошуків, у статті розглядаються ідеологічні аспекти архітектури національно детермінованого історизму XIX століття. На прикладі українського, польського та російського наративів простежено роль нафосу Ідеальної Батьківщини та конструювання психологічної прив'язаності до середовища тої чи іншої новопосталої нації. Здійснено аналіз концептуальних засад, які лягли в основу творення всіх трьох ідентичностей та були пов'язані із специфікою зміни феодальної парадигми та модерну у регіоні Східної Європи. Запропоновано принцип оціночної диференціації цього виду спадщини залежно від властивих кожній з них символічних ідеалів, трансльованих тою чи іншою конструкцією національної ідентичності.

Ключові слова: історизм, нація, сучасність, наратив, ідентичність, модерна доба, феодалізм.

CONCEPTUAL ANALYSIS OF THE ARCHITECTURE OF MODERN INTERIORS OF FOOD FACILITIES IN LVIV, KYIV AND ODESA

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Astract. Based on the conceptual analysis of the subject-spatial environment of modern food enterprises in the cities of Lviv, Kyiv and Odesa, the features of their thematic and functional directions are highlighted, and a classification of semantic and artistic-figurative solutions for interiors of premises for visitors to these institutions is developed. Their varieties are defined according to the following characteristics: style direction, plot-thematic direction, genre-content and subject-sensory content, gastronomic specialization, imitation or reproduction of a certain historical type of food establishments. The main approaches to designing the architecture of modern interiors of food enterprises in the context of their artistic and figurative solution are formulated. An additional range of services and special functions that complement the conceptual design of thematic institutions are identified. The main trends in increasing the relevance and identification of food enterprises are identified.

Key words: conceptual analysis, interior architecture, artistic and figurative solution, varieties, food facilities.

Problem statement

Nowadays food facilities are an important component of the thematic and image structure of large cities in Ukraine. Their main task, in addition to the gastronomic one, is to surprise and catch visitors, impress and make them desire to return. That is why we observe a growing number of non-standard original food establishments of various types, distinguished by innovative solutions and a rich range of services. Their concept, thematic direction, artistic and figurative solution are key concepts.

For several years in a row, experts and restaurateurs have been choosing the top 100 Best Restaurants in Ukraine. Among the cities, the largest number of restaurants included in this list is represented by Kyiv, Odesa and Lviv (LLC “Publishing House “Media-DK”, 2014–2021). Kyiv, as the capital of Ukraine, impresses with the variety and number of modern food establishments, characterized by innovative approaches to their design, the versatility of gastronomic and thematic directions. Lviv is a European city with a long history, formed at the intersection of different cultures, nationalities. It is a centre of intellectual property and rich traditions. Today Lviv is one of the most attractive cities for tourists thanks to thematic and interactive food establishments, museums etc. Odessa has long been famous for its

local flavour, exceptional humour and a kind of multinational culture, which is fully reflected in the interiors of local food establishments. They convey both the peculiar mentality, hospitality, values and traditions of the inhabitants of this bright city. We should analyze the artistic and figurative solution to the interior architecture of modern food enterprises in these cities and identify their conceptual and functional features.

Analysis of recent research and publications

Certain aspects of the problem of conceptual and thematic solution of interiors in modern spaces, in particular public structures, are reflected in scientific periodicals of V. Andriyashko, D. Haraida (Harayda, D., 2017, p. 315–321), A. Hromnyuk, Yu. Dranytskyi (Dranyts'kyy, Yu., 2015, p. 180–187), V. Melnyk (Mel'nyk V., O. I. Morklyanyk, 2019), N. Novoselchuk (Novosel'chuk N. Ye., 2017), O. Smolyar (Smolyar, O., 2017, p. 977–982), Chernyavskyi K.

Theoretical issues of designing the interior architecture of food enterprises are revealed in the works of E. Ahranovskyi, V. Aladov, S. Bahmut, V. Batrymenko, V. Berdychevskyi, I. Hililov, L. Hritsyuk, L. Huseva, N. Denysova, B. Dmytriev, V. Yezhov, D. Yezhov, S. Yezhov, N. Ivanova, V. Karsekin, T. Kilpe, M. Klikich, V. Kokurin, B. Kurlishchuk, L. Lebedeva, S. Linda, F. Lawsan, V. Marhelov, T. Nikulenkova, Ye. Novikova, V. Ponomarenko, V. Chykolodkova, F. Chubarov, V. Yakubovskyi, H. Yastina. Fundamental works on the organization of interior architecture of food facilities are the works of V. Urenev (Urenev, V. P., 1988).

Modern catering enterprises of Kyiv, Lviv and Odesa (restaurants, bars and cafes), their conceptual and artistic solutions were the main source base for this study.

Despite the relevance of the approach of the conceptual design of the interior architecture of food facilities, it remains insufficiently explored in the modern theory of architecture, there are no comprehensive studies on this issue.

Purpose of the article

The article aims to carry out a conceptual analysis of the subject-spatial environment of modern food facilities in Lviv, Kyiv and Odesa, taking into account their thematic diversity and versatility; to develop scientific foundations and modern approaches to their design in the context of artistic, figurative and thematic solutions of interiors for visitors to these facilities.

Results and discussion

Nowadays in architectural practice, we are discovering new approaches to organizing the interiors of food facilities. The conceptual solution occupies a leading place in the design of modern spaces. This allows the development of innovation, individual search and non-standard solutions, as well as the integration of modern technologies and materials into the project process.

The “concept” means an idea, the meaning of the work (Bilodid, I. K., Buryachok, A. A., Dotsenko, P. P. red., 1973. p. 275). The conceptual idea/concept is reflected in the artistic image (Shevnyuk, O. L., 2015, p. 10). The author shows his interpretation of reality through the prism of an emotional worldview. The thematic direction (in our case, interior architecture) is manifested in the ideological content: any topic can be interpreted and expressed with the help of various ideas (Shevnyuk, O. L., 2015, p. 11). Thus, the creative process of a designer/architect involves finding a concept/idea that appeals to a particular theme, plot, motif or genre and is embodied in an artistic image.

The artistic and figurative solution of the interior architecture of food enterprises plays a key role in shaping the overall atmosphere of the institution, provides for the creation of an appropriate mood for visitors. It directly affects the choice of functional and especially artistic and decorative means. It is

established that it concerns the design of interiors for visitors mainly of such food enterprises: restaurants, cafes, bars and eateries. It is these establishments that can specialize in the production of dishes and drinks of a certain direction (for example, national/regional cuisine), depending on the range of products sold (Hromnyuk, A. I., 2016, p. 107).

Based on the conceptual analysis of the interior architecture of modern food facilities (restaurants, bars, cafes and eateries) in Lviv, Kyiv and Odesa, the themes, plots, and motifs revealed in the artistic and figurative solution are determined. Ethnic motifs are extremely popular. You can also find themes of nationalities and countries – in such establishments, the national symbols of a certain state are used, for example, in the restaurant “The Mexican” (Lviv).

Motifs of films, TV shows, legends, fairy tales, and comics are widely used in the interiors of modern food establishments. The gastro cafe “Vivsianka, sir” (eng. “Oatmeal, sir”) (Lviv) recreates the atmosphere of Sherlock Holmes' apartment, here you can also see portraits of actors who played his role. Cafe “Friends” (Kyiv) conveys the mood of the TV series of the same name, which visitors can watch there. You can see the interior, reminiscent of the fairy tales of 1001 Nights, by visiting the restaurant “Tubyteika” (Kyiv). In the “Comics cafe” (Kyiv), there is a theme of comics, which can be purchased here. In the artistic image of the interiors of modern food establishments, you can find the themes of music, theatre, circus: the restaurant “Deja Vu” (Kyiv) conveyed the spirit of rock-n-roll; the interior of the restaurant “Café Theater” (Kyiv) resembles a real theatre hall with curtains and balconies..

Especially popular are the themes of epochs or historical periods of different countries and peoples, in which the atmosphere of a certain time and place is recreated. This is, in particular, the restaurant “Knyazhy Hrad”, which has the theme of the times of Kievan Rus; the restaurant “LOU LOU” (Odessa), which resembles the establishments of Paris (Montmartre St.) at the beginning of XX century. The interior of the cafe-bakery “Breadway” recreates the style and mood of American cafes of the 50s and 60s. of XX century; the subject-spatial environment of the cafe “Sanatorium “Lastivka” (Lviv) and the restaurant “Molodist” (Kyiv) conveyed the atmosphere of everyday life of Ukrainians in the period of the 90s. You can take a dip into the Middle Ages by visiting the restaurants “Pyate pidzemelia” (eng. Fifth dungeon) (Lviv) and “Legend” (Odessa). The theme of inventions is also now reflected in the interiors of food establishments, where visitors can get acquainted with artefacts and interesting historical exhibits. Often such establishments include museums, such as the restaurant-museum “Hasova Liampa” (eng. “Kerosene lamp”).

Common topics are those dedicated to a particular person and their life path. For example, the restaurant “Frankova kuznya” (Lviv) is dedicated to an outstanding Ukrainian writer, poet, public figure I. Franco; restaurant “Bartholomew” (Lviv) tells about the personality of the Lviv Mayor of the XVII century Bartholomew Zimorovich. In the interiors of food establishments, there is also a theme of childhood, for example, in the restaurant “Mamatsiluvala” (Kyiv).

An interesting artistic and figurative solution is characterized by establishments that reflect the themes of the city, village, such as the restaurant “Adele” (Kyiv), which conveys the atmosphere of the streets of Tel Aviv. The restaurant “Odesa-Mama” (Kyiv) recreates the Southern flavor and sea mood of the Odesa port city. In our opinion, the theme of nature (Sea, Forest, etc.) is relevant in food establishments, which help visitors to relax as much as possible and set them up for harmony. These are, for example, the restaurants “Rabbit Habit” (Kyiv), “Kobe” (Odessa), “36 Po” (Lviv). The theme of fish and animals can also be seen today in the interiors of such food facilities as fish restaurants “Flagman”, “Marlin” (Kyiv), etc.

In the artistic and imaginative solution of food enterprises, the theme of sports and hobbies is relevant as well. For example, in sports bars “Arena Sport Bar” and “Frankie Sport Bar & Bazabet” (Kyiv). The theme of the revolution and the rebels is reflected in such institutions as “Ostannia barykada” (eng. “The Last Barricade”) (Kyiv) and “Kryivka” (Lviv); the military theme is found in the veteran restaurant “Patriot” (Lviv), which was opened by former ATO servicemen; in the cafe “Unit military” (Odessa).

The themes of the house, castle and cottage are common today. Thus the restaurant “DOM No. 10” recreated the atmosphere of a private house of the twentieth century; the restaurant “Finvarra pub” (Kyiv) is like a medieval castle-fortress; in the restaurant “Dacha” (Odesa) is the atmosphere of dachas of the 30s of XX century. An unusual artistic and figurative environment is represented by food enterprises that imitate the interiors of specialized institutions: hospitals (cafe-bar “Palata № 6” (eng “Room No. 6”) in Kyiv), meat shop (“Steakhouse” restaurant in Kyiv), sewing studio (cafe-coffee shop “Atelier. Coffee & Crafts” in Odesa).

Often, the historical past of a building – the type of institution, its primary functions and stylistic solution – dictates the concept of the institution and its thematic direction. For example, the confectionery-pharmacy “Pid Zolotoyu Zirkoyu” (“Under the Golden Star”) in Lviv is an interactive museum where you can see authentic kerosene lamps, restored interior items and posters of the XIX century.

In recent decades, food establishments specializing in the production of dishes of national cuisines and in the interiors of which ethnic motifs are used have gained considerable popularity. These are in particular East Asian cuisines: Japanese, Chinese and Korean; Caucasian cuisine: Georgian, Armenian, Azerbaijani, Uzbek, Arabic: Moroccan, Lebanese, Persian cuisine, Mexican, Indian, Turkish and Brazilian, African, Vietnamese, Polynesian, Indonesian and Thai cuisines, Greek and other Balkan cuisines, Italian, Israeli, Hungarian, Czech, Spanish, etc.

Of course, the most common establishments in our country are the facilities with Ukrainian folk cuisine. Designing the architecture of their interiors takes into account the cultural traditions, folk architectural and artistic heritage of a particular ethnographic region. It is determined that the use of ethnic motifs in the spatial environment of food enterprises is carried out using the following methods: stylization of architectural and structural elements, furniture and equipment, decor; direct reproduction of samples of the folk architectural and artistic heritage of a particular people/ethnographic region; the use of authentic elements and objects of decorative and applied art (furniture, carpets, towels, embroidery, tablecloths, vases, decorative dishes, tools etc.); synthesis of stylization using modern interior items and authentic or recreated elements of ethnic culture (Hromnyuk, A. I., 2016, p. 129).

Sometimes modern food enterprises are an imitation or reproduction of a certain type of food enterprises of a particular country or historical period. For example, in 2002 in Lviv, the kneipp “Atlas” was restored, which operated in the early twentieth century and the 1920s and 1930s the facility was very popular among the residents of the city. The restaurant operates in the same building.

Interior of the cocktail bar “Parovoz Speak Easy” (Kyiv) is an imitation of the classic New York “speakeasy” bar – an illegal institution that sold alcoholic beverages during Prohibition in the United States. Varenichna “Pobeda” (“Victory”) (Kyiv) is the epitome of a Soviet-era diner with national dish varenyky.

The Interior of the restaurant “Liberty Diner” (Kyiv) resembles American diners. The diner is a type of fast-food restaurant found in the northeast, southeast, and midwest of the United States, and is also common in other parts of the United States, Canada, Serbia, and Western Europe.

Modern analysis of the spatial environment of modern food enterprises allowed the author to significantly expand and refine his classification of semantic and artistic-figurative solutions of interiors of premises for visitors to these institutions (Table 1).

Classification is based on the following criteria:

- by style direction (most interior elements are subordinated to a relevant recognizable style or style direction): art deco, high-tech, minimalism, eclecticism, loft, modern classics, steampunk, provance etc.;
- by the plot-thematic direction (in the artistic and figurative solution of the interior can be traced plot, recognizable motif/theme): ethnic motifs; themes of nationalities, countries; motifs of fairy tales, legends; films, TV shows; comics; themes of music; theatre, circus; epochs or historical periods; themes dedicated to a certain person and his life path; themes of childhood; themes of cities, villages; nature (sea, forest etc.); themes of fish, animals; themes of sports and hobbies; inventions; themes of revolution, rebels; military theme; home, castle, dacha; specialized institutions, facilities: hospital, workshop, sewing studio;

- by genre-content and subject-sensory content (the interior uses signs that associatively appeal to a certain genre, a way of a worldview that is built on emotional-sensory categories, artistic and aesthetic ideals): mysticism, romance, science fiction, theatricalization, decorativeness, absurdity, provocation, grotesque.

- by gastronomic specialization (in the artistic solution of the interior, the dominant is figurative reinterpretation, stylization of the main dish/drink, which is “branded” in the institution (often has a humorous character)): meat dishes; fish dishes; drinks (coffee); alcoholic beverages; desserts; pizza.









- by imitation or reproduction of a certain historical type of food establishments (the interior is built based on the imitation of the subject-spatial environment of historically formed types of food establishments of different countries and cultures, periods): kneipp, “speakeasy” bar, diner, varenychna, etc. (Hromnyuk, A. I., 2016, p. 95).

Separately, we can distinguish the feature of artistic and figurative solutions for placing food establishments in atypical premises, in particular, vehicles, for example, in a former tram: restaurant “Tram No. 16” (Odesa).





Some food establishments strive to stand out not only with the help of interesting topics, which is manifested in the figurative solution of their interior architecture but also offering visitors additional functions and services that often complement the conceptual idea and allow them to spend a diverse and informative time, bringing people together according to common interests. Among them is the “Knyharnia-kaviarnia Staroho Leva” (a book and coffee shop in Lviv), where visitors can read books, meet with Ukrainian and foreign writers, or listen to lectures by cultural figures. A similar function has the cafe “One LOVE coffee” (Kyiv), where there is an art library of the publishing house “Taschen”.



Table 1





Classification of semantic and artistic solutions of interiors of premises for visitors of food facilities

By gastronomic specialization			
Meat dishes	Fish dishes	Drinks	Alcoholic beverages
			
Museum-restaurant “Salo”, Lviv	Fish restaurant “Marlin”, Kyiv	Café “Lvivska kopalnia kavy”, Lviv	Restaurant “Samogon Grill Bar”, Kyiv
By imitation or reproduction of a certain historical type of food facilities			
Kneipp	"Speakeasy" bar	Diner	Varenychna
			
Restaurant “Atlas”, Lviv	Cocktail-bar “Parovoz Speak Easy”, Kyiv	Restaurant “Liberty Diner”, Kyiv	“Varenychna Peremoha”, Kyiv

Continuing table 1

By style			
Art-deco	Minimalism	Steampunk	Eclecticism
			
Bar «Talkies», Kyiv	Café «ONE LOVE», Kyiv	Restaurant «ONE LOVE», Kyiv	Restaurant «YUG», Odesa

Loft	Modern classics	High-tech	Provance
			
Gastropub «MolodoZeleno», Lviv	Restaurant «Safe», Lviv	Restaurant «Yapi», Lviv	Restaurant «Tante Sophie», Lviv

By genre-content and subject-sensory content			
Romance	Mysticism	Science fiction	Decorativeness
			
Wine restaurant «Wine love», Kyiv	Restaurant «Medieval Finvara Pub», Kyiv	Restaurant «BAO», Kyiv	Café «Zheto», Odesa

Theatricalization	Absurdity	Provocation	Grotesque
			
Restaurant «Mario», Kyiv	Absurd-pub «BarDuck», Kyiv	Café «Mazoh», Lviv	Club-restaurant «Petrovych», Kyiv

By the plot-thematic direction				
Ethnic motifs	Themes of nationalities, countries	Motifs of films, TV shows	Motifs of fairy tales, legends	
				
Restaurant "Plove House", Lviv	Restaurant "The Maxican", Lviv	Restaurant "Za dvoma zaichiamy", Kyiv	Restaurant "Tubyteika", Kyiv	
Themes of comics	Themes of music	Themes of theatre, circus	Themes of epochs or historical periods	Themes of home, castle, dacha
				
Café "Comics Cafè", Kyiv	Restaurant "Dejavu", Kyiv	Restaurant "Café theatre", Kyiv	Restaurant "Antwerpen", Kyiv	Restaurant "Uliublenyi diadko", Kyiv
Themes dedicated to a certain person	Themes of childhood	Themes of cities, villages	Themes of institutions (hospitals, sewing studios)	Themes of nature (sea, forest, etc.)
				
Restaurant "Frankova kuznia", Lviv	Restaurant "MamaTsiluvala", Kyiv	Restaurant "Adel", Kyiv	Cafe "Atelier. Coffe & Crafts", Odessa	Restaurant "36Po", Lviv
Themes of fish, animals	Themes of sports and hobbies	Themes of inventions	Military theme	Themes of revolution, rebels
				
Fish shop-restaurant "Flagman", Kyiv	Café-bar "Velocity", Kyiv	Restaurant-museum "Hasova liampa", Lviv	Restaurant "Patriot", Lviv	"Ostannia barykada", Kyiv

An interesting concept has the restaurant “Razzle Dazzle” (Kyiv), a special feature of which is the theatre: on weekends, theatrical performances take place here. In the restaurant “Yablochko” (Kyiv) guests can lose in the game of darts; and the cafe-bar “Velocity” (Kyiv) offers bike repair services, there is a bicycle parking lot on the territory; the staff is ready to help bike enthusiasts with tools and spare parts. In the restaurant “Kanapa” (Kyiv) there are chamber music concerts, and in the facility “Duzhe Vysoka Kuhnia” visitors can listen to music from vinyl records through horn speakers. Kinorestoran “RE’LUX” (Kyiv) offers a combined cinema hall with a dining hall.

Popular establishments for children are specialized cafes or family restaurants that have a separate children's playroom, a children's menu, such as the children's cafe “Baby-Rock” (Kyiv), restaurant “Mamatsiluvala” in Kyiv, cafe “Bilka” (Lviv) and others.

An innovative health cafe operates in Kyiv – “Soliana Pechera” (“Salt Cave”), staying in which has a positive effect on the respiratory tract and contributes to recovery. Another place with extraordinary offers is “Cat Cafe” (Lviv), which is created for cat lovers. Here visitors can enjoy the company of these animals, as well as pet and feed them.

A special feature of the restaurant “Holodnyi Mykola” (“Hungry Mykola”) (Lviv) is the presence of a double Lake, one part of which is located in the restaurant, the other on the street. Visitors have the opportunity to catch trout on their own, and the chefs will prepare it. In the bar “BarDuck” (Kyiv) guests are invited to play board games: chess, poker, yo-yo, perform “stand-up” or sing karaoke.

Sometimes in the interiors of food facilities, there are exhibitions of artists (“Svit kavy”, Lviv; “Kanapa” (Kyiv); “Barvy”, (Kyiv). Some restaurants provide for dancing and parties: they play the role of night clubs, like the restaurant-club “Faces” (Lviv). In Kyiv “Comics Café”, in addition to a pastry shop and cafe, there is a comics book store.

Nowadays we often see the museums operating at food establishments, mostly they are related to the history of the institution or its thematic focus. Thus, the restaurant “Ostannia barykada” (Kyiv) has the museum of three Ukrainian modern revolutions; restaurant – Museum “Hasova Liampa” (Lviv) is famous for the exhibition of 528 kerosene lamps; in the photo cafe “Fixage” (Lviv) there is a museum of ancient photographic equipment and a film club. Coffee shop “Poshta na Drukarskiy” is the last analog post office in Lviv. Here is the largest collection of Lviv postal artefacts: old postcards and stamps, telephone sets; you can also create your postcard and send it to the addressee.

In some establishments, there is a shop where you can buy branded products or souvenirs (“Maisternia Shokoladu”, “Kopalnia Kavy”, Lviv).

Thematic interactive establishments invite visitors to become part of the demonstration event for entertainment purposes. This attraction is especially attractive for tourists, as well as for residents. Often non-standard offers and services are spelt out in the menu and complement the conceptual idea of the institution.

Based on the conceptual analysis of the architecture of modern interiors of food facilities, the following approaches to their design are identified in the context of artistic and figurative solutions of interiors of premises for visitors to these institutions:

- conceptualism (provides for the existence of a concept as a single leading idea, provides a creative author's approach to design and the development of uniqueness);
- eclecticism (manifested in the tendency to combine elements of several different styles, adapt historical styles to a modern manner);
- environmental friendliness (provides for the use of environmental design principles, energy-saving means and systems, natural materials, development of photo design, landscaping of modern spaces, etc.);
- traditionalism (preserving and reproducing cultural and historical traditions, using the architectural and artistic heritage of the past; provides for the restoration of authentic architectural and artistic elements, their citation or stylization);
- functionalism (manifested in the superiority of the functional component over the aesthetic one, consists in creating practical ergonomic spaces, the basis of which is a comfortable stay of visitors, the functionality of their elements and the limited artistic means);

- symbolism (provides for figurative and symbolic reproduction of reality, individual interpretation of certain symbols hidden in certain images; helps to strengthen the artistic expressiveness of interiors, appeal to the emotional and sensory perception of visitors);

- innovation and experimentalism (focused on discoveries and innovative solutions in design, the use of the latest technologies and developments; direction – to surprise, amaze).

The analysis of the conceptual solution of the interior architecture of catering enterprises allowed us to identify the main current trends in increasing the relevance, attractiveness and identification of food establishments that contribute to increasing their popularity, attendance and attractiveness. This is a gastronomic specialization; an emphasis on artistic and figurative solutions; versatility and availability of additional services; interactivity.

Conclusions

The article provides a conceptual analysis of the subject-spatial environment of modern food enterprises in Lviv, Kyiv and Odesa, which are famous for the greatest variety of extraordinary thematic and multifunctional institutions.

Classification of semantic and artistic-figurative solutions of interiors of premises for visitors of these institutions has been developed. Their varieties are defined according to the following characteristics: style direction, plot-thematic direction, genre-content and subject-sensory content, gastronomic specialization, imitation or reproduction of a certain historical type of food establishments. It is established that the concept of an institution and its thematic direction are also often influenced by the historical past of the building: the type of institution, facility, its primary functions and stylistic solution.

The main approaches to designing the architecture of modern interiors of food enterprises in the context of their artistic and figurative solutions are formed: conceptualism, eclecticism, environmental friendliness, traditionalism, functionalism, symbolism, innovation and experimentalism.

It is revealed that the general concept of food enterprises often goes beyond the artistic and figurative solution of the interior architecture of their premises for visitors and is reflected in the additional specific services of these institutions. Nowadays, there are different functions of restaurants and cafes except the function of food. These are, in particular, the functions of health improvement, cultural and educational (the presence in institutions of museums, bookstores, libraries, lectures and thematic meetings, master classes, music concerts, exhibitions), entertainment (fishing, cinema hall, disco club, karaoke, stand-up performances, theatrical interactive actions, providing a variety of games), the presence of a bicycle workshop, a children's room, a themed shop, the possibility of spending time with animals.

The main trends in increasing the attractiveness and identification of food establishments that contribute to increasing their popularity, attractiveness and attendance are identified: gastronomic specialization; emphasis on artistic and figurative solutions; versatility and availability of additional services; interactivity.

References

- Hromnyuk, A. I., 2016. *Ethnic motives in the architecture of modern interiors of catering industry*. Candidate's thesis. Lviv Polytechnic National University.
- Urenev, V. P., 1988. *Inter'yer ta obladnannya pidpryyemstva hromads'koho kharchuvannya* [Interior and equipment of catering establishments]. Kyiv : Budivel'nyk.
- Bilodid, I. K., Buryachok, A. A., Dotsenko, P. P. red., 1973. *Slovnyk ukrayins'koyi movy: v 11 tomakh* [Dictionary of the Ukrainian language: in 11 volumes]. [online] Vol. 4. Kyiv : Naukova dumka. Available at: <<http://sum.in.ua/s/koncepcija>> [Accessed date: 23 March 2021].
- Harayda, D., 2017. Stylistics as one of the methods of interior design of catering establishments in Western Ukraine. *Visnyk L'vivs'koyi natsional'noyi akademiyi mystetstv*, [online] issue 31, p. 315–321. Available at: <http://nbuv.gov.ua/UJRN/VInam_2017_31_31> [Accessed date: 23 March 2021].

Dranyts'kyy, YU., 2015. Interior design of modern hotel complexes in Ukraine: conceptual approaches to design. *Visnyk L'vivs'koyi natsional'noyi akademikh mystetstv*, [online] issue 26, p. 180–187. Available at: <http://nbuv.gov.ua/UJRN/Vlnam_2015_26_21> [Accessed date: 23 March 2021].

Mel'nyk V., O. I. Morklyanyk, 2019. Kontseptual'nyy pidkhid v arkhitekturnomu proektuvanni [Conceptual approach in architectural design]. *77th Student Scientific and Technical Conference*, a collection of abstracts. [online] Lviv, Ukraine, October 2019. L'viv : Vydavnytstvo L'vivs'koyi politekhniky. Available at: <<http://ena.lp.edu.ua:8080/handle/ntb/53591>> [Accessed date: 23 March 2021].

Novosel'chuk N. YE., 2017. Suchasni tendentsiyi obraznoho vyrishennya zakladiv hromads'koho kharchuvannya [Modern trends in the figurative solution of catering establishments]. *Abstracts of the 69th scientific conference of professors, teachers, researchers, graduate students and university students*. [online] Poltava, Ukraine, April 19 – May 19, 2017. Poltava : PoltNTU. Available at: <<http://reposit.nupp.edu.ua/handle/PolNTU/3845>> [Accessed date: 23 March 2021].

Smolyar, O., 2017. Conceptual analysis of works of monumental and decorative art in the interior design of hotels in Kiev 1950–1980's. *Narodoznavchi zoshyty*, [online] issue no. 4 (136), Instytut narodoznavstva NAN Ukrayiny, p. 977–982. Available at: <<https://nz.lviv.ua/2017-4-28/>> [Accessed date: 23 March 2021].

LLC “Publishing House “Media-DK”, 2014–2021. *HB website* [online]. Available at: <<https://life.nv.ua/ukr/food-drink/top-100-luchshih-restoranov-ukrainy-2019-po-versii-nv-50018618.html>> [Accessed date: 23 March 2021].

Shevnyuk, O. L., 2015. *Slovník terminiv obrazotvorchoho mystetstva: Navchal'nyy posibnyk: [2-e vyd., vypravlene i dopovnene]* [Dictionary of terms of fine arts: Textbook: [2nd ed., Corrected and supplemented]. [online] Kyiv: Vyd-vo NPU im. M. P. Drahomanova. Available at: <<http://enpuir.npu.edu.ua/handle/123456789/23107>> [Accessed date: 23 March 2021].

Wikipedia, the free encyclopedia [online]. Available at: <<https://en.wikipedia.org/wiki/Diner>> [Accessed date: 23 March 2021].

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КОНЦЕПТУАЛЬНИЙ АНАЛІЗ АРХІТЕКТУРИ СУЧАСНИХ ІНТЕР'ЄРІВ ПІДПРИЄМСТВ ХАРЧУВАННЯ МІСТ ЛЬВОВА, КИЄВА ТА ОДЕСИ

Анотація. У статті подано концептуальний аналіз предметно-просторового середовища сучасних підприємств громадського харчування у Львові, Києві та Одесі. Вони славляться найбільшим розмаїттям надзвичайних тематичних та багатofункціональних закладів. Розроблена класифікація смислових та художніх рішень інтер'єрів для відвідувачів цих закладів. Їх різновиди окреслені за такими ознаками: стилістичний напрямок, сюжетно-тематичний напрямок, жанровий зміст та предметно-чуттєвий зміст, гастрономічна спеціалізація, імітація чи відтворення певного історичного типу закладів харчування. Встановлено, що на концепцію підприємства громадського харчування та його тематичну спрямованість також часто впливає історичне минуле будівлі: тип закладу, його основні функції та стилістичне рішення.

Сформульовано основні підходи до проектування архітектури сучасних інтер'єрів закладів харчування в контексті їх художньо-образного вирішення: концептуалізм, еkleктика, екологічність, традиціоналізм, функціоналізм, символізм, інноваційність та експерименталізм. Визначено додатковий спектр послуг та спеціальних функцій, які доповнюють концептуальний дизайн тематичних установ. Це реабілітаційна, культурно-освітня функція (наявність музеїв, книжкових магазинів, бібліотек, лекцій та тематичних зустрічей, майстер-класів, музичних концертів, художніх виставок), розваги (риболовля, кіно, дискотека, караоке, стендап-вистави, театральні вистави, акції, що передбачають різноманітні ігри), наявність ремонту велосипедів, дитячої кімнати, тематичного магазину або можливість провести час із тваринами.

Визначено основні тенденції зростання актуальності та ідентифікації закладів харчування, що сприяють зростанню їх популярності, привабливості та відвідуваності. Це: гастрономічна спеціалізація; акцент на художньо-образне рішення; універсальність та доступність додаткових послуг; інтерактивність.

Ключові слова: концептуальний аналіз, архітектура інтер'єру, художньо-образне рішення, різновиди, заклади харчування.

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**CHURCH OF THE DISCALCED CARMELITES IN LVIV
AND ARCHITECTURAL STYLE**

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Abstract. The former church and monastery of the Discalced Carmelites, present Greek Catholic Michael the Archangel Church, is one of the most unexplored sacred buildings of Lviv. Despite its historical importance to the town, the few surviving documents list only donations and royal privileges. This article refers to examples of other Carmelite churches, as well as Italian religious houses to try to explain the possible building process. Not only them but also the already existing convents of the city shaped its form, which is significant for locating its history within the local building tradition.

Key words: Discalced Carmelites, baroque architecture, mendicant order, architectural landscape of Lviv, Michael the Archangel Church.

Problem statement

Michael the Archangel Church, the cornerstone of which was laid in 1634, is not only the first example of a baroque sacred architecture fully decorated with frescoes in the western Ukrainian city of Lviv, but also an expression of a unique synthesis of the Spanish-Italian Carmelite architecture. Nevertheless, the building has not found much interest among historians yet. On the one hand, the small amount of preserved documents might have caused difficulties in reconstructing its history. On the other, its lack of architectural richness compared to the former Jesuit or Dominican churches can explain the scarcity of literary mentions.

Given the above, the article aims to shed light on the history of the religious building and refute the theories about the possible architect, based on one of the preserved documents. This happened during the second half of the 20th century, mostly because of the unfamiliarity of scholars with the sources mentioned above and the Discalced Carmelites itself, which as well has found little attention in the literature. On this basis, it is necessary to understand the broader historical context to make deeper research on the construction process and its influences.

Analysis of research and publications

The publications below, used for the research of the subject under analysis deal with a wide field of historical events and for a better allocation should be divided into two parts: source material and secondary literature.

As for the first, the most important source materials about the order of the Discalced Carmelites are summarized in *“The Carmelites. A history of the brothers of our Lady of Mount Carmel. ca. 1200 A.D. Until the Council of Trent”* (1975) and *“The Carmelites. The post Tridente period. 1550–1600”* (1976) by the Carmelite monk J. Smet. Furthermore, the period relevant to the paper has been documented from the beginning of the order until 1718 in *“Bullarium Carmelitanum plures complectes summorum pontificum constitutiones ad ordinem fratrum beatissimae, semperq[ue] virginis die genitricis Mariae de Monte Carmelo spectantes”* (1715, 1718). Besides, the origins of the order’s branch, the Discalced Carmelites, can best be reconstructed through the letters and autobiographical books *“Libro de la Vida”* (1565) and *“Libro del fundazion”* (1610) by the founder, T. de Ahumada.

Not only the history of the order is important for the article, but also the history of Lviv. That is why we are considering the town chronicles by B. Zimorowicz (1835, 1899) and J. T. Jozefowicz (1854), who both lived during the time of construction of Michael the Archangel Church, to have a better understanding of this period. A large amount of source material can also be found in the work of historian and archivist D. Zubrzycki (1844). In his *“Kronika Miasta Lwowa”* a lot of documents from the Central Historical State Archive of Ukraine in Lviv illustrating the historical events of the city, which were not indicated in the chronicles above, are mentioned. M. Kapral’s *“Privileges of the City of Lviv”* (2010) is also of importance since it contains both the transcription of the privileges of the 15th – 18th centuries in Latin and the translation into Ukrainian.

However, the Central Historical State Archive of Ukraine in Lviv provides most of the materials on the building history of Michael the Archangel Church, although only a few documents are available because many manuscripts have either been lost or destroyed over the centuries. As a result, most of the information on the building standards of Carmelite churches and monasteries are taken from the *“Constitutiones Fratrum Discalceatorum Congregationis S. Eliae Ordinis B[eatissi]mae Virginis Mariae de Monte Carmelo”* (1631).

As for the secondary literature, the first attempt to give an overview of the construction history as well as the interior of Michael the Archangel Church is made by T. Mańkowski in his book *“Dawny Lwow. Jego sztuka i kultura artystyczna”* (1974). However, there is only the key analysis of the architectural style. Mańkowski’s contemporary, B. Wanat, took over the attribution of the architect to Adam Pokora and his son Jan Pokorowicz from S. Łoza and M. Orłowicz in his work *“Zakon Karmelitow bosych w Polsce. Klasztory Karmelito i Karmelitanek bosych 1605–1975”* (1979) without further questions. On the contrary, interestingly enough, he treats the building history of Lviv’s Discalced Carmelite Church in connection with other Carmelite architecture of the Kingdom of Poland based on archival documents. The next publication on the topic, *“Michael the Archangel Church (the former Church of the Discalced Carmelites)”* (2011, p. 30–37), was published only in 2011 – its author, J. Smirnov, only summarizes the two works discussed above. A critical view, published a year after, can be found in A. Betlej’s work *“Kościół p.w. Św. Michała Archanioła (Nawiedzenia Najśw. Panny Marii) i Klasztor oo. Karmelitow Trzewickowych (Pierwotne oo. Karmelitow Bosych)”* (2012) where not only the architecture but also the frescoes are described in detail. Moreover, Betlej is also the first author who tries to show the influences of Italian art of the 16th and 17th centuries.

However, the list of the publications covering this topic is still very short and most of them lack a critical view on the subject, which leads to adopting questionable information without further research.

The objective of the article

The history of Michael the Archangel Church has been only fragmentarily handed down to these days. With the help of the sources from the Central Historical State Archive of Ukraine in Lviv, it is possible to reconstruct its building history only from the beginning of the 1630s to 1642, although this period is not described in detail either. The attempt to recreate it, therefore, based much more on the author’s theories and observations than on archive materials. The hypotheses are built on the comparisons to the first Carmelite churches in Spain and later to some Roman baroque sacred architectures, both of which had an undoubted influence on Lviv. The most significant construction element, in this case, is the

facade, which will be analyzed in detail and can fully illustrate the impact of the two architectural groups. On this basis, we will see that the city was not on the periphery of the architectonic events, as some historians claim, but it implemented the contemporary building tendencies.

Since the church was built during a politically unstable time, this fact should too be taken into consideration while looking at its construction and late restoration. The two city sieges by B. Khmelnytskyi in 1648 and 1655 and the later conquest of Lviv by Karl XII left their mark on the Carmelites' place of worship; it was severely damaged during the Swedish military operation.

The main achievements presented in the article are based on the critical confrontation with all given materials, which show different results if compared with other publications. For this reason, some old questions still cannot be answered, however, new horizons in the research are being opened up.

Results and discussions

Building history of the church

One of the Lviv chroniclers, I. Chodynicky, wrote in his "*Wiedomość historyczna o fundacyach klasztorow zakonu karmelitańskiego (etc.)*" that the Carmelites founded their first monastery in Lviv in the Galician Suburb in 1443, but left the city for many years soon after the convent was burned down by Tatars (Chodynicky, 1846, p. 26). However, the Ukrainian historian and archivist D. Zubrzycki, who relies on the source materials, claims in his work "*Kronika miasta Lwowa*" that the foundation took place a year later (Zubrzycki, 1844, p. 105; Zubrzycki, 2002, p. 94).

In 1599 the Archbishop of Lviv, J. Sulikowsky, wanted to bring the Carmelites back to the city. However, his plan failed due to the plague epidemic that began to rage in Krakow, where the friars were invited from and later spread in Lviv (Wanat, 1979, p. 55; BullCarm., 1768, p. 373; Zubrzycki, 2002, p. 227; CDIAL, f.52, op. 1, file no. 239., p. 3; Bevzo, O., 1970, p. 102).

Fourteen years later, the order received a permit from the General of the Italian Congregation, J. of Jesus Mary, to found a monastery in the city (CDIAL, f. 52, op. 1, file no. 237, p. 13; Wanat, 1979, p. 175). In 1614 the wooden friary in the Krakow Suburb behind the Krakow Gate was already built and received the patronage of Michael the Archangel (AKKr 338/453, p. 110; Wanat, 1979, p. 175). Anyway, the area proved to be very unfavourable: on the one hand, the convent was at the mercy of external dangers, as located outside the city walls and therefore difficult to be protected from raids; on the other, the topography was also disadvantageous, since the swampy area caused the poor health of the friars and the proximity of the river causing frequent floods. The Carmelites, therefore, wanted to move within the city walls as soon as possible to build a new monastery there (CDIAL, f. 52, op. 1, file no. 237, p. 14.; CDIAL, f. 52, op. 1, file no. 237, p. 13; Metryka koronna 155, p. 169).

Unfortunately, any floor plans or elevations of the first building did not remain up to these days. The only possible illustration of the church, which falls under the description of the location, can be seen on the cityscape engraving "*Civitates orbis terrarium*" (Fig. 1) by F. Hogenberg (1617). However, it shows only a schematic representation of the facade, which resembles Lviv's old Dominican Church (1392) by its strict stepped gable. The further architectural influence certainly comes from Krakow, the city from which the Discalced monks were invited to Lviv. The similarities can be observed in the distinct vertical axis and stepped gables of the front of the Dominican Church and Corpus Christi Basilica (Fig. 2).

On December 20, 1625, Sigmund III issued a privilege allowing the Discalced friars to establish a new convent within the city walls (CDIAL, f. 52, op. 1, file no. 237, p. 19). 1631 to 1633 the Carmelites purchased land from the city residents on the so-called "Golushov Hill", not far from the eastern walls in the Galician Suburb. The acquisitions were approved on the 17th of October 1634 by the new king of Polish-Lithuanian Commonwealth, Władysław IV Vasa. During the following year, problems began to arise for the monks concerning the construction works and could not be solved quickly. In one of the acts of the Forty Townsmen from 1635, the friars were forbidden to buy the lands of Alexander Smidt that were needed for the building of a

brickyard, a crucial part of the building process at that time. It went so far, that on the 19th of October the King issued a new privilege stating that the Discalced Carmelites on “Golushov Hill” shall not be opposed with malice and obstacles by the Townsmen in building the brick church and monastery. However, this process lasted for two more years. In 1637 after the day of St. Fabian and St. Sebastian the court decided to return the monks the full amount of money they had paid for the land. There was also a condition for the city to find another place for the brickyard for the Carmelites – a custom at that time, as it can be seen in the documents describing the building processes of the Benedictines and Dominicans. In the same year, the Discalced friars were given a suitable place, available to them for 15 years (CDIAL, f. 52, op. 1, file no. 237, p. 29, p. 40–43, p. 50, p. 54–55, p. 67, p. 71–75, p. 101–102, p. 118–121).

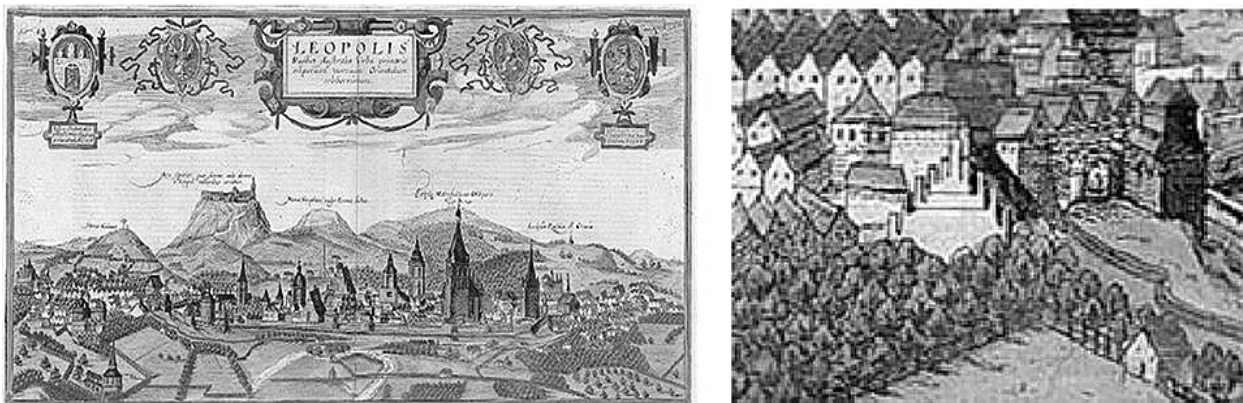


Fig. 1. F. Hogenberg, *Civitates orbis terrarum*, engraving, 1617.

Source: Wikipedia, 2016



Fig. 2. Dominican Church, Krakow, built in the 14th century (left)

Corpus Christi Basilica, Krakow, built in 1385 (right)

Source: Wikipedia, 2016

Because the Discalced Carmelites did not have a brickyard during the first three years after the laying of the cornerstone, probably only the foundations were dug and scaffolds erected: in the archive documents nothing is reported about the progress of the construction works in 1634–1637. After the court proceedings were over, the building process of the new convent continued rapidly, making it possible for the monks to move into the newly erected church after only five years, in 1642. During the same year, the

Discalced friars received permission from the magistrate to build a new city gate: it was needed because of the long distance between the convent and the two existent city gates. The construction work did not last long. In 1645 the Discalced Carmelite monastery was described as “*ante portam orientalem noviter erectam*” (CDIAL, f. 52, op. 1, file no. 237, p. 133, p. 142–145, p. 148).

The church and the monastery were erected during politically unstable times, as we can read in the consular records of 1655 that mention how badly the convent had been damaged in the course of the two city sieges by B. Khmelnytskyi (1648 and 1655). Although not described in detail, the damages were arguably tremendous: the Carmelites asked the magistrate to prolong their usage of the brickyard to be able to rebuild their property. This year also marks the end of any documentary mentions regarding the church and monastery (CDIAL, f. 52, op. 1, file no. 237, p. 162).

Besides, the further history of the convent should not go unnoticed, because of its importance to the later restoration processes. In 1784 the Galician Gouvernement received a royal decree according to which the monastery of the Discalced Carmelites was to be abolished in the course of the Josephine reform and the friars were to be moved to another one of their order. Two years later, the former Carmelite monastery was handed over to the Reformates. In 1789 the Calced Carmelites moved into the monastery along with the parish. In 1871 they changed the patronage of the church to the Visitation of the Virgin Mary and remained the owners of the convent until the beginning of the Second World War (AT-OeStA/AVA Kultus AK Katholisch 892 2, F 652.; Wanat, 1979, p. 186).



Fig. 3. F. Perneur, *Cityscape of Lviv*, engraving, 1775/77 (top)
 K. W. Kielinsky, *Church of Discalced Carmelites, view from the north*, drawing, Lviv, 1838 (bottom)
 Source: Polona Archive, 2016; Betlej, A., Biernat, M., Kurzej, M., and Ostrowski, J. K., 2012

After becoming acquainted with the historical background of Michael the Archangel Church, its building process, which ran relatively harmoniously, should be reconstructed at this point. This will be done based on comparisons between the cityscape by F. Perneuer from 1775/77 (Fig. 3), some ground plans and elevations, as well as a few drawings from the beginning of the 20th century.

Exterior:

1. F. Perneuer's engraving from 1775/77: the first image of the church that survived to these days. Based on the quite accurately made miniature representation, one cannot see many changes in the building's silhouette from the 18th century until the construction of the two towers at the beginning of the 20th century.

2. K. W. Kiełiński's drawing from 1838 (Fig. 3) and photographs from 1906 and 1911 (Fig. 4): the central part of the facade was designed almost exactly as it is preserved today. Even if the double pilasters are not precisely drawn at Kiełiński's image, their structure is still clearly visible and shows the Roman influence on the design of the church front.



Fig. 4. Michael the Archangel Church, photography, Lviv, 1906 (left)
Michael the Archangel Church, photography, Lviv, 1911 (right)
Source: Archive Polona, 2016

3. The facade plan from 1835 (Fig. 5) displays the ground plan and the elevation of the future towers. The double pilasters are present and a narrow cornice-like framing of the window on the second floor can be seen. However, the round-arched framing of the small opening in the triangular gable is missing.

4. A. Vondrashka's facade plan from 1839 (Fig. 5) shows the future towers, whose construction begins with the northern tower in the same year and ends in 1906. The front's representation is almost as it remained until today. The round-arched framing of the small window in the triangular gable is missing, as it is on the plan from 1835. In this case, the framing could have been inserted during the "baroquezation" of the tower caps after 1906, since it appears for the first time in connection with them.

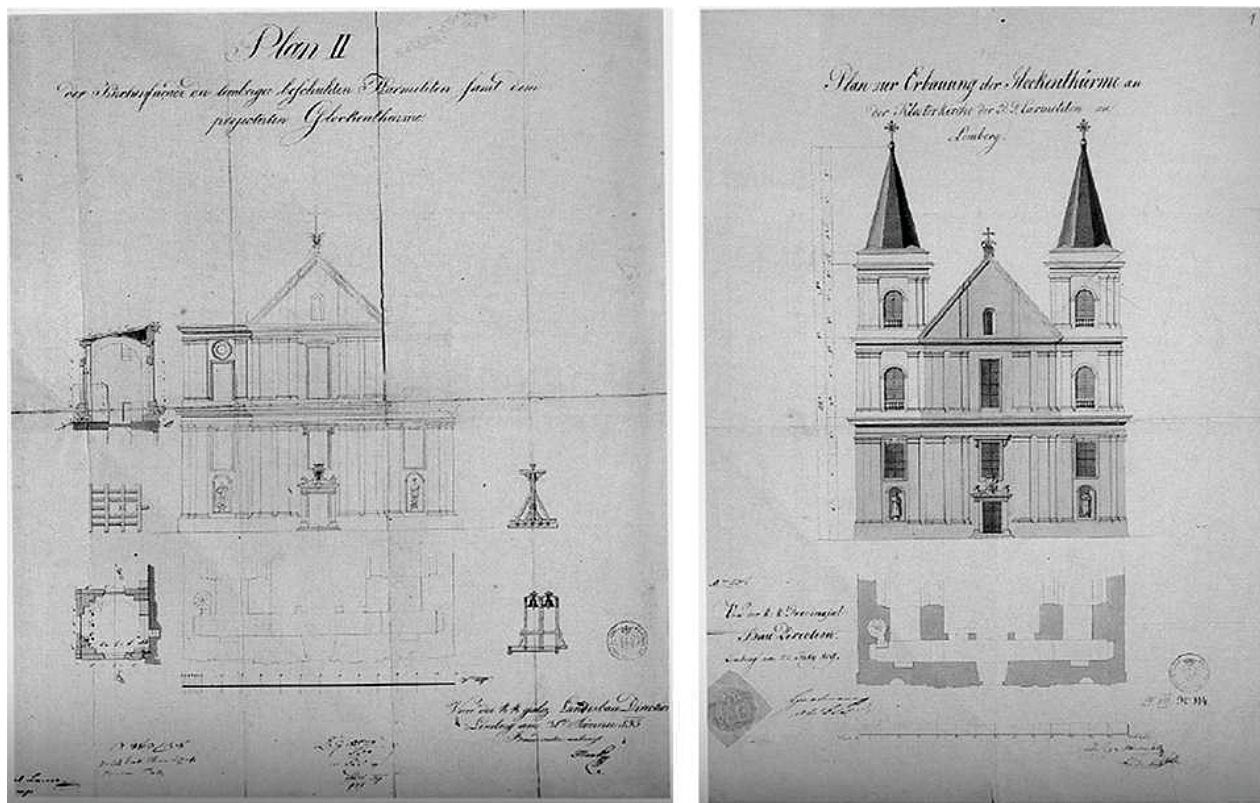


Fig. 5. Michael the Archangel Church, facade plan, Lviv, 1835 (left)
 A. Vondrashka, Michael the Archangel Church, belfry towers plan, Lviv, 1839 (right)
 Source: Betlej, A., Biernat, M., Kurzej, M., and Ostrowski, J. K., 2012

Interior:

1. Pillars supporting the gallery and pillars in the presbytery were originally decorated with stucco marble, which is visible on the photographs from 1939 (Fig. 6) and was probably removed shortly after when the church was transformed into an archive depot during the soviet time.

2. Niches in the chapel were presumably formed after the great restoration of the church during 1869–70. The dating is based on their form since these do not follow the architectural fresco. They occur in the first and second chapel on the southern and in the first and third one on the northern wall. It is unknown whether they also existed in the other two chapels for the southern wall was completely sealed in the 20th century, and the northern niche could be hidden behind the painting of the Holy Family. Their purpose was most likely intended for new altarpieces (Fig. 7).

3. Chapel windows: as can be concluded from the small thickness of the walls, all of them were bricked up from the inside (Fig. 8) during the same period. The project can probably be dated 1869–70 in view of the major style differences of the frescoes. The wall decorations from the late 19th century show the illusionistic painted architecture accomplished with great detail, while the originals from 1730–32 are large-scaled ornamental paintings on the window frames.



Fig. 6. Michael the Archangel Church, gallery, view from the west, photography, Lviv, 1939 (left)
Michael the Archangel Church, presbytery, view from the east, photography, Lviv, 1939 (right)
Source: Betlej, A., Biernat, M., Kurzej, M., and Ostrowski, J. K., 2012

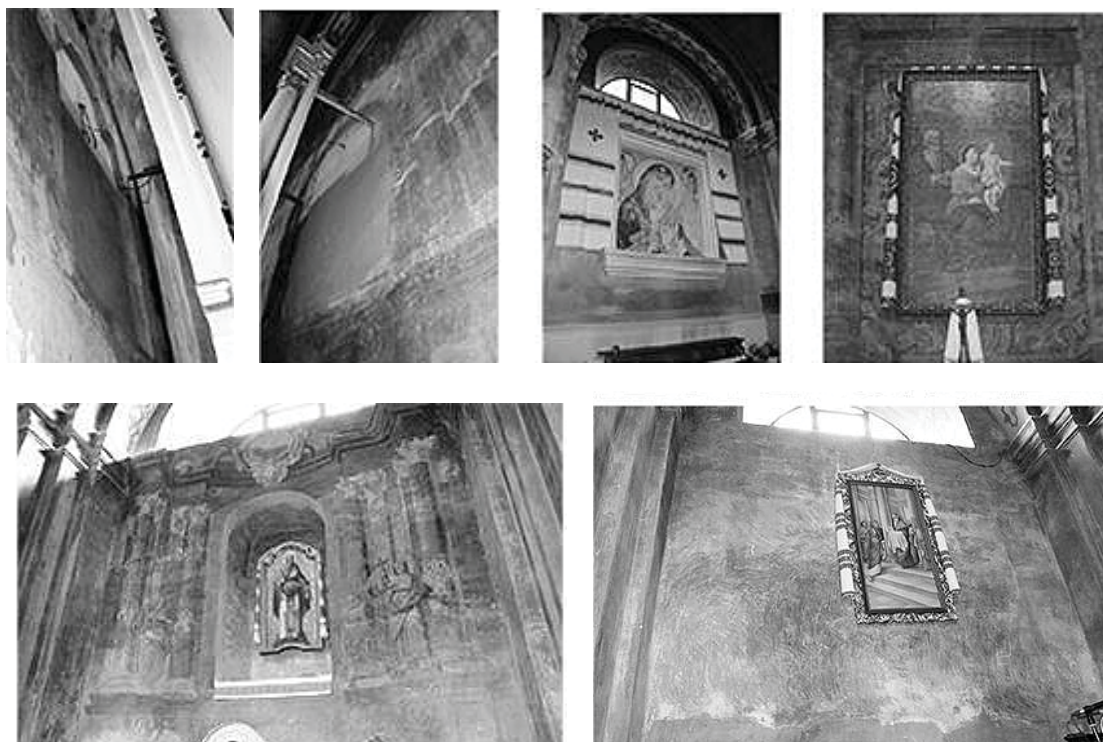


Fig. 7. Michael the Archangel Church, niches of the southern and northern chapels, photography, Lviv, 2016 (left)
Source: S. Husak, 2016



Fig. 8. Michael the Archangel Church, detail, first southern chapel from the west, photography, Lviv, 2016 (right)
Source: S. Husak, 2016

Architectural style of the Carmelites

Carmelite churches from the 17th and 18th centuries form a self-contained building group. This could only be achieved with strict building norms: a precise prescription of measures, ground plans, elevations, and facade designs found in “*Constitutiones Fratrum Discalceatorum Congregationis S. Eliae Ordinis B.^{mae} Virginis Maria de Monte Carmelo*” from 1631. Since the community lived in poverty and humility, the Generals decided that their churches should serve as images of these virtues: in this way the believers would perceive these values as soon as they enter the building. According to the “*Constitutiones*”, the Provincial Definitors had two construction plans of a large and a small convent, which were approved by the General Definitors based on the economic situation and the number of monks in the particular city. Ergo, the width of the large churches was 9.6 m: Michael the Archangel Church, with its nave size of 10 m, is one of them. Further building requirements were a prohibition of a dome – the Carmelites followed this in Lviv by making it visible only from the inside of the building, as it was done in S. Maria della Scala (1593) and St. Mary of Peace in Cologne (1643) (Fig. 9) – and exclusion of gold, marble or any other form of precious objects. (PP. Fortunatus a Jesu/ Beda a SS. Trinitate, 1968, p. 39–43; Wanat, 1979, p. 93–94., Vindelicorum, 1631, p. 75–76; p. 248; Wanat, 1979, p. 94–95)



Fig. 9. Santa Maria della Scala, photography, Rome, built from 1539 (left)
St. Mary of Peace, photography, Cologne, built from 1643 (right)

Source: www.flickrriver.com/photos/peronto/4528493977/ (1.2.2021); Wikipedia, 2021

The strong purism led to the development of a specific form of the facade, called by S. Sturm “*the classical Carmelite facade*”, which served as the basis for all later Carmelite churches and became most widespread in the Iberian Peninsula (Sturm 2002, p. 121). Its silhouette was shaped in 1608 by F. de Mora, a student of Spain’s most significant architect under Philip II, J. de Herrera, when he built the first church of Discalced Carmelites, S. José in Avila (Fig. 10) (Wilkinson- Zerner, 1993, p. 89, p. 117).



Fig. 10. S. Sturm, “*the classical Carmelite facade*”, plan, 2002 (top left)

F. de Mora, S. José, photography, Avila, built from 1608 (top right)

S. Pedro, photography, Pastrana, built from 1570 (bottom left)

S. Maria del Monte Carmelo, photography, Salamanca, built from 1612 (bottom right)

Source: S. Sturm, 2002; Wikiwand, 2016; www.carmelites.net/wp-content/uploads/Pastrana.jpg (1.2.2021);

Wikipedia, 2016

The peculiarities of a “*classical Carmelite facade*” are a rectangle, framed by pilasters of the Tuscan order, crowned by a gable, with either an oeil-de-boeuf or the order’s coat of arms in the centre. Under the gable, a rectangular window is placed. Underneath the window is a niche with a statue of the respective church patron, flanked either by coats of arms of the patrons or by other smaller windows. Often a single portal in the form of an aedicula is used in this type of facade, although a portico entrance may also occur, as one can see at S. Jose in Avila. Examples of the classical variant include the early Carmelite churches, such as S. Pedro (1570) in Pastrana and S. Maria del Monte Carmelo (1612) in Salamanca (Fig. 10).

The strong Spanish impact can also be found in Michael the Archangel Church, where the austerity of the rectangular facade finished with a gable is visible. However, in contrast to the “*classical Carmelite facade*”, there are two considerable differences: the division of the front by pilasters in Lviv is no longer flat but comes strongly to the fore; furthermore, the side chapels of the church are perceptible from the outside, which is never the case with the classical variant.

Yet, the greatest influence both on Lviv and Carmelite architecture is due to Rome. After the Reformation, a new, powerful movement of the Counter-Reformation was sought to restore the power of the Catholic Church to its full glory. From the middle of the 16th century onwards, to better display the genius of the new religious buildings, the facade was more emphasized by its design than any other side; its best example: Il Gesù (1568). The Jesuit church had a great effect on the Carmelite architecture in central and eastern Europe, so that a “*vignolesque facade*” (Fig. 11), as it is called by S. Sturm after the architect G. Vignola (1507 – 1573), emerged. (Sturm, 2002, p. 122)

This type was adopted by the Carmelites, most probably because of the addition of wider side chapels, which no longer corresponded to the proportions of the “*classical Carmelite facade*”. As well as in Il Gesù, the central part of the facade is divided into two floors by a cornice united by a gable and enclosing either the order’s coat of arms or a window, as in the classical version. The newly added symmetrical side wings coincide with the design of the portal by incorporating niches and, in some cases, piercing windows to illuminate the side chapels, which are no longer closed to the nave but open directly to it, replacing the side aisles. This type of facade is mostly used for the sacred buildings of the male branch of the order, which were often intended as parish churches, e.g. St. Teresa in Vilnius (1633), the Church of the Immaculate Conception in Krakow and Lviv’s Michael the Archangel Church (Fig. 11). (Sturm, 2002, pp. 122–126) Although we can only speculate about the original appearance of the building’s front based on the above-mentioned engravings and drawings, we can certainly say that the strongly emphasized supporting elements, cornices, and entablatures, give the church a well readable geometrical order that divides the facade both horizontally and vertically.



Fig. 11. S. Sturm, “*vignolesque facade*”, plan, 2002. (left); St. Teresa, photography, Vilnius, built from 1633 (middle); Church of the Immaculate Conception, photography, Krakow, built from 1634. (right)

Source: S. Sturm, 2002

Unlike Roman and Spanish sacred architecture, the church fronts of Discalced Carmelites of the former Polish province to which Michael the Archangel Church belongs also developed their specific feature: a window placed on each floor. The innovation is made on the ground level, where the opening is pierced as a substitute for the saint’s figure above the portal. However, also the influence of Spain can be seen in Lviv in the placement of the window in the gable, wherein most Carmelite places of worship outside the Iberian Peninsula the order’s coat of arms found its place.

Even though the immense Spanish and Roman influences on Michael the Archangel Church cannot be overlooked, as shown by the above comparisons, the urban architecture of Lviv also had a great impact on the town's Discalced Carmelites. Its eclectic style, which combined Renaissance and Baroque forms, was essential for the construction, as the friars were always surrounded by it since their return to Lviv. Accordingly, the strong value of the architectural diversity of the city should not go unnoticed.

Architectonic cityscape

The city was always characterized by its multi-ethnicity: the German, Ruthenian, Armenian and Jewish populations lived together. Lviv was also the residence of three Christian bishops: Greek Catholic, Roman Catholic, and Armenian Apostolic. Therefore, there was the need for architects who could skillfully implement the churches of different religious denominations that had been arising since the middle of the 14th century. They were brought to town mostly from the German-speaking countries and from the former Italian colonies. Nonetheless, the Renaissance established itself in the whole Kingdom of Poland only at the beginning of the 16th century, although already widespread in Southern and Western Europe from the 15th century. In Lviv, one of the reasons behind it could be linked to the Ruthenian owners, who did not want to fully neglect their old building tradition: hence the Italian architects commissioned to build the new Orthodox churches were to consider it. This resulted in a new, original, eclectic style that combined Italian Renaissance with Byzantine forms. (Mańkowsky, 1974, p. 98)

In this article, however, it is significant to see how the buildings constructed during the Renaissance and the beginning of the Baroque influenced Michael the Archangel Church. One of them is the Korniakt Tower, the belfry of the Dormition Church. It was built by Pietro di Barbona (? – 1588) from 1572 until ca. 1578 by order of a merchant from Crete, Konstanty Korniakt. (Zimorowicz, 1835, p. 221, p. 229; Mańkowsky, 1974, p. 108) The architect's use of the dividing elements such as lesenes and cornices on the facade in terms of decoration and not only as a support system is done here for the first time and also cannot be on Michael the Archangel Church. It can be assumed that the unknown Carmelite architect was inspired by Korniakt's building when the Discalced friars were given the lands opposite the Dormition Church and the tower (Fig. 12).



Fig. 12. Korniakt Tower and Dormition Church ("Wallachian Church"), photography, Lviv, built from 1572 (left); F. Hogenberg, *Civitates orbis terrarum*, detail of the Korniakt Tower, engraving, 1617 (middle); The original appearance of the Korniakt Tower, seal of the Stauropegia Brotherhood, seal (right)

Source: S. Husak, 2016; Mańkowski, 1974

However, the strongest influence on the Renaissance architecture of Lviv and later Church of the Discalced Carmelites was made by Barbona's disciple, Paulo Dominici (? – 1618), also called Paul the Roman. Significant is his first duty: he was entrusted with the planning of the new Wallachian Church, preserved to this day, by the Stauropegia Brotherhood. Although Paul the Roman was the construction supervisor only until 1598, his successors continued to work on the building without any changes to the plan. Like the Karniakt Tower, Dominici's church exerted an impact on Michael the Archangel Church with its dividing elements. Analyzing both facades, the gliding gaze of the viewer is kept within the framework of the architecture. However, the pilasters of Tuscan order and cornices in both buildings already give away the structure of the interior. Since the entire architectural ensemble of the Dormition Church is strongly anchored in the Byzantine tradition, the Discalced Carmelites drew inspiration only from small quotations. (Mańkowsky, 1974, p. 121, p. 124; Shustova, Yu., 2009, p. 299; CDIAL, f. 129, op. 1, file no. 159; CDIAL, f. 52, op. 2, file no. 34, p. 250)

Of greater relevance for the order, however, was another of Dominici's buildings, the St. Andrew Church, which displays a strong influence of G. Vignola for the first time in Lviv. The beginning of the construction of the Benedictine monastery's church is dated 1600. Dominici was commissioned to build it according to the regulations of the order. After the plans were surveyed, the construction began, directed for about fourteen years by Paul the Roman. The architect's style is best seen both on the lower story of the facade and the southern side of the building (Fig. 13). As in the Wallachian Church, the front, including the southern wall, is divided by pilasters, which this time are doubled up to the apse. They frame the church facade of St. Andrew, as it was later done on Michael the Archangel Church, and clearly show the dimensions of the three naves of the basilica. The Benedictine building was completed in 1630, four years before the cornerstone of the new church of the Discalced Carmelites was laid. Because of Paulo Dominici's fame and the time frame in which the St. Andrew Church was built, it represented a significant example of the town's architecture. Thus, the Discalced friars were not excluded from its influence. Although the monks were supposed to follow strict building norms, they most likely also wanted to use some elements of Lviv's sacral architecture in their facade. Due to its strict forms the St. Andrew Church, especially the part of the building that was still built under Dominici, was the exact example of this. Although its front is still strongly anchored in the Renaissance, some quotations can be discovered in the Carmelites building, e.g. the narrow and high rectangle of the central part of the facade. However, the Discalced friars were above all inspired by the double pilasters and the cornices that roughly correspond to the width of the pilasters and do not visually weigh down the facade, as can be seen in S. Maria della Vittoria. After the addition of the two towers in Michael the Archangel Church, the influence of the Benedictine church became less visible at first sight, yet, the Renaissance forms, which came strongly to the fore, were not lost and were again emphasized by the pilasters of the towers, which come forward three times (Mańkowsky, 1974, p. 126, p. 130; Zimorowicz, 1899, p. 350).

Paulo Dominici's buildings were not the only ones that had an impact on the Discalced Carmelite. As already mentioned, according to Sturm the front of Michael the Archangel Church belongs to the type of "*vignolesque facade*", which underlines the great relevance of Il Gesù. However, it is necessary to ask whether the influence of the Jesuit architecture came directly from Rome or the monks were inspired by Lviv's Jesuit church (Fig. 14), whose construction was partly supervised by a Jesuit friar from Rome, Giacomo Briano (1586 – 1649). As well as the buildings of the Discalced Carmelites, the Jesuit churches were under the effect of their geographical location: Lviv was no exception. Unlike the mother church of the order, whose front can be perceived as a horizontal rectangle (with a small difference in dimensions between width and height), the S. Peter and Paul Church's facade is characterized by a vertical. Thus, the slender double pilasters and the higher basement emphasize the narrowness of the front. It strongly influenced the Discalced Carmelites. For them, it was easier to be persuaded by a Jesuit church already existing in the city they could see every day than to look to Rome. In this way, the type of "*vignolesque*

façade” was preserved in its basic form, but some local uniqueness was adopted in the type of construction common to the Carmelites. Although the Discalced friars were mostly inspired by particular elements of Lviv churches, as pilasters, lesenes, or cornices, an alteration can be seen on the basis of the S. Peter and Paul Church: unlike the above-mentioned comparisons, the overall shape of the facade exerted an influence on Michael the Archangel Church (Mańkowsky, 1974, p. 218; Betlej/ Biernat/ Kurzej/ Ostrowsky, 2012, p. 75; ÖNB, Cod. 11988, p. 7, p. 131–132; Brinckmann, 1910, p. 7; Thullie, 1913, p. 48).



Fig. 13. P. Dominici, St. Andrew Church, photography, Lviv, built from 1600 (left)
P. Dominici, St. Andrew Church, view from the south, photography, Lviv, built from 1600 (right)
Source: S. Husak, 2016



Fig. 14. G. Vignola, Il Gesù, photography, Rome, built from 1568 (left)
S. Peter and Paul Church, photography, Lviv, built from 1610 (right)
Source: UNIDAM Archive, 2016; S. Husak, 2016

Conclusions

Michael the Archangel Church, which is one of the least researched sacred buildings from the Baroque period in Lviv, represents one of the best examples of a synthesis of Spanish and Italian Carmelite architecture. Unfortunately, this has remained unnoticed by scholars until today. Since the church was built during a difficult period of uprisings and wars, its construction history is a sign of the persistence of the Discalced Carmelites, who, despite the problematic financial situation, built a convent near the city walls.

One of the most challenging questions is of course the identification of the builder. Because of the lack of archival documents, the name of the architect remains unknown, regardless of previous assumptions by B. Wanat, S. Łoza, and M. Orłowicz is Jan Pokorowicz. Taking into consideration the influences mentioned above, it can be assumed that the architect must have been most probably a Carmelite monk coming from Italy. This thesis accounts for an architecture strongly oriented to Rome, which would have a different form without knowledge of the works of G. Vignola or G. B. Soria. Although the church was restored several times in the 17th and later in the 18th century owing to the political situation, its appearance hardly changed. The facade towers added in 1906–1911 represent the only major change to the building: at its core it remains a homogeneous Baroque structure. The architectural influence came not only from Italy but also from Lviv itself. Most likely, the Discalced Carmelites wanted to build a church that would seamlessly fit into the architectural landscape of the city. The unknown builder succeeded in doing so with the help of architectonic elements such as pilasters and cornices, which most probably were introduced to the town's architecture in the 16th century by Pietro di Barbona and Paul the Roman.

Michael the Archangel Church opens a rich research field between the Italian, especially Roman, architecture and Lviv. This has not been considered by researchers until today, as can be best seen in the brief mentions of the studied building in the literature on Lviv architecture. This article attempts to look behind a curtain, even though the sparse historical documentation does not allow more in-depth source research. However, there is hope that over time some documents, as well as critical publications on this subject, will appear.

References

- AKKr 338/453.
 AGAD, Metryka koronna 155.
 AT-OeStA/AVA Kultus AK Katholisch 892 2, 1787–1825. Karmeliter in genere, in Lemberg, Milatyn, Sosiadowice, Trebowla, Wiszina, Zagorze.
 Betlej, A., Biernat, M., Kurzej, M., and Ostrowski, J. K., 2012. *Materiały do dziejów sztuki sakralnej na ziemiach wschodnich dawnej Rzeczypospolitej, Kościoły i klasztory Lwowa z okresu przedrozbiorowego*, 20. Krakow.
 Bevzo, O., 1970. *L'vivs'kyi litopys i Ostroz'kyi litopysets'*. Kyiv
 Brinckmann, A. E., 1970. *Handbuch der Kirchen Roms, Die Kirchen innerhalb der Mauern Roms*, 2. Vienna.
Bullarium Carmelitanum plures complectes summorum pontificum constitutiones ad ordinem fratrum beatissimae, semper[ue] virginis die genitricis Mariae de Monte Carmelo spectantes, 1, 1715. Rome.
Bullarium Carmelitanum plures complectes summorum pontificum constitutiones ad ordinem fratrum beatissimae, semper[ue] virginis die genitricis Mariae de Monte Carmelo spectantes, 2, 1718. Rome.
 Chodyncki, I., 1846. *Wiadomość historyczna o fundacyach klasztorów zakonu karmelitańskiego, niegdyś w Polsce i Litwie, później pod panowaniem Austrii, Rossyi, Pruss zostających*. Lviv.
 De Ahumada, T., 1565. *Libro de la Vida*.
 De Ahumada, T., 1610. *Libro del fundazion*.
 Husak, S., 2016. *Die Kirche des Erzängels Michael und das Karmeliterkloster in Lwiw*. Master Thesis, University of Vienna, Vienna.
 Jósefowicz, J. T., 1854. *Kronika miasta Lwowa : od roku 1634 do 1690 : obejmująca w ogólności dzieje dawnej Rusi Czerwonej : a zwłaszcza Historyę arcybiskupstwa lwowskiego w tejsze epoche / napisana spólcznie w języku lacińskim przez J. Tomasza Jósefowicza*. Lviv.
 Kaprał, M., 2010. *Pryvileiy L'vova*. Lviv.
 Mańkowski, T., 1974. *Dawny Lwów. Jego sztuka i kultura artystyczna*. London.

- ÖENB, Cod. 11988, Historia collegii leopolinensis Societatis Jesu manu propria R(everendi) P(atris) Matthiae Wielewicz pro tunc rectoris dilligentissime collecta et decripta ad annum 1665, quo anno obdormavit in Domino.
- PP. Fortunatus a Jesu and Beda a Ss. Trinitate OCD, 1968. *Constitutiones Carmelitarum Discalceatorum*. Rome.
- Smet, J., 1975. *The Carmelites. A history of the brothers of our Lady of Mount Carmel. Ca. 1200 A.D. Until the Council of Trent*. Rome.
- Smirnov, Yu., 2011. Khram Svyatoho Arkhystratyha Mykhayila (kolyshniy kostel karmelitiv bosykh). Halyts'ka Brama, 5-6, S. 30–37.
- Sturm, S., 2002. *L'architettura di Carmelitani scalzi in età barocca. L'Eremo di Montevirginio e la tipologia del Santo Deserto*, 3, Rome.
- Thullie, C., 1913. *O kościołach lwowskich czasów odrodzenia*. Lviv.
- Vindelicorum, A., 1631. *Constitutiones Fratrum Discalceatorum Congregationis S. Eliae Ordinis B.mae Virginis Mariae de Monte Carmelo*, Augsburg.
- Wanat, B. J., 1979. *Zakon Karmelitów bosych w Polsce. Klasztory Karmelitów I Karmelitanek bosych 1605–1975*. Krakow.
- Wilkinson-Zerner, C., 1993. *Juan de Herrera. Architect to Philip II of Spain*. New Haven.
- Shustova, Yu., 2009. *Dokumenty Lvovskogo Uspenskogo stavropigiyskogo bratstva (1586–1788)*. Source study. Moscow.
- Zimorowicz, B., 1835. *Historia miasta Lwowa, Królestw Galicyi I Lodomeryi stolicy z opisaniem dokladnem okolic I potróynego obleżenia*. Lviv.
- Zimorowicz, B., 1899. *Pisma do dziejów Lwowa odnoszące się z polecenia reprezentacyi miasta*. Lviv.
- Zubrzycki, D., 2002. *Kronika miasta Lwowa*. Lviv.
- CDIAL, f.52, op. 1, file no. 239.
- CDIAL, f. 52, op. 1, file no. 237.
- CDIAL, f. 129, op. 1, file no. 159.
- CDIAL, f. 52, op. 2, file no. 34.

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КОСТЕЛ КАРМЕЛІТІВ БОСИХ У ЛЬВОВІ ТА АРХІТЕКТУРНИЙ СТИЛЬ

Анотація. Колишній костел та монастир кармелітів босих, а теперішня греко-католицька церква Архистратига Михаїла, є однією з найменш досліджуваних сакральних споруд Львова. Незважаючи на його історичну цінність для міста, в небагатьох документах, які збереглися до наших днів, перераховані лише пожертви та королівські привілеї: у цій статті за допомогою прикладів інших костелів кармелітів, а також італійських святинь, буде зроблена спроба відтворення можливого процесу його будівництва. Не лише вони, а й вже існуючі монастирі та храми міста сформували вигляд костелу львівських кармелітів, що є важливим для розуміння і локалізації його історії в місцевій будівничій традиції.

Ключові слова: кармеліти босі, барокова архітектура, жезбручий орден, архітектурний ландшафт Львова, костел Архистратига Михаїла

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LIFE AND DEATH OF NEW CITIES

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Abstract. The article discusses the issues of architectural genesis, rapid implementation, the realities of development, life and death of new Soviet cities, as a necessary prerequisite for our attempt to understand and, possibly, resolve some of the key problems of the current trend of degradation of the urban planning environment of the Soviet period. This can give us the clearest understanding of the changes currently taking place in human nature and social order, and will allow us to more deeply analyze urban planning decisions when designing new settlements.

Key words: new town; degradation; urban planning; living environment

Problem statement

Cities rebuilt from clear sheet, in deserts or in an open field, around non-competitive territories of industrial complexes are very problematic and are currently degrading. It is a rare occurrence that such settlements can be considered sustainable in development and socially viable. The most important urban planning problem is the return of the social structure and architectural appearance of new cities. For architecture and urban planning, the time has come for research, multilateral analysis, scientific conclusions, the search for new ideas in the design of new cities. Deciding whether to build new cities, how difficult it can be; what are the main factors influencing their emergence and successful implementation, what should be the approach to the design and development of a modern city?

Analysis of recent research and publications

At the end of the XX beginning of the XXI century, scientific works appeared in Ukraine and Kazakhstan – I. Fomin, V. Yezhov, V. Timokhin, V. Vadimov, V. Didyk, A. Pavlov, T. Pavlenko, devoted to general theoretical urban planning issues, methodological foundations urbanized systems, their self-organization and harmonious direction of evolution. (Didyk V. V., Pavliv A. P., 2006. P.412) The main regulatory framework developed in the post-Soviet period is concentrated in DBN 360-92** “Mistobuduvannya. Planning and forgetting of towns and villages” (DBN 360-92**, 2000. Urban planning. Planning and construction of urban and rural settlements, P.100) and SNiP RK 3.01-01-2008. Urban planning planning and development of urban and rural settlements. However, the laws by which the cities lived earlier do not work. At the present stage, urban planning science has acquired a large arsenal of architectural tools to form the environment for activity. But this is not reflected in the legislative

framework of the new post-Soviet countries. The creation of a living environment that would satisfy the high material and spiritual needs of a person and stimulate the development of the individual and society as a whole is the subject of intensified searches of modern sociologists, urban planners and architects.

Purpose of the article

Identification of the urban planning problem of the degradation and disappearance of new Soviet cities, identification of some of the main trends and factors of this process. Emphasis on pressing social, economic and environmental issues due to political shifts and inflexibility built by the state and architects of monotonous.

Results and discussions

The ghost cities listed here are just a drop in the ocean of cities that are simply quietly erased from the map of the planet, taking with them their history, which no one else knows about. Disappearing, the city takes with it the lives of people, the memory of the city that existed for quite a long time. Studying this topic is a necessary prerequisite for our attempt to understand and perhaps resolve some of the key problems of the current trend of dying of some cities during the Soviet period. This can give us the clearest understanding of the changes currently taking place in human nature and social order, and will allow us to more deeply analyze urban planning decisions when designing new settlements (Kharytonova A., Shuldan L., Shtendera A., 2018. p. 21–29). The abandoned cities of Kazakhstan, like the remnants of a great empire called the USSR, clearly demonstrate how vulnerable and temporarily any society, civilization, state or economic structure.

The first city in the list is Zhanatas (Dzhambul region), one of the largest abandoned cities in Kazakhstan. Its origin in 1969 is associated with the developing mining industry – the extraction of phosphorites. But with the collapse of the USSR and the closure of the phosphorite mining plant, mass departures of people began from the city. The breakdown of industrial chain ties led to the fact that the enterprise for which the city was created could not provide its employees. Today there is only a small group of people who are supplied with electricity and water for several hours a day.



*Fig. 1. The city of Zhanatas. The Republic of Kazakhstan
(Kazakhstan. 2020)*

Chagan or Semipalatinsk-4 is a former closed urban-type settlement in the Semipalatinsk region, located 74 km away from the city of Semipalatinsk on the banks of the Irtysh River. The city was founded in 1950, abandoned after the withdrawal of Russian troops in 1995. The main service of the residents took place at the military airfield, where long-range bombers were based. From 1958 to 1962, the most active tests took place at the test site: about eighty atomic and thermonuclear devices were detonated on the ground and in the air. Due to the fateful proximity of the city to the Semipalatinsk test site, Chagan was classified as a zone of extreme radiation risk: and after the collapse of the USSR, its residents began to receive social compensation for the harm received. In 1995, all military units were withdrawn, and the town was transferred to the Republic of Kazakhstan, after which it was quickly looted.



*Fig. 2. City Chagan or Semipalatinsk-4
(Kazakhstan. 2020)*

Priozersk. Closed city (ZATO) in the Karaganda region of Kazakhstan, the administrative center of the Sary-Shagan landfill. Located in the Betpak-Dala desert, on the Korzhyntubek peninsula of the Lake Balkhash. The city of Priozersk was founded in 1956, its population was the military and civilian personnel of the anti-missile defense (ABM) test range. The settlement is the brainchild of the arms race between the USSR and the USA. The city was actively developing interceptor missiles, and also beautiful palaces of culture, restaurants were built, 60 hotels were operating. After the collapse of the Union and the subsequent reduction of the training ground, most of the servicemen left, abandoning their inhabited apartments, and today there are only 13 thousand inhabitants in Priozersk. Of the 90 high-rise buildings, about forty remained “alive” and local residents lead excursions around their destroyed city, in which there is no industry left, small business is in decline.

Zhem or Polygon Emba of Aktobe region of Kazakhstan. It was created in 1960 for testing the latest models of military equipment and weapons, for conducting training firing. The tests of the Krug, Kub, Buk, Tor, Osa, S-300V, Tunguska air defense systems were carried out at the test site. The military town of Emba-5 emerged as an administrative and residential center of the test site. By the end of 60-s, all the necessary infrastructure was created in the city to ensure life. Several houses, several hotels, several shops, a school, a kindergarten, a bakery, a boiler room, a water intake station and a water tower, a GDO, a hospital were built. In 1999 the landfill was relocated Emba-5 ceased to exist.

Arkalyk is a classic victim of Soviet economic policy. The city was founded in 1956, located between Kostanai and Nur-Sultan (Astana), was built in just 10 years, from 1956 to 1965, in the bare steppe, near the Turgai bauxite mining administration, which mined about 20 % of the bauxite ore in the

USSR. In the 1980s, Arkalyk was going to be turned into one of the industrial centers of the region; it even had a large airport capable of receiving passenger airliners; the construction of an aircraft engine plant began. The collapse of the Soviet economy in the late 1980s canceled all these plans. After the liquidation of the Turgai region in June 1988, and the freezing of industrial development programs, the city entered a period of severe socio-economic decline, lost 35 % of its population and was mothballed as a backward, depressed city with a monoprofile industry.



*Fig. 3. City Zhem
(Kazakhstan. 2020)*

At the turn of the 20th and 21st centuries, local authorities carried out a campaign to relocate the remaining residents from the microdistricts to the compactly delineated city center, which made it possible to reduce the cost of operating communications and significantly increase the reliability of providing the population with water, heating, electricity and gas. The miracle is that even in these conditions, being virtually cut off from the rest of Kazakhstan, the city did not disappear from the map. True, now the city is on the brink of survival, but the decision to resettle Arkalyk has not been made; on the contrary, the city's survival is considered strategically important.



Fig. 4. City Arkalyk (Kazakhstan. 2020)

Saran, an urban-type settlement was built for chemists, workers of a local rubber-technical plant. But when the company was declared bankrupt in 1994, most of the residents, having lost hope for the best, left their homes. Ironically, a psychiatric hospital was built here in 2010, which gives the village an even greater atmosphere of gloom and detachment.



Fig. 5. Saran village (Kazakhstan. 2020)

Settlements Asubulak and Alga. In 1950–1951, a group of geologists led by Yu. A. Sadovsky discovered a group of rare-metal minerals. For the next few years, a village was built with a factory, a diesel power plant and residential buildings, schools, a hospital and all the infrastructure were built. In the 90s, the mining and processing plant was closed, the structures were dismantled for scrap, the streets were covered with garbage, and abandoned houses were looted. Today these are ghost towns.

The city of Pripjat, from which all residents (about 50 thousand people) were evacuated on April 27, 1986, is located on the banks of the Pripjat River, 3 km from the Chernobyl nuclear power plant, not far from the border with Belarus. The settlement was founded on February 4, 1970, and received the status of the city of Pripjat in 1979. The reason for the founding of the city was the construction and subsequent operation of one of the largest nuclear power plants in Europe, the Chernobyl plant – a city-forming enterprise. Pripjat became the ninth atomic city in the Soviet Union; 27 nationalities lived in it. The city received a peculiar face thanks to the compositions of microdistricts, which were located in radii around the city center, as well as decorative ceramics on the facades of buildings. However, the thriving city was abandoned due to the accident at the Chernobyl power plant. Now it is popular as a tourist destination.



*Fig. 6. The city of Pripyat. Ukraine
(Pripyat. 2020)*

In many ways, the fate of these listed cities is similar to the former automobile capital of the United States – Detroit. By the beginning of the 21st century, Detroit had become a ghost town, where most of the skyscrapers are empty, the richest theaters were destroyed, elite housing was abandoned. Several years ago, the city began to slowly recover, however, the pace is still very low. Detroit was named the most disadvantaged city in the United States. In addition to high crime rates, the environment is poor here, and in terms of unemployment, this city ranks second in the US – 10 %. According to Forbes, since 1950, the population has decreased by a third – to 950 thousand people, and it continues to decline due to several negative factors that overlapped. (City planning [online]. Available at: <<https://lentachel.ru/news/2017/10/04/arhitekto-iz-ameriki-rasskazala-kak-planirovka-goroda-zaschitit>>). From the middle of the 20th century, the auto giants began to experience difficulties. In 1973, the oil crisis hit the Big Three hard, as its cars could not compete with fuel-efficient European and Japanese models. This blow was followed by the energy crisis of 79, and, finally, the financial crisis of 2008–2009, which nearly finished off the American auto industry. Factories were closed one by one, and workers left the city with their families. One of the reasons for the death of Detroit is the discrepancy between its “pre-automobile” urban planning structure. As a result, the city center began to die, shops and cultural establishments were closed, as customers stopped visiting them.

Another factor was the total orientation towards industrial culture – there was no cultural continuity in the city - neither a large university nor an art gallery. During the reconstruction of the city, historical buildings were not preserved, architectural monuments were demolished for the sake of offices and parking lots. One of the proposals – an artificial increase in population density with the destruction of redundant infrastructure – seems to be more than a controversial decision. The frightening views of abandoned Detroit – once the fourth largest city in the United States – have even sparked a new kind of tourism: watching a dying city. More than 370 American cities with populations exceeding 100,000 have lost over 10 % of their population in the past 50 years. A quarter of emptying cities are located in the United States, mainly in the Middle East.

Manchester. By a happy coincidence, the availability of empty city buildings began to attract students and talented youth, which contributed to the emergence of a well-known subculture. It is during the economic downturn that a special musical culture, art, architecture emerges here, which, along with a reasonable policy to support business, becomes one of the factors of urban revival. The population is shifting to the service sector, where today 70 % of urban residents are employed, and unemployment is falling from 19 % in 1995 to 10 % in 2001. Today, 20 years after an acute crisis, Manchester is booming. According to 2010 data, the city ranks second in the UK and 12th in Europe in terms of popularity for business (What does America's newest city look like? 2020). Manchester is seen as a symbol of urban renewal, “the most thriving emptying city in the world.”

Conclusions

Dying cities are an illustration of the unfulfilled hopes of people who once believed in tying their fate to this place. The distinction between space and place is fundamental to the study of urban form. This difference lies not only in the presence or absence of emotional attachment on the part of the inhabitant, but also in the peculiarities of the time. All these places were once inhabited by people who lived, loved and hoped for a bright future, but now these frightening buildings and cold empty walls are terrifying. In Europe, with the emergence and development of cities, flexible preservation and use of space arose in connection with the emergence of a corporation, an institution entitled to change over time the type of its activity (Kharytonova A., Kramarenko M., 2019. p. 83–91). Economics has given rise to a combination of a functional relationship to space and a perspective relationship to time. Cities are preserved by capturing perspectives and adapting to circumstances that can be used to their advantage.

References

- DBN 360-92**, 2000. Urban planning. Planning and construction of urban and rural settlements. *K. :Ministry of Regional Development of Ukraine*. P. 100.
- Didyk V. V., Pavliv A. P., 2006. Urban planning: pidruchny`k. *Lviv : Lviv Polytechnic National University Publishing House*. P. 412.
- Vadimov V. M., 2003. Methodological bases of ecological and town-planning development of riparian urbanized territories (in the conditions of Ukraine): *Abstract of the dissertation. : 18.00.01 / Publishing House of Kyiv National University of Construction and Architecture. Kyiv: Scientific World*. P. 37.
- Kharytonova A., Shuldan L., Shtendera A., 2018. “Problems of architecture and urban planning of new cities (on the example of the city of Aktau (Shevchenko))”. *The Electronic Journal – number 17, D-r 2018, Osijek, Croats Faculty of Civil Engineering*, p. 21–29.
- Kharytonova A., Kramarenko M., 2019. “Features of urban development at sea settlement”. *Sborny`k nauchnyih trudov “Problems of Theory and History of Architecture of Ukraine Issue 19, Odessa: Institute of Architecture and Art: ODABA*. p. 83–91.
- Timokhin V. A., 2004. Harmonization of the evolutionary dynamics of urban planning systems: *Abstract of the dissertation : 18.00.01 / Publishing House of Kyiv National University of Construction and Architecture. Kyiv : Scientific World*. P. 34.
- What does America's newest city look like? 2020 [online]. Available at: <<https://uainfo.org/blognews/1529803396-kak-vyglyadit-samyi-novyy-gorod-ameriki-foto.html>> [Accessed date: 14.09.2020].
- City planning 2020 [online]. Available at: <<https://lentachel.ru/news/2017/10/04/arhitektor-iz-ameriki-rasskazala-kak-planirovka-goroda-zaschitit>> [Accessed date: 14.09.2020].
- Johnstown 2020 [online]. Available at: <<https://www.bbc.com/russian/features-38000427>>. Accessed date: 14.09.2020].
- Kazakhstan. 2020 Abandoned cities of Kazakhstan [online]. Available at: <<https://www.nur.kz/1778460-zabrosennyye-goroda-kazahstana.html>> [Accessed date: 14.09.2020].
- Pripyat 2020 [online]. Available at: <<https://funtime.kiev.ua/where-to-go/pripyat>> [Accessed date: 14.09.2020].

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ЖИТТЯ І СМЕРТЬ НОВИХ МІСТ

Анотація. У статті розглянуті питання архітектурного генезису, стрімкого втілення, реалії розвитку, життя і вмирання нових радянських міст, як необхідна попередня умова нашої спроби зрозуміти і, можливо, вирішити деякі ключові проблеми сучасної тенденції деградації містобудівного середовища радянського періоду. Це також важливі загальносвітові урбаністичні питання – повернення соціальної структури і архітектурного вигляду нових міст. Закони, за якими жили міста раніше – не працюють. На сучасному етапі містобудівна наука набула великий арсенал архітектурних засобів для формування середовищної діяльності. Створення життєвого оточення, яке задовольняло б високі матеріальні і духовні потреби людини і стимулювало розвиток особистості і суспільства в цілому, – предмет посиленних пошуків сучасних соціологів, містобудівників і архітекторів. Але це не відображено в законодавчій базі нових пострадянських країн. Необхідна правильна постановка проблеми, яка може дати нам найчіткіше розуміння змін, що відбуваються в даний час у людській природі і соціальному порядку, дозволить глибше аналізувати містобудівні рішення при проектуванні нових поселень. Вони яскраво демонструють наскільки вразливе і тимчасове будь-яке суспільство, цивілізація, держава або економічний уклад. Для архітектури і містобудування настав час дослідження, багатостороннього аналізу, наукових висновків, пошуку нових ідей в проектуванні нових міст. Основні питання, які треба ставити архітекторів: будувати нові міста; наскільки важким це може виявитися; які основні чинники впливають на їх виникнення і успішне здійснення; який повинен бути підхід до проектування і розвитку сучасним містом. Досвід радянського будівництва показав, що стійкі в розвитку і соціально життєздатні міста, є рідкісним явищем. Економіка породила поєднання функціонального ставлення до простору і перспективного ставлення до часу. Необхідно гнучке збереження і використання простору, яке виникло у зв'язку з появою корпорації, міського інституту, наділеного правом змінювати з часом рід своєї діяльності. Міста зберігаються завдяки ухопленням перспективам і пристосуванню до обставин, які вдається використовувати в своїх інтересах.

Ключові слова: нове місто; деградація; містобудування; життєве середовище.

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**ARCHITECTURAL, ECONOMIC, AND MENTAL FACTORS
OF THE REVIVAL OF HISTORICAL INDUSTRIAL FACILITIES
IN THE CONTEXT OF THE FORMATION OF TERRITORIAL
COMMUNITIES OF UKRAINE
(ON THE EXAMPLE OF THE RENOVATION
OF A SALT FACTORY IN DROHOBYCH)**

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Abstract. The article highlights the path and factors influencing the revival of historical sites on the example of the renovation of a salt factory in Drohobych.

Key words: architectural, economic, mental factors; revival; historical, typical, unified, serial, industrial buildings of Drohobych.

Problem statement

In the late XX and early XXI centuries, scientists predicted that even with the deepening processes of globalization in the world and the strengthening of the distribution of production between countries, certain types of production will always be in the cities of each country. These are the food industry, heat and energy supply, housing construction, waste processing, repair and maintenance industries.

The leading industrial enterprises of the XXI century should exclusively become enterprises of a new generation and represent not a separate unit that produces products, but an integrated component in the

overall structure of relations – Raw Materials, Market, Energy, Economic, etc. Marketing, research, technical development, quality control, product and resource allocation, strategic planning and human resource redistribution will be integral functions of such enterprises. All this will preserve the phenomena of cities that are thousands of years old and will not allow cities to dissolve into settlements. (Vershinin V., 2006, p. 135)

Other scientists argue that modern cities cannot live and develop without spiritual culture, the constant development of cultural and educational institutions, cinemas, libraries, theatres, museums, concert halls, cultural parks. They say that the main issue in cities remains the organization of effective use of free time, which is a “friend” of their residents. (Bouryak A., Lombardini N., 2015, p. 25–28)

A special place is occupied by scientists' research on the phases of urban life cycles. In their opinion, cities go through 4 phases of development (intensive growth), growth (it slows down), stagnation and decline. In each of these states of the city, along with all other city-forming factors, the most important one is the factor of jobs, and therefore city-forming enterprises.

It all starts from the phase when this factor is provided by investment, a shortage of jobs, the volume of life benefits per capita, an increase in housing construction, and so on. Undoubtedly, this state cannot be endless and the city naturally, and sometimes spontaneously, goes into a phase of growth, which is gradually slowed down. And later in the phase of stagnation (when the state of the city is affected by the gap between the number of jobs and the volume of housing stock, and living well-being reaches such a level that population growth due to migration stops). And over time, there comes a phase of decline, that is when life in the city becomes uncomfortable. This is caused by poor housing conditions, low levels of affluence, unfavourable environmental conditions, lack of employment prospects, which affects job cuts, and this is the way to outflow the population. Because the ageing of industrial enterprises, or the depletion of resources at mining enterprises, leads to a catastrophic deterioration of the urban environment. The city can be in an extremely difficult situation and become depressed. (Dorofeyev V., Nikiforova R., 2015, p. 25–28) A city can become like this not because of stagnation and destruction of cultural values, objects or heritage, but because of industrial facilities. This aspect of the life of modern cities is studied both by foreign scientists and in the post-Soviet countries and in particular in Ukraine, which from the previous ideological formation and during the transition to a market economy inherited thousands of square kilometres of degraded industrial territories and thousands of industrial buildings with backward technologies with increased resource capacity. (Proskuryakov, Ivanov-Kostetsky, 2016, P. 120) Such cities in Ukraine, among others, include the city of Drohobych, in which the main city-forming enterprises have ceased their activities or are operating in incomplete volume, as well as in neighbouring cities that formed a unique agglomeration in the west of Ukraine – Boryslav, Stebnyk, Truskavets and others. These are competitive enterprises that were noticeable at the state level in the former USSR: Drohobych automobile crane plant, Chisel plant, Drohobych paint, Stebnytske, Polymineral, Granit plant in Boryslav, etc. Restoration and reconstruction of historical cities after military destruction, changes in the professional activities of residents in other countries is recognized as one of the priority areas of architectural activity. This was also a component of both restoration and expansion of the functions of historical buildings, which are actively involved in the modern life of the city and enriched with new modern functions. For this purpose, the necessary technical measures are carried out, leading to alterations, partial demolition, and highlighting of the most interesting elements and fragments of architectural monuments in the reconstructed part of the building. The buildings have a renovation, revalorization of territories and the environment of complexes and ensembles in which these buildings exist.

This fully applies to objects of industrial architecture as well. Since the 70–80s of the twentieth century, this activity of renovation of industrial architecture objects has been widely used in foreign architectural practice. The most famous examples of this include the transformation of the industrial complex of gas tanks in Vienna (years of construction 1896–1899) into a modern residential, shopping and office centre. In the design and reassignment, two architects took part: J. Nouvel, who designed housing in one of the gas tanks, and V. Prince, who proposed an additional modern block for the new office in one of

the gas tanks, which seemed to be right next to the historical structure. The Wehdorn Architects group and V. Holzbauer also implemented their ideas in this complex, turning an industrial historical building into a world masterpiece. There are many such examples of renovation of historical industrial facilities in foreign architectural practice: in the factory buildings of 1918, German architects created the Center for media technologies in Karlsruhe (Germany) at the end of the twentieth century. (Cherkasova E., Lopatko V., Lombardini N., 2015, p. 18–50) Lots of buildings became world-famous: library and studios in the tram depot of Amsterdam; “green” offices in a former factory in Montreal; a student dormitory in a former grain elevator in Oslo; the Maritime Museum in the hangar of seaplanes built in the early twentieth century, in Tallinn; the multifunctional centre “Manufactory” in the buildings of a textile factory constructed in 1874–1878 in Lodz; the Center for the modern culture of Lisbon in factory premises, etc. There are also examples in Ukraine: The Exhibition Center for Contemporary Art in the former Arsenal factory in Kyiv, a multifunctional complex of offices, housing, and retail establishments in the space of the former Kinescope factory in Lviv.

In Drohobych, Stebnik, Borislav there are historical industrial enterprises known all over the world. First of all, there are a salt factory, a meat processing plant, an oil refining complex “Polmin” (now “Galicia”), office buildings at enterprises, railway stations and other structures on the railway, etc. These cities should also become coordinates for finding areas of renovation, revalorization, rehabilitation, and preserved monuments of industrial architecture. This is required by the general socio-economic changes in Ukrainian society. Changes that led to the redistribution of urban functions, the need to find a new use for industrial buildings due to changes in industrial technologies, the closure of production facilities, and other reasons. These and other problematic issues raised related to effective regional management, effective development of both urbanized and rural areas, led to a large-scale reform of local self-government and territorial organization of power in Ukraine, which began in the spring of 2014. (KMU 2020) In fact, the reform was intended to carry out a total dismantling of the rigid vertical of public administration of communities, allowing them to independently determine architectural-spatial, investment, economic and social policies. Thus, starting from 2020, the borders of Drohobych, Boryslav, and Truskavets territorial communities have changed on an extremely large scale. (<https://decentralization.gov.ua/newrayons/1362/communities>) In particular, geographically the Drohobych community united 34 localities, including the city of Drohobych and the city of Stebnik, while the area increased almost 10 times from 44.5 km² to 420.7 km².

Table 1

Actual parameters of territorial communities as of 01.01.2021

Name of the territorial community	Number of people	Area, km.sq.	Number of localities
Drohobych	122,905	420.7	34
Truskavets	39 642	214.8	8
Boryslav	39 526	161.8	7
Skhidnytsa	16 489	420	22
Total	218,562	1 217	71

In addition to the territorial organization of power, approaches to financing projects related to ensuring the life of the community and its economic development have radically changed. (Mizina I. 2016) At this stage, careful attention should be paid to architectural and spatial planning, since the optimal use of limited financial resources of the community depends on a rational and pragmatic approach to the use of objects. It is important to use the existing “branded” (salt factory) or old industrial (Drohobych chisel, paint and varnish factory, etc.) objects, adapting them to the conditions of the present. This is important in several aspects, one of which is filling the revenue side of local budgets. For example,

the Drohobych community with a total budget of €805.0 million receives an additional basic subsidy from the state budget in the amount of €101.4 million (which is 12.6 %), because they cannot cover the costs of its existence on its own.

Purpose of the article

The article highlights the path and factors influencing the revival of historical sites on the example of the renovation of a salt factory in Drohobych. Urban Development Strategies.

Results and discussion

On December 8–17, 2020, the seminar “Magical salt cities” was held in Ukraine. Renovation of salt factories as a strategy for urban development in Ukraine and Germany. The initiators of the seminar were Professor, Detlef Kurt, PhD, master Kuzishin Anna from the Technical University of Kaiserslautern, Faculty of Spatial Planning. Partners and managers in Ukraine are professors, Cherkess Bogdan, PhD and Proskuryakov Viktor, PhD, and masters of architecture Bogdanova Yulia and Kopylyak Igor from the Institute of Architecture and Design, students and experts in the field of Architecture, Urban Planning, Urban Management, Economics, Ecology and Geography (A. Fityo, M. Anisimova, etc.), who developed the concept of the seminar its purpose and objectives. The seminar was held at the Department of Architectural Environment Design not only because since its inception in 2003 it has been one of the few that cultivates various forms of educational and applied training of students in Ukraine, an important component of which has been futuristic projects tested in international and national student design seminars and competitions. (Proskuryakov, 2013, p. 92–98) Moreover, the department, among others, had such projects – “Sketch-idea of the city of the future Prykarpatska”, “Sketch-idea of humanization of the centre of Borislav”, the theme of which was the development in the future of the cities of Drohobych, Stebnik, Truskavets, Borislav (Proskuryakov V., 2019, p. 50–62), (Fityo A., 2019)

Table 2

Revenue parts of local budgets of territorial communities and transfers from the state budget as of 01.01.2021

Name of the territorial community	Total budget revenues, mln. €.	Basic grant, mln. €.	Share of basic subsidies in total budget revenues, %
Drohobych	805.6	101.4	12.6 %
Truskavets	270.0	5.7	2.1 %
Boryslav	367.6	17.2	4.7 %
Skhidnytsa	115.1	22.1	19.2 %
Total	1 558	146	–

The choice of Drohobych city for the seminar by colleagues from the German university and its historical industrial salt facility was not accidental. The Drohobych salt factory is a similar enterprise to the one in Kaiserslautern in Germany, which is one of the oldest in Europe. Both the first and second enterprises formed the so-called “Salt route” along which, for example, merchants from different regions of Eastern Europe – Podillia, Bratslav region, Kholm region, Volhynia – were arriving for Drohobych salt. They were coming from the Volyn piers along the Sluch and Goryn rivers, and then along the Dnipro river to Kyiv. In the final version of the seminar, all activities were directed to Drohobych and its facility (Fig. 1). Although, initially, the seminar was supposed to be held in both the above-mentioned cities of Ukraine and Germany. With the exchange of student project groups with their managers, who were

supposed to get acquainted with both the space and environment of enterprises, their technologies, the composition of industrial buildings, and with the history, genesis and development of industry in Kaiserslautern and Drohobych, their culture and contribution to the development of European and world human civilization. But in the context of the Covid-19 pandemic, which the organizers encountered during the seminar, it made it impossible to implement it in Germany. Therefore, it was decided to concentrate all activities in Ukraine, in Drohobych. Also, it was decided to conduct the exchange of information (about previous surveys of the Drohobych salt factory and other industrial facilities, about historical events in the city and its origin, personalities that formed the intellectual potential of the city and region, and the design itself) online.



Fig. 1. Helicopter perspective of the “romantic” ruins of a salt factory in Drohobych.

Photo by R. Demkiv

During the design and training seminar “Magical salt cities” in Drohobych, its leaders planned to solve not only the architectural and spatial problems of this city. First of all, the task was to teach students that they should never randomly use the postulates of their architectural schools and their restrictive norms, but conduct bold searches and learn to analyze the complex realities of a problem city to find ways to environmental, plastic, and effective beauty. They should learn that it is impossible to constantly seek compromises, as practice architects do, which leads to extremely formalistic solutions because these solutions must always be different depending on the tasks. Students should know that architecture that does not belong to the modern era (based on constant principles and laws of balance and harmony) can also give life to modern new plastic forms, condense or vice versa dilute and that it should be in the design process itself, a process that develops from the past to the future.

The workshop was supposed to be a kind of experiment within an experiment. For this purpose, all participants of the seminar from Ukraine and Germany were divided into four teams. Although most of the students were fluent in English, the difficulty was different – they had to start working immediately after the first minutes of acquaintance and in spontaneously formed teams. Besides, the seminar participants studied at universities that are representatives of different architectural schools and applied different approaches to the revitalization of the Drohobych salt factory. The proposals were very different because the participants were urbanists (in particular, students from Germany) and representatives of the Department of Architectural Environment Design of the Lviv Polytechnic National University. It was necessary to solve problems of urban planning, complete tasks related to landscape and volume design, environmental design, and so on. There was a hope that this variety would give a positive result, which, in the future, could be used to solve real problems.

After students and their supervisors got familiar with the existing buildings in which the main technological operations take place (buildings above the brine mine; buildings with a pump for brine; buildings with brine settling tanks; buildings in which there are bowls for boiling salt and furnaces under them for evaporating salt; administration buildings and warehouses; ruins on the site of the projected “new buildings”), the seminar vector has changed. The change was also influenced by the fact that the territory of the salt factory, which was formed for hundreds of years and stabilized in the last years of the XXI century, began the process of haphazard “biting off” plots for a supermarket, shop, primitive metal garages without taking into account the peculiarities of the genesis and development of such an industry in Drohobych, which operated at least from the XIV century (maybe even earlier). The seminar in Drohobych was originally planned exclusively as work on the revitalization of the salt factory. But a detailed review on the condition of the buildings, technology and territory of the plant made it clear that the industrial enterprise, which is one of the oldest in Eastern Europe, will not be able to work effectively, performing only one historical function – salt extraction. Therefore, the main focus of the seminar was to identify and implement additional functions at the facility that were based on the history of the city and region. A typical solution to this problem could be the implementation of a corresponding investment project within various types of capital construction – expansion, reconstruction or technical re-equipment of the enterprise. Such decisions fundamentally change the entire reproductive structure of the main ones, as a result of which conditions are provided for the continuation of the enterprise's activities.

However, as practice and the results of our research show, these measures are often not enough, they need to be supported by additional ones: diversification of production and manufacturing of new products; manufacturing of traditional but innovative products, etc. In other words, all these measures, as a rule, relate to two types of reproduction – investment and innovation.

Innovative reproduction is a relatively new term that shows that reproduction occurs on a fundamentally new basis – technological and organizational, management and information, supply and sales, financial and economic, etc., the main element of which is considered to be the formation of economic profit (super-profit). This type of reproduction is not fundamentally new for the Ukrainian economy, since it is used at domestic enterprises. (Anisimova M., 2018, p. 451–452) Participants of the cross-cultural project on the example of a salt factory had to offer a wide range of solutions that would have the potential for further development and answer the question: What should be the public environment in an industrial territory, what architectural language should be chosen for such an important historical object? The seminar was supposed to answer these and other questions and reveal the prospects not only for the revitalization of the Drohobych salt factory but also try to answer the general question of how the city of Drohobych can develop infrastructurally and structurally in the future.

For this purpose, all students participating in the seminar (11 from Lviv and 8 from Kaiserslautern) were organized into four teams, each of which explored a certain vector of problems, the solution of which formed the foundation on which search design was based later. One of them is under the slogan “Salt Roads” consisting of Yu. Yanul, A. Vovk, A. Dereshevska, Zoë Röstel and D. Thress explored cities and places of salt mining in Drohobych region and even in Transcarpathia. Such cities, in addition to

Drohobych, were the following: Mykolayiv, Medenychi, Stebnyk, Modrychi Truskavets, Boryslav, Yasenytsa-Silna, Stara-Sil and other. The second group, united under the slogan “Golden Triangle”, consisting of O. Zayets, S. Zhantalay, Ya. Kudri, M. Jendretzke, L. Bruss, studied the industry of the Drohobych-Stebnyk-Truskavets-Boryslav agglomeration. Another group of students united under the slogan “Drohobych – Republic Of Dreams”, consisting of A.-M. Makaryk, V.-M. Nahirnyak, A. Kalinichenko, T. Mühchow, J. Weinkauff explored the cultural potential of the agglomeration. And the last group – O. Boyko, K. Ivashchuk, A. Kushnir, T. Schneider, – in a group called “The Healing Power of Salt”, analyzed the possibilities of salt as a component of treatment in local resorts.

These studies consisted not only of information obtained from internet resources, libraries, archives but also with a physical acquaintance with enterprises, visits to museums, monuments of architecture, culture, art; objects of resort infrastructure; conversations with experts from various fields of science, culture, entrepreneurship, all of this convinced the organizers of the seminar to expand the range of functions at the renovation facility.

This decision regarding the renovation of the salt factory was supported by the chief architect of Drohobych, Ihor Petranych. At a meeting in the City Council on December 15, 2020, he familiarized the participants of the seminar with the state on the architecture of the city and the prospects and directions of development of the newly formed Drohobych united community, the area of which has increased tenfold. He emphasized that he sees the development of the community, first of all, in the revival and introduction of the city’s industry in all possible ways. This can be done not by renovating individual enterprises, but by complex strategic activities in relation to the city’s industry as a whole and intensive (not extensive) permanent measures. It should be done with the revival of social and cultural infrastructure, with the use of existing, partially operating or non-operating buildings of industrial architecture, with an adaptation of public, industrial, commercial, residential functions and objects.

Based on the results of the seminar, preliminary clauses were developed. From them, projects created by Lviv students later showed up. From a wide range of proposals for the renovation of buildings and territories of the salt factory, students decided on the following: the first is the renovation of buildings and territories exclusively as an enterprise; the second is the implementation of cultural and artistic objects into the salt facility environment; third – buildings that had a health-improving and therapeutic function were added to the saltworks’ facilities; fourth – combined projects – production, recreation, treatment.

In all 11 projects, the authors preserved buildings in one way or another and developed technological functions of salt production.

In the project of Student A. Dereshevskya, it was proposed to restore all the objects of the salt factory, dividing the production territory into two parts. In the first one, leave the restored saltworks facilities – a brine mine, a brine pump building and pipelines, settling tanks, black buildings, but adding equipment and changes to the technological process, installing some of the pipes on the surface, making them transparent and even illuminated. So that you can track the movement of brine, make some settling tanks and tanks transparent so that you can see the process not only from above, but also from the inner side. In the second part, the author offered a multifunctional space on the western side of the complex for organizing fairs for the sale of various volumes of salt, products, medicines, and other products that contain salt, and premises for the sale of such products, and buildings for conducting master classes. (Fig. 2, a).

A whole group of students developed objects with a cultural and artistic function at the salt factory. It was Yu. Yanul, A.-M. Makaryk, V. M. Nahirnyak, A. Vovk.

In the project of V. M. Nahirnyak, in addition to industrial facilities, the salt factory was supposed to be enriched with buildings for cultural and artistic activities. They are named after prominent Drohobych artists known in Europe – Bruno Schultz, Efraim Moshe Lilien, Mauritius Gottlieb – in the form of not only memorial objects but also places of creativity of contemporary artists of the city and youth of the local art school. V. M. Nahirnyak designed the Art Center named after Bruno Schultz, which consisted of 3 parts: a studio workshop in the rebuilt ruins of the “new” cooking craft No. 2, a newly designed Exhibition Building for various art exhibits, and a foyer-communication that connects both spaces and has the

appearance of a transparent parallelepiped. In the spaces of the studio, the author designed blocks in which the stages of the creation process should be shown in the form of films (Fig. 2, *b*).

The development of the complex was supplemented by the developments of student A.-M. Makaryk, who designed in the renovation space a co-working named after Efraim Moshe Lilien and Mauritius Gottlieb, a hotel for artists and art workshops. According to the author, the renovation of the salt factory with the completion of these objects, with the dedication of the famous European graphic artist Lilien and the painter Gottlieb, will make the salt factory even more iconic and historical coordinate. They are providing all visitors with the opportunity not only to self-realize in the proposed modern objects, the contours of which resemble restored industrial buildings, but should attract to this place, in addition to artists, both residents and tourists. Similar to the idea of the authors of the previous two projects are the proposals of student A. Vovk, who, in addition to the restoration and reconstruction of objects in which the salt-making process should take place, and the creation of multifunctional park space within the salt-making site, proposed to build a cultural and educational centre in the form of a salt crystal (Fig. 2, *c*). With the current exhibition "Salt way", dedicated to salt mining in Drohobych, Ukraine, Europe and the world, the salt phenomenon for the creation of human civilization on the first level of the centre is highlighted. As well as a variety of spaces and premises of a cultural and recreational nature on the second floor.

In their projects, O. Boyko, K. Ivashchuk, and A. Kushnir developed ideas for introducing a health-improving and therapeutic function to the salt factory environment both in the open air and in specialized buildings. All three designers adopted the general concept of reviving the salt pond as a place for receiving salt mud baths in the northern part of the salt factory territory, and creating a game sports centre in the northern part, and thought about the need to create a spa centre, having adapted and rebuilt the ruins for this purpose, which should have been the "boiling" craft No. 2 and the building of the salt stand No. 1, which has lost its function. It was in this building that student O. Boyko proposed to create a salt pool and inhalation halls with minimal reconstructive means – partial replacement of wooden enclosing structures with glass ones in metal stained glass windows. The placement in the south-western corner of houses for those who are treated with salt, according to the author's idea, can grow into a wellness centre at the salt factory. According to the idea of K. Ivashchuk, the ruin of the "boiling craft No. 2" is easy to turn into a healthy food restaurant, during which visitors on the first and second floors will be able to receive, at the same time, inhalations from the salt pool, which the author suggests placing in minus marks, on the first floor. According to the project of A. Kushnir, the Drohobych salt factory, in addition to a purely industrial function, could get the features of a spa resort, with salt baths, massage rooms, houses for those who are treated with salt, a cafe, a restaurant, a sports centre, etc. (Fig. 2, *d*). A universal project for the renovation of the saltworks space in the form of a park was proposed by Y. Yanul. According to her idea, sections of the park offer something for every visitor. At the main entrance near the pond, the author designed an amphitheatre and a stage. A variety of festivals, conferences and concerts can be held on the main square. In the northern part of the park, there should be an active recreation area with sports grounds for various sports, for people of all age categories. Designed football and volleyball courts, tennis and badminton courts. In the southern and most peaceful part, recreational areas are designed. The main axis of the plot directs visitors to the greenhouse, which is located in the ruins of the villa, the walls of which work as screens for watching movies. The author offers all this as an addition to the main function of the salt factory.

Interesting renovation ideas also took place in other projects of the seminar participants.

Calculations and macroeconomic modelling of the implementation of the proposed renovation projects of old industrial facilities, the transformation of some of them into tourist attractions, industrial sites, indicate the possibility of a significant increase in revenue to the budgets of the above-mentioned communities, turning them from subsidized to self-sufficient, which is extremely important in the conditions of military aggression in the east of Ukraine and losses of income from quarantine restrictions due to the COVID-19 pandemic.

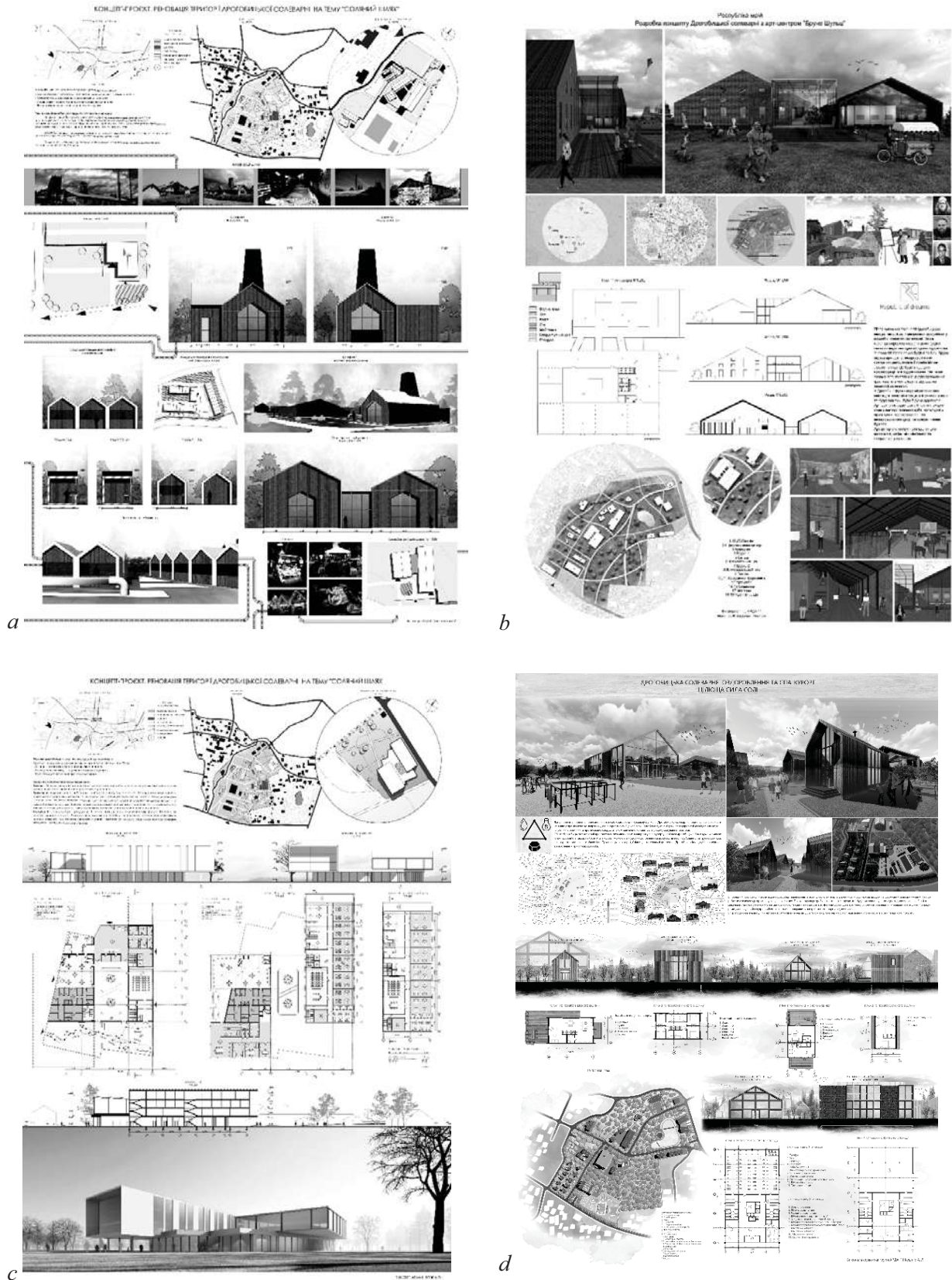


Fig. 2. Projects-proposals for the renovation of a salt factory in Drohobych by students of the Department of Architectural Environment Design: **a.** A. Dereshivska; **b.** V.-M. Nahirnyak; **c.** A. Vovk; **c.** A. Kushnir
Archive of the Department of Architectural Environment Design

Table 3

Forecast of growth of revenue parts of budgets of territorial communities from the introduction of architectural and spatial planning, mln. UAH

Name of the territorial community	2021	2025	2030
Drohobych	805.6	1300.0	2000.0
Truskavets	270.0	450.0	900.0
Boryslav	367.6	500.0	1000.0
Skhidnytsa	115.1	250.0	450.0
Total	1558.3	2500.0	4350.0

The calculations also included achieving a sustainable agglomeration effect from the implementation of inter-municipal cooperation projects, for example, joint tourist and recreational routes, projects for the protection of forest ecosystems and biodiversity, water supply and sanitation, and so on.

Conclusions

1. During the conceptual preparation for the seminar “Magical salt cities”, its participants found that in Europe and the world, in the practice of rehabilitation of industrial architecture, trends are developing in the formation, based on such buildings, of a larger range of industrial, public, commercial and residential functions and objects.

2. Same way as in the world, in Drohobych were formed two main groups of industrial facilities – objects of great historical value that can be identified as monuments of industrial architecture, and standard, unified serial industrial buildings and structures. Both require their rehabilitation methods, which should be tested and confirmed by search and experimental design.

3. In their 4 clausurs and 11 search projects, students of Lviv Polytechnic developed the principles of architectural and functional rehabilitation of the saltworks as follows: maximum preservation and imitation of the structural and planning structure of remained historical buildings; partial or complete change in the planning structure of those buildings that have become ruins. There were developed projects of buildings of a universal nature or other nomenclature in modern structures and with modern technological equipment, with the predominant preservation of silhouettes in the expanses and environment of the salt mill, which were formed for many years. Design of landscapes, small forms, equipment, colouristic and textures of the entire environment, the modern appearance of which was based on historical analogies.

References

- Anisimova M.V., 2018. Ekonomichne planuvannya operaciinoi diyalnosti pidpriemstva / I. B. Skvorcov, M. S. Psui, L. R. Shved, M. V. Anisimova // Monografia. L'viv : Vid. “Magnolia”, S. 451–452.
- Alexander Bouryak, Nora Lombardini, 2015. Social and cultural fundamentals of city development: Textbook. Kharkiv : “Operativnaya polygrafia”. P. 36.
- Vershinin V. I., 2006. Evolucia arhitekturi promislovih sporud. Odesa : Astroprint. C. 135.
- Vitaliy Dorofeyev, Rositsa Nikiforova, 2015. Principles of administrative decisions in city development. Textbook. Kharkiv : “Operativnaya polygrafia”. P. 25–28.
- Ivanov-Kostec'kii S. O., 2011. Principi arhitekurno-funkcional'noi reabilitatsii istorichnih promislovih budivel ta sporud: dis. ... kand. arh. : 18.00.01. Lviv. 17 s.

Proskuryakov V., Ivanov-Kostetskyi S., Grgic A., 2016. Typology of settlement and economic management: Textbook. Dnipro : S. P. Blyzniuk. P. 120.

Proskuryakov V. I., 2019. Pro futurystychni proekty Prikarpats'ka – ostannioho “mista maibutniogo” Ukraini XXI. / naukovi journal “Visnik Nacional'nogo universitetu “Lvivska Politehnika”, “Seria Arhitektura. T. 1, Specvipusk 2. C. 50–62.

Proskuryakov Viktor, 2013. The educational exploring, educational contest, contesting projecting experience of Lviv architectural school in 2013 / V. I. Proskuryakov, B. V. Goy // Srodowisko Mieskaniove: dom i osiedle jutra. Czesc II. No. 12. P. 92–98.

Fit'o A., 2019. Innovacii Prikarpats'k maibutn'ogo zamist' “starogo” L'vova / Adrian Fit'o, Viktor Proskuryakov // RIF Lviv : Vid. Tov. “Reklamno-inform. Agen. Ria Lviv”. Kiiv : Tov. “Art studiya druku”. No. 7. S. 8–9.

Cherkasova E. T., Lopatko V. M., Lombardini N., 2015. Renovation and revalorization of architectural objects: Textbook. Kharkiv : KhNUCEA, p. 48–50.

Mizina I. V., 2016. Financial decentralization and its impact on the local system Finance of Ukraine [online] Available at: <https://core.ac.uk/download/pdf/233892467.pdf>

Promislovist (informacia pro perelik pidpriemstv-eksporteriv mist Drohobicha ta Stebnika) Drohobic'ka mis'ka Rada [online] Available at: <https://drohobych-rada.gov.ua/%D0%B5%D0%BA%D0%BE%D0%BD%B0%BE%D0%BC%D1%96%D0%BA%D0%B0/promislovist/>

Concept of reforming local self-government and territorial organization of power in Ukraine [online] Available at: <https://zakon.rada.gov.ua/laws/show/333-2014-%D1%80#Text>

KMU 2020, Order about the statement of the perspective plan of formation of territories of communities of the Lviv region, 2020. [online] Available at: <https://www.kmu.gov.ua/npas/pro-zatverdzhennya-perspektivnogo-planu-formuvannya-teritorij-gromad-lvivskoyi-oblasti-i270520-624>

Drohobych district 2020. [online] Available at: <https://decentralization.gov.ua/newrayons/1362/communities>

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**АРХІТЕКТУРНІ, ЕКОНОМІЧНІ, МЕНТАЛЬНІ ЧИННИКИ
ВІДРОДЖЕННЯ ІСТОРИЧНИХ ПРОМИСЛОВИХ ОБ'ЄКТІВ
В УМОВАХ ФОРМУВАННЯ ТЕРИТОРІАЛЬНИХ ГРОМАД УКРАЇНИ
(на прикладі ремонту соляного заводу у Дрогобичі)**

Анотація. У статті висвітлено шлях та фактори, що впливають на відродження історичних пам'яток на прикладі реконструкції соляного заводу у Дрогобичі. Дослідження фаз міських центрів життя вченими світу показало, що міста можуть опинитися у важкій ситуації та впадати у депресію не від застою та руйнування культурних цінностей та об'єктів культурної спадщини, а від спадщини та промислових об'єктів. До таких міст в Україні належить місто Дрогобич, де основні підприємства припинили свою діяльність або функціонують частково.

У Дрогобичі, як і в багатьох європейських містах, є історичні промислові підприємства, відомі в усьому світі. Перш за все, це солезавод, м'ясокомбінат, нафтопереробний комплекс “Полімін”, нині – “Галичина” тощо, які можуть і

повинні стати координатами пошуку районів оновлення, ревалоризації, реабілітації історичних пам'ятників промислової архітектури.

Для вирішення цих проблем 8–17 грудня 2020 року в Україні відбувся семінар “Чарівні соляні міста”, ініційований викладачами та студентами Технічного університету в Кайзерслаутерні, Німеччина, та Національним університетом Львівської політехніки, студентами-архітекторами, експертами в галузі економіки, екології та географії.

Зі списку об'єктів було обрано соляний завод у Дрогобичі, відомий як підприємство з XIV століття. Після роботи в групах українських та німецьких студентів над обстеженням солеварних підприємств, дослідженнями у галузі видобутку солі в Європі та Україні, дослідженнями різних методів оновлення історичних промислових об'єктів, учасниками семінару було обрано 4 напрямки:

1 – ремонт будинків виключно як підприємство;

2 – передача об'єктів культури та мистецтва на соляний завод;

3 – об'єкти здоров'я та медичної функції;

4 – комбіновані бази відпочинку та виробництва. Розроблено 11 навчально-пошукових проектів. Ці проекти будуть підготовлені у формі виставки у 2021 році в приміщенні Дрогобицької міської ради.

Ключові слова: *архітектурні, економічні, ментальні фактори; відродження; історичні, типові, уніфіковані, серійні, промислові будівлі Дрогобича.*

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**TYOLOGICAL FEATURES AND PROBLEMS
OF PRESERVING URBAN DEFENSE COMPLEXES
OF PRIVATE CITIES OF THE PRINCES OF ZBARAZH IN PODILLIA,
KYIV REGION AND VOLHYN IN THE XVI–XVII CENTURIES**

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Abstract. The authors of the article focus on the urban activities of the princes of Zbarazh of the senior branch. Special attention is paid to cities whose location and fortification are directly associated with representatives of the princely family. An attempt is made to find the principle that guided the Princes when choosing the city and choosing the method of fortifications. A representative sample of cities is formed, which clearly shows the dependence of the natural location, chronological boundaries of the location and the type of fortifications, based on which three types of fortified cities of Zbarazh are distinguished. In the second part of the article, the authors analyze the state of preservation of cities and give recommendations for preserving the remnants of urban defence complexes.

Key words: Janusz Zbarazky, Jerzy Zbarazky, Krzystof Zbarazky, Pryluka, Zbarazh, Nemyriv, Ladyzhyn, city fortifications, castle, fortifications, Pohrebyshche, Ozhygivtsi

Problem statement

The period between the Union of Lublin in 1659 and the National Liberation War under the leadership of Bohdan Khmelnytskyi for the border Ukrainian lands was a period of active urbanization, which was introduced by well-known magnate families, in particular, the princes of Zbarazh (coat of arms of Korybut). After the disappearance of the younger branches, all the estates of the family gathered in the hands of Janusz (Ivan) Zbarazky (before 1553–1608) and his sons Jerzy (1573–1631) and Krzystof Zbarazky (1580–1627). Historical information about the possessions of the

Zbarazky on the border outskirts of the Polish-Lithuanian Commonwealth actively began to be published only in the 2000s. It makes it possible to identify common patterns in the strategy and tactics of defence of their cities by the Zbarazhsky using comparative analysis. It should be noted that the presence of fortifications in the cities of the steppe border was a vital necessity for their existence and directly affected the urban planning structure, so it is advisable to consider such fortifications as an independent subject of research. The vast majority of localities developed by Zbarazky do not have the status of a historical locality, which complicates the issue of preserving their historical environment. At the time of publication of the article, an attempt is being made to develop historical and architectural reference plans for the cities Nemyriv of the Vinnytsia region and Yampil of the Khmelnytskyi region, but due to an imperfectly developed historical and urban planning analysis and insufficient development of the source base, these plans have not yet been approved.

Analysis of recent research and publications

Thorough and interdisciplinary research on the topic of this article has not been conducted. In the case of most of the cities mentioned in the article, only local history essays of the XIX – early XX centuries are available (Yu. Sitsynskyi (1901), Huldman (1901), O. Orlovskyi, L. Pohylevych (1864), who at the time of their research did not yet know about the belonging of these cities to the princes of Zbarazh). Archaeological research on the fortifications of Podillia and the Kyiv region was carried out by V. Antonovych (1895). The first attempt to comprehensively show the topic of fortification activities of the princes of Zbarazh in Ukraine belongs to O. Malchenko (2001). M. Krykun (2008 a; 2008 b) significantly complements the picture of economic and social development of the estates of the Zbarazky. The Polish researcher Z. Anusik dedicated a separate publication on the issue of latifundia of princes Zbarazki (Anusik, 2009). Prof. P. Rychkov researched the history of urban planning of individual settlements of the princes of Zbarazh (Nemyriv (2014), Ladyzhyn (2016)) based on the plans of the XVIII century found by him. An interesting finding in the history of mapping the city of Nemyriv belongs to Ya. Matviishyn (2013), who found the plan of this city in the collection of plans of the first part of the XVIII century in the archive of the Maritime Service of France and dated it 1711. The foundations of the methodological base from urban studios of historical fortified cities of Ukraine were laid by PhD S. Kravtsov, PhD P. Rychkov, PhD M. Bevz, PhD O. Rybchynskyi.

Purpose of the article

The article aims to analyze the urban defence complexes of private cities of the princes of Zbarazh, laid down in the second half of XVI – beginning of XVII century, to identify and systematize common features, to characterize the state of preservation of relics of defence complexes.

Research methodology

Based on the sources developed by historians (Malchenko, Krykun), a list of urban settlements of the princes of Zbarazh in the Bratslav, Volyn, Podillia and Kyiv voivodeships has been previously formed. A map of the policy of military colonization of the princes of Zbarazh has been compiled (Fig. 1). During the analysis of the source database, the most promising cities for research were identified. At the same time, the state of preservation of the planning structure of historical cities, ramparts and castles, the availability of cartographic material, front full-scale or archaeological surveys were taken into account. The article examines the cities that were founded by representatives of the so-called “senior” branch of the princes of Zbarazh.

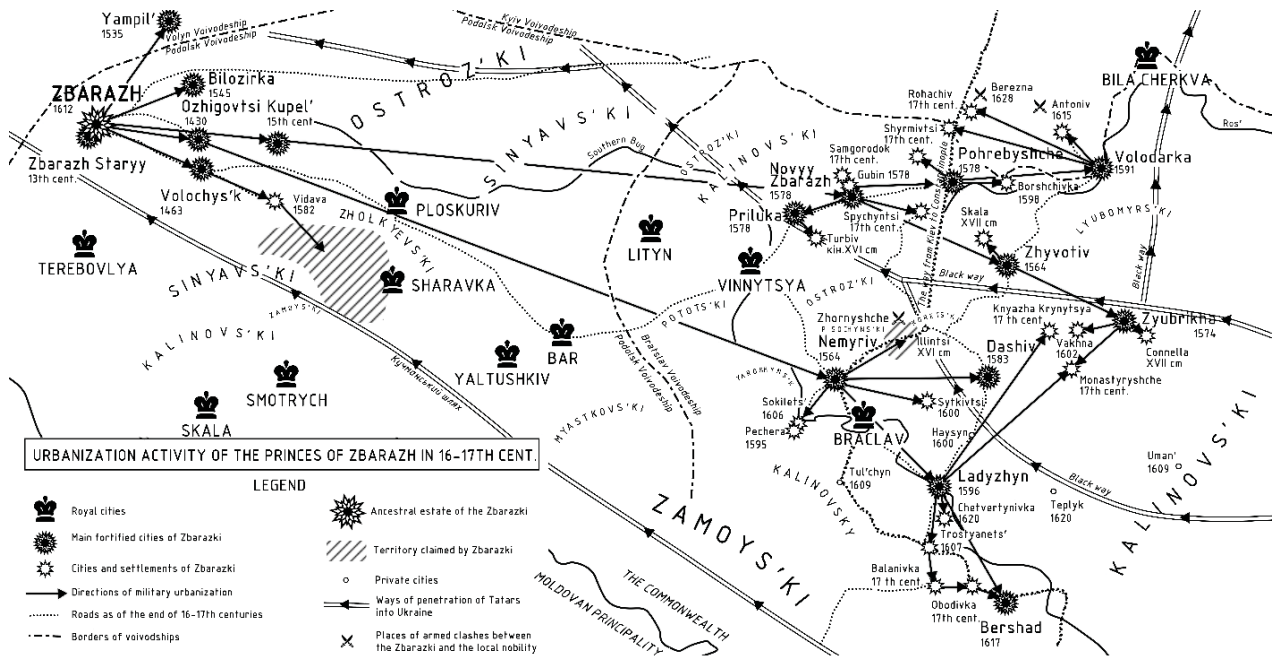


Fig. 1. Urbanization activity of the princes of Zbarazh (senior branch) at the end of the XVI–XVII century

To determine the historical planning structure of cities, a reconciliation of cartographic sources was used, such as the modern geodetic background of the city and space aerial plans, a two-door map of the General Staff of the Red Army of the interwar period (survey of the 1910s), a three-door map of Schubert (survey of the 1860s – 1870s), individual city plans. City plans of the late XVIII century are quite accurate. They are subject to reconciliation with the modern background by superimposing, for which the QGIS program was used. In other cases, only the interpretation of the cartographic source is possible using “reference” objects based on visual observation for comparison. The next stage is the localization of the main elements of the city: the market square, the sacred frame, the roads, the castle and the borders of the city centre. These elements, in turn, are already linked to defensive structures – gates to places of slingshots, city fortifications – to the borders of the city centre. Detailing fortifications during reconstruction modelling is carried out using narrative or act sources. These are the travel diaries of travellers Pavlo Alepsky (Alepsky, 1897) Ulrich von Werdum (Liske, 1876), Yulia Yusta (1899), as well as local history material collected in Podillia by Sitsynsky, Orlovsky, Huldman, and Pohylevich in the Kyiv region.

After performing reconstructions based on the most precisely developed ones, common features are identified and analyzed. The natural conditions that influenced the choice of the city’s location and the method of fortification (the system of interaction between castle and city fortifications, their nature), the time of construction of fortifications were analyzed.

Research results

The Zbarazkys’ urbanization and military activities in Right-Bank Ukraine can be divided into two periods. The first period associated with the activities of Ivan (Janusz) Zbarazky (1574–1608) is characterized by the active acquisition of landholdings and the foundation of new cities on the site of the acquired villages (Nemyriv, Zbarazh Novyi, Hubyn, Sokilets). The second period is associated with the sons of Janusz-Krzystof and Jerzy Zbarazhsky – they continue to increase the family's estates in the region and, most significantly, there is a fortification of cities according to new engineering trends (Zbarazh, Bershad, Ladyzhyn). In fact, the beginning of this stage can be

considered the acquaintance and communication of Krzysztof Zbarazky with the military engineer Tomasz Zamoyski – Andrea del Aqua in 1602. At that time, Krzysztof had already mastered the science of fortification and could offer his own view on the method of strengthening the new ancestral castle in Zbarazh, which allows us to assume his authorship in all the modern fortifications of the XVII century that belonged to the Zbarazh family. In 1608, Janusz died and the brothers Jerzy and Krzysztof became full owners of fortified private cities of their kind.

Prince Janusz inherited his first estates from his father Nikolai Zbarazky – Staryi Zbarazh – family nest, Ozhehovtsi, Brahyn, Yanushpol. A part of them he received for the wife Princess Anna Chetvertynska – Zhivotiv, Nemyriv, Pryluky, Pohrebyshche. In 1579–1607 the prince is actively buying up estates from small local gentry: from Prylutsky he buys Pryluka and Pohrebyshche in 1574; from Sedansky he buys Dashev in 1585; from Trembytsky – Borshchivka in 1589, from Zahorovsky – Volodarka in 1595, from Korotky – Ladyzhyn in 1594. He tried to forcibly annex the Zhornyshcha estate to his possessions in order to connect his possessions of the Nemyrivsky and Pohrebyshchensky parts, as a result of which a long-term armed conflict unfolded with the owner of this estate, Pischynsky (Krykun, 2008, pp. 121–156). Krzysztof and Jerzy Zbarazky in the XVII century continued military colonization to the south and laid the cities of Obodovka, Balanivka, Bershada, took part of the lands of the Belotserkov burghers and founded the cities of Antonov and Berezna on their lands.

The defence of fortified cities began with the choice of the optimal terrain. The princes of Zbarazh were among those who used the natural topography the most. In the cases of Nemyriv, Ozhyhivtsy and Pryluky, the following common features are clearly distinguished: the location of the defensive castle at the end of the peninsula, surrounded by a pond on three sides, the strengthening of the city on the floor side by ramparts of an arc configuration. In the case of Nemyrov, the fortifications are a pair of ramparts 1.4 km long (the unpublished plan of Nemyriv and the surrounding area). Such a huge length was not typical of either medieval or early modern cities due to the inability to gather the necessary number of professional soldiers for defence. That is why we assume that these ramparts have an ancient origin and are reused to defend the city from the Tatars – cartography and narrative sources of the XVIII century (Yul, Rusov, 1876, p. 33) do not reflect data on any modernization of these fortifications for long-term defence against regular troops. The defensive belt of Ozhehovtsi is much more modest, its perimeter reaches about 500 m (Fig. 3). Relics of defensive fortifications of the Russian-Lithuanian era are observed in Janushpol and Pohrebyshche (Fig. 2), it is also known that at the time of their purchase by Zbarazky, they were already cities. As for the cities founded or built and equipped by Jerzy and Krzysztof, there is a different trend in them – the location of the city centre is in the corner between two ponds, as well as the castle and city fortifications are separated by a pond or lake. This principle is most clearly traced in Zbarazh, Ladyzhyn, Bershada, and partly in Balanivka (where the castle was probably located in the system of fortifications of the city centre and occupied a place near the connections of two ponds). Ladyzhyn, however, had its own special feature – instead of the second pond, the channel of the full-flowing Pivdennyi Buh river was used, to which the Silnytsia river flowed, on which, in turn, a pond was already built with the help of a dam. There is an interesting location of the village of Vydava, which is also located between two ponds. However the development of Vydava does not show an urban character, and there is also no confirmation of the existence of this locality as a fortified city in the acts. Vydava was acquired by Janusz Zbarazky, probably as a promising fortified key city, since the Zbarazky claimed the territory south of Vydava and Medvedivka and they needed the administrative centre of the future estate key here.

The system of artificial ponds through the construction of dams was inherent in cities of both categories. It increased the defence capability of cities during the warm period when cities were subjected to the most numerous attacks by the Tatars. In addition to the construction of ponds, artificial channels were also dug for wet ditches. Such a canal was dug in Zhivotiv (called “fosa” by the local population), the canal connecting the moat of the Ladyzhyn city fortifications with the Silnytsia river can be traced in

the plan of 1849 (Rychkov, 2016). An artificial moat can be seen in the cellars that separated the castle Promontory from the city, and the two-verst map shows an artificial channel, which probably formed the wet moat of the city itself.

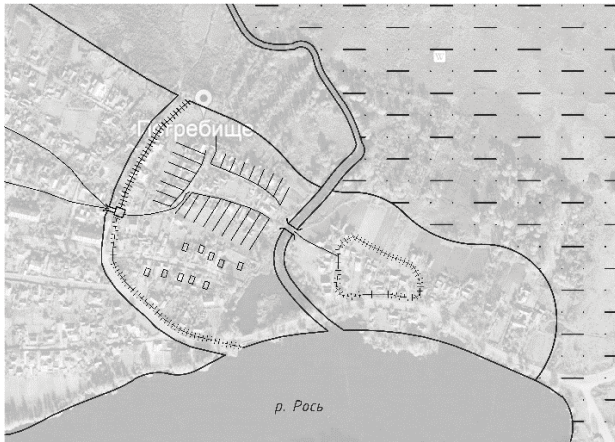


Fig. 2. Reconstruction of the urban defence complex in Pohrebyshche (author's study)

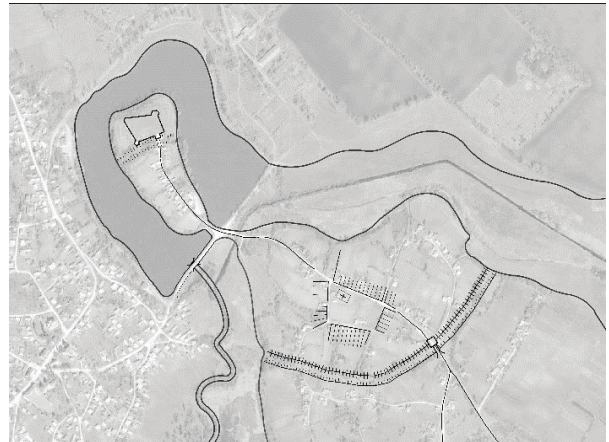


Fig. 3. Reconstruction of the urban defence complex in Ozhyhivtsi (author's study)

A regular market square in the form of a square or rectangle can be considered a sign of cities laid out by Zbarazky (a new location). There are such squares in Zbarazh, Nemyriv, Ladyzhyn, Bershad. In cities that existed at the time of their acquisition by Zbarazhsky, market squares have an irregular configuration, characteristic of cities on Rus law (Yanushpol, Zhyvotiv, Pohrebyshche).

Table 1

Typology of fortified cities of Zbarazki

Development period	Conditional reconstruction	Location according to natural conditions	Nature of castle and city fortifications
1. Cities founded before purchasing by Zbarazky (before 1579)		In a swampy plain	Ancient Rus
2. Cities founded and developed by Prince Ya. Zbarazky (1579–1602)		In the meanders of rivers with an artificial pond	Castle at the end of the peninsula, ramparts on the floor side
3. Cities founded or built by Krzystof and Jerzy Zbarazky (1602–1631)		Between ponds or lakes	Castle and city fortifications separated by a reservoir

Factors of the destruction of defence complexes

Due to the powerful development of artillery in the second half of the XVII century, medieval and early modern urban defence complexes lose their relevance and gradually disappear due to the

transformation of fortified cities, depending on their status in modern times. It is possible to distinguish two essentially opposite types of transformations of the space of a historical fortified city, which led to the loss of defensive complexes. The first one is redevelopment according to regulatory principles. This trend can be traced to the XVIII–XX centuries in several periods. The first redevelopment actions were introduced by Polish heirs of private settlements under the influence of the prevailing in Europe trends of classicism in the second half of the XVIII century. It was under this influence Stanislaw Potocki reconstructed Nemyriv. Cartographic sources from 1711–1789 show that classical planning was implemented around the already existing Renaissance Market Square and central quarters. The outskirts of the city with its city fortifications went under construction – on the plans of the end of the XVIII century only a fragment of the outer shaft is fixed. The hypodam network of streets set inertia for the further development of the city already in the XIX century, when the city's defensive structures were finally destroyed. We assume that the same story was with Bershad, which relics of the city's defensive structures can not be traced, too.

At the beginning of the XIX century, the second period of alterations took place and mass redevelopment of Ukrainian historical cities that have just entered the Russian Empire. The imperial authorities used classicism in urban planning as a marker of their presence in the newly acquired territories, which then became a visual embodiment of the ideas of an absolutist monarchy. First of all, administrative centres – county and provincial cities, as well as military settlements created in the period between 1817 and 1850 – were subject to redevelopment. One of these military settlements was established in Ladyzhyn after its confiscation from the landowner Sobansky as a result of his participation in the Polish uprising. Redevelopment of the city was carried out in 1843 (project) and implemented – the city plan of 1849 fixes the regulation that still exists today. Redevelopment captured the outskirts of the city centre (especially the southern part) and two suburbs, which were fortified “in the Cossack way” (according to W. Von Werdum). Nevertheless, in the central part, the historical market square and parcel blocks have been preserved since the XVII century, which makes it possible to make a reasonable theoretical reconstruction of the city as of this period.

Some cities were redeveloped in the twentieth century with the destruction of all the relics of ancient defensive complexes among them – Monastyrshche and Volodarka. In the 1960s, the construction of a bus station destroyed an archaeological monument that had previously been taken on state registration – the ancient settlement of the so-called “Cossack fortress” in Bershad (State Archive of Volyn Region, fond 4971/1/40, pp. 41–42). In our opinion, this fortress was the Zbarazhsky Castle, located on the opposite bank of the Berlandinka river, it was separated from the city by an artificially created pond on this river like Zbarazh and Ladyzhyn.

Another scenario that also leads to the loss of the urban planning structure of urban defence complexes is the degradation of a locality, which is associated with a gradual decrease in its administrative status. All the fortified localities shown on the Boplan map were cities in the XVII century. Some of them became towns in the XVIII century, and then they became villages in the XX century. As a result, the dense urban development of the city centre (in populated areas) was replaced by a rural estate with the loss of the original parcel and entire city streets. So, today it is not possible to reprimand the authentic planning system of the former Novyi Zbarazh (Zbarazh, Vinnytsia region) and other localities (Zhubrykha, Vakhna, Knyazha Krynytsa and others).

In Balanivka, Obodovka and Pryluka, both scenarios were combined. At the beginning of the twentieth century, the owner of these settlements, which were then in the status of towns, achieved the abolition of this status and their transfer to rural settlements (Orlovskiy, 1869). Since the beginning of the XIX century, the centres of the towns were inhabited mainly by Jews, and Jews were not allowed to live in the villages, Jews were resettled and the centre was demolished. In their place, landscape and park complexes with the landowner's estates were arranged. Nevertheless, the buildings at the suburbs (along

the line of city fortifications) remained and today it is possible to establish an approximate outline of the fortifications of the cities of Pryluky and Balanivka.

The best state of preservation of urban defence complexes is present in Zbarazh and Ozhegovtsy. Zbarazh has retained its urban status and avoided redevelopment, as a result of which the planning system of the city centre is quite stable. The outline of urban fortifications can be seen in cadastral prints. The castle fortifications are completely preserved, including the second line of earthen bastion fortifications. Ozhyhivtsy became a village in 1923. The planning structure of the city centre is preserved as well as the ramparts of the city fortifications. At the level of archaeological objects (still not registered), a paired ancient settlement with a castle in Stara Pryluka, city ramparts in Ozhegovtsy and Ladyzhyn have been preserved.

None of the cities considered in the article at the time of its publication has a valid historical and architectural reference plan approved by the Ministry of Culture of Ukraine as part of the general plan of the locality. Nowadays only careful development of a historical and architectural reference plan with a correct reflection of the stages of Urban Development and identified relics of ancient planning and defensive structures, as well as developed based on historical and urban planning studies of protection zones and their regulations can give a chance to preserve the historical space of fortified cities of the XVI–XVII centuries and open the way to its regeneration.

However, it should be noted that the existing regulatory framework does not allow to preserve the entire defence complex as a single object of cultural heritage, since its components according to the current legislation contain signs of certain categories of cultural heritage monuments – preserved fortifications – as archaeological monuments, artificially changed landscape – ponds and lakes – are not subject to protection, if not related to a natural monument, the planning structure of a fortified city – as a historical area (if in addition to the planning system, historical buildings are also preserved and there are cultural heritage monuments). So it is necessary to develop and implement new approaches that will allow you to take under state protection urbanistic defence complexes of historical cities as a whole.

Conclusions

There are three main types of fortified cities in Zbarazh. Their landing on the ground and planning characteristics correlate with the periods of urban development: cities of the first type, which were built in the XV–XVI centuries located in swampy plains and have features of Ancient Rus planning; cities of the second type are laid down by Janusz Zbarazky in the second half of the XVI century use the meander of rivers and peninsulas for the location of castles, do not have modernized fortifications for artillery; cities of the third type are located between two ponds, have modern fortifications for their time, the castle is separated from the city by a reservoir.

The lack of modernization of fortifications under the principles of using artillery of the XVII century indicates countering small but frequent Tatar attacks as the main priority in defensive tactics.

The best preservation of the historical planning structure and relics of defence complexes can be traced in localities that have not lost their urban status (except the cities with intensive processes of urbanization and regulation at the end of the XVIII–XX century).

It is necessary to improve the regulatory and legislative framework for preserving the historical environment of former fortified cities at least at the level of planning structure since the current legislation provides for the protection of territories as historical areas where historical buildings are preserved and there are listed monuments of cultural heritage, which does not exist in the case of historical fortified cities of Bratslav region.

References

- Antonovich, V. B., 1895. *Archaeological map of the Kiev province (supplement to the XV volume of "Antiquities")*. Moskva : Tipografiya M. G. Volchaninova.
- Fundukley, I., 1848. *Review of graves, ramparts and settlements of the Kiev province: published by the imperial permission of the Kiev civil governor Ivan Funduklei*. Kiyev: Tipografiya Felfila Gliksberga.
- Gul'dman, V. K., 1901. *Monuments of antiquity in Podolia: materials for compiling an archaeological map of the Podolsk province*. Kamenets-Podol'skiy: tipografiya Podol'skogo gubernskogo pravleniya.
- Krykun, M ta Piddubnyak, M., 2008. *Documents of Bratslav Voivodeship 1566–1606*. L'viv : Naukove Tovarystvo imeni Shevchenka.
- Krykun, M., 2008. *Bratslav Voivodeship in the XVI–XVIII centuries: Articles and materials*. L'viv: Vydavnytstvo Ukrayins'koho Katolyts'koho Universytetu.
- Mal'chenko, O. Ye., 2001. *Fortified settlements of Bratslav, Kyiv and Podil voivodships of the 15th – middle of the 17th centuries*. Kyev: Natsional'na akademiya nauk Ukrayiny, Instytut ukrayins'koyi arkhеоhrafiiyi ta dzhereloznavstva im. M. S. Hrushevs'koho.
- Matviyishyn, Ya., 2013. Kartohrafichna ukrajinika v arkhivakh Mors'koyi sluzhby Frantsiyi, Ukrayins'ke dzhereloznavstvo ta spetsial'ni istorychni dystsypliny na porozi KHKHI st. *Proceedings of the International Conference dedicated to the 85th anniversary of the birth of Yaroslav Dashkevych (December 13–14, 2011, Lviv)*. L'viv. p. 263–291.
- Pavel Aleppskiy, P., 1897. *The journey of the Antiochian patriarch Macarius to Russia in the middle of the 17th century, described by his son Archdeacon Pavel Aleppsky: (Based on the manuscript of the Moscow chief architect M-va foreign affairs). Issue 2: From the Dniester to Moscow*. Translated from Arabic by G. Murkos. Moskva : Obshchestvo istorii i drevnostey rosissyskikh pri Moskovskom universite.
- Pokhilevich L., 1864. *Legends about the populated areas of the Kiev province or Statistical, historical and church notes about all villages, townships and cities located within the province*. Kiyev : V tipografii Kiyevo-Pecherskoi lavry.
- Rusov, A. A., 1876. *Russian tracts at the end of the 17th and beginning of the 18th centuries and some data on the Dnieper from the atlas of the end of the last century*. Kiyev : Tipografiya. M. P. Fritsa, Kiyev.
- Rychkov, P., 2014. Nemyriv na Podilli: malovidomyi urbanistychnyy eksperymentu doby prosvitnytstva. *Experience and prospects of development of cities of Ukraine*. 26. S. 88–108.
- Rychkov, P., 2016. Kartohrafichni dzherela do istoriyi mistobuduvannya Skhidnoho Podillya (KHVIII–KHIX st.). *Cities and towns of Podillya from the Middle Ages to the beginning of the twentieth century. Proceedings of the scientific conference on September 24–25, 2015*. Vinnytsya, p. 48–85.
- Setinsky, E., ed., 1901. *Proceedings of the Podolsk Diocesan Historical and Statistical Committee. – Issue. 9: Parishes and churches of the Podolsk diocese*. Kamyanets-Podolsk.
- Yul', YU., 1899. *Notes by Yust Yul, the Danish envoy under Peter the Great. 1709–1711 (1899). Translated from Danish by Yu. N. Shcherbachev*. Moskva : Universitetskaya tipografiya.

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**ТИПОЛОГІЧНІ ОСОБЛИВОСТІ ТА ПРОБЛЕМИ ЗБЕРЕЖЕННЯ
УРБАНІСТИЧНИХ ОБОРОННИХ КОМПЛЕКСІВ ПРИВАТНИХ
МІСТ КНЯЗІВ ЗБАРАЗЬКИХ НА ПОДІЛЛІ, КИЇВЩИНІ ТА ВОЛИНІ
У XVI–XVII ст.**

Анотація. Автори статті фокусують увагу на урбаністичній діяльності князів Збаразьких старшої гілки, чия діяльність у хронологічних межах дослідження (кін. XVI – тр. XVII ст.) розгорнулася на Східному Поділлі, у віддаленні від своїх родових маєтків родини на Волині та у Великому Князівстві Литовському. Заклали нову резиденцію Новий Збараж (с. Збараж Вінницької області), князі швидко почали укріплюватись на теренах Брацлавщини та Київщини,

у XVII ст. їхні маєтки сягнули польсько-татарського степового прикордоння. Особливу увагу приділено власне містам, чия локація та фортифікування пов'язують безпосередньо з представниками княжої родини. Здійснено спробу знайти принцип, яким керувались князі при виборі міста та вибору способу укріплень. Сформовано репрезентативну вибірку міст, у якій чітко прослідковується залежність природнього розташування, хронологічні межі локації та тип укріплень, на підставі чого виділено три типи укріплених міст Збараських. Виділено три категорії міст Збараських, які поєднуються спільними планувально-просторовими, природними та хронологічними характеристиками. Використана методика комплексного історико-містобудівного аналізу проілюстрована на гіпотетичних реконструкціях вигляду таких міст як Погребище та Ожигівці у кін. XVI–XVII ст. Обидва міста належать до першої категорії міст у розробленій авторами типології, які характеризуються розташуванням у багnistій місцині, використовують принципи давньоруського планування та оборони й хронологічно були закладені XV–XVI ст. до придбання їх князем Янушем Збараським. До другої категорії автори відносять міста, що були закладені безпосередньо князем Янушем, і до третьої – міста, що розбудовувались його синами – Єжи та Киштофом. Міста останньої категорії відрізняються регулярним плануванням зі застосуванням модерних фортифікацій, характерною особливістю яких є розділення замкових та міських фортифікацій водою. У другій частині статті автори аналізують стан збереження міст та дають рекомендації щодо збереження залишків урбаністичних оборонних комплексів.

Ключові слова: Януш Збараський, Єжи Збараський, Киштоф Збараський, Прилука, Збараж, Немирів, Ладизжин, міські укріплення, замок, укріплення, Погребище, Ожигівці

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**IMPROVING THE ENERGY EFFICIENCY
OF ARCHITECTURAL SOLUTIONS IN CONTEXT
OF CLIMATE CHANGE SCENARIOS**

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Abstract. The global climate system shows signs of rapid changes called a Climatic Transition in specialized literature. The article has studied climate trends in territorial (global, macro-climatic, meso-climatic, and micro-climatic) and time limits (historical overview; current state; long-term, medium-term, and short-term prospects). The most probable medium-term forecasts until 2050 have been taken as a basis. The climate data analysis for the previous 60 years has been carried out and continued by our research with linear averaging of data for 2009–2020, the dynamics of main parameters changes on the territory of Ukraine and for Lviv city have been determined. The main requirements for architectural solutions in various climatic conditions have been formulated. Correlation analysis of energy efficiency improvements in architecture and current external micro-climatic conditions has been performed. It has been proposed to make appropriate changes to the regulatory documents.

Key words: architectural climatology, climatic transition, construction climatology, energy efficiency improvement of architectural solutions, Lviv Polytechnic, the architecture of public buildings.

Problem stating

It is important to apply powerful modern knowledge and methods of architectural climatology to improve public buildings and their complex energy efficiency, This science being part of architectural physics is designed to reveal the connections between climatic conditions and the architecture of buildings and urban planning formations. The main directions of architectural climatology are outlined by Vytruvyy in the first of ten books (chapters I, II, IV, VI) (Vytruvyy, 1936). In the books, he named the main climatic factors that influence the formation of building architecture and the choice of urban planning solutions. The books have had wide influence starting from operational characteristics of buildings and ending with the creation of comfortable conditions for people. And well-thought-out architectural solutions can level out adverse external climatic influences and enhance positive ones. The priority of climate influence on architecture was also emphasized by Ukrainian authors. For example, V. Shcherbakivskyi stated: “*Architecture, like other types of human creativity, has been influenced by various factors and in the first place by the climate and nature*” (Shcherbakivskyi, 1910, chapter 5). The traditional architecture heritage demonstrates the result of climate and architecture interconnection. (Dyda, 2009). Architectural

climatology as an applied science has developed rapidly (Gusev, 1983, p. 440), (Ed. Obolensky, 2005, p. 448) for the past decades in the form of numerous thorough studies (Myagkov and Alekseeva, 2016, p. 356), (Apatenko, 2011, p. 98) in connection with the actualization of energy saving in architecture. The application of basic information about factors in architecture should be considered in the following main aspects: urban planning; formative, architectural planning, compositional, and design aspects. Architectural climatology also studies the influence of architectural and urban planning solutions on the formation of the individual territory's micro-climate. Today it relies on architectural typology, general climatology, ecology, hygiene, economics, and aesthetics. Architect's proficiency in this field determines the quality of modern architecture in functional, aesthetic, and economic aspects (Shuldan, 2006). At one time, N. Foster noted: "Adaptability is one of the most important tools in sustainable architecture" (Foster, 2005). And climatological adaptability can become the main sign of design decisions sustainability. But architectural climatology itself as well as its teaching in architectural schools has several unresolved issues.

The objective of the article

The analysis of climate information sets the main search vectors for architectural solutions of public buildings with improved energy efficiency, allows them to be divided by the degree of impact and evaluate the results obtained, serves as an undeniably important background for designing the micro-climate of public complexes. Climatological indicators are considered separately and collectively in such a way that they can be used at all stages of architectural and construction design. Most scientific works devoted to energy saving in architecture are based on statement, interpretation, and use of the climatic variables officially specified in the State Standard (Minrehionbud Ukrainy, 2011). The author's participation in the State Standard development prompted further work on collecting and analyzing available data from various sources and studying scientific and reference literature on this topic. It also has encouraged an attempt to define prospects, identify dominant trends in climate change, and outline them in an abstract way below. The parameters variability and the main climate trends are analyzed in territorial (global, macro-climatic, meso-climatic, and micro-climatic) and time limits (historical overview, present, long-term, medium-term, and short-term perspective). The study will allow us to perform a correlation analysis of the initial conditions of architectural design with actual external micro-climatic conditions

Results and discussions

Climate change scenarios and the future of energy efficiency in architecture. The global climate change prospect is one of the most pressing challenges humanity is facing. During the development of global warming or Little Ice Age scenarios currently discussed, the main function of architecture remains to create the maximum possible protection and comfort for humans. Due to the development of energy efficiency, it is possible to achieve this in conditions of rising prices and depletion of traditional energy resources. According to the Intergovernmental Panel on Climate Change (IPCC), construction, renovation, and modernization of buildings are responsible for 19 % of global greenhouse gas emissions (Larrochelle, 2015).

And yet, warming or cooling? In favor of each of the versions, many arguments and counterarguments have been given, specific reasons and hypothetical assumptions have been provided. Skeptics reject both (Stronskyi, 2006). At the end of the 20th century, it became apparent to professionals working in the meteorological industry that the global climate system was showing signs of rapid change. Many scientists believe that first, anthropogenic influence leads to a global increase in temperature on the Earth's surface (Weart, 2003), (Boichenko, 2007, p. 105–111), (ed. Burroughs, 2003). Temperature deviations from certain standards cause several consequences: changes in humidity and wind conditions of large regions, the amount and frequency of precipitation, etc. Other scientists cite data that indicate global warming and its consequences are rather the results of natural

changes in climatic conditions (Akimenko et al., 2006). There are still others who claim that the climate has always been changeable. After all, over the past two thousand years, there have been three periods of global warming and three periods of cooling. The last of them ended in the first half of the XIX century (Krenke, et al., 1995). Climatic processes of cyclic repetition are directly related to the long period of M. Milankovich cycles. They explain the cooling of the Gulf Stream and the slowdown in its flow since 2011 which is a sure sign of the seriousness of the future problems. According to them, we are now experiencing warming, which in the long term will end in cooling. (Kim & An, 2013, p. 9–19). Climate scientists in the United States and Great Britain confirm that the current stage of stable warming began at the turn of the XIX–XX centuries and is now gaining alarming rates (National Research Council of the National Academies, 2010, p. 204–216), (NRC, 2008, p. 2), (ed. Burroughs, 2003, p. 240).

According to the results of a set of experiments on climate modeling, by the end of the 21st century, American scientists predicted an increase in average temperatures by 1.1 °C – 6.4 °C, compared to the average values of 1980–1999 (National Research Council of the National Academies, 2010, p. 223). These data are permanently updated, checked and, in this regard, forecasts of changes are adjusted (Alloisioa, Farniaa & Khoroshiltsevaan, 2013), (McGann & James, 2019). Secretary-General of the World Meteorological Organization Petteri Taalas has officially confirmed that global average temperatures have already increased by about 1.1 °C since the pre-industrial era and that oceans temperature is at an all-time high level (United Nations, 2020). However, the “global warming” term is not used in the European regulatory and program field, but mainly the concept of climate change is used (European Commission, 2009), (European Commission, 2019).

It can be said for sure that global climate scenarios do not have sustainable certainty. Forecasts and causes of climate change, that are made public from high stands, often become a bargaining chip in major political games and depend on the goal of the main beneficiaries. An example of this is the absence of ozone holes topic in the current discussion. Therefore, it is impossible to consider the changes prospects for a period comparable to the estimated life span of 100 years buildings, until the end of the century. Further research has taken into account the most reasonable warming trends for the future until 2050.

In Eurasia, medium-term forecasts for this period indicate a warming trend (Peeters & Deketelaere, 2006). Changes in the warming trajectory in the macro-climatic field are usually determined by the average values of climatic variables based on 30-year observations (ed. Burroughs, 2003). Individual years or even decades may deviate from the long-term trend. It is impractical to consider short periods, for example, changes over the past 3–5 or 10 years. Therefore, an averaging period that minimizes the impact of temporary natural variability on ultra-short time scales and facilitates the analysis of medium-term trends has been chosen. Architects in all latitudes adapt their projects to the environment, offering sustainable solutions. This article has suggested and developed recommendations for the formation of initial design conditions for the territory of Ukraine.

Ukraine climatic conditions analysis as a basis for determining ways of energy saving in architecture. In the previous period, several typological requirements that had to be met and taken into account in the design process, fixed in building codes and regulations, were determined by climatological typology. The climate typology is based on architectural and construction climate zoning made based on the results of long-term measurements of meteorological elements of the climate by a network of Hydrometeorological Service Stations. By the climatic zoning, various house operation modes (geometric, closed, and open) are unified, each of which has appropriate spatial planning solutions, the presence of open and semi-open rooms, loggias, balconies, sun protection, and other elements. Currently, the principle of territory zoning has also been adopted, according to which the territory of Ukraine is divided into 2 temperature zones depending on the number of heating period degree-days (Minrehionbud Ukrainy, 2017.). Zoning involves only changing the design requirements for external enclosing structures of the building, regulating the minimum value of the total heat transfer resistance of structures during new construction, reconstruction, and major repairs. Such values are minimal, transitional to new and more

stringent requirements for thermal insulation of enclosing structures, which should be introduced into the regulatory framework.

Ukraine's climate has proved extremely sensitive to global changes. This conclusion was made possible by the analysis of the following: maps of the average monthly air temperature and precipitation in Ukraine (Tsentralna heofizychna observatoriia imeni Borysa Sreznevskoho, 2020.), current DSTU-N B V.1.1-27:2010 Construction climatology (Minrehionbud Ukrainy, 2011), other regulatory and reference literature (Ukrainskyi hidrometeorolohichnyi instytut, 2013) and own research in the form of climate analysis of most cities of the country.

Natural and climatic factors that affect the energy balance of the building and the surrounding area include solar radiation, temperature regime, wind, the latitude of the area, landscape, and so on. These factors do not depend on humans and are closely related to the natural environment. The increase in air temperature on our territory has been observed since 1989. Since then, it has increased by more than 1.5 °C in January and February. There has appeared a temperature increasing tendency in July and August, which leads to abnormal overheating of buildings, and creates a need for air conditioning of premises in summer. Winters are getting less snowy. The duration of snow cover retention has relatively decreased by almost a month. Precipitation distribution change is becoming more important than the total amount of precipitation. Uneven precipitation becomes normal with an increase in the number of sparse rains and, conversely, heavy downpours. In general, there is a reduction in the zones of moisture and moisture saturation of the soil. At the same time, the frequency of house flooding is growing.

The concept of the state policy in the field of climate change in Ukraine names the causes of climate change and the main tasks for their elimination. "Anthropogenic impact on the climate system is the dominant cause of warming, ... to avoid the catastrophic consequences of climate change, it is necessary to achieve a reduction in greenhouse gas emissions of such a scale as to keep global warming within 2 °C." (Ministerstvo ekolohii ta pryrodnykh resursiv Ukrainy 2017, p. 1). For the architectural industry, among the indicated direction of problem-solving we have highlighted the most important ones: reducing anthropogenic emissions, increasing greenhouse gas absorption; transition to low-carbon development; climate change adaptation.

Meso-scale climatic regimes research (as illustrated by Lviv). Against the background of global and regional changes, it is important to track local climatic information, including observations, assessment, and modeling of climatic variables that can predict annual, ten-year, and multi-decade climatological changes. Meteorological observations at Lviv Polytechnic have been carried out since its foundation. In 1877, the metrological station together with the observatory was established in the newly built main building of the Tsisar-Royal Real School in Lviv, as it was called back then. The values of climatic variables have been observed and recorded here for almost 100 years. For a reason, Lviv appears, like no other city, in the norms of the Soviet period, namely in the SNiP (construction rules and regulations) and in two guises dated 1973: "Lviv" and "Lviv Polytechnic".

Employees of the Architectural Construction Department, which is now the Architectural Design and Engineering Department are working on the architectural climatology problems, as one of the main scientific fields. Professors Kinash R. I., Shvets Ya. V., assistant professor Kazakov H. V., assistant professor Shuldan L. O., Yatsiv M. B. (Shuldan, 2002), (Kinash&Burnaiev, 2001), (Shuldan&Yatsiv, 1998, 72–76 p.) have devoted their scientific and methodological works to certain problems of architectural climatology at different times. The staff of the department still owes the formation of the architectural physics laboratory with its unique equipment and installations to Bedył O. T., Zapolskyi V. H., and Stasevych I. V. The architectural climatology section in the architectural physics course is one of the most important in the professional training of students of Architectural Specialties of Institute of Architecture and Design Lviv Polytechnic.

To identify climate changes on a meso-climatic scale, the author has conducted her research, analyzing the values of several local climatic variables for Lviv (Table 1). Since temporary deviations of parameter values from the climate norm cannot be considered as climate change, data from the following

sources have been used for analysis: 1963 (State Committee of Council of Ministers of the Soviet Union of Construction [GKSM SSSR PDS], 1963), 1973 (GKSM SSSR PDS, 1973), 1982 (GKSM of the USSR PDS, 1983), 2000 (Gosstroy of Russia, 2000), (Minbud Ukrainy, 2006), and 2010 (Minrehionbud Ukrainy, 2011) with an averaging period of observation data from 1950 to 2008. The data processing of a later period has been based on averaging the values of the main climatic variables from 2009 to 2012 and from 2012 to 2020. Indicators are determined by data linear averaging and are not subjected to homogenization, as required by the method of creating homogeneous meteorological series (Skrynyk& Skrynyk, 2011, p. 46-53). The basis for research practice, as in the formation of regulatory documents, was the reports of the Lviv Aeronautical Meteorological Station (TOV “Rozklad Pohody”, 2020).

Table 1

Examples of research of some external climatic variables (Lviv) during the heating period

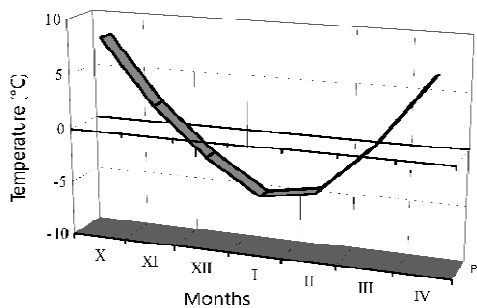


Fig. 1.1. Flow chart of average outdoor air temperatures in Lviv during the heating period (from October to April)

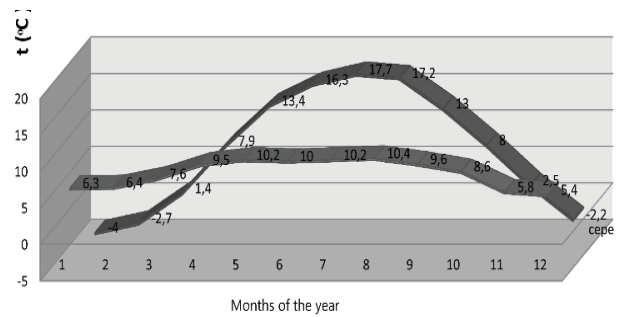


Fig. 1.2. Flow chart of average monthly outdoor air temperatures during the year in Lviv

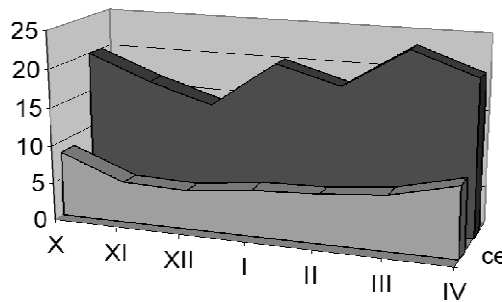


Fig. 1.3. Chart of maximum and average amplitudes of temperature oscillations in Lviv by months (from October to April)

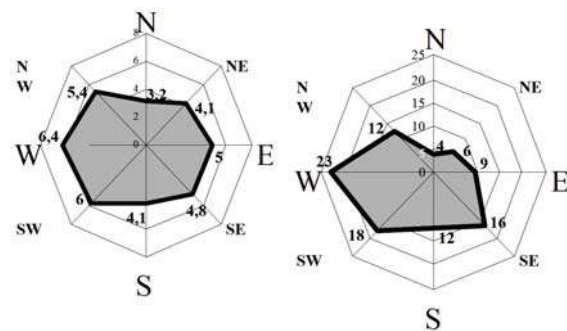


Fig. 1.4. Wind diagrams are built by: a) repetition; b) speed

The main temperature indicators used in energy calculations and thanks to which typological solutions and operating modes of buildings are chosen, summarized in Table 2. A data comparison from mentioned sources and conducted researches provides a picture of changes over more than 60 years. The values of yearly average temperatures obtained in this way can be used for trends determination. It is revealed that the difference in values according to their average readings between the first two is 1 °C towards cooling (Table 2, No. 1, and No. 2). The next 20 years, from the 60s to the early 80s, were distinguished by stable temperature indicators (Table 2, No. 2, and No. 3). Then, there is a consistent trend in warming, which is recorded by the Standards of 1983, 2000, and 2011. The difference in yearly average temperatures between them in the first case (Table 2, No. 3, No. 4) is 0.5 °C. Even after the cold peaks of 2008–2009, the yearly average temperature increased, which is shown by a difference of 0.2 °C (Table 2, No. 4, No. 5) for the next decade. Averaging of temperature values for 2012 show an increase in temperature by 0.4 °C (Table 2, No. 5, No. 6), and in 2019 the temperature was already 0.5 °C (Table 2, No. 6, No. 7). As a result of the analysis, it has been concluded that the yearly average temperature

values in Lviv have increased by 1.6 °C over the past 40 years (Table 2, No. 3, No. 7). Thus, we have made sure the warming at the meso-climatic level is real and determined its intensity which is – 0.9 °C (concerning the current regulatory values). To justify architectural solutions, the correlation analysis of initial temperature conditions must be performed exactly on such a gradient in energy calculations. The author has also conducted a study on wind and humidity conditions and revealed the dynamics of their changes during the earlier period.

Table 2

Temperature changes dynamics in Lviv

No.	Reference source	Year	The yearly average temperature value	Reference temperature (cold pentad)	The highest temperature of the warm period
1	2	3	4		6
1	Snip II-A. 6-62 (GKSM SSSR PDS, 1963)	1963	7.7	- 16	36
2	SNiP II-A. 6-72 (GKSM SSSR PDS, 1973)	1973	6.7	- 20	37
3	SNiP 2.01.01-82 (GKSM SSSR PDS, 1983)	1983	6.7	- 20	37
4	SNiP 23-01-99 (Gosstroy Rossii, 2000)	2000	7.2	- 20	-
5	DSTU-N B V.1.1-27:2010. (Minrehionbud Ukrainy, 2011)	2011	7.4	- 20	27
6	© Larysa Shuldan, 2021 By the Weather Archive of Lviv (aeroport)(TOV "Rozklad Pohody", 2020)	2009- 2012	7.8	- 17	28
7	© Larysa Shuldan, 2021 By the Weather Archive of Lviv (aeroport)(TOV "Rozklad Pohody", 2020)	2012– 2020	8.3	-17	27

In 2019, a group of Swiss researchers found out how much cities can be changed in response to global climatic shifts. They found a general trend for cities in the northern hemisphere that move into warmer conditions at an average speed of ~ 15–20 km per year (Bastin et al., 2019), (Beniston, 2014). The cities' geographical shift demonstration (Fitzpatrick & Dunn, 2019) helps to understand and anticipate the effects of changes in their architecture. In this paradigm, we can assume that the climate of Lviv (49° 50' N) will be similar to the current climate of Bucharest, Bordeaux, or Bologna (~ 45 N) by 2050. And the changes outlined in such a way can provide a unique opportunity to develop strong recommendations for responding and addressing their consequences. Additional risks continue to be recognized as climate changes by the impact on human health. Also, they predict the application of measures to create a comfortable environment (Haines & Ebi, 2019).

Conclusions, proposals, and prospects for further research

Today, the global climate system shows signs of rapid changes which is called a Climatic Transition in specialized literature. Climate change scenarios for a period comparable with the estimated lifetime of 100 years buildings do not have strong certainty. The trend of warming for the period up to 2050 has been confirmed.

The rate of warming and the geographical shift of cities causes the emergence of architectural concepts that are not typical for some regions. The adaptability of architecture to climatic changes should be developed in three main directions: 1 – the use and increase of climate properties benefits for humans;

2 – neutralization or elimination of their adverse manifestations (protection against temperature rise, flooding, wind perturbations, etc.); 3 – reduction of human-induced disturbance (greenhouse gas emissions reduction, environmental friendliness, and energy saving). To do this, the list of architectural techniques and tools should be expanded and supplemented based on fundamental researches.

The research on the dynamics of the main climatic variables change has been based on data from standards, reference, and research literature with an averaging period of observation data from 1950 to 2008 and own surveys with linear averaging of parameters from 2009 to 2012 and from 2012 to 2020. Over the past 40 years, the yearly average temperature in Ukraine has increased by 1.5 °C. The warming intensity was calculated at the meso-climatic level (for Lviv) which is equal to 0.9 °C (in comparison with the indicators of the current standard dated from 2000). To justify architectural solutions, the correlation of initial temperature conditions must be performed exactly on such a gradient. It has been proposed to add the appropriate data to the regulatory documents.

The improving correlation of the energy efficiency of the architectural concepts with current and promising external microclimatic conditions determined the direction of further scientific and practical comprehensive researches of architectural planning and spatial organization of public buildings, taking into account trends and differences in climatic conditions in the regions of Ukraine.

References

- Vitruviiy, 1936. *Desyat knig ob arhitekture*. Kniga I. Glava I. Obrazovanie arhitekтора. Istoriya antichnoy arhitektury. [online] Totalarch. Available at: <<http://antique.totalarch.com/vitruvius/1/1/>> [Accessed date: May 12, 2019].
- Shcherbakivskiy, V., 1910. *Arkhitektura u rizhnykh narodiv i na Ukraini*. Lviv–Kyiv: “Zahalna Drukarnia”. P. 5.
- Dyda, I., 2009. *Ekologichni osnovy tradycijnoji ukrajinskoji arkchitektury*. Lviv : Natsionalnyj universytet “Lvivska politehnika”.
- Gusev, N. M., 1983. *Osnovyi stroitelnoy fiziki: Uchebnik dlya vuzov*. Moskva : Stroyizdat. P. 440.
- Obolenskiy, N. V., red., 2005. *Arhitekturnaya fizika: Uchebnik dlya vuzov, spets. A-87 “Arkhitektura”*. Moskva : Arhitektura-S”. P. 448.
- Myagkov, M. S., Alekseeva, L. I., 2016. *Arhitekturnaya klimatografiya*. Moskva: Infra-M. P. 356.
- Apatenko, T. M., red., 2011. *Konspekt lektzii z dystsypliny “Budivelna fizyka. Klimatolohiia” (dlia studentiv 4 kursu dennoi formy navchannia napriamu pidhotovky 6.060102 – “Arkhitektura” (eksperyment))*. Kharkiv: Kharkivska natsionalna akademiia miskoho hospodarstva. P. 98.
- Shuldan, L. O., 2006. *Problemy arkhitekturnoi klimatolohii u skladi kursu “Arkhitekturna fizyka”*.
- Foster N., 2005. *Works 2. Norman Foster On Architecture + Sustainability*. Catalyst. [online] London: Prestel. Available at: <<https://www.catalystreview.net/norman-foster-on-architecture-sustainability/?fbclid=IwAR2HHVJIRONmPJVr49m4fZCy-eFH7ISybMs9sIzJrb8fVrpA14MUigZM9uQ>> [Accessed date: December 18, 2018]
- Minrehionbud Ukrainy, 2011. DSTU-N B V.1.1-27:2010. *Zakhyst vid nebezpechnykh heolohichnykh protsesiv, shkidlyvykh ekspluatatsiinykh vplyviv, vid pozhezhi. Budivelna Klimatolohiia*. Kyiv.
- Larochelle, J.-J., 2015. Les réponses de l’architecture au climat local, *Le Monde*, 20 Nov. [online] Available at: <https://www.lemonde.fr/cop21/article/2015/11/27/les-reponses-de-l-architecture-au-climat-local_4819327_4527432.html> [Accessed date: May 3, 2018].
- Stronskiy, L. M., 2006. Shcho take hlobalne poteplinnia – blef chy realist? *ELEKTROpanorama*, 7, 8.
- Weart, S. R., 2003. *The Discovery of Global Warming*. Harvard University Press.
- Boichenko, S. H., 2007. *Kvaziperiodicheskie kolebaniya prizemnoy temperatury Severnogo polushariya v poslednem tysyacheletii*. Dopovid. NAN Ukrainy, 6, P. 105–111.
- Burroughs, W., ed., 2003. *Climate: Into the 21st Century*. Cambridge: Cambridge University Press. P. 240.
- Akimenko, T. A., Aleksandrov, S. I., Ananev, G. S., Babkin, V. I., Badyukova E. N., 2006. *Sovremennyye globalnyie izmeneniya prirodnoy sredy: v 2 tomah*. Moskva : Nauchnyiy mir.
- Krenke, A. N., Chernavskaya, M. M., Brazdil, R., Rauner, Yu. L., Zolotokrylin, A. N., 1995. *Izmenchivost klimata Evropyi v istoricheskoy proshlom*. Moskva : Nauka.
- Kim, H., An, S., 2013. On the subarctic North Atlantic cooling due to global warming. *Theoretical and Applied Climatology*, P. 9–19.

National Research Council of The National Academies, 2010. *Advancing the Science of Climate Change*. [online] Washington, DC: The National Academies Press, pp. 204–216. P. 223. Available at: <<https://www.nap.edu/read/12782/chapter/1>> [Accessed date: June 25, 2018].

NRC, 2008. *Understanding and Responding to Climate Change*. Board on Atmospheric Sciences and Climate, US National Academy of Sciences. P. 2.

Alloisio, B. L., Farnia, B., Khoroshiltseva, M., 2013. The 2013 ICCG Climate Think Tank Ranking. *Methodological Report*. Venice, Italy: International Center for Climate Governance.

McGann, James G., 2020. 2019 Global Go To Think Tank Index Report. *Global Go To Think Tank Index Reports*. [online]. Available at: <https://repository.upenn.edu/think_tanks/17> [Accessed date: August 27, 2020].

United Nations, 2020. 2019 second hottest year on record, UN confirms. *UN News*. [online]. Available at: <<https://news.un.org/en/story/2020/01/1055392>> [Accessed date: January 18, 2020].

European Commission, 2009. *European Climate Change Programme*. [online]. Available at: <<https://www.eubusiness.com/topics/ environ/eccp>> [Accessed date: March 26, 2019].

European Commission, 2019. *Commission plans legislative framework to ensure the EU meets its target for cutting CO₂ emissions from cars*. [online]. Available at: <https://ec.europa.eu/clima/policies/transport/vehicles/regulation_en#tab-0-1> [Accessed date: March 26, 2019].

Peeters, M., Deketelaere, K., 2006. *EU Change Climate Policy: The Challenge of New Regulatory*. Global and European temperature. European Environment Agency. [online]. Available at: <<https://www.eea.europa.eu/data-and-maps/indicators/global-and-european-temperature-9/assessment>> [Accessed date: June 14, 2019].

Minrehionbud Ukrainy, 2017. DBN V.2.6-31:2016 *Teplova izoliatsiia budivel*. Kyiv.

Tsentrалna heofizychna observatoriia imeni Borysa Sreznjevskoho, 2020. *Karty serednomisiachnoi temperatury povitria ta opadiv po Ukraini*. [online]. Available at: <<http://cgo-sreznjevskiy.kiev.ua/index.php?fn=maps-ukraine&f=php&p=1>> [Accessed date: February 2, 2020].

Ukrainskyi hidrometeorolohichniy instytut, 2013. *Zvit pro naukovo-doslidnu robotu. Rozroblennia stsenariiv zminy klimatychnykh umov v ukraini na seredno- ta dovrostrokovu perspektyvu z vykorystanniam danykh hlobalnykh ta rehionalnykh modelei*. [online]. Available at: <<https://uhmi.org.ua/project/rvndr/climate.pdf>> [Accessed date: January 18, 2021].

Ministerstvo ekolohii ta pryrodnykh resursiv Ukrainy 2017. *Kontseptsiia realizatsii derzhavnoi polityky u sferi zminy klimatu na period do 2030 roku*. [online]. P. 1. Available at: <<https://menr.gov.ua/news/32001.html>> [Accessed date: May 23, 2018].

Shuldan, L. O., 2002. *Klimatolohichniy analiz raionu budivnytstva. Zavrannia i metodychni vkazivky do kontrolno-hrafichnoi roboty B-1 z kursu "Budivnelna fizyka" dlia studentiv napriamku 1201 – napriamku "Arkhitektura"*. Lviv: Vydavnytstvo Natsionalnoho universytetu "Lvivska politekhnik".

Kinash, R. I., Burnaiev, O. M., 2001. *Temperaturnyi rezhym povitria i hruntu v Ukraini*. Lviv: Vydavnytstvo naukovotekhnichnoi literatury.

Shuldan, L. O., Yatsiv, M. B., 1998. *Zaoshchadzhenia enerhii arkhitekturnymy zasobamy. Mizhnarodna naukovotekhnichna konferentsiia "Zhytlo enerhiia ekolohiia"*. Lviv DU "Lvivska politekhnik". P. 72–76.

Gosudarstvennyy Komitet Soveta Ministrov SSSR Po Delam Stroitelstva, 1963. SNiP II-A.6-62 *Stroitel'naya klimatologiya i geofizika*. Moskva: Gosudarstvennoe Izdatel'stvo literatury i stroitel'stva, arkhitekture i stroitel'nyim materialam,

Gosudarstvennyy Komitet Soveta Ministrov SSSR Po Delam Stroitelstva, 1973. SNiP II-A.6-72 *Stroitel'naya klimatologiya i geofizika*. Moskva: Stroyizdat.

Gosudarstvennyy Komitet Soveta Ministrov SSSR Po Delam Stroitelstva, 1983. SNiP 2.01.01-82 *Stroitel'naya klimatologiya i geofizika*. Moskva: Stroyizdat.

Gosstroy Rossii, 2000. SNiP 23-01-99. *Stroitel'naya klimatologiya*. Moskva: GUP TsPP Gosstroya Rossii.

Minbud Ukrainy 2006. DBN 1.2.2-2006 *Systema zabezpechennia nadiinosti ta bezpeky budivelnykh obektiv. Navantazhennia i vplyvy*. Kyiv.

Skrynyk O. A., Skrynyk O. Ya., 2011. Vidnovlennia propuskiv u chasovykh riadakh meteorolohichnykh pokaznykiv. *Naukovi pratsi UkrNDHMI* 260. P. 46–53.

TOV "Rozklad Pohody" 2020. *Shchodennyk pohody u Lvovi (aeroport)*. [online]. Available at: <[http://rp5.ua/%D0%90%D1%80%D1%85%D1%96%D0%B2_%D0%BF%D0%BE%D0%B3%D0%BE%D0%B4%D0%B8_%D1%83_%D0%9B%D1%8C%D0%B2%D0%BE%D0%B2%D1%96_\(%D0%B0%D0%B5%D1%80%D0%BE%D0%BF%D0%BE%D1%80%D1%82](http://rp5.ua/%D0%90%D1%80%D1%85%D1%96%D0%B2_%D0%BF%D0%BE%D0%B3%D0%BE%D0%B4%D0%B8_%D1%83_%D0%9B%D1%8C%D0%B2%D0%BE%D0%B2%D1%96_(%D0%B0%D0%B5%D1%80%D0%BE%D0%BF%D0%BE%D1%80%D1%82)> [Accessed date: from 2012 to 2020].

Bastin, J-F., Clark, E., Elliott, T., Hart, S., van den Hoogen, J., Hordijk, I., et al. 2019. Understanding climate change from a global analysis of city analogues. *PLoS ONE*, 14(7). [online]. Available at: <<https://doi.org/10.1371/journal.pone.0217592>> [Accessed date: 21.01.2021].

Beniston, M., 2014. European isotherms move northwards by up to 15 km year⁻¹: using climate analogues for awareness-raising. *Int J Climatol*, 34, 1838–1844.

Fitzpatrick, M.C., Dunn, R.R., 2019. *Contemporary climatic analogs for 540 North American urban areas in the late 21st century*. Nature Publishing Group, 10, 614.

Haines, A, Ebi, K., 2019. The Imperative for Climate Action to Protect Health. *The New England Journal of Medicine*, 380. P. 263–273.

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ПОКРАЩЕННЯ ЕНЕРГЕТИЧНОЇ ЕФЕКТИВНОСТІ АРХІТЕКТУРНИХ РІШЕНЬ В КОНТЕКСТІ КЛІМАТИЧНИХ ЗМІН

Анотація. *Зв'язки між кліматичними умовами та архітектурою будівель і містобудівних утворень розкривають у частині архітектурної фізики – архітектурній кліматології. Сьогодні світова кліматична система демонструє ознаки стрімких змін, що у спеціальній літературі останнім часом обережно названо "кліматичним переходом". У статті кліматичні тенденції проаналізовано в різних територіальних (глобальних, макрокліматичних, мезокліматичних та мікрокліматичних) та часових межах (історичний огляд; сучасний стан; довгострокова, середньострокова та короткострокова перспективи). В результаті їх опрацювання, обґрунтованих даних на перспективу, співвідносно з орієнтовним терміном життя будівель (100 років), не виявлено. Тож, за основу взято найбільш ймовірні середньострокові прогнози до 2050 року. Авторська участь у розробці Держстандарту "Будівельна кліматологія" 2011 р. спонукала до продовження досліджень та виявлення тенденцій кліматичних змін у мезокліматичному масштабі. Проведено аналіз даних нормативних джерел від 60-х років минулого століття (1963, 1973, 1983, 2000, 2011 за даними спостережень від 1950 по 2008 рр.) та продовженні дослідження з лінійним усередненням з 2009 до 2019 р. Порівняння отриманих даних надає картину динаміки змін показників кліматичних режимів (температурного, вологісного, вітрового) за майже 70 років. Оцінена мінливість значень основних параметрів в цілому на території України. На підставі ретроспективних досліджень та аналізі актуальних даних визначена динаміка змін основних кліматичних параметрів для міста Львова. Сформульовано основні вимоги до архітектурних вирішень у різних кліматичних умовах України. Проведено кореляцію покращення енергоефективності архітектурних рішень з актуальними зовнішньо мікрокліматичними умовами. Запропоновано внести відповідні дані до нормативних документів.*

Ключові слова: *архітектурна кліматологія, кліматичний перехід, будівельна кліматологія, покращення енергоефективності архітектурних рішень, Львівська політехніка, архітектура громадських будівель.*

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**ARCHITECTURAL WORKS OF PIERRE RICAUD
DE TIRREGAILLE IN GALICIA**

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Abstract. The article analyzes the life and creative path of the French military engineer, geometer and architect Pierre Rico de Tiregail (1725 – after 1772).

Key words: architect, Pierre Ricaud de Tirregaille, palace, garden.

Problem statement

Art history, historical and architectural studios contain selective and incomplete information about the life and work of architect Pierre Rico de Tirregail. Little information has been preserved about its activities, most of the documents and drawings are scattered in archival funds of different countries, some of them do not have the author's signature. The analysis of archival materials and scientific publications made it possible to show the diversity of the architect's work.

Purpose of the article

The article aims to highlight the life and creative path of architect Pierre Rico de Tirregail.

Analysis of recent research and publications

Generalization and systematization of the results of previous studies showed that scientific research on a given topic was carried out in several directions. The first direction includes those studies of the authors, which are devoted to the personality of the architect Pierre Rico de Tirregail and which can be divided into works concerning biographical information about the architect, and studios about various projects that Pierre Rico de Tirregail completed to order.

Some biographical information about Pierre Rico de Tirregail can be obtained from the bibliographic publication “Dictionary of Polish architects and builders, as well as foreigners working in Poland”, which was created by Stanislaw Loza (1888–1956) (Łoza S., 1931, S. 286) in 1917, from the

“General Encyclopedia of Fine Arts from antiquity to the present”, which was founded by Ulrich Tim and Felix Becker (Stephens–Theodotos E. A., 1938), from the “Polish Biographical Dictionary” (1988–1989) (Kowalczyk J., 1977, S. 270–272). E. Zhylo's doctoral dissertation is devoted to the patronage of the crown Hetman Jan Clement Branytsky regarding artists, including the architect Pierre Rico de Tirregail (Żyłko E., 1955). Research By M. Moreliovskiy (Morelowski M., 1959, S. 351) and Z. Hornung (Hornung Z., 1959, S. 276–284) focus on the artist's French origin. The research of Ye. Kovalchik (Kowalczyk J., 1988, S. 299–317; 19, S. 99–114) highlights the architectural activities of Pierre Rico de Tirregail in Warsaw. Articles in the “Hall encyclopedia” (Ricaud de Tirregaille P., 1867, S. 297–298), as well as the research of B. Olshevich (Olszewicz B., 1932, S. 205–206), E. Kovalchik (Kowalczyk J., 1977, S. 53–59) and D. Kosachki (Kosacka D., 1970, S. 29, 54–55) show Pierre Rico de Tirregail as the compiler of the map of Warsaw in 1762.

The second direction of research includes the works of T. Mankovskiy (Mańkowski T., 1932, S. 110–113; 25, S. 391–433), Ye. Kovalchik (Kovalchik Ye., 1991, P. 51, 55, 62), E. Sveykovskiy, Ya. Chernetskiy (Czernecki J., 1939, S. 42–52, 413–429), Ya. Ross (Ross J., 1970, S. 42–52, 413–429), H. Hrynyk, O. Yarosh-Zamoyska (Hrynyk H., 2000, S. 256), which relate to the issues of local history and the history of architecture. They focus on the personality of the customer and the architectural and planning solution of structures designed and built by Pierre Rico de Tirregail.

A separate area of research includes works on landscape art by H. Tsiolek (Ciołek G., Plapis W., 1986, S. 96–102), Ya. Bohdanovskiy (Bogdanowski J., 2000, S. 61, 64, 77, 84, 258), L. Maydetskiy (Majdecki L., 2008, S. 61, 64, 77, 84, 258), in which Pierre Rico de Tiregail appears as a specialist in the design and laying of gardens.

Important sources for finding out bibliographic information about Pierre Rico de Tiregail and his project orders are handwritten and graphic materials that are stored in the archives of Warsaw (Archiwum Główne Akt Dawnych w Warszawie), Krakow (Archiwum Narodowe w Krakowie), The National Institute of heritage in Warsaw (Narodowy Instytut Dziedzictwa w Warszawie) and the National Library of France in Paris.

Results and discussion

Even though the figure of this military engineer, geometer, architect Pierre Ricaud de Tirregaille (1725–1772) is relatively well known to researchers, his biography, outside the period of activity in the Polish-Lithuanian Commonwealth, remains largely unknown.

Pierre Rico de Tiregaille was born around 1725 in a French noble family in the Tiregaille area in Provence, where his parents owned property. It is known that for some time he travelled around Europe. From the remained correspondence, we learn that before arriving in the Polish-Lithuanian Commonwealth, he was in Spain for some time (Archiwum Główne Akt Dawnych w Warszawie, S. 553), where he improved his professional education in Barcelona under the guidance of his relative, engineer Francis Rico de Tiregail. The Polish researcher Ye. Kowalczyk in the twelve-year activity of Pierre Rico de Tirregail in the Polish – Lithuanian Commonwealth separated three periods: I – Warsaw (1752–1757), II – Lviv (1757–1760) and III – Warsaw (1760–1762). Most of the assignments that the architect received during his work in the Polish-Lithuanian Commonwealth came from several magnate families: Branitski, Potocki, Mnishiv, etc.

The first mention of Pierre Rico de Tiregail's stay in the Polish-Lithuanian Commonwealth dates back to 1752 when he received the rank of lieutenant in the infantry regiment of the grand crown hetman Jan Clement Branytsky (1689–1771) and as a military engineer entered the service. In 1753, he was promoted to captain, and on November 11, 1753, in Warsaw, he married Barbara Cieciewiczówna (Narodowy Instytut Dziedzictwa w Warszawie, Teka 320. – S. 162. – 1753 r.), the daughter of Antoni, a

city writer from Old Warsaw, and later three children were born in the family. In addition to his military salary, Pierre Rico de Tirregail receives a fixed salary of 200 ducats per year from hetman Jan Branycky, who hires him as an engineer at his residence in Bialystok 1753–1757. However, Pierre Rico de Tiregail does not move to Bialystok but stays in Warsaw, where he also receives other orders. For four years, he visited the residence in Bialystok only during the spring and summer season, he was entrusted with the development and management of installation works for the water supply of the garden and menagerie using hydraulic devices that were supposed to provide water to fountains, cascades, channels and ponds (Fig. 1) (Narodowy Instytut Dziedzictwa w Warszawie, Teka 320. – S. S. 1–2; Teka 353. – S. 1; Teka 358. – S. 25, 29, 33, 38, 39).

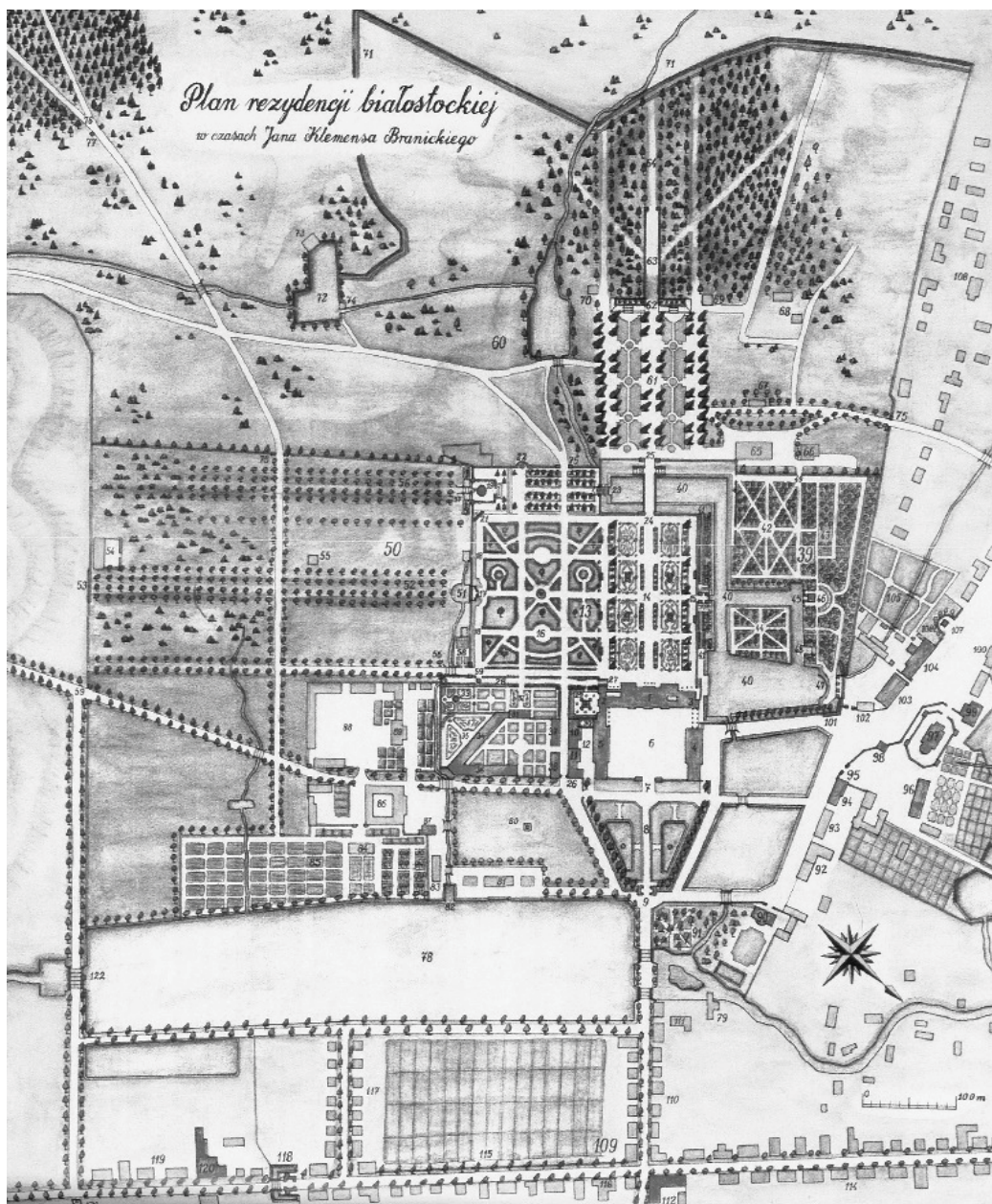


Fig. 1. Bialystok. Plan of hetman Branitsky's residence

For two years in a row (1752–1754), Pierre Rico de Tiregaille teaches a student, the son of Casper Duchesne, presumably an architect of French origin, and makes him a protégé with Branytsky in Bialystok

(Narodowy Instytut Dziedzictwa w Warszawie, S. 176. 1754). Hetman Branytsky called Pierre Rico de Tirregail “my engineer” (Narodowy Instytut Dziedzictwa w Warszawie, S. 142a, 143, 159–162, 176, 208, 214, 216, 217, 220, 221), obviously, he also helped the hetman with his architectural and design knowledge, at least with advice. The architect criticized the main ideas of hetman artists in the residence in Bialystok, which served as a source of conflict between Pierre Rik de Tirregail and the chief architect of hetman Branytsky, colonel Jan Henrik Klemm. In 1754 Tiregail faces a” far-fetched” conflict over the timing of completion of water deposits in the gardens of Bialystok (Narodowy Instytut Dziedzictwa w Warszawie, Teka 341. P. 8. 1754). According to Kurdwanowski, in a conversation with Pierre Rico de Tirregail, he tried to encourage him to complete the work as soon as possible, but he still had doubts about the engineer's assurances (Narodowy Instytut Dziedzictwa w Warszawie, Teka 341. P. 8. 1754). This situation caused dissatisfaction with hetman Branytsky, so the works that Pierre Rico de Tiregail was supposed to direct are transferred to another architect Lorenz Peter Christoph, and the hetman expresses his readiness to personally control the laying of pipes (Narodowy Instytut Dziedzictwa w Warszawie, Teka 342. – S. 35, 38, 40, 41). Pierre Rico de Tirregail receives his salary from Branycky on the way from Warsaw to Bialystok (Narodowy Instytut Dziedzictwa w Warszawie, Teka 315. – S. 317). Already in 1755 (Narodowy Instytut Dziedzictwa w Warszawie, Teka 320. S. 222) and 1756 Pierre Rico de Tirregail goes to Bialystok at his own expense (Narodowy Instytut Dziedzictwa w Warszawie, Teka 320. S. 235). In 1757, he received a letter with money from Lieutenant Colonel Klemm, for which he thanked him in a return letter on his behalf and on behalf of his wife (Narodowy Instytut Dziedzictwa w Warszawie, Teka 315. S. 251). This was the last payment. Due to the termination of payments, Pierre Rico de Tirregail turns to Branytsky, reminding him of the previously made promise to pay him money, taking into account family circumstances, until he finds another suitable job (Narodowy Instytut Dziedzictwa w Warszawie, Teka 353. S. 1). In response, hetman Branitsky orders to pay the last salary not personally to Pierre Rico de Tirregail, but to his creditor, colonel Hiche (Narodowy Instytut Dziedzictwa w Warszawie, Teka 315. S. 248. 1758 r.). At the beginning of 1758, Pierre Rico de Tiregaille was dismissed from the service of Branycky. Yan Henrik Klemm complains that after the release of Pierre Rico de Tirregail, he is deprived of the “Astrolabia”, a book on architecture and projects, including plans of the palace and garden in Horosh and numerous drawings that he borrowed from the library of hetman Branitsky (Narodowy Instytut Dziedzictwa w Warszawie, Teka 339. S. 11, 12. 1758).

In 1757, Pierre Rico de Tirregail moved for four years from Warsaw to Lviv, where he carried out several architectural projects. First, Franciszek Salezia Potocky, voivode of Kyiv, designed and implemented in 1757–1760 a large palace complex with a garden in Kristinopol on the Buh River near Sokal. It is possible that his authorship also belongs to the project of the Potocky Palace in Perespa in 1758 (not preserved). Thus, the art critic V. Vujcyk considered him the author of such a project (Vuytsik V. S., 2003, P. 68), while the Polish researcher Ye. Kowalczyk only assumed such a possibility (Kowalczyk J., 1989, S. 270–272). While overseeing work in Christinopol, Pierre Rico de Tiregail takes on the project of the Chatsky-Felinsky Palace on the Galician suburb of Lviv behind the Jesuit gate. According to the Treaty of September 13, 1758, Pierre Tiregail was supposed to work for two years for 10 thousand Polish zlotys. As part of this project, the architect acted not only as a designer, but also as a construction entrepreneur, but in two years he managed to lay only the foundation, so on August 29, 1759, Chatsky filed a complaint against him with the Lviv City Court. In 1759 Pierre Tiregail developed a project to modernize the two-story Palace for the court hunter Anthony Belsky in Lviv near the Galician Gate (Kowalczyk J., 1989, S. 271). Two drawings of facade projects are kept in the National Library in Paris (Bibliothèque nationale de France. Cabinet des Estampes).

In Lviv, Pierre Rico de Tirregail was a construction adviser to the Greek Catholic Metropolitan of Lviv Leon Sheptytsky, where at that time the royal architect B. Meretin was completing St. George's Cathedral. Remaining a supporter of rococo and classicism, Pierre Rico de Tiregail criticized this structure,

interpreting the style of St. George's Cathedral as outdated. In response to criticism, B. Meretin filed a lawsuit against the architect on November 3, 1758, for allegedly making unmotivated charges. Such criticism caused the dissatisfaction of Metropolitan Lev Sheptytsky, as a result – he breaks the contract with Pierre Rico de Tiregail and stops using his services because significant funds were collected and spent on construction (Mańkowski T., 1932, S. 209). Volodymyr Vujtsik suggested that the author of the original design of the palace of Greek Catholic Metropolitans in Lviv could also be Pierre Rico de Tiregail, and not Clemens Fesinger (Vuytsik V. S., 2003, P. 68).

During the supervision of the construction of the Palace in Christinopol, Pierre Rico de Tiregail was introduced to Ignatius Tsetner (1728–1806), who repeatedly visited the palace, since his wife came from the Potockyi family. The result of this acquaintance was an invitation to develop a Palace project in Krakovets. The plan of the palace, which is kept in the National Library of France in Paris, was fulfilled, according to the assumptions of R. Aftanazy (Aftanazy R., 1996, S. 53–63) and P. Wątroba P., 2016, S. 67–73), it was Pierre Rico de Tiregaille. The author of this article also believes that the baroque garden at the Palace in Krakovec belongs to the authorship of Pierre Rico de Tiregail.

At the beginning of 1760, the crown hetman Branytsky asks Pierre Rico de Tiregail to draw a grain mill of the Bernardines, which was moving with the help of the draft force of oxen and direct a carpenter who was supposed to make a model of this mill, which was to be sent to Mostyska. Besides, Hetman Branytsky asked him to design a mill for the garden as a place for walking. Pierre Rico de Tiregail provides the hetman with samples of similar mills that he came across in Spain (Narodowy Instytut Dziedzictwa w Warszawie, Teka 315. S. 164, 209, 210).

At the end of 1760 Pierre Rico de Tiregail and his family return to Warsaw. At the request of Czech crown marshal Francis Belynsky, who headed the road commission (Komisja Brukowa) founded by King Augustus III, he takes on the ambitious task of drawing up a detailed plan of the city of Warsaw, which eventually brought him fame. On eighteen parts on a scale of about 1:1000, he makes a plan of Warsaw with its suburbs probably based on the measurements of the architect Jakub Fontan (Fig. 2). Pierre Rico de Tiregail completed work on the plan on May 1, 1761, receiving a reward of 2,533.1 zlotys. At the request of F. Belynsky, Pierre Rico de Tiregail is preparing a plan of Warsaw for printing, reducing it to a scale of 1:6690. Under the plan, the architect places a panorama of the city of Warsaw from the Visla River; on top and both sides there are seventeen impressive buildings, mainly palaces – royal and senatorial. After the Second World War, these images became a valuable source for the reconstruction of palaces.



Fig. 2. The Warsaw plan drawn up by architect Pierre Rico de Tiregail. 1761

As the owner of the graphic plan, Pierre Rico de Tirregail also owned a typographic cliché, which was executed in 1762 on four copper plates by Jakub Teofil Marstalski (Marstaller). Pierre Rico de Tiregail is going to dedicate the developed Warsaw plan to king Augustus III. He offers hetman Branytsky to buy clichés from him (27, Teka 353. S. 2, 3). The plan was published in 1762 under the title “Plan de la Ville de Varsovie Dedie a S.M. Auguste III Roi de Pologne Electeur de Saxe. & &. Leve par ordre de S.E.M. Comte Bielinski Grand Marchal de la Couronne par M.P. Ricaud de Tirregaille Lieut Colonel et Inginieur au Service du Roi et de la Republique en 1762” (Fig. 3). In addition to the Warsaw plan, Pierre Rico de Tiregail planned to release an album with important metropolitan buildings at that time, the National Library in Paris stores his drawings of the Krakow suburb street and the Krasinski Palace [7] in Warsaw with appropriate topographical and historical explanations.

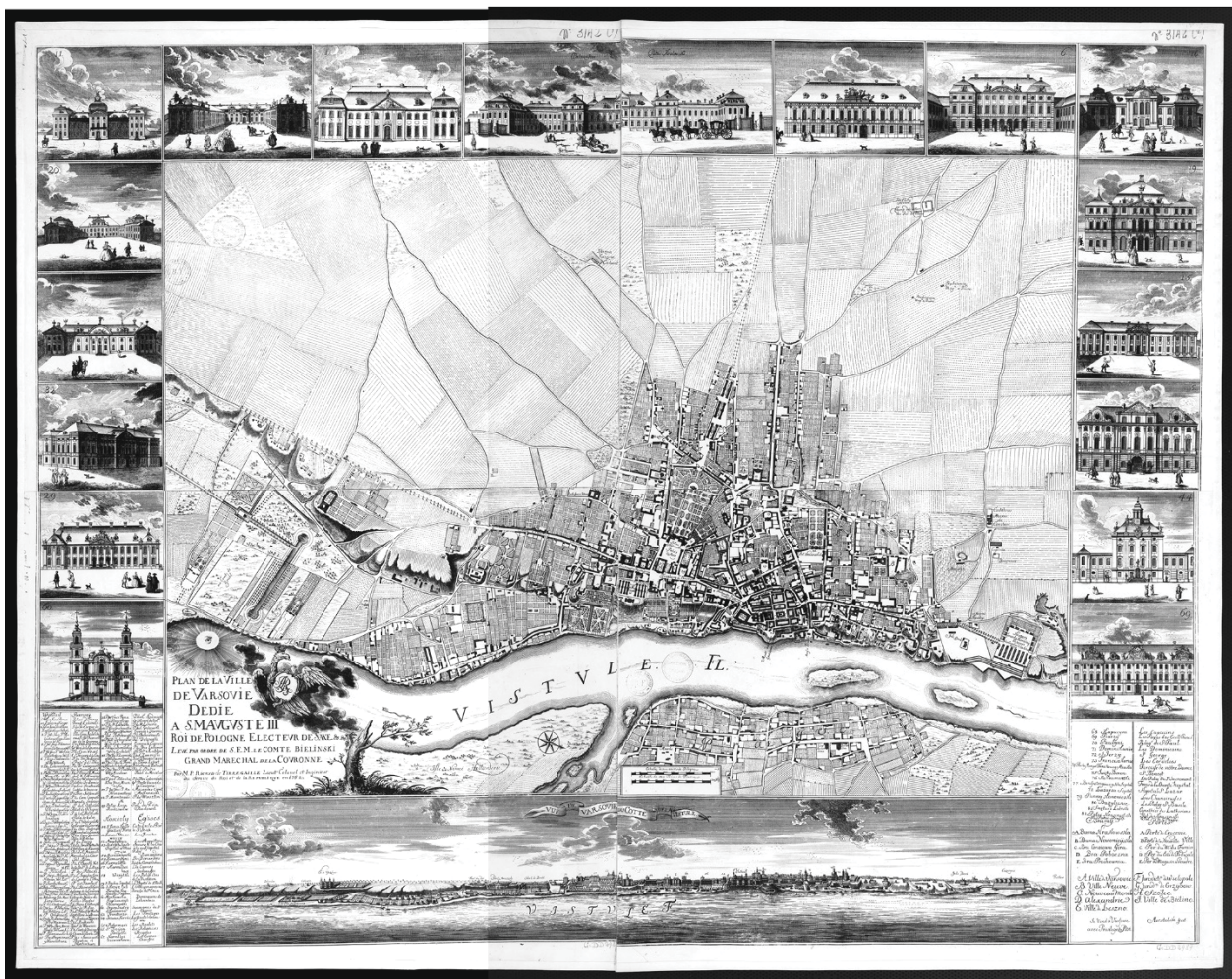


Fig. 3. The Warsaw plan by Pierre Rico de Tiregail.

“Plan de la Ville de Varsovie Dedie a S. M. Auguste III Roi de Pologne Electeur de Saxe.

& &. Leve par ordre de S.E.M. Comte Bielinski Grand Marchal de la Couronne par M. P. Ricaud de Tirregaille Lieut Colonel et Inginieur au Service du Roi et de la Republique en 1762”

After nine years of service, Pierre Rico de Tirregail hoped to get promoted. In December 1761 he asked hetman Branycky to help him advance to the rank of colone. His request was also supported by marshal F. Belinsky, who asked the hetman to help in the Royal Court with this request, which “will give the Warsaw plan more importance” (Narodowy Instytut Dziedzictwa w Warszawie, Teka

- Archiwum Narodowe w Krakowie. Plan pałacu Franciszka Salezego Potockiego wojewody kijowskiego w Krystynopolu oraz pałacyku w Perespie. Archiwum Potockich w Krzeszowic. Sign. 3137. 29/635/0/14/3137.
- Archiwum Roskie. Sygn. XVIII/34 (6 листів Р. Тіррегайля до Я. Браніцького від І. 1752–62), sygn. XXXIV/29 (лист Р. Тіррегайля до Я. Клемма від 1757).
- Bibliothèque nationale de France. Cabinet des Estampes. Vc. 350. 4. K–O.
- Bibliothèque nationale de France. Département des estampes et de la photographie. Cabinet des Estampes. Vc. 350. T. 7.
- Bibliothèque nationale de France. Paris. Pierre Ricaud de Tirregaille. Palais de Cracoviec appartenant a m. le Cte. Cettner du Cote de l'Entree. Sign. R 14550.
- Bogdanowski J., 2000. Polskie ogrody ozdobne. Warszawa : Arkady.
- Ciołek G., Plapis W., 1968. Materiały do słownika twórców ogrodów polskich, Warszawa.
- Ciołek G., 1954. Ogrody polskie, Warszawa.
- Ciołek G., 1955. Zarys historii kompozycji ogrodowej w Polsce. Łódź–Warszawa.
- Czernecki J., 1939. Mały król na Rusi i jego stolica Krystynopol. Kraków.
- Homung Z., 1959. Na śladach działalności artystów francuskich w Polsce // Teka Kom. Hist. Sztuki. T. 1.
- Kosacka D., 1970. Plany Warszawy XVII i XVIII w. w zbiorach polskich. Katalog. Warszawa.
- Kowalczyk J., 1977. Goût français po warszawsku. Warszawskie pałace rokokowe na planie Ricaud de Tirregaille'a // Architektura, R. 31. Nr. 1–2.
- Kowalczyk J. 1988. Pierre Ricaud de Tirregaille – architekt ogrodów i pałaców // "Kwartalnik Architektury i Urbanistyki" .,Vol. 33. Z. 4.
- Ricaud de Tirregaille P., 1867. Encyklopedyja powszechna. Warszawa. T. 25.
- Kowalczyk J., 1981. Wędrówka po pałacach rokokowych z panem Ricaud // Jesteśmy w Warszawie. Miasto dawne i nowe. Warszawa : PIW. T. 1.
- Kowalczyk J., 1989. Ricaud de Tirregaille Pierre // Polski Słownik Biograficzny. Wrocław–Warszawa–Kraków–Gdańsk–Łódź : Zakład Narodowy Imienia Ossolińskich, Wydawnictwo Polskiej Akademii Nauk – T. XXXI.
- Kriegsarchiv des Österreichischen Staatsarchivs in Wien. Josephinische Landesaufnahme, 1763–1787.
- Łoza S., 1931. Architekci i budowniczowie w Polsce / Słownik architektów i budowniczych Polaków oraz cudzoziemców w Polsce pracujących. Wydanie drugie, uzupełnione. Wydawnictwo Kasy im. Mianowskiego, Instytutu Popierania nauki Warszawa, Pałac Staszica.
- Majdecki L., 2008. Historia Ogrodów. Warszawa : Wydawnictwo naukowe PWN T. 1: Od starożytności po Barok. 419–420.
- Mańkowski T., 1932. Lwowskie kościoły barokowe // Prace sekcji historii sztuki i kultury Towarzystwa Nauk we Lwowie T. 2. Zesz. 2.
- Mańkowski T., 1948. Architekt Pierre Ricaud de Tirregaille // Rocznik Zakładu Narodowego im. Ossolińskich. T. 3.
- Morelowski M., 1959. Pierre Ricaud de Tirregaille // Francastel P. Les architectes célèbres. Paris, T. II.
- Narodowy Instytut Dziedzictwa w Warszawie (Ośrodek Dokumentacji Zabytków w Warszawie). – Teki Jana Glinki.
- Olszewicz B., 1932. Kartografia polska XVIII wieku // Polski Przegl. Kartogr. R. 10: Nr. 38–39.
- Ross J., 1970. Pałacyk w Perespie // Rokoko. Studia nad sztuką I połowy XVIII w. Warszawa.
- Świeykowski E., 1912. Plany zamku Franciszka Salezego Potockiego wojewody kijowskiego w Krystynopolu nad Bugiem w powiecie sokalskim // Spraw. Kom. do Badań Hist. Sztuki w Polsce. Kraków. T. 8.
- Wątroba P., 2016. Le palais d'Ignacy Cetner a Cracoviec Et son architecte Pierre Ricaud de Tirregaille nouvelles constatations et hypotheses // Studia z historii sztuki ofiarowane profesorowi Janowi Ostrowskiemu, [red. Andrzej Betlej, Katarzyna Brzezina-Scheurer, Agata Dworzak et al.]. Kraków.
- Żyłko E., 1955. Mecenat artystyczny Jana Klemensa Branickiego hetmana wielkiego koronnego. Warszawa (mszp. rozprawy doktorskiej).
- Hrynyk G., Yarosh-Zamoyska O. Krystynopil, 2000. Chervonograd, 256 p.
- Kovalchik E., 1991. Late Baroque magnate residences in Volyn and Lviv region // Ukrainian Baroque and European context. Kyiv : Scientific Opinion.
- Vuytsyk V. S., 2003. Lviv baroque palaces. Bilsky Palace // Bulletin of the Ukrzakhidproektrestavratsiya Institute, No. 13.
- Vuytsik V.S Baroque palaces of Lviv. Bilsky Palace // Bulletin of the Institute "Ukrzakhidproektrestavratsiya". 2003. No. 13. 34. Hrynyk G., Yarosh-Zamoyska O. Kristinopol (1692–1951) / Chervonograd, 2000. 256 p. 35. Kovalchik E. Late Baroque Magnate Residences in Volyn and Lviv // Ukrainian Baroque and European Context. Kiev : Scientific Thought, 1991.

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АРХІТЕКТУРНИЙ ДОРОБОК П'ЄРА РІКО ДЕ ТІРРЕГАЙЛЯ В ГАЛИЧИНІ

Анотація. Незважаючи на те, що постать цього військового інженера, геометра, архітектора П'єра Ріко де Тіррегая (1725–1772) є відносно добре відомою дослідникам, його біографія поза періодом діяльності в Речі Посполитій залишається в основному невідомою. Узагальнення та систематизація результатів попередніх досліджень показали, що наукові дослідження з цієї теми проводились у кількох напрямках. Перший напрямок включає ті дослідження авторів, що присвячені особистості архітектора П'єра Ріко де Тіррегейля і які можна розділити на роботи, що стосуються біографічної інформації про архітектора, та студії про різні проекти, виконані П'єром Ріком де Тіррегейлом на замовлення. Рукописні та графічні матеріали, що зберігаються в архівах Варшави, Кракова, Національному інституті спадщини у Варшаві та Національній бібліотеці Франції в Парижі, є важливими джерелами для пошуку бібліографічної інформації про П'єра Ріко де Тіррегая та його замовлення на проекти.

П'єр Ріко де Тіррегей народився близько 1725 року у французькій дворянській родині в районі Тирегале в Провансі. Його професійна освіта була покращена в Барселоні під керівництвом інженера Френсіса Рікоде де Тьєрреагіла. На території Речі Посполитої він працював з 1752 по 1762 рр. За цей час у їх діяльності можна виділити три періоди: I – Варшава (1752–1757), II – Львів (1757–1760) та III – Варшава (1760–1762). Більшість замовлень архітектор отримав від кількох магнатських родин: Браницьких, Потоцьких, Мнішек та інших. Перша згадка про перебування П'єра Ріко де Тіррегейля в Речі Посполитій відноситься до 1752 року, коли він отримав звання лейтенанта в піхотному полку великого коронного гетьмана Яна Клементя Браницького (1689–1771) і як військовий інженер вступив обслуговування. У портфоліо архітектора були включені: проект та керівництво монтажними роботами з водопостачання саду та звіринця в місті Білосток, проект палацу з садом у місті Кристинополь, палац у селі Песна, проект палацу Чацьких–Фелінських у Львові, проект модернізації палацу для Антонія Бельського. Ймовірно, палацовий сад для греко-католицьких митрополитів у Львові та палац із садом у Кракові – теж його робота. П'єр Ріко де Тіррегей також склав детальний план міста Варшави в масштабі 1:1000 між 1762–1763.

Після дев'яти років служби П'єр Ріко де Тіррегей сподівався на підвищення. У грудні 1761 року він попросив гетьмана Браницького допомогти йому просунути до звання колони. Його прохання також підтримав маршал Ф. Белінський, який попросив гетьмана допомогти у Королівському дворі цим проханням, яке “надасть варшавському плану більше значення”, але, на жаль, це не спрацювало. Після одинадцятирічного перебування в Польщі, П'єр Ріко де Тіррегей, не маючи можливості обіймати відповідну посаду при дворі Августа III, переїхав до Берліна в 1762–1763 рр., Де був призначений на інженерний факультет на невизначену посаду та викладацький склад посада при дворі прусського короля Фрідріха II. У 1772 р. У Потсдамі він опублікував нумізматичний трактат, присвячений російським медалям XVIII ст. У 1776 році П'єр Ріко де Тіррегей отримав звання полковника і продовжує працювати над наступним томом нумізматичного трактату про медалі Бранденбурзького суду, але незабаром він помирає.

Ключові слова: архітектор, П'єр Ріко де Тіррегей, палац, сад, гідросистеми.

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