

The role of the river, active landscape and greenery in the formation of urban development in Kyiv

Andrii Markovskiy, Valerii Tovbych, Olga Lagutenko

National Academy of Arts of Ukraine, Ukraine

Kyiv National University of Construction and Architecture, Ukraine

National Academy of Fine Arts and Architecture, Ukraine

Abstract. The article analyzes the influence of the water artery – the Dnieper River and the active relief on the specifics of the city development on the example of Kyiv since ancient times. The specifics of the development of Kiev was that this development began from the territories close to the Dnieper, located on the right steep bank of the city. It is proved that initially the maximum use of proximity to the river and active Landforms was applied exclusively for religious dominants, whereas since the Soviet era, this vector has radically changed first towards representative ideological buildings, and in modern conditions – towards commercial multi-storey residential development. The purpose of the article was to trace how the waterway – the Dnieper River, accent landforms and landscaping influenced the formation of Kyiv during its existence, as well as to determine the features of the influence of these natural components on the modern development of the city. The scientific novelty of the study lies in a comprehensive coverage of the relationship between the natural components and development of Kyiv from ancient times to the present, identifying modern problems, their causes and ways to overcome them.

Keywords: waterways, active terrain, urban development, Kyiv

Introduction

The experience of studying historical cities shows that the location of the river was crucial for the formation of the urban planning structure. If the river "cut" two banks, then the "transition" of development occurred very slowly and, as a rule, much later than the appearance of the city development itself. There are quite many of such examples, it is worth remembering Krakow, where the most ancient buildings are concentrated on one bank, or Budapest, where the most ancient buildings are concentrated in the mountainous Buda part, and the buildings of the XIX-XXI centuries – in the lower Pest part.

From this point of view, Kyiv is no exception. A key role in the emergence of the city was played by its favorable strategic location. There are several versions about the origin of the settlement on the site of modern Kyiv, the most common are two – the Legend of the foundation of Kyiv settlements on several hills by three brothers Kyy, Shchek and Horyv and their sister Lybid, and the Legend of the installation of the Cross by the Holy Apostle Andrew on the Dnieper cliff in honor of the uprising here the glorious city in the future (on this legendary place St. Andrew's church was later built). Undoubtedly, the presence of a powerful waterway - the Dnieper River and high hills, which made it possible to build defensive fortifications of the settlement with the ability to view the long distance of the surrounding area, was the decisive factor in all cases. The availability of forests, which provided an additional opportunity to obtain natural resources, was an important factor. From chronicle sources we learn that a stream flowed along the modern Khreshchatyk in princely times, there were forests

and predators around, as well as hunting grounds were areas near the modern church of the Savior-on-Berestov.

Therefore, the role and significance of the Dnieper River for the formation and development of Kyiv can hardly be overestimated. From the time of the first chronicle mentions, the city appears as an outpost on the banks of the river trade route (part of the direction "from the Vikings to the Greeks"). The trade and logistics function of the waterway probably became one of the main reasons for the development of the city and its acquisition of capital status. The natural hills and ravines formed by the steep right bank of the Dnieper also met the military needs of the time. In fact, Kyiv developed and positioned itself as a "city near the Dnieper", which played a significant role in shaping the image of the settlement.

Since the fact of the baptism of Kievan Rus by Prince Vladimir the Saint had not only religious, but also political significance, it was quite reasonable to place the most significant architectural objects (and they were cathedrals, monastery complexes and churches) on the edge of the high and steep Right Bank of the Dnieper, because it is known that the use of construction on or along with accent landforms, such as high banks, hills, cliffs enhance the imagery of an artificial object, that is, architecture.

The authors set the task to trace how the waterway – the Dnieper River, accent landforms and landscaping influenced the formation of Kyiv during its existence, as well as to determine the features of the influence of these natural components on the modern development of the city.

Materials and Methods

We analyzed relevant sources for this purpose.

The processed sources we grouped in the following areas:

General issues related to the protection of the cultural landscape and the "spirit of the place" – publications by Pujia L. [17], Sandu I.C.A., Spiridon P., Sandu I. [18], Spiridon P., Sandu I., Stratulat L. [20], Zilgalvis J. [28], Ivashko Yu., Kuzmenko T., Li S., Chang P. [7] – a review of these publications and the conclusions obtained by scientists allowed us to consider aspects of the development of Kyiv under the influence of the waterway and active landscape forms in a broader aspect;

Historical sources – works of Bulashev G.O. [1], de la Flise D. P. [3], Nechui-Levytskyi I. [12], Pavlutskyi H. [16], Shcherbakivskyi V. [19], Taranushenko S. [21], Vovk F. [24], Zakrevskii N. [26] – these publications expanded the horizons of the studied problems, allowed us to trace it in the general context of the development of culture, architecture and ethnographic features of Ukraine;

Architectural publications of contemporary scientists devoted to the architecture and urban development of Kyiv – publications of Erofalov-Pilipchak B. [5, 6], Killesso S. [8, 9], Markovskiy A. [11], Vecherskyi V. [22, 23], Zavada V. [27] – the works of these scientists allowed us to determine the range of little-studied issues;

Scientometric sources of Ukrainian scientists and their colleagues in recent years – monographs and articles by D. Chernyshev., Ivashko Yu., Kuśnierz-Krupa D., Dmytrenko A. [2], Leshchenko N., Tovbych V. [10], Orlenko, M. [13, 14], Orlenko M., Ivashko Yu., Kobylarczyk J., Kuśnierz-Krupa D. [15] – allowed us to consider these issues in the global, and not only in the regional context.

The research objectives determined the choice of scientific research methods. In particular, general scientific methods of historical analysis, comparative analysis, Urban Planning Analysis and the method of photo fixation were used, archival sources were also actively involved, in particular, the publications "Architecture of Soviet Ukraine" in 1938, "Socialist Kyiv" in 1934 and 1936, "Architecture of the USSR" in 1935, Government resolutions of these years. The method of historical analysis allowed us to analyze the specifics of the emergence and development of Kyiv, factors influencing its development, the method of comparative analysis allowed us to trace these changes in time and space and provide forecasts for the future.

Results and Discussion

In their publication Chernyshev D., Ivashko Yu., Kuśnierz-Krupa D., Dmytrenko A. [2] analyze in detail the role of the natural landscape in the perception of monuments of Ukrainian sacred architecture – both in wooden folk architecture and

in the masonry architecture of the era called Ukrainian Baroque. Their conclusions allow us to include the temples of Kyiv, located on the edge of the right bank of the Dnieper, in their defined general methods of including water bodies, greenery and hills in the general ensemble of monasteries. The Kyiv Pechersk Lavra, St. Michael's Golden-Domed Monastery, Vydubetsky monastery, as well as other iconic monasteries of Ukraine during the Baroque period, had their own gardens, flowerbeds, vegetable gardens, hayfields, ponds with fish. Even today, the territories of the Lavra, St. Michael's Golden-Domed and Vydubetsky monasteries have a lot of greenery, fruit gardens and ornamental springs, flowerbeds. Thus, the traditions of landscaping of cult objects, which were laid in Ukraine in the Baroque era in both urban and suburban monasteries, some of which, like the monastery in Feofania eventually turned from a remote desert into a green monastery and urban structure and today is surrounded on all sides by elite residential complexes.

Since ancient times, the structure of Kyiv development has been divided into two functional components: the upper city and the lower city. The corresponding zoning was due to both a clear relief and a clear socio-utilitarian distribution: the upper city included a Prince's palace with a courtyard, an administrative and religious center and a settlement of the ruling elites; the lower city was a craft and trade center inhabited by representatives of the middle class and the poor. The corresponding distribution is reflected in the fundamentally different reflection and the Dnieper River. Let us start the analysis with the upper city, the historical core of Kyiv.

With the centralization of the state and the establishment of Christianity as a single religion, sacred images begin to stand out in the silhouette of the city. The national mythological field, accordingly, closely links the religious context to the Dnieper steeps: the story of the Apostle Andrew the First-called, who installed the first cross on the site of the future Kyiv, is canonized. This plot is closely intertwined with the fact of the baptism of the population in the Pochaina River (which after a while will be identified with the Dnieper in the appropriate context). So, starting from ancient times and especially from the moment of the baptism of Rus, the Kyiv Dnieper slopes are gradually sacralized, "grown over" with the silhouette of religious buildings dominating the city landscape. This clearly confirms the thesis that our ancestors knew about the accentuating role of the active landscape and waterways in emphasizing the architectural properties of the most iconic buildings and structures. If we analyze which sacred objects were placed on the upper edge of the Right Bank of

the Dnieper, these will be the most important shrines – the Assumption Kyiv-Pechersk Lavra, the St. Michael's Golden-Domed Monastery in honor of the heavenly patron of Kyiv – Archangel Michael, St. Andrew's Church in honor of the installation of the cross on this site by the Apostle Andrew. The Military St. Nicholas Cathedral and St. Basil's Three-Holy Church were destroyed in the 1930s and were not rebuilt.

From the middle of the XVIII century, with the strengthening of the power vertical and the final loss of Ukraine's independence within the Russian Empire, Kyiv became administratively an ordinary provincial city, but retained and, in a sense, to create a mythological field of "unity of East Slavic peoples under the auspices of Moscow king", strengthens its religious and historical significance. The main city-forming function of Kyiv is finally becoming religious and sacred: complexes of monasteries and churches are being actively developed, as well as the corresponding infrastructure for pilgrims. With the gradual leveling of the defensive significance of the urban fortification network, in the XIX century, parks were laid out on the viewpoints of the Dnieper slopes and gazebos were installed. The silhouette of Kyiv "along the Dnieper" is finally associated with the religious role of the city.

The trade and logistics function of the river is reflected in the structure of the lower city – Podil, which was formed along the low-lying coastal territory. The embankment was actually a commercial port, which until the middle of the twentieth century inclusive was developed with warehouse and engineering structures. In Podil, according to the urban planning of the XVI-XIX centuries, the key core was the current Kontraktova (fair) square with the town hall and trade rows; a number of churches and the Mohyla Academy, which were located at some distance from the edge of the river were dominant.

In fact, the Podil embankment was used only as a port harbor with warehouses, completely excluding the possibility of positioning the latter as a representative recreational area. This was due not only to the socio-functional distribution, but also to the clay-sand riverbank, which is difficult for engineering development, and the annual flooding due to spring floods. After the development of the railway network, the commercial function of the river port significantly decreased, the business center of Kiev shifted to the upper city.

So, as of the beginning of the twentieth century, the Dnieper bank in Kyiv had two independent figurative and symbolic components: on the one hand, the sacralized silhouette of the upper city, with religious buildings dominating the urban landscape, the first park areas, viewpoints, etc., on the other hand – a utilitarian commercial port with warehouses of the lower city.

Starting from the end of the XIX century, the situation begins to change dynamically – the increasing rate of urbanization and rising land prices force developers to pay attention to previously unsuitable territories that can be developed due to the achievements of the engineering and construction industry during the Industrial Revolution. At the same time, with the strengthening of the role of the bourgeoisie, the conditional socio-class division between the upper and lower cities is leveled. Industrialization also makes Podil attractive to investors.

After the completion of the construction of the Mikhailivsky electric cable car [funicular] in 1905, according to the project of M. K. Pyatnitsky and M. I. Baryshnikov, the question arose about the improvement of the Poshtova square, proposals were put forward for laying tunnels of the city railway [metro] from the port to the station, which, however, were rejected by the city administration. However, the renovation of the Square was not carried out in full due to the First World War and subsequent revolutionary events.

After the national liberation struggle and the communist revolutionary upheavals of the first decades of the twentieth century, the urban planning situation in general and the use of the Dnieper embankment in particular became very uncertain. The old concept of building and development did not suit the new Soviet government in principle due to the urban-planning dominance of religious buildings; there were no resources to develop a new one due to the transfer of the administrative capital to Kharkiv.

The 1920s were marked by the lack of a clear plan for the development of Kyiv: the city was rebuilt mainly due to increased industrialization and an increase in the share of industrial enterprises. The main city-forming emphasis of Kyiv was being changed from a religious, sacred and business center to an industrial hub. The cargo harbor in Podil is being developed. Author of the General Plan of Kyiv of 1935, P. P. Khaustov noted that the urban industry was in its "rudimentary" state until 1917 and was mainly artisanal and semi-artisanal in nature. There were less than 15 thousand workers in the city with a population of half a million.

In the article "The experience of urban planning in Ukraine" from March 1938, engineer V. Novikov points to the sharply unsatisfactory state of urban planning in the USSR. In particular, there is a tendency to lack a single Urban Development Plan as the main document for the development of settlements; violation of established borders by individual developers, free placement of industrial facilities in conflict with the general plan; overloaded bureaucratic apparatus and lack of interaction between departments that could conduct their own independent construction policy.

All the above-mentioned problems were fully characteristic of the development of Kyiv before 1934 (and sometimes long after), when, with the return of the capital's status, the structured development of the master plan begins. The city's architects come to the conclusion that it is necessary to create a fundamentally new document that would allow to regulate construction, group industrial enterprises on the principle of zoning and include in circulation promising areas not previously used due to sanitary (lowland, wetlands), geological (difficult soils) or financial (increase in the cost of construction on the terrain) factors.

In the master plan developed in 1934-1935, a further course was planned for the industrialization of the city, while simultaneously rebuilding it in accordance with the restored capital status. The main vectors of development of this master plan, which was finally approved in 1938, stating the first achievements in its implementation, gives the author, architect P. P. Khaustov, in his article "Construction of 1938 and planning of Kyiv": "It is safe to say that 1938 will be a very important stage for the construction of Kyiv, a stage in the implementation of its general reconstruction project. A number of important technical measures will be taken in this direction. At the same time, the city will be enriched with new houses, magnificent monuments, picturesque massifs and greenery. Kiev should become and will become the Model capital of the flourishing Ukrainian SSR."

In the context of the issue of the role of the Dnieper and its embankment, the new master plan "turns Kyiv facing a river" – embankment should become a new recreation area and facade of the city. According to the plan, in particular:

Work is underway to strengthen and improve the right bank. A retaining wall is erected and lined with granite; the embankment and the Embankment Highway are raised, which is assigned a strategic role. One of the important objects of construction of the capital is the Dnieper embankment, which upon completion will not only improve the connection with the new left-bank district of Kyiv, but will also be an essential element of the architectural design of the right bank. The embankment is being built with a number of descents to the water and is a complex technical structure, due to the landslide nature of the area;

A comprehensive project of landscape viewpoints and alleys, parks, sometimes with partial demolition of buildings, is being developed to "reveal the view of the river";

For the first time, a plan for the development of Kyiv is being adopted with the involvement of territories on the left bank (although, formally, the Left-Bank district was included in Kyiv before that, but it did not have a well-maintained integral development). The project specifies plans for the

construction of a new Harbor on the site of modern Rusanivka with the development of The Venetian Island (Hydropark) and the transformation of Trukhaniv and Dolobetsky islands into a park (possibly with a partial artificial change of the channel);

Disclosure in the project of the new government quarter, which should become the administrative and political center of Kyiv, to the river, with the removal of the silhouette of the complex on the Dnieper slopes and the main staircase to the embankment.

Researcher B. L. Eerofalov-Pilipchak notes the ambition of the tasks set, which were significantly ahead of their time and, in our opinion, the real engineering, technical and financial capabilities of the city in the 1930s. "Master plans are good because the city authorities think that they know what and where to build <...> Master plans are bad because, as a rule, they are implemented to a small extent..." [6, p.71].

The directives of the leadership of the Communist Party of Ukraine, primarily P. P. Postyshev, set the task for architects of radically changing the role and function of Kyiv in a short period. The above-mentioned Government Quarter, together with the buildings of the Council of People's Commissars by I. O. Fomin and Verkhovna Rada by V. G. Zabolotny, were the key core of the global plan for the reconstruction of the city. In the light of those events, this was presented not so much as a purely architectural task, but became a programmatic, symbolic and almost sacred thing: "an opportunity to turn the former city of churches and monasteries into an architecturally complete, truly socialist center of Soviet Ukraine."

After the preliminary design work, the Kyiv Architectural and Planning Department proposed 6 basic town-planning offers for the location of the quarter (according to the article by architect Molokin, only 5 were considered). A variant of the Proletarian (Pioneer) Garden by arch. V.G. Zabolotny and his team opened Khreshchatyk to the Dnieper. The promising, as will be noted later, decision was not fully appreciated by contemporaries. The government commission noted that this option will lead to the loss of scenery landscapes and the square will not have enough space for holding solemn parades.

The Contest Commission selected a plot on the place of the Mykhailivsky Golden-Domed Monastery, Vasylkivska (Three-Holy) Church, the Square of the Red Heroes of Perekop (now Sophia Square) and the Government Offices. The area was supposed to be 130 meters wide and more than 600 meters long. It was planned to allocate more than 10 million rubles for the construction of the structures of the Council of People's Commissars and the Central Committee of the CP (B) U,

the buildings were to be grouped around a large square for holding solemn parades and demonstrations. A prerequisite was the erection of a monument to Lenin on the edge of the slope, which, together with the administrative buildings, was to create a coherent image and a silhouette line.

The Dnieper slopes in this new vision were assigned, in fact, the usual sacred and symbolic role. Only religious dominants were to be replaced by monuments to the new regime with its symbols, philosophy, and, at the time of the mid-1930s, neoclassical super-scale aesthetics. When developing the competition task for the main construction of the Ukrainian SSR (Government quarter), the need for a silhouette solution of government buildings and the Lenin monument between them was separately noted: "the Square should dominate the city with the opening of the ensemble to the Dnieper, with the identification of its unique topography." The funicular, according to the proposals submitted for the competition, was to be replaced by a majestic Grand Staircase that would descend to the current Poshtova Square.

Due to a number of political and economic factors, the project of the Government quarter was not fully implemented, leaving a separate structure of the Council of People's Commissars of architect Langbard, taken out of context, opposite the wasteland on the site of the demolished St. Michael's Golden-Domed Monastery.

The next stage in the transformation of the Dnieper slopes into a symbol of the socialist city could be the reconstruction of Khreshchatyk after World War II. Through the entire first round of the competition for the restoration of the central street of the city, announced in 1944, the red line is the idea of opening Khreshchatyk to the Dnieper. Most of the contestants suggest continuing the visual range of the street, leveling the hill at its end and opening up a promising view. Contemporary of the competition, architect M. P. Bilinkin, in his article devoted to the competition, emphasizes several times: "the final exit of Khreshchatyk to the Dnieper, "to nature", the possibility of human transition from the architecture of the city to the infinity of the Dnieper expanses of the left bank is understood as one of the most important elements of the entire composition." The proletarian version of the Government quarter almost completely coincided geographically with the new competition and partially outstripped its achievements.

Within the framework of the competition from 1944, the proposal of K. S. Alabyan is interesting. He sets the arch at the end of the street, at its opening in the middle of Stalin Square, against the backdrop of the Dnieper. Bilinkin is critical of this concept, noting that the author "puts an arch at the exit, wanting to fit nature into the framework of architecture"; meanwhile, maintaining the urban planning composition itself, expanding Khreshchatyk at the

end, absorbing the final Square. We, as researchers, cannot agree with the relevant city-forming decision, noting that the arch itself, installed along the axis of Khreshchatyk and perpendicular to one of the oldest traditional directions of movement from Volodymyrska Hill to the Lavra (a popular pilgrimage procession before the October revolution), breaks historical transport and visual ties. The idea of installing an arch at the end of Khreshchatyk will be implemented later, under completely different circumstances and with a different thesaurus. Meanwhile, the Arch of Friendship of Peoples, made in the style of modernism, will be shifted to the crest of the Dnieper slopes and will not be connected directly to the axis of the street.

In our opinion, the continuation of the central street through the Dnieper slopes would come into conflict with both the landscape of Kyiv and the historical image of Khreshchatyk itself. Revealing the composition by shifting the hill seems like a bold and interesting idea, but it deprives the street of a certain completeness. The transition point from Volodymyrska Hill to the Pechersk hills, which become separated by the highway axis, also disappears. The natural amphitheater of the European Square (then Stalin Square) disappears, turning Khreshchatyk into a kind of ray.

The surviving house of the former Merchants' Assembly (which, however, was in a state of emergency) is being demolished. Yerofalov-Pilipchak sharply criticizes this disclosure in his book "Architecture of Soviet Kyiv". The idea is leveled in the next rounds of the competition, eventually leaving Stalin Square almost unchanged.

In the second half of the twentieth century, significant changes also took place in the lower city: the cargo function of the river port is rapidly being leveled due to an increase in rail and road transportation. As Kyiv develops, the industry is gradually being moved from part of Podil, opening up the possibility of creating walking and recreational areas. An exclusively passenger river port is being built on Poshtova Square, and a pedestrian bridge to Trukhaniv Island beach is being built nearby. The Podil embankment is gradually but tirelessly being transformed.

In the post-war period, especially after 1955, rapid development of the left bank continues: new bridges, a metro line are being laid, and residential development is multiplying. In numerous urban development projects created in the 60s and 70s, designers propose moving part of the administrative and socio-cultural development to the left bank (mainly in the area of the modern Livoberezhna metro station and the unfinished Rusanivska station on the river edge). In particular, the theater, post office and Tourist hotel near Livoberezhna station serve as a partial implementation of the ideas.

STAGES OF THE KYIV CITY SILHOUETTE FORMATION ON A GREEN HILLS OF DNIPRO RIVER



a) The initial view of the hills



b) Pre-revolutionary stage (before the 1920s)



c) Projects and redevelopment of the mid-1930s



d) Post-war period (mid 1950s - late 1980s)



e) The first years of independence (1990s-2000s)



f) Actual view and future tendencies

Accordingly, these projects actively include the Dnieper in the network of public and recreational areas of Kiev, finishing embankments, offering projects of pedestrian overpasses from the Poshtova Square to new centers across the islands, etc. Unfortunately, promising projects, according to the authors of the article, were not fully implemented for a number of reasons (for which we can separately highlight the lack of desire of the city administration to move from the historical center). Meanwhile, these concepts show the dominant trends of architectural thought in the second half of the

twentieth century and provide valuable material for developing future master plans in Kyiv.

In the last years of the Soviet Union's existence, the edge of the right bank of the Dnieper was decorated with a high-ranking ideological dominant – a sculpture of the Motherland with a sword and a shield with the coat of arms of the Soviet Union. The sculpture with a pedestal has a height of 102 meters and is part of the memorial complex in honor of the victory of the Soviet people in the Second World War (Great Patriotic War according to the Soviet paradigm).

Ukraine's independence increased the role of Kyiv as the capital of an independent state, respectively activating urban processes. Since the 2000s, and especially during the last decade, there has been emergence to the upper edge of the right bank of the Dnieper, no longer cult, but elite residential buildings, the appearance of which has caused discussion in society. In addition, the Great Bell Tower of the Lavra is no longer the tallest building in Kyiv, which until 1917 pilgrims saw from afar, approaching the city. The change in the vector means that economic factors, not religious ones, have become dominant, so commercial skyscrapers are actively growing around the Kyiv Pechersk Lavra, which changes the silhouette of Kyiv on the right bank of the Dnieper. However, these modern high-rise buildings still stand mostly not on the very edge, but on the second line, in the distance.

There is a need to preserve the green slopes of the right bank of the Dnieper. Part of them is the park around the iconic place – Askold's Grave. According to legend, in 882 the Varangian prince Oleg insidiously killed the then rulers of Kyiv, princes Askold and Dir, in order to seize power in the city. According to the same legend, Askold was buried at the place of his death, in a tract called Hungarian. A small wooden church was later built over the burial site, since Askold was a Christian. In 1810, a brick classical rotunda church was built on the site of a wooden church designed by the famous Kyiv architect Andriy Melensky, around which an aristocratic cemetery appeared. This place was immortalized in watercolors by the famous Ukrainian poet and artist T. Shevchenko. After 1935, the cemetery was destroyed, and the area around Askold's Grave became part of the city park. In Soviet times, the church was turned into a pavilion, where a sculpture of Nestor the Chronicler was displayed. During the independence period, the temple was restored to its original purpose.

From ancient times, Volodymyrska Hill, which until the middle of the 19th century was called Mykhailivska Hill in honor of the Mykhailivsky Golden-Domed Monastery located there, was a unique place with impressive prospects. In the 1830-40s, the hill was rebuilt, landscaped with paved paths, planted greenery and turned into a city park, which it remains to this day. Volodymyrska Hill is of great ideological importance, because a 4.5 m high on a 16-meter cast iron pedestal monument to the Baptist of Russia, Prince Vladimir, was erected there in 1853. The total height of the monument is more than 20 m. There are gazebos, benches, small architectural forms on the territory of Volodymyrska Hill, every year a procession to the temple holiday takes place to the monument to Prince Volodymyr.

Conclusion

After Ukraine has gained independence in 1991, Kyiv became the capital of the state, which accordingly leads to an increase in the number of self-governing administrative departments in need of placement. At the same time, the increasing pace of urbanization, together with a significant increase in the number of private transport in a market economy, lead to a significant aggravation of logistics issues in the central part of the city. These two factors with renewed vigor raise the issue of forming a new administrative and managerial Center necessarily outside the historical central part.

Market conditions lead to the closure or transfer of part of industrial production outside or to the periphery of Kyiv, revealing promising areas for placing the future Center. The first of these sites was considered the Rybalsky Peninsula, the reconstruction project of which was called "Kyiv City" (2005-2019) by analogy with the corresponding projects in other mega-cities of the world.

One of the authors took part in a competition for administrative centers on the Rybalsky Peninsula and a Government Center on Telychka, but these projects were suspended due to the crisis.

For some time there was a concept of building a similar Center on Osokorky, however, after the beginning of multi-storey mass residential development, most architects consider as the "last perspective" the historical area of Telychka on the right bank, between two bridges. A number of projects that have been proposed and are being proposed on this site include administrative, cultural and residential development in different proportions. In general, the concept of functional division of territory can be compared with "Kyiv-City".

Each of the three sites is chosen near the Dnieper, actively reflecting on the river and seeing in it the main recreational area, a panorama view and symbolic imagery.

From a trade highway, the Dnieper is finally turning into the main recreational and representative attraction of Kyiv. Having emerged as a city "by the river", Kyiv, in the process of development, having developed on both banks, included water spaces in the middle of the urban ensemble. In fact, the symbolic sacredness of the silhouette of the right bank remains unchanged until recently, which, however, is under threat of thoughtless development in the new socio-economic realities. In the framework of this article, we have studied the gradual transformation of the role of the Dnieper, the shift of emphasis depending on specific historically determined socio-economic factors. We can deduce a direct relationship between the attention of architects to the key waterway of the city and the change of the dominant urban function and the corresponding orientation of the urban framework, the location of the central core. The Dnieper River has a huge potential for further development, improvement

and use of coastal territories and islands in accordance with the development prospects of Kyiv and the surrounding agglomeration. We hope that our research and analysis will allow urban planners in many countries who have similar problems with the waterway in the city, especially along the Dnieper River, to find a solution to this problem. The authors consider the preservation and harmonious use of landscapes to be the priority in this process.

The study of scientific sources and a number of archival documents and publications of the 1930s allowed us to identify a number of issues that require more in-depth research. In particular, it is necessary to trace the specifics of changes in the urban vector of development of Kyiv from the 1930s to the present, to determine the main problems of modern development of the city and the reasons for their appearance.

Urbanization processes have further exacerbated the crisis phenomena, including those caused by the pandemic, when people in search of jobs were drawn from small towns and villages to the capital. Accordingly, we can say that this has caused a modern "construction boom", but rather one-sidedly: high-rise housing and offices are being built in prestigious and attractive areas, but no work is being carried out to expand roads, install parking lots, primary service institutions, new schools and kindergartens. Even now, the city is constantly suffocating in traffic jams, which has led to the transition of a significant part of the population to ecological modes of transport – bicycles, longboards, and electric scooters. Development is also coming to the old park and forest areas of Golosieve, Feofaniya, Kadetsky Gai. Sealing of buildings with deep foundations blocks the channels of underground streams, due to which they dry up and cease to feed the green areas.

An even bigger problem is the deterioration of the environmental situation in the city, caused by the uncontrolled growth of the urban population, respectively, the number of new buildings and transport, and the reduction of green spaces within the city, which causes constant clashes between residents and developers. Environmental problems are exacerbated by the greenhouse effect and climate change, when due to the abnormal heat in Kyiv, the Dnieper melts, overgrown with duckweed, fish die in it, bacteria multiply, which makes it dangerous to swim in the Dnieper.

The way out of this situation can be control over the growth and development of the territory of the capital,

a clear definition of historical areas with restrictions or prohibitions of new high-rise development, ordering the territories of urban recreation – Hydropark, Trukhaniv island, slopes of the right bank of the Dnieper, arranging new and landscaping old park areas on the territory of the city, taking into account the modern recreation needs of citizens. A separate issue is the cleaning of the Dnieper riverbed, the elimination of uncontrolled emissions of chemicals from industrial enterprises into the tributaries of the Dnieper.

Over the past 10-15 years, as part of the development of the new Master Plan of Kyiv, questions and relevant competitions have been raised (in which the authors of the article constantly take part) regarding the preservation of unique Kyiv landscapes, which are protected by a separate law. Constructive struggle in the protection of historical landscapes, including the landscape of riverine territories, is accepted as the founders and members of the public organization "Kyiv landscape initiative" by the authors of this publication. The main problem is how to ensure free access of the city to the Dnieper. At present, an intensive transport corridor runs along the right edge of the Dnieper - the Dnieper Highway, which cuts off the Dnieper from the city.

One of the proposals is to "hide" the highway in a closed gallery with the possibility of installing on its roof a pedestrian zone with access to water.

The authors of the publication are supporters of moving the transport corridor to the left bank of the Dnieper. This will provide free single-level access from the city to the Dnieper with a full-fledged recreational area of the park, in which the means of landscape urbanism emphasize all the opportunities and advantages of the city near the river, although this option is more expensive and complex.

It is necessary to build additional bridges and transport interchanges from the left bank to the right, as this may solve a number of problems. Another aspect is that for thousands of years the slopes of the right bank of the Dnieper have been eroded. The authors of the presented study conducted a simulation of this process over time and the results of their study proved that in some places the Dnieper riverbed changed from 200 to 500 meters. Thus, the transfer of transit highways from the right bank to the left allows to restore in some places the changed natural landscapes of the right bank and to provide coastal protection measures by means of riparian landscape urbanism.

References

1. **Bulashev, G.O.** *The Ukrainian people in their legends and religious viewpoints and beliefs.* Kyiv: Printing House of Saint Vladimir Royal University, 1905, 1909, Issue 1. Cosmogonic Ukrainian national viewpoints and beliefs, 515 p.
2. **Chernyshev, D., Ivashko, Yu., Kuśnierz-Krupa, D., Dmytrenko, A.** *Role of Natural Landscape in Perception of Ukrainian Sacral Architecture Monuments.* Landscape architecture. Scientific Journal of Latvia University of Agriculture. Volume 17, Number 17, 2020. Pp.13 -21.
3. **de la Flise, D. P.** *Medical and topographical description of the state property of the Kiev Province, compiled by a doctor of medicine de la Flise (February 1854)* Vernadsky National Library of Ukraine. Department of manuscripts. Fund VIII. No. 187. Laz. 15, 1235.

4. **Dyomin, M., Ivashko, Yu., Ivashko, O., Kuśnierz, K., Kuzmenko T.** *Rozwój trendów i problemów dużych historycznych miast ukraińskich w XX i XXI wieku. Studium przypadku tendencji urbanistycznych i problemów w rewitalizacji dzielnicy przemysłowej.* Wiadomości Konserwatorskie • Journal of Heritage Conservation • 65/2021, c.26-36.
5. **Erofalov-Pilipchak B.** *Architecture of Soviet Kiev.* Kyiv: A+C, 2010. 638 p.
6. **Erofalov-Pilipchak B.** *Kiev otherwise: we've newer seen. Kiev that has gone. Kiev that could have been.* Kyiv: A+C, 2014. 408 p.
7. **Ivashko, Yu., Kuzmenko, T., Li, S., Chang P.** The influence of the natural environment on the transformation of architectural style. *Landscape architecture. Scientific Journal of Latvia University of Agriculture*, 2020, vol. 15, No. 15, p.101–108.
8. **Kileso, S.** *Designing the center of Kiev in the pre-war period.* In: *Architecture of Kyiv.* Kyiv: Stroyizdat, 1982. pp. 53–54.
9. **Kileso, S.** *Kyiv-Pechersk Lavra.* Kyiv: Budivelnik, 2004, p. 111–114.
10. **Leshchenko N., Tovbych V.** *Modern approaches to the revitalization of historical ex-industrial architecture.* Wiadomości Konserwatorskie. Journal of Heritage Conservation. Warszawa, 2019. No 60. P. 51 –58.
11. **Markovskiy A.** *From Art Nouveau to Modernism: Three Stages of Kyiv Architecture.* Kyiv: FOP Lopatina O.O., 2020. 320 p.
12. **Nechui-Levytskyi, I.** *Works (in 2 volumes.* Kyiv: Dnipro, 1977, vol. 1 – 518 p, vol. 2–518 p.
13. **Orlenko, M.** *The Dormition Church of the Kyiv-Pechersk Lavra: methodological foundations and chronology of reproduction.* Kyiv: Phoenix, 2015, 832 p.
14. **Orlenko, M.** *The St. Michael's Golden-Domed Monastery: methodological foundations and chronology of reproduction: Scientific publication.* Kyiv: Hopak, 2002, 160 p.
15. **Orlenko, M., Ivashko, Yu., Kobylarczyk, J., Kuśnierz-Krupa, D.** *The influence of ideology on the preservation, restoration and reconstruction of temples in the urban structure of post-totalitarian states.* Wiadomości Konserwatorskie • Journal of Heritage Conservation • 61/2020, p.67-79
16. **Pavlutskiy, H.** *Antiquities of Ukraine. Part 1. Wooden and stone temples.* Kyiv: Printing House of Saint Vladimir Royal University, 1905, 124 p.
17. **Pujia, L.** *Cultural heritage and territory. Architectural tools for a sustainable conservation of cultural landscape,* International Journal of Conservation Science, 7 (1), 2016, pp. 213–218.
18. **Sandu I.C.A., Spiridon P., Sandu, I.** *Current studies and approaches in the field of cultural heritage conservation science. Harmonising the terminology in an interdisciplinary context,* International Journal of Conservation Science, 7 (3), 2016, pp. 591-606.
19. **Shcherbakivskiy, V.** *Wooden churches in Ukraine and their types.* Lviv, 1906. 23 p.
20. **Spiridon, P., Sandu, I., Stratulat, L.** *The conscious deterioration and degradation of the cultural heritage,* International Journal of Conservation Science, 8 (1), 2017, pp. 81–88.
21. **Taranushenko S.** *The monumental wooden architecture of the Left-Bank Ukraine.* Kyiv: Budivelnik, 1976, 376 p.
22. **Vecherskiy, V.** *The architectural and urban planning heritage of the Hetmanate era. Formations, research, protection.* Kyiv, 2001, 350 p.
23. **Vecherskiy, V.** *The heritage of Urban Planning of Ukraine: Theory and Practice of Historical and Urban Planning monument protective Researches of Populated Places.* Kyiv, 2003, 560 p.
24. **Vovk, F.** *Studios on Ukrainian ethnography and anthropology.* Kyiv: Mystetstvo, 1995, 336 p.
25. **Yurchenko, P.** *Wooden architecture of Ukraine.* Kyiv: Budivelnik, 1970, 191 p.
26. **Zakrevskii, N.** *Description of Kiev: newly processed and significantly multiplied edition. With pictures and drawings.* Moscow, 1868, 980 p.
27. **Zavada, V.** *Features of the formation of the Baroque style in the monumental wooden architecture of Polissia. The architectural heritage of Ukraine.* Issue 1. Kyiv: Research Institute of History and Theory of Architecture and Art, 1994, p. 113–123.
28. **Zilgalvis, J.** *The cultural environment and its identity: conservation issues,* Landscape Architecture and Art, 9 (9), 2016, pp. 25–36.

AUTHORS:

Andrii Markovskiy. A historian of architecture and landscape architect. Dr. of science (Architecture), Scientific Secretary of the Department of Plastic Arts Synthesis, National Academy of Arts of Ukraine, 20, st. Boulvarno-Kudryavska, Kyiv, Ukraine. E-mail: andrii_markovskiy@ukr.net

Valerii Tovbych. A historian of architecture and landscape architect. Dr. of science (Architecture), Professor, Head of department of information technology in architecture. Kyiv National University of Construction and Architecture, 31, Povitroflotskiy Avenue, Kyiv, Ukraine. E-mail: tovbych@gmail.com

Olga Lagutenko. A historian of architecture and landscape architect. Dr. of science (Art), Professor, Head of department of Theory and History of Arts, National Academy of Fine Arts and Architecture, 20, st. Voznesens'kyy uzviz, Kyiv, Ukraine. E-mail: Olga_lagutenko@ukr.net

Kopsavilkums. Rakstā analizēta Dņepras upē un reljefa ietekme uz Kijevas pilsētu. Raksta mērķis izvērtēt kā ūdensceļš – Dņepras upē ar reljefu formām un ainavtelpu ietekmējusi Kijevas veidošanos no seniem laikiem līdz mūsdienām. Pētījumā identificētas un pētītas mūsdienu problēmas, izvērtēti dažādi cēloņi un veidi, kas ietekmē Kijevas ainavu.