

Synthesis of landscape and architecture as a means of expressing national identity

Tetyana Kashchenko^{id}, Anastasiia Akhaimova^{id}, Olha Homon, Wojciech Cieplucha^{id}
Kyiv National University of Construction and Architecture, Cracow University of Technology

Abstract. The article raises the issue of interaction between architecture and natural environment in the expression of the people's national identity. On the examples of different peoples' cultures means of expression of national color, characteristic landscape receptions are analyzed. The means of national identity expression on the Ukraine territory are studied in detail; the important role of open-air museums in this process is shown. The importance of preserving national identity in the modern conditions of globalization and international architecture is proved. The classical world principles of combining landscape and architecture as expressions of the country national identity are analyzed, as well as the ways of solving this problem in Ukraine by ways of organizing open-air museums, ethnographic corners and fragmentary use of folk motifs in modern parks.

Keywords: landscape and architecture, architectural environment, synthesis, means of expression, national identity

Introduction

The theory of architecture and urban planning considers the natural and architectural environment as a holistic complex system, the subsystems of which are in constant interaction and strive for harmonization and dynamic balance.

Modern global issues of human development cover the main areas of human social activity, economy and industry, energy, peaceful coexistence, health, economy, industry and technology, advanced space research, ecology and the natural environment. In particular, the environmental aspects of global issues focus on the causes and consequences of the natural ecosystems destruction, the need to preserve and restore them, climate change, human-made and anthropogenic impacts.

The United Nations Environment Program (UNEP) identifies areas of global environmental issues, including urbanization, human settlements, industrial development, energy production and consumption.

Modern ecological and architectural research aimed at identifying the laws of interaction in time and space of artificial and natural systems, their structure and functioning within the specialized areas of architectural ecology and urban ecology, made it possible to formulate general approaches to the study of urban ecosystems.

The issue raised in this study is actually relevant to many developed countries. Despite the undoubted achievements of globalization, convergence of cultures, international manifestations in all spheres of life and society, there is a reverse side of these trends, which are increasingly being talked about in the media and at the state level. The process of erasing cultural boundaries between peoples gradually leads to the leveling of national and regional characteristics.

Ukraine has also intensified efforts to revive national tourism, national traditions, rituals and crafts to awaken in young people brought up on global trends,

interest in their own culture, cultivate national consciousness in society, and create a basis for new architecture and landscaping on a national basis. To this end, the authors have explored a very specific, but very important way to solve this problem by means of the synthesis of two equal components – natural – landscape and artificial – architecture. In order to obtain generalized conclusions, along with the peculiarity of such a synthesis in Ukraine, a similar aspect was considered in China and Japan.

Ukraine is currently developing a strong national trend in landscape design, primarily due to the fact that there is a large area that allows you to observe wildlife freely and in sufficient quantities, so there is no shortage of authentic natural environment, as Ukrainians are literally surrounded by nature.

The review of sources and field research identified a number of issues that need to be studied and analyzed:

- the synthesis of natural landscape and architectural object in Ukraine is not considered in comparison with similar synthesis of nature and artificial environment in other regions of the world;
- it is not determined that it is in the natural landscape of Ukraine that it expresses the national color in the greatest extent;
- a comparative analysis of examples of interaction "nature-architecture" in different nations has not been conducted;
- such interaction has been little studied on the examples of open-air folk architecture museums of Ukraine as an optimal means of expressing national identity by landscape properties and authentic objects;
- no specific recommendations have been formulated for modern architecture that would allow to organically combine modernity and tradition.

Materials and Methods

The purpose of the article led to a specific selection of scientific research methods. Since the studied aspect is directly related to both history and ethnography, the methods of historical analysis, which allowed to analyze historical events, and ethnographic analysis methods, which allowed to investigate ethnographic and cultural features, were used. Because all ancient cultures are in one way or another associated with religions and philosophical teachings, which directly influenced both the symbolism of the formation and location of architectural objects and the natural environment around them, the methods of natural sciences and philosophy were involved. An important place among the applied methods is the method of comparative analysis, which allowed to compare national manifestations in architecture and landscape both within one country and between several different countries. The analytical method allowed to analyze the material and formulate reasoned conclusions and author's proposals. The text was supplemented by photofixation, which reinforced and argued certain theses of the article.

All processed scientific sources were combined into several groups. Since the first part concerned the foreign experience of maximizing the expression of national identity by means of a synthesis of architecture and the natural environment, China and Japan were chosen as classic examples. This group of sources is represented by articles and monographs by Chinese and European scholars and focuses on national landscape design. The works of the following Chinese scholars were studied on the topic of China: Li Chunqing [9], Wang Yi [25], Pan Jiaping [15], Tong Yu Zhe [19], Zhu Guang Yu [32], Jiang Zhenpeng [8], Xing Yue [27; 28], Fang Liqiang [1], Huang Wei [4], Pei Yuansheng [16], Wang Guanglong, Zhang Hangling [24], Zhou Weiquan [31], Liu Dunzhen [10], Zhao Guanghua, Qiu Mao [29], Zhu Junzhen [33], Lou Qingxi [12], Fang Zhirong [2]. Ukrainian and European scientists also co-authored the topic with Chinese scientists – M. Dyomin, A. Dmytrenko, Yu. Ivashko, M. Orlenko, T. Kuzmenko, D. Chernyshev and the Polish researcher D. Kuśnierz-Krupa [5–7;14].

In the part devoted to Japan, the publications of G. Shevtsova [18], N. Anarina and Ye. Dyakova [21], N. Vinogradova [22] were involved.

The second part of the article concerns Ukraine directly, so the works of G. Bulashev [34], de la Flise [35], H. Pavlutsyki [36], V. Shcherbakivskiy [37], S. Taranushenko [38], V. Vecherskiy [39–40], F. Vovk [41], N. Zakrevskii [42], P. Yurchenko [43], S.Kileso [44], H. Lohvyn [45], V. Zavada [46] were studied; novels by I. Nechui-Levytskyi [47] and others, as well as articles by Ukrainian scientists on these issues – D. Chernyshev, A. Dmytrenko,

Yu. Ivashko, T. Kuzmenko together with Polish scientists J. Kobylarczyk and D. Kuśnierz-Krupa [49–50] were analyzed. Ukrainian scientists together with foreign colleagues highlighted an important aspect of the direct impact of changes in the natural environment on changes in the perception of architectural style.

Synthesis of natural environment and architecture in China and Japan

China and Japan have traditionally been considered classic examples of maximum harmony between the natural environment and the artificial architectural environment. Despite the unconditional commonality of such a synthesis in these countries, we can say that the means by which national identity was traditionally asserted in these two countries were not completely identical, which was primarily in the different direction of these means. In China, the synthesis of the natural environment and pavilions was to express the idea of an ideal "paradise" space by means of traditional architecture, sculpture, decor and established techniques of landscape design, such as the inclusion of water bodies of different shapes and sizes with islands in front of lakes, individual natural stones and groups of stones, winding paths in the gardens, the constant alternation of bright and picturesque landscape paintings with fine detail, the use for landscaping of traditional Chinese trees, shrubs and flowers with appropriate symbolic meaning. The main feature of such a synthesis in China is the secondary nature of architecture in relation to the natural environment, which corresponded to the deep traditions of Taoism, Confucianism and later Buddhism.

Accordingly, with regard to China, it can be argued that there the landscape becomes an expression of the national characteristics of the people, and, interestingly, this is true both in relation to the man-made landscape of gardens and the natural landscape, because its features penetrate so widely and deeply into all arts poetry, painting, works of design, to artistically decorated household items – whether as poetic lines, or as ink painting, or as images on a screen, fan or vase – that acquire the role of a symbol of national identity.

A similar situation has developed in Japan, where the traditions of landscape design introduced from China in combination with the local Shinto religion and Buddhism, also introduced from China, have over time formed landscape traditions with signs of national identity. And although the design of Chinese and Japanese gardens has much in common, it is not the same: more colorful, detailed, created for aesthetic pleasure – in China and ascetic, with a minimum of simple elements, designed

primarily for internal dialogue, self-knowledge and meditation – in Japan. At the same time, non-man-made nature and man-made landscapes also become an expression of national identity in Japan. Suffice it to mention the numerous images of Mount Fuji, waves, trees.

Thus, we can conclude that in those countries where human was secondary to nature, and the laws of nature were considered the basis, in the synthesis of nature and architecture the main role was played by nature, and it was valued and elevated above the artificial space of architecture. That is why Chinese and Japanese poems are dominated by natural motifs and quite briefly mentioned as people and buildings.

Specifics of synthesis of natural environment and architecture in Ukraine

The above applies to ancient civilizations with the existence of polytheism and animistic religions. The specificity of Ukraine was that the ancient animistic beliefs and ideas after 988 – the date of the baptism of Kyivan Rus – were imposed Christian traditions based on monotheism, i.e. the recognition of one Creator. Therefore, in Ukraine it is more difficult to define the manifestations of national identity both in the symbiosis of "natural environment – folk style object" and specifically in this natural environment.

At all times, since the baptism of Kyivan Rus, the main object of expression of Ukrainian national identity has been the church, first wooden and then stone. National features were also expressed in public housing and outbuildings, but in ancient times the temple has always been dominant. It should be noted that due to constant raids, attacks, wars, different territories of Ukraine in different periods came under the rule of different states, under external influences, which certainly affected the list of specific national characteristics in each region of modern Ukraine. Also, it should be noted that Ukraine is very different in climatic zoning, topography, the presence of water bodies, forests, which determined the characteristics of the natural environment. That is why, if we talk about the

synthesis of nature and architecture, in the Ciscarpathia or the Carpathians it will be a mountain landscape with spruces, among which on a meadow a wooden church with low tiers stands, the most similar to spruce and shingles; in Poltava region it will be alternating plains and hills with a slender church standing among flowering gardens in the middle of the village, surrounded by huts under thatched or reed roofs; in Polissya a low low-lying wooden church stands against a pine forest, among log dark houses scattered haphazardly by requirements. Thus, in contrast to China or Japan, Ukraine cannot single out one example of such a combination of natural environment and architectural object, which could be considered an expression of national characteristics of

all ethnographic regions of Ukraine (Zhytomyr, Kyiv and Chernihiv Polissya, Left Bank – Slobozhanshchyna and Poltava region, Middle Dnipro region, Western, Central and Eastern Podillia, Ciscarpathia, Carpathians, Transcarpathia, South). At the same time, over time, a certain image of the building in its natural environment was formed, which was associated with Ukraine, and this happened mainly due to the works of artists, poets and writers. T. Shevchenko's poetry and short stories, I. Nechuy-Levytsky's short stories, numerous paintings, graphics and watercolors firmly fixed the image of Ukraine: a wooden or brick baroque elegant church on the square, around it – picturesquely scattered whitewashed houses under a thatched roof, cherry orchards and flower beds bloom all around, behind them are picturesque hills covered with dense forest, and somewhere nearby a river flows, winding like a snake.

However, under the influence of external factors as of the second half of the nineteenth century, the old Ukrainian village no longer always has signs of this national identity in combination with a characteristic natural environment and architecture with characteristic regional forms, as it was before.

Open-air ethnographic complexes as an optimal form of expression of national identity: the experience of Ukraine

The problem today is that it is almost impossible to fully embody the image of Ukraine's national identity by synthesizing the natural environment and folk architecture within the urban environment of a large city, such as Kyiv and Kharkiv. Most often we can observe the appearance of parks or squares with certain elements of national culture: the selection of appropriate plants, the use of traditional ornaments in wicker compositions, paving, and other decorations.

Much more opportunities to create the most popular color opens up within the open-air museums of folk architecture and life and ethnographic complexes.

There are several open-air museums in Ukraine, among which the oldest is in Pereiaslav, Kyiv, Lviv, Uzhhorod and Chernivtsi (Fig. 1).



*Fig. 1. Windmill in the open-air museum in Chernivtsi
[photo by T. Kashchenko, 2019]*

Pereiaslav Museum of Folk Architecture

The oldest museum of folk architecture and life of the Middle Dnipro region was opened in 1964, it is located on the outskirts of the ancient city of Pereiaslav and covers an area of 30 hectares. This is a museum, which presents in detail the authentic architectural monuments of the Middle Dnipro region from ancient times to the beginning of the twentieth century. There are 13 thematic museums on the vast territory and there are about 200 monuments of different times and more than 30 thousand monuments of material and spiritual culture, from the Paleolithic and Kyivan Rus to the early twentieth century. 104 monuments of folk architecture in the museum's exposition date from the eighteenth and nineteenth centuries, here you can see 20 estates of different times, transported from different villages, with houses, farm buildings, traditional Ukrainian plants and flower beds. Visitors can see 23 workshops, tens of thousands of household items and tools.

As the natural environment has always played an important role in creating the Ukrainian national color, the museum has two artificial ponds and an arboretum, and around all the museum exhibits are flower beds.

The location of all buildings among the dense greenery adds a special flavor.

The exposition of the museum is divided thematically. The oldest buildings and objects are represented by stone women, reconstruction of the XI century dwelling from Pereiaslav region, XI century dwelling from the village of Sosnova – also in Pereiaslavshchyna, reconstructed fragment of the Late Paleolithic site from the village of Dobranychivka of Yahotyn district in Kyiv region, Polovtsian sanctuary of the end of the XII – beginning of the XIII century from Chaplynskyi district, reconstruction of a fragment of housing and economic buildings of the X century on the Podol in Kyiv. The section of exhibits of ancient times presents a reconstruction of a fragment of a Late Paleolithic site (15,000 BC), located on the left bank of the Supa River, where four complexes belonging to the mammoth hunter tribe were studied, and the remains of one of the complexes became part of the open-air museum's exposition includes reconstructed dwellings in the form of frame huts covered with mammoth skins and mammoth bones as structural elements, bone pits, and a primitive workshop.

Despite the fact that the main exposition concerns the Middle Dnipro region, there are also exhibits of the southern regions of Ukraine. The museum presents ancient sarcophagi of the Kemi-Obin culture of the IV century BC, which were installed under high mounds, exhibits of pit cultures and Scythian sculptures, stone sculpture of the southern tribes of the Ukrainian steppes – Torks, Polovtsians and Pechenegs (X–XIII centuries) – in

the form of standing, sitting and busting men and female sculptures, the most common of which were full-length female figures, the so-called "stone women". The reconstructed Polovtsian sanctuary with two authentic stone figures dating from the XII–XIII centuries is also included in the same thematic section.

This section presents the reconstruction of the dwelling of Kyivan Rus – a single-chamber dugout of Pereiaslav craftsman of the XI century with walls of pine hewn wood, gable roof with a hewn roof and gabled windows, adobe kiln and reconstruction of simple furniture, and reconstructed century with wickerwork, plaster and whitewash, the roof of which is covered with reeds. The reconstructed exhibits also contain some authentic fragments.

The most widely represented buildings of various purposes, dating from the sixteenth and nineteenth centuries. The most important place among the objects is occupied by several traditional Ukrainian wooden churches, moved from different villages – the church of St. John the Theologian from the village of Ostriky in the Bila Tserkva region (1606) transported from the village of Bushevo wooden tiered bell tower (middle of the eighteenth century), the church of St. George from the village of Andrushy in the Pereiaslav region (1768), painted by T. Shevchenko, the church from the Stavyshe district (1775), the church in the village of Pyschyky from Skvyra district (1651) – museums of the history of the Ukrainian Orthodox Church and a traditional towel (rushnyk) were opened in the last two churches.

It is worth noting that the preservation of the authentic appearance of the natural environment around the transported wooden churches helps to create the impression of their historical authenticity and maximally creates a folk style atmosphere. For example, the oak church in the village of Ostriky stands on a meadow, surrounded by trees, and traditional stone crosses have been installed in the churchyard. And the church from Stavyshe district seems to be hidden among tall spruces, which with their vertical outlines strengthen the slenderness of the church. The church of the village of Pyschyky also stands on the lawn, around which the trees have risen.

The exposition of the Pereiaslav Museum presents authentic manors of the Middle Dnipro region – estates of a priest, potter, cooper, weaver, carpenter, witch doctor, social status – estates of a poor man, middle-rich peasant, wealthy peasant, including a peasant-craftsmen and widow. The house of the village council from the village of Viunyshche in the Pereiaslav region, dating from the second half of the 19th century, and a tavern from the village of Rudyakiv in the Pereiaslav region at the end of the 19th century were transferred to the

exposition. In the exposition of this period the Cossack fortress, surrounded by a moat 6 m wide, was recreated, an earthen embankment was built over the moat, on which a pointed oak fence was installed. There is a watchtower above the entrance gate. Reconstructed stable buildings and Cossack dwellings were erected inside the fortress. To create the most authentic perception of the Cossack fortress to the left of it on a hill, a traditional Cossack watchtower was recreated.

An integral part of the landscape of the Ukrainian village were windmills-mills, of which there are as many as fifteen in the exposition of the Pereiaslav Museum. In the Dnipro region there were two types of windmills for grinding grain – pillar-type and hip-type. The exposition of the museum includes separate thematic museums directly related to the history of culture, beliefs and prominent figures of the Ukrainian nation.

In 1989, a specialized museum of Ukrainian folk rites and traditions from pre-Christian times to the present was opened. We have already mentioned the Museum of the History of the Ukrainian Orthodox Church in passing: icons, old religious editions, portraits of religious figures of Ukraine and hetmans are exhibited here.

In 1995, the first visitors were received by the Towel Museum, which exhibits more than 300 traditional towels of various embroidery technology from Polissya, Kyiv, Chernihiv, Cherkasy, Poltava regions (a total of more than 4,000 towels, each with a unique symbolic embroidery ornament).

An original museum of local medicinal plants is presented in the building of the glazed greenhouse. In front of the main facade of the museum and on the lower terrace there are phytoplantations of medicinal plants. In the first hall the house of the witch doctor was reconstructed, in the second hall there are racks with pots with plants and a unique herbarium of plants of the Middle Dnieper region is presented, information stands are located. In the third hall grafting, plant starting and cultivation of seedlings are carried out, perennial exotic plants grow here.

A museum of beekeeping operates in an authentic house from the village of Pomokly in the Pereiaslav region. This is a traditional log house, consisting of a room, halls and pantry, in the yard there is a barn for storing honey and beehives, a cellar under a thatched roof for overwintering the apiary and a beehive in a hollow tree. The exposition of the museum includes icons of the patron saints of beekeeping, inventory, and literature on beekeeping.

In the museum of decorative and applied arts in the former landowner's house of the end of the XIX century from the village of Starovychi in Kyiv region in five halls works of famous folk masters are exhibited – wood products, woven products, carpets,

pottery, toys, household tools, glass and crystal products with paintings, etc.

In 1979, a space museum was opened in the church from the village of Vyunishche. The museum presents models of spacecraft, spacesuits, the current model of the Baikonur Cosmodrome, specific space devices, photos.

The museum of land transport is also thematic, where the only collection in Ukraine presents different types of transport from the times of Trypillia culture, Scythians, nomadic tribes. There are summer and winter vehicles, technical means of its manufacture, the principle of operation of the workshop and smithy, which produced various types of vehicles – carts, sledges, phaetons, crews. Here you can see a reconstructed chumak's oxcart of the eighteenth century.

The "Post Office" museum, opened in 1993, recreates authentic 19th-century furniture in the premises of a real old post office in Pereiaslav.

Opened in 1984, the Museum of Bread presents the process of development of agriculture in Ukraine and the technology of baking bread from ancient times to the present. Here you can see a unique collection of wheat of ancient times, Trypillia agricultural pottery, agricultural implements, samples of grain and bread. The furniture of the second half of the XIX century is recreated in the adjacent baker's house, authentic household items are presented. Traditional agricultural machinery is exhibited in the open area.

In 2004, a museum of memory of Polissya district was opened, dedicated to the resettlement of villagers from the Chernobyl Exclusion Zone.

Also in the open-air museum there are museums of famous people of Ukraine – N. Bernados – the inventor of electric double welding of metals, and the writer Sholom Aleichem. Thus, if we describe the principles on which the folk-style exposition of the Pereiaslav open-air museum is built, it is:

- limitation to a certain ethnographic region of the Middle Dnipro region, but emphasis on its development from ancient times to the present (other regions are represented in fragments);
- complexity of exposition construction: thematic zones, thematic museums located in chronological order;
- location of all objects in the authentic natural environment of trees, bushes, flower beds, traditional for Kyiv region.

National Museum of Folk Architecture and Life in Pyrohovo

A fundamentally different approach was used in organizing the open-air exhibition in Pyrohovo, as the task was set to present not one region in more detail than in Pereiaslav, but equally to present all ethnographic areas of Ukraine. If we talk about the



*Fig. 2. Six-winged windmill from the village of Liutenski Budyshcha in Poltava region (early twentieth century)
[photo by Tetiana Kashchenko, 2021]*



*Fig. 3. Traditional autumn fair of folk crafts
[photo by Wojciech Cieplucha, 2021]*

national specifics of the open-air landscape, it is impossible to fully embody the full authenticity of the regions in the territory, which ethnographically and climatically belongs to the Middle Dnipro region.

Therefore, despite the fact that the organizers tried to place the Carpathian objects on the hills, and the southern ones in the open space, the natural environment still remains typical of the Middle Dnipro region.

The National Museum of Folk Architecture and Life of Ukraine is a large architectural and landscape complex, which collects authentic wooden churches, wooden and brick houses and public buildings, farm buildings – piggeries, chicken coops, hives, and, of course, windmills from the ethnographic regions of Polissya, Slobozhanshchyna and Poltava region, Carpathians, Dnipro region, Podillia and South (Fig. 2). The museum was founded in 1969 on the southern outskirts of Kyiv, on the territory of the former lands belonged to the Kyiv-Pechersk Lavra. The museum opened for visitors in 1976.

The composition of the building combines ordinary buildings of houses, taverns, village councils, schools and dominants, which are served by several wooden churches and old windmills. There is free space in front of the dominant objects and they are perceived from afar, and the open space accentuates their dynamic silhouettes.

Today you can see about 300 monuments of folk architecture of the 16th – 19th centuries. The oldest exhibit is a house from the village Samary, Volyn region (1587), construction of a wooden church of St. Archangel Michael from the village of Dorohynka dates back to 1600.

More than 100,000 exhibits in the funds are samples of folk clothing of different regions and different times, fabrics, real ancient furniture, rural tools, potters, coopers, carpenters, joiners, blacksmiths, works of decorative and applied arts and ancient musical instruments.

Traditional Ukrainian trees grow around all the exhibits, flower beds are planted around houses and



*Fig. 4. Flower beds around the church of St. Paraskeva from the village of Zarubyntsi
[photo by W. Cieplucha, 2021]*



*Fig. 5. Flower garden in the exposition of the Middle Dnipro region and open-air museum
[photo by Anastasiia Akhaimova, 2021]*



Fig. 6. Cosmos flowers near the church in the village of Dorohynka [photo by O. Homon, 2021]



Fig. 7. Petunias in the landscaping of the open-air museum in Pirohovo [photo by Tetiana Kashchenko, 2021]



Fig. 8. National motifs in landscape design of a preschool educational institution of a nursery-kindergarten of complex type (sanatorium for weakened and often sick children) No. 43, Rivne, Ukraine [photo by O. Homon, 2021]

churches and guelder-rose (*viburnum*) bushes are planted. For the maximum folk color among the picturesque nature in the open space arrange celebrations of religious and folk holidays and traditional rites, seasonal fairs of folk products and crafts. In the creative workshop located in the building of the village administration, master classes on making various folk art products are held (Fig. 3).

The dominant feature of the entire open-air museum is the majestic three-part wooden church of St. Paraskeva from the village of Zarubyntsi, dated 1742, which the famous architectural historian P. Yurchenko called "the last giant of the Middle Dnipro region" (Fig. 4). The church is once an authentic type of multi-tiered tower church common in Ukraine.

This part of the open-air museum is planned in such a way as to recreate as much as possible the ancient Ukrainian rural traditions, when a square for community gatherings was arranged in front of the church estate. The church estate is surrounded by a fence with a gate. The church stands on a spacious section of the church estate. To maximize its disclosure on all sides, there are no tall trees that would cover the facades, but on the sides there are flower beds of traditional Ukrainian flowers (Fig. 5). Such long-loved plants in Ukraine were the so-called "roztripushky" (cosmos) (Fig. 6), marigolds (both *Tagetes* and *Calendula* genuses), mallows. *Cosmos* is a genus of herbaceous plants of the *Asteraceae* family. In Ukraine, the garden cosmos (*Cosmos bipinnatus*) with white, pink and crimson flowers is widespread, which has long been a favorite unpretentious plant of gardens and flower beds in the villages. This is a tall slender plant up to 1.5 meters tall, with a thin straight trunk, with openwork double-pinnate inflorescences in the form of a basket up to 7 cm in diameter, with white, pink and crimson petals. Pot marigold (*Calendula officinalis*) is an unpretentious annual plant with a height of up to 20 to 75 cm with simple light green leaves and yellow or orange flowers in the form of inflorescences-baskets with a diameter of 5–6 cm.

From ancient times the decoration of rural flower beds were medicinal plants. Thus, calendula helped heal wounds, were known bactericidal, anti-inflammatory, cholagogue, their infusion is treated and now sore throat and sore throat, gum disease.

Traditionally, this plant was used as a seasoning for dishes and as a side dish to first courses and salads. In the Middle Ages, soups were colored with marigolds.

It was believed that one look at the bright flowers lifts the mood and improves eyesight, girls who wove wreaths of marigold flowers and decorated themselves for birthdays, gives beauty. According to popular belief, if the marigolds opened flowers early in the morning, it meant good weather,

if the flowers opened late – wait for rain or thunderstorm.

The *Asteraceae* family also includes marigolds (*Tagetes*), annual herbaceous plants in the form of dense bushes with flowers from yellow to brown. In Ukraine, they bloom from June to October, the flowers have a specific strong bitter aroma. Of the 59 known species of marigolds in Ukraine, three grow: Mexican marigold (*Tagetes erecta*), the most common French marigolds (*Tagetes patula*), and signet marigold (*Tagetes tenuifolia*).

Roses and petunias were also common (Fig. 7).

Modern tendencies in landscape design of Ukraine based on national principles

When selecting the range of plants should strive to maximize the use of local flora, given its high viability. To enrich the landscape-planning composition, the local range of plants and trees can be expanded due to the variety of colors, changing at different times of the year, thus opening wide opportunities in creating a variety of color plantings and at the same time preserving the local flavor. Significant decorative value is also the time of emergence and fall of leaves of trees and shrubs. This property must be taken into account when selecting planting material. Skillfully choosing plants, you can extend the period of decorative effect of plantings.

The main background on which modern landscape compositions are created is the lawn. Versatile aesthetic and emotional impact on a person of grassy meadows became the basis for the appearance in urban gardens in ancient times of small areas sown with grass, the same traditions are successfully implemented in modern landscaping of preschool and educational institutions, where lawns are often installed small architectural forms and playgrounds in national forms (Fig. 8).

In many educational complexes it has become a tradition to plant national trees and flowers not only on the site, but also around the complex on the streets of the neighborhood, village, city. When developing landscape design, a comprehensive landscaping plan is developed, which includes all the necessary components: ornamental plants, conifers, flowers. An example of such a comprehensive plan for landscaping educational institutions with local trees and plants is shown in Table 1.

The experience of traditional landscape architecture, which is presented in the open-air museums of Ukraine, can be translated into the formation of landscape solutions for modern buildings of different types.

The design solution of the educational complex site should be based on the organization of the most favorable sanitary and microclimatic conditions conducive to quiet activities and recreation. Thus it is necessary to adhere strictly to functional purpose

TABLE 1
The recommended list of plantings and their characteristics [created by the authors]

The main ornamental plants					
#	Plants	Characteristic			
1	Lilac (<i>Syringa</i>)	Flowering shrub. The color of the flowers is different. Height 1.5–3 m			
2	Willow (<i>Salix L.</i>)	Shrub and fast growing tree			
3	Birch (<i>Betula</i>)	The leaves are bright green in summer and yellow in autumn. Height over 20 m			
4	Norway maple (<i>Acer platanoides</i>)	Leaves with a beautiful pattern. Height up to 30 m			
5	Horse chestnut (<i>Aesculus hippocastanum</i>)	It blooms beautifully. Young trees are tied for the winter. Height over 20 m			
Coniferous plants					
No	Plants	Characteristic			
1	Baltic pine (<i>Pinus sylvestris</i>)	The needles are dull green. Height up to 20 m			
2	European spruce (<i>Picea abies</i>)	The needles are dark green. Suitable for hedges. It is easily formed. Height 30 m			
3	Northern white cedar (<i>Thuja occidentalis</i>)	The greens are brownish-green. It is easily formed. Height 6–10 m			
Flowers					
#	Name	Height, cm	Flowering time	Flower color	Notes
1	Canna	60-120	August – September	Different colors	Seeds are scalded or sawn at planting
2	Peony	50-100	July	White, purple, pink	Winter hardy
3	Iris	15-100	May – June	Different colors	Іноді рекомендують вкривати на зиму
4	Chamo-mile	30-70	from May until frost	White, pink	Winter hardy
5	Tulip	30-70	Spring	Different colors	Winter hardy
6	Oriental poppy	40-100	June – July	Cinnabar red	Winter hardy
7	Corn-flower	30-60	June – July	Blue	Winter hardy
Curly plants. Annual herbal					
#	Name	Flower color	Flowering time	Characteristics of leaves	Notes
1	Ipomoea	Different colors	Summer	The leaves are dark green	The flowers open in the morning. Height 3-4 m



Fig. 9. Flower beds with marigolds around the stadium "Avangard" in Lutsk [photo by Anastasiia Akhaimova, 2021]

of separate gardening platforms, to select correctly plants on the basis of their landscape and decorative value and reality of the existing soil, climatic and other conditions.

An undeveloped aspect is the landscape modeling around large sports facilities in Ukraine, or rather it is almost absent.

Moreover, the issue of introducing a national style in landscaping of sports facilities is not on the agenda. This is due to a number of problems caused by the specifics of the operation of such facilities.

Problems of ensuring free evacuation, when a large number of people have to leave the building at the same time, when nothing should interfere with free evacuation. Flower beds and trees are an obstacle to safe evacuation. The only permissible is the delimiting function of flower beds.

Parking problems. The need to park a large number of cars near the stadium is the need for a large area of pavement, in addition, within walking distance of the structure.

The problem of relief microplastics is related to safety during slow or forced evacuation, when steps, unexpected terrain differences, reservoirs are prohibited.

In general, a utilitarian approach to the design of sports facilities dominates in Ukraine, however, addressing the topic of the article, there are the first attempts at authentic landscape modeling around large sports facilities. As an example, we can cite flower beds with marigolds around the stadium "Avangard" in Lutsk (Fig. 9).

Conclusion

The study of ways to solve the problem of preserving and reviving national identity in the context of accelerated globalization shows that this problem is increasingly being taken care of in many countries around the world, offering their own solutions. The authors explored classic examples of the harmonious combination of architecture and natural surroundings in order to maximize the features of national identity on the examples of Chinese and Japanese gardens, some traditions of which are implemented in modern parks, and the ancient gardens with pavilions have become tourist attractions.

This allowed the authors to focus on the relevant problem in Ukraine and identify effective ways to express national identity through the synthesis of natural landscape and folk architecture.

The best solution is to create separate thematic open-air museums with the transfer of authentic exhibits and their placement in the natural environment typical of Ukraine. Another option is to organize more chamber ethnographic corners with fewer buildings and a combination of old and new buildings in the historical style (complexes "Mamaieva Sloboda" in Kyiv and "Ukrainian Village" near Kyiv).

The authors explored two main ways of organizing thematic Ukrainian open-air museums: with a presentation of the genesis of folk-style traditions of one ethnographic region and with a more generalized presentation of all ethnographic regions of Ukraine. In the first case, it is possible to show in great detail the development of the traditions of a particular territory, but it is not possible to present the whole picture of the formation of the national identity of Ukraine. In the second case, a general picture of the development of Ukrainian traditions is created, but each region is presented in a more general way.

An important role in the creation of open-air museums is played by the natural environment, where traditional species of trees and shrubs are combined with flower beds of traditional flowers to create a complete impression. Traditional trees are oak, pine, spruce, hornbeam, linden, willow, aspen, ash, the most popular shrub – guelder-rose (*viburnum*), traditional flowers – marigolds, calendula, cosmea, mallow, petunias.

The problem is that in Ukraine only a national landscape concept is being formed.

The current trend reflects the desire for more active use of local plants inherent in local conditions.

The modern Ukrainian landscape concept is to correct the features of authentic nature, in particular, not to emphasize its authenticity, but to change, plant something different from the "native" – exotic flowers, unusual plant color, i.e. the desire

to create an exotic context around. At the same time, the Ukrainian landscape concept is a unique object of research and its comprehension and development is an actual architectural and creative task of the coming years. It includes the development of directions for the development of modern Ukrainian urban landscape culture, i.e. a combination of famous images and plants, global trends in this field with the simultaneous use of national techniques of landscape design. Thus, the optimal way is a dialectical combination of urbanism and the restoration of natural habitats of authentic nature.

The formation of landscape design solutions on the basis of sustainable development fully corresponds to the three basic aspects of this concept: environmental, economic, socio-cultural.

The ecological aspect of landscape design is the protection of natural resources and conservation of ecosystems, support for biodiversity. From the point of view of urban ecology for the formation of a harmonious natural architectural environment it is important to preserve or restore biotopes as part of new urban formations, residential and public complexes, their reconstruction, as was done in Potsdamer Platz in Berlin (Germany). At the urban level, the landscape component of urban areas has a significant impact on the microclimate, the quality of the urban environment: reduces wind and noise loads, regulates aerodynamic effects in buildings, prevents surface overheating, reduces the effect of heat island over cities, and promotes psychological and emotional comfort. Measures for microclimatization of territories by methods of landscape design contribute to improving the energy

efficiency of buildings, which in general has an economic effect.

In the socio-cultural aspect, the purpose of such landscape design is to create a safe, healthy and comfortable environment, which is achieved by appropriate landscaping, arrangement of water and landscape objects, creating visual diversity (coloristics, composition), improving air quality.

Trends in the development of landscape design on the basis of sustainable development in the context of forming a holistic natural-architectural-subject environment are directly related to such ecologically oriented areas of architecture and design as: organic, bionic, bioclimatic, ecological architecture, sustainable architecture, green building, eco-tech, biourbanism, bioarchitecture, biomimetic, biophilic design, etc.

The relationship of the natural environment with the architectural-subjective artificial environment has variable links, which are formed under the influence of climatic, geographical factors, general and local characteristics of the environment, some of which will eventually become fixed as constant. Regional features of landscape design are formed under the influence of both objective natural-climatic and socio-cultural factors.

Through the synthetic understanding of natural landscapes and traditional methods of organizing landscapes, their colors and morphology, a semantic series is formed, which becomes the subject of cultural tradition in landscape architecture as a means of self-identification in society and environment, a means of expressing regional features of landscape architecture.

References

1. 方利强. 浙派园林论. 北京: 中国电力出版社, 2018. (Fang, L. *On the Zhejiang Garden*. Beijing: China Electric Power Press, 2018.)
2. 方志戎. 亭子设计和建造. 南京: 东南大学出版社, 2016. (Fang Z. *Pavilion design and construction*. Nanjing: Southeast University Publishing house, 2016.)
3. 宫灵娟. 苏州古典园林. 南京: 江苏科学技术出版社, 2014. (Gong, L. *Suzhou Classical Garden*. Nanjing: Jiangsu Science and Technology Press, 2014.)
4. 黄维. 传统文化语境下风景园林建筑设计的传承与创新. 长春: 东北师范大学出版社, 2019. (Huang, W. *Inheritance and Innovation of Landscape Architecture Design in the Context of Traditional Culture*. ChangChun: Northeast Normal University Press, 2019.)
5. Ivashko, Yu., Chernyshev, D., Chang, P. Functional and figurative and compositional features of traditional Chinese pavilions. *Wiadomości Konserwatorskie – Journal of Heritage Conservation*, 2020, No.61, p.60 – 66.
6. Ivashko, Yu., Kuśnierz-Krupa, D., Chang, P. History of origin and development, compositional and morphological features of park pavilions in Ancient China. *Landscape architecture. Scientific Journal of Latvia University of Agriculture*, 2020, vol. 15, No. 15, p.78–85.
7. Ivashko, Yu., Kuzmenko, T., Li, S., Chang P. The influence of the natural environment on the transformation of architectural style. *Landscape architecture and Art. Scientific Journal of Latvia University of Agriculture*, 2020, vol. 15, No. 15, p.101 – 108.
8. 姜振鹏. 传统建筑园林营造技艺. 北京: 中国建筑工业出版社, 2013. (Jiang, Z. *Traditional building garden construction skills*. Beijing: China Construction Industry Press, 2013.)
9. 李春青. 中国传统园林景路设计理法. 发行地: 中央民族出版社, 2010. (Li, C. *Chinese traditional garden landscape road design method*. Beijing: Central National Publishing House, 2010.)
10. 刘敦桢. 苏州古典园林. 北京: 中国建筑工业出版社, 2005. (Liu, D. *Classical gardens of Suzhou*. Beijing: China Construction Industry Press, 2005.)
11. Liu, X. *Theories of Modern Architecture*; Beijing: China Architecture & Building Press, 2008.

12. 楼庆西. 亭子. 北京: 清华大学出版社, 2016. (Lou, Q. *Pavilion (Bite of architecture)*. Beijing: Tsinghua University Press, 2016.)
13. Малерб М. *Религиозное человечество*. Санкт-Петербург: Университетская книга, 1997. (Malerb, M. *Religions of mankind*. Saint-Petersburg: Universitetskaya kniga, 1997.)
14. Orlenko, M., Ivashko, Yu., Dyomin, M., Dmytrenko, A., Chang, P. Rational and aesthetic principles of form-making in traditional Chinese architecture as the basis of restoration activities. *International journal of conservation science*, 2020, vol. 11, issue 2, p. 499–512.
15. 潘家平. *中国传统园林与堆山叠石*. 台北: 田园城市文化事业有限公司, 1994. (Pan, J. *Chinese traditional garden and pile of stacked stones*. Taipei: Tianyuan City Cultural Enterprise Co., Ltd., 1994.)
16. 裴元生. *中国园林建筑设计传统理法与继承研究*. 昆明: 云南人民出版社, 2018. (Pei, Y. *Research on Traditional Theory and Inheritance of Chinese Garden Architecture Design*. Kunming: Yunnan People's Publishing House, 2018.)
17. Qin, L. *Chinese pavilions*. Beijing: China Architecture and Building Press, 2019.
18. Шевцова Г. *Історія японської архітектури і мистецтва*. Київ: Грані-Т, 2011. (Shevtsova, H. *History of Japanese architecture and art*. Kyiv: Grani-T, 2011.)
19. 佟裕哲. *中国传统景观园建筑设计理论*. 西安: 陕西科学技术出版社, 1994. (Tong, Y.Z. *The theory of Chinese traditional landscape architecture*. Xian: Shaanxi Science and Technology Press, 1994.)
20. Васильев Л.С. *История религий Востока*. Москва: Высшая школа, 1983. (Vasiliev L.S. *History of the religions of the East*. Moscow: Vysshaya shkola, 1983.)
21. Анарина Н., Дьякова Е. (сост.). *Вещь в японской культуре*. Москва: Восточная литература, 2003. (Anarina N., Dyakova Ye. (comp.). *Thing in Japanese culture*. Moscow: Vostochnaya literatura, 2003.)
22. Виноградова Н.А. *Китай, Корея, Япония: образ мира в искусстве*. Москва: Традиция-Прогресс, 2010. (Vinogradova N.A. *China, Korea, Japan: the image of the world in art*. Moscow: Traditsiya-Progress, 2010.)
23. *Японское искусство*. Москва, Издательство восточной литературы, 1959. (*Japanese art*. Moscow, Izdatelstvo vostochnoy literatury, 1959.)
24. 王光龙, 张杭岭. *杭州园林古建筑传统技术*. 杭州: 浙江摄影出版社, 2014. (Wang, G., Zhang, H. *Traditional techniques of ancient garden architecture in Hangzhou*. Jilin: Zhejiang Photography Publishing House, 2014.)
25. 王毅. *园林与中国文化*. 上海: 上海人民出版社, 1990. (Wang, Y. *Chinese traditional garden and pile of stacked stones*. Shanghai: Shanghai Nationalities Publishing House, 1990.)
26. Wolford, J.N. *Architectural Contextualism in the Twentieth Century, with Particular Reference to the Architects E. Fay Jones and John Carl Warnecke*. Ph.D. Thesis. Atlanta: Georgia Institute of Technology, 2005.
27. 邢月. *中国园林建筑设计传统理法与继承研究*. 长春: 吉林大学出版社, 2016. (Xing, Y. *Research on Traditional Theory and Inheritance of Chinese Garden Architecture Design*. Changchun: Jilin University Press, 2016.)
28. 邢月. *中国园林建筑设计传统理法与继承研究*. 长春: 吉林大学出版社, 2018. (Xing, Y. *Research on Traditional Theory and Inheritance of Chinese Garden Architecture Design*. Jilin, Jilin University Press, 2018.)
29. 赵光华 / 编著; 邱茂 / 译. *中国古典园林*. 京都: 美乃美, 1982. (Zhao, G., Qiu M. *Chinese classical garden*. Kyoto: Minami, 1982.)
30. Zhou, S., Zhang, S. Contextualism and Sustainability: A Community Renewal in Old City of Beijing. *Sustainability*, 2015, No. 7, p. 747 – 766.
31. 周维权. *中国古典园林史*. 北京: 清华大学出版社, 2008. (Zhou, W. *History of Chinese Classical Gardens*. Beijing: Tsinghua University Press, 2008.)
32. 朱广宇. *手绘中国皇家建筑与经典园林*. 天津: 天津大学出版社, 2010. (Zhu, G. *Hand-painted Chinese royal buildings and classic gardens*. Tianjin: Tianjin University Press, 2010.)
33. 朱钧珍. *中国亭子艺术*. 香港: 和平图书有限公司, 2003. (Zhu, J. *Chinese Pavilion Art*. Hong Kong: Peace Books Co., Ltd., 2003.)
34. Булашев, Г.О. *Украинский народ в своих легендах, взглядах и верованиях. Вып. I. Космогонические украинские народные взгляды и верования*. Киев: Издательство Императорского Университета Святого Владимира, 1905, 1909. (Bulashev, G.O. *The Ukrainian people in their legends and religious viewpoints and beliefs. Issue 1. Cosmogonic Ukrainian national viewpoints and beliefs*. Kiev: Printing House of Saint Vladimir Royal University, 1905, 1909.)
35. де ла Флис, Д.П. *Медицинско-топографическое описание государственных владений Киевской губернии, составленное доктором медицины де ла Флисом (февраль 1854)* (Національна бібліотека України імені Вернадського, відділ рукописів, фонд VIII. №187, дело 15). (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)* (Verнадsky National Library of Ukraine. Department of manuscripts. Fund VIII. No. 187. Laz. 15).
36. Павлуцкий, Г. *Древности Украины. Вып. I. Деревянные и каменные храмы*. Киев: Издательство Императорского Университета Святого Владимира, 1905. (Pavlutskiy, H. *Antiquities of Ukraine. Part I. Wooden and stone temples*. Kyiv: Printing House of Saint Vladimir Royal University, 1905.)
37. Щербаківський В. *Дерев'яні церкви на Україні та їх типи*. Львів, 1906. (Shcherbakivskiy, V. *Wooden churches in Ukraine and their types*. Lviv, 1906.)

38. **Таранушенко, С.** *Монументальна дерев'яна архітектура Лівобережної України*. Київ: Будівельник, 1976. (**Taranushenko, S.** *The monumental wooden architecture of the Left-Bank Ukraine*. Kyiv: Budivelnuk, 1976.)
39. **Вечерський, В.** *Архітектурна й містобудівна спадщина доби Гетьманщини. Формування, дослідження, охорона*. Київ: НДІТІАМ, 2001. (**Vecherskyi, V.** *The architectural and urban planning heritage of the Hetmanate era. Formations, research, protection*. Kyiv: NDITIAM, 2001.)
40. **Вечерський В.** *Спадщина містобудування України: Теорія і практика історико-містобудівних пам'яткоохоронних досліджень населених місць*. Київ: НДІТІАМ, 2003. (**Vecherskyi V.** *The Heritage of Urban Planning of Ukraine: Theory and Practice of Historical and Urban Planning monument protective Researches of Populated Places*. Kyiv: NDITIAM, 2003.)
41. **Вовк Х.К.** *Студії з української етнографії та антропології*. Київ: Мистецтво, 1995. (**Vovk Kh.K.** *Studios on Ukrainian ethnography and anthropology*. Kyiv: Mystetstvo, 1995.)
42. **Закревський Н.** *Описание Киева (в 2 частях)*. Москва: В.Грачев и компания, 1868. (**Zakrevskii N.** *Description of Kiev (in 2 parts)*. Moscow: V. Grachyov and company, 1868.)
43. **Юрченко, П.** *Дерев'яна архітектура України*. Київ: Будівельник, 1970. (**Yurchenko, P.** *Wooden architecture of Ukraine*. Kyiv: Budivelnuk, 1970.)
44. **Кілессо, С.К.** *Києво-Печерська Лавра*. Київ: Будівельник, 2004, с. 111 – 114. (**Kilessso, S.** *Kyiv-Pechersk Lavra*. Kyiv: Budivelnuk, 2004, p. 111–14.)
45. **Логвин, Г.Н.** *По Україні. Стародавні мистецькі пам'ятки*. Київ: Мистецтво, 1968. (**Lohvyn, H.N.** *Across Ukraine: ancient art monuments*. Kyiv: Mystetstvo, 1968.)
46. **Завада, В.** Особливості становлення стилю бароко в монументальній дерев'яній архітектурі Полісся. Архітектурна спадщина України, 1994, вип.1, с. 113-123. (**Zavada, V.** Features of the formation of the Baroque style in the monumental wooden architecture of Polissia. *The architectural heritage of Ukraine*, 1994, issue 1, p. 113–123.)
47. **Нечуй-Левицький, І.** *Твори (в 2 томах)*. Київ: Дніпро, 1977. (**Nechui-Levytskyi, I.** *Works (in 2 volumes)*. Kyiv: Dnipro, 1977.)
48. **Орленко, М.** *Успенський собор Києво-Печерської Лаври: методичні засади і хронологія відтворення*. –Київ: Фенікс, 2015. (**Orlenko, M.** *The Dormition Church of the Kyiv-Pechersk Lavra: methodological foundations and chronology of reproduction*. Kyiv: Phoenix, 2015.)
49. **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*, 2020, No.61, p. 67–79.
50. **Chernyshev, D., Ivashko, Yu., Kuśnierz-Krupa, D., Dmytrenko, A.** Role of Natural Landscape in Perception of Ukrainian Sacral Architecture Monuments. *Landscape architecture and Art. Scientific Journal of Latvia University of Agriculture* , 2020, Volume 17, Number 17, p.13–21.

AUTHORS:

Tetyana Kashchenko. Associate prof. PhD. Department of Architectural Design of Civil Buildings and Structures Architect and landscape architect. Kyiv National University of Construction and Architecture, 31, Povitroflotskyi Avenue, Kyiv, Ukraine. E-mail: kashchenko.to@knuba.edu.ua

Anastasiia Akhaimova. Associate prof. PhD. Department of Architectural Design of Civil Buildings and Structures. Architect and landscape architect. Kyiv National University of Construction and Architecture, 31, Povitroflotskyi Avenue, Kyiv, Ukraine. E-mail: akhaimova.ao@knuba.edu.ua

Olha Homon. Associate Professor of the Department of Architecture Theory, PhD in Architecture of Building and Constructions Science and landscape architect, Kyiv National University of Construction and Architecture, 31, Povitroflotskyi Avenue, Kyiv, Ukraine. E-mail: gomon.oo@knuba.edu.ua

Wojciech Cieplucha. M.Sc.Arch., Assistant at Chair of Architectural Design, Faculty of Architecture, Cracow University of Technology, Faculty of Architecture, ul. Podchorążych, 1, Kraków, 30-084, Poland. E-mail: wcieplucha@pk.edu.pl

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