

Topical Problems of Green Architecture, Civil and Environmental Engineering
2022 (TPACEE 2022). № 05019

Aleksandr Sergeevich SHUMILKIN, Candidate of Architecture, Associate
Professor, Department of History of Architecture and Fundamentals of
Architectural Design

**SCIENTIFIC BASIS AND PRACTICAL EXAMPLES FOR THE
DEVELOPMENT OF HISTORICAL AND CULTURAL POTENTIAL
OF OBJECTS IN THE HISTORICAL CITY CENTERS**

Nizhny Novgorod State University of Architecture and Civil Engineering
65, Iljinskaya St., Nizhny Novgorod, 603950, Russia. Tel: +7 (831) 430-17-37; fax: +7 (831)
430-19-36; e-mail: ist_arh@nngasu.ru

Keywords: historical and urban planning environment, cluster-territorial approach,
comprehensive restoration, adaptation for modern use.

*Consideration is given to scientific foundations, approaches and trends in the field of
historical and cultural heritage preservation. Strategies are formulated for updating cultural
heritage sites in the centers of historical cities (cluster-territorial approach, spot-based
approach). The analysis is dedicated to the modern practices of restoring the unique
historical and cultural potential of urban space.*

The modern strategy for the preservation of the heritage is viewed as a
fundamental category underlying the protection of national culture and country's
identity, and the formation of a sustainable cultural and landscape environment.

Within the framework of the traditional paradigm, two approaches have
been formed to determine the historical and cultural value of architectural
monuments. The antiquarian approach promoted the development of the
archaeological restoration method in the second half of the 19th century
(founded by J. Ruskin, W. Morris), the absolute priority of which is given to the
historical authenticity of the monument. Based on the antiquarian approach, the
theory of conservation involves a careful treatment to historical layers, valued as
a reflection of different stages of the monument's existence (Astley Castle in
Warwickshire, XII century; restored in the 2010s by Witherford Watson Mann
Architects.).

The aesthetic approach, generally contradictory to the antiquarian one, promoted the methods of stylistic restoration developed in the 19th century. (founder: E. E. Viollet-le-Duc). This trend was based on the idea of creative reconstruction of monuments related to a certain period of time in the forms considered the most valuable by the restoration architect (Pierrefonds Castle in France restored in the 19th century, architect E.E. Viollet-le-Duc). The trend of stylistic restoration largely determined the development of restoration activities in Russia on the grounds of destroyed unique architectural ensembles and monuments.

Scientific restoration at the beginning of the XXI century is based on an integrated approach to the preservation of heritage featuring recognition of the values of later layers and an obvious desire to scientifically substantiate the forms of the elements under restoration. The priority focus in the monuments preservation is on the adaptation of cultural heritage sites for modern use. Along with the task of preserving stylistic and typological features of architecture, due to the original material of the monument, a key condition for extending the historical building life is its inclusion in the developing urban space.

One of the urgent tasks is the preservation of urban cultural landscapes, which require special approaches to their updating in the context of the metropolis historical centers development. An important direction is the development of a cluster-territorial approach to the historical and cultural heritage preservation based on the concept of a cultural landscape (heritage preservation at the level of structural and typological formations: fortress and monastery architectural ensembles, manor-industrial complexes, town-planning formations, etc.). This approach involves complex work on the reorganization of a large-scale urban space fragment with the updating of the modern interpretation of its objects and the figurative and artistic enrichment of the architectural environment. An important task of the cluster-territorial approach

is to strengthen the city-forming role, to identify and preserve the historical framework of urban planning generation.

One of the examples of this direction implementation were large-scale activities in 2020 – 2021 to restore the architectural and historical appearance of Nizhny Novgorod, carried out by the Nizhny Novgorod architectural and restoration organizations in preparation for the 800th anniversary of the ancient city. Large-scale works were carried out at the objects of the Nizhny Novgorod Kremlin which is a monument of federal significance. The city-forming role of the Kremlin as an ancient defensive structure in combination with a unique natural landscape ensured the priority of the monument preservation in the unity of the cultural, architectural, natural landscape framework.

Significant works were connected with restoration and adaptation of Kremlin large architectural objects for modern use. The House of the Military Governor (Nizhny Novgorod Kremlin, building 3) is a representative three-story building located in the northeastern part of the Kremlin on the edge of a hill. Its construction in 1836 (designed by architect I.I. Charlemagne) was associated with extensive urban planning transformations of the first half of the XIX century, carried out in Nizhny Novgorod on the order of Emperor Nicholas I. At the end of the XX century reconstructions of the building were carried out in the late classicism style for its alteration to an art museum; separate openings were laid, the interior art decor was partially lost.

The design solution for adapting the building to modern use as a museum implied repair and restoration work on engineering networks, individual rooms and artistic interiors, restoration work on the roof of the building (restoration solutions were provided by LLC Asgard) (Fig. 1, 2).

In the context of the modern cultural space development of Nizhny Novgorod, a comprehensive restoration project has become significant for the adaptation of the Official Places Building (Nizhny Novgorod Kremlin, building 2).

The monument construction belongs to the period of the most important urban planning changes at the end of the 18th century. It was the redevelopment of Nizhny Novgorod based on the first regular plan. It was built in 1782 – 1785 and designed by the Nizhny Novgorod provincial architect Ya.A. Ananyin. The building took a responsible position, organizing the western side of the parade square and the river panorama of the Kremlin. At the beginning of the 19th century, and then during the Soviet period, the building underwent significant restructuring and redevelopment. Currently, an extended three-story building located in the western part of the Nizhny Novgorod Kremlin territory is a major architectural and spatial dominant in the Kremlin ensemble structure. Part of the building is occupied by the M. Rostropovich Nizhny Novgorod State Philharmonic Society (Fig. 3).

The monument restoration project was developed as part of the cultural heritage site preservation work, and the interior design project was created out for the Philharmonic Hall (restoration solutions were provided by Asgard LLC and design project was worked out by AB “GORA”) (Fig. 4). The restoration project involved the disclosure of partially laid historical openings, the reconstruction of wooden door fillings based on historical analogs. The preservation of the monument implied the restoration of the artistic interiors parts, the restoration of the premises decorative finishing, and the replacement of the later made partitions.

Major restoration work was carried out at the Garrison Battalion Barracks (Nizhny Novgorod Kremlin, building 10). The building was constructed at the turn of the 18th – 19th centuries as an integral part of the administrative buildings complex. It occupied a prominent urban planning position in the central part of the Kremlin ensemble. In the 1830s the barracks were rebuilt due to the large-scale reconstruction of the "fortress" territory and the military units' deployment in it. In the second half of the XIX century and during the Soviet era, the barracks building was repaired several times, which led to a change in

the layout and architectural appearance of the facades. Currently, the building is an expressive example of classicism architecture in Nizhny Novgorod and has a great historical and town planning value in the Kremlin ensemble.

The main objectives of the project were to identify the artistic and historical value of the monument, to preserve and restore its architectural appearance (Fig. 5). An important condition was the building adaptation to the modern function of the administrative and exhibition center with the maximum approximation of the space-planning structure to the historical one. The restoration work included the composition recovery and the restoration of the architectural elements of the facades (Fig. 6). The design project for the interiors of the premises was developed as part of the cultural heritage site preservation work (restoration solutions: Asgard LLC and design project: MISH studio). The examples of the cultural heritage sites preservation were characterized by the prevailing functional orientation change from exhibition to administrative, which corresponded to the tasks of the Kremlin territory modern development.

Another trend in the heritage updating is associated with the spot-based restoration of single monuments, which acquire the role of new city-forming and semantic dominants in the urban space structure. One of the iconic examples is a unique monument of industrial heritage is Water tower of V.G. Shukhov, located in Vyksa town, Nizhny Novgorod region on the Vyksa Metallurgical Plant territory. The tower is one of six structures in the region associated with the name of this outstanding design engineer. As a part of the historical manor-industrial complex of Vyksa, the Water tower belongs to the main industrial heritage attractions of the XX century in the region.

The purpose of the restoration and adaptation was in the museumification of the monument – the engineering advance with a unique historical, cultural, scientific and artistic significance (restoration project: Asgard LLC). Remote location of the restored tower from the historical city center creates a new spot of the historical and cultural region development.

Historical industrial buildings and complexes constitute a vast layer of the architectural heritage of Russia in the second half of the 19th - early 20th centuries. Their potential in the modern urban space formation is significant. Complex restoration of the Vodka Distillery Building in the historical part of Ryazan city was a current practice example of industrial architecture monuments restoration (Pavlova st., 5). The building was part of an architectural complex made in the forms of eclecticism at the end of the XXth century.

The monument had lost its roof and the upper floor ceiling of one of the risalits by the time the restoration work was carried out. The masonry of the walls and the decoration of the facades were partially destroyed. Internal structures were in a state of disrepair (Fig. 7).

The monument restoration project implied a full range of repair and restoration work: dismantling hazardous ceilings, strengthening wall masonry, installing new floors and inter-floor structures, restoration of open brick facing, facade decor elements, forging, restoration of the building roof in its original geometric parameters, recreation of the roof lantern and historical ventilation shafts on the risalits' roofs, complex engineering systems adaptation for the office function (restoration project: LLC "Asgard"). It is important to note the preservation of the fundamental structure and scale of the internal space, divided by transverse walls, where free planning can be organized using temporary partitions. Restoration work allowed revealing new possibilities of the historical forms of the building, which was in an abandoned state. This not only led to the development of its socio-cultural, aesthetic and economic potential, but also transformed a long-term gap on the historical center map into a city-forming element of urban space (Fig. 8).

Similar tasks are relevant in many regions of the country. Solution to this period problem (at the turn of the XX – XXI centuries) is characterized by the positive trends in the cultural heritage sites preservation activity. Strategies are being developed for the monuments restoration and updating in the historical

urban setting: a cluster-territorial approach, a spot-based approach. With the variability of the existing approaches, modern scientific architectural restoration relies on an integrated method that ensures the monument life extension with minimal interference in its historical value. Carrying out comprehensive restoration work allows you to restore the city-forming, historical and cultural significance of monuments in the cities center structure, gives the development of a unique historical urban space.

REFERENCES

1. Batalov A. Put evolyutsii kategoriy. Otnosheniye k dostovernosti formy i podlinnosti materialov v otechestvennoy restavratsii XIX – nachala XX veka [The path of evolution of categories. Attitude to the authenticity of the form and authenticity of materials in the domestic restoration of the XIX - early XX century] // Zhivoy gorod: Pro et contra. O moskovskoy restavratsii. Moscow. 2010. P. 140 –145.
2. Dushkina N.O. Rekonstruktsiya arkhitekturnykh sooruzheniy: metamorfozy teorii i perspektivy sokhraneniya naslediya [Reconstruction of architectural structures: metamorphoses of the theory and prospects of heritage preservation] // The search for identity. Restoration, restoration, recreation. Materials of the XIV Readings dedicated to the memory of L. A. Lelekov (1934-1988). Moscow, 2002. P. 39, 40.
3. Kulchinskaya E.D. Novyye roli pamyatnikov arkhitektury [New roles of architectural monuments] // Arkhitekturnoye naslediye na rubezhe XX i XXI vekov. Problemy restavratsii i okhrany naslediya [Architectural heritage at the turn of the XX and XXI centuries. Problems of restoration and heritage protection]. Rossiyskaya akademiya arkhitektury i stroitelnykh nauk. Nauchno-issledovatel'skiy institut teorii i istorii arkhitektury i gradostroitelstva. Pod red. A.S. Shenkova. Izd. 2. Moscow, 2014. 144 p.
4. Matveyev B.M. Dekonstruktsiya arkhitekturnogo naslediya [Deconstruction of architectural heritage]. SPb., Politechnica-service, 2012, 423 p., ill.
5. Pamyatniki arkhitektury v Sovetskom Soyuze: Ocherki istorii arkhitekturnoy restavratsii [Monuments of architecture in the Soviet Union: Essays on the history of architectural restoration] / Pod red. A.S. Shenkova. M.: Pamyatniki istoricheskoy mysli, 2004. 696 p: il.
6. Shvidkovsky D.O. Prostranstvo mirovogo zodchestva [The space of World Architecture]. Moscow, «Architecture-S». 2017, 560 p., ill.
7. Shchenkov A.S. Rekonstruktsiya istoricheskoy zastroyki v Evrope vo vtoroy polovine XX veka: istoriko-kul'turnye problemy [Reconstruction of historical buildings in Europe in the second half of the XX century: historical and cultural problems]. Moscow, LENAND Publ., 2011, 280 p.
8. Shumilkin A.S. Shukhovskaya bashnya v g. Vykse Nizhegorodskoy oblasti. Restavratsiya pamyatnika federalnogo znacheniya [Shukhov Tower in Vyksa, Nizhny Novgorod region. Restoration of a monument of federal significance] // Privolzhskiy nauchny zhurnal [Privolzhsky Scientific Journal]. Nizhegorod. gos. arkhitektur.- stroit. un-t. Nizhny Novgorod. 2018. № 3. P. 151 – 156.

**Figures to A. S. SHUMILKIN article
«SCIENTIFIC BASIS AND PRACTICAL EXAMPLES FOR THE DEVELOPMENT OF
HISTORICAL AND CULTURAL POTENTIAL OF OBJECTS IN THE HISTORICAL
CITY CENTERS»**



Fig. 1. The House of the Military Governor restoration and adaptation for modern use (Nizhny Novgorod Kremlin, building 3). Photo made in 2021



Fig. 2. The House of the Military Governor restoration and adaptation for modern use (Nizhny Novgorod Kremlin, building 3). Interior design project.



Fig. 3. Official Places Building – Nizhny Novgorod State Philharmonic Society (Nizhny Novgorod Kremlin, building 2). Photo made in 2021.



Fig. 4. Official Places Building – Nizhny Novgorod State Philharmonic Society (Nizhny Novgorod Kremlin, building 2). Interior design project.



Fig. 5. Garrison Battalion Barracks (Nizhny Novgorod Kremlin, building 10).
Photo made in 2021.



Fig. 6. Garrison Battalion Barracks (Nizhny Novgorod Kremlin, building 10). Facades lightening project.



Fig. 7. Vodka Distillery Building in Ryazan city (Pavlova st., 5) before restoration.
Photo made in 2015.



Fig. 8. Vodka Distillery Building in Ryazan city (Pavlova st., 5) after restoration.
Photo made in 2020.