

DOI: 10.32347/2786-7269.2024.9.65-73

УДК 72. 025.4

Molochko Vitaliy,
molochko_vo@ knuba.edu.ua, ORCID: 0009-0008-8075-2187,
Kyiv National University of Construction and Architecture

CHALLENGES OF THE POST-WAR RECONSTRUCTION OF THE CULTURAL HERITAGE OF UKRAINE

The article analyzes the differences faced by restorers in peacetime and during the post-war reconstruction of destroyed objects of cultural heritage. It is noted that during the war, the main factors of destruction are various types of military weapons, and the usual natural factors of negative impact - subsidence, jamming, biofouling are the consequences of destruction from weapons.

Therefore, those recommendations that were developed for the restoration of objects in peacetime will not be of primary importance. Instead, it is necessary to develop recommendations for the reconstruction of objects after destruction by specific types of weapons. The issue of the order of reconstruction of destroyed objects will be relevant.

Keywords: challenges; post-war reconstruction; cultural heritage; Ukraine.

Introduction.

The Russian-Ukrainian war fundamentally changed the priority of tasks in the restoration industry.

By the time of the invasion, Ukraine had indeed accumulated significant professional experience in carrying out complex restoration works of various profiles, these were both examples of classical restoration based on conservation, and restitution - restoration of unique objects based on existing fragments and documentation, as well as revitalization - repurposing architectural monuments for a new function.

However, starting from the 2010s, problems began in the system of the restoration industry of Ukraine, which as of today has led to its decline and lack of centralized management, to restoration and restoration works being carried out by performers without restoration education.

The proposals presented by M. Orlenko in 2016 in his dissertation for a doctor of science (architecture) and published in the monograph of the same name in 2018 were aimed at finding a way out of the current situation [5].

However, his proposals for overcoming the problems of the restoration industry were related to peacetime conditions. Instead, it is already clear that these proposals cannot be used in this form during the post-war reconstruction of Ukraine.

The problem that M. Orlenko emphasized as of 2018, namely the discrepancy between the needs for financing the restoration of cultural heritage monuments and the economic and financial capabilities of the state against the background of the war, have become much more acute [5].

The problem already is that the restoration of heritage sites does not become a top priority in funding along with the repurposing of the energy network, the restoration of the housing stock, the construction of a network of rehabilitation centers, the funding of programs for displaced persons and rehabilitation of veterans, etc.

Despite the difficulty in carrying out works on the restoration of cultural heritage objects, it is necessary to develop ways to gradually get out of this situation.

The purpose of the article was to determine the problems that will be solved during the post-war reconstruction of Ukraine and to show the difference between the tasks of the restoration industry in peacetime and wartime.

The objectives of the study were to identify the main problems that characterize the post-war reconstruction.

The relevance of the research topic is determined in the development of new directions of restoration activities for the reconstruction of objects of cultural heritage after destruction by military weapons.

The article used **an analytical method** to analyze the situation in the field of cultural heritage, which developed as a result of the war.

Analyzed sources:

- publications about war in Ukraine [1, 2, 3, 4]
- conservation activity and heritage protection [5,6,7].

Main part.

The analysis of the existing source base proved a large number of studies in the direction of protection and restoration of cultural heritage objects. A characteristic scientific approach is the scientist's focus on some narrow issues, in addition, not all cultural heritage objects have complete information, in addition, it should be taken into account that restoration methods and the list of materials are constantly updated and improved. The study of the source base proved that modern proposals for the restoration and restoration of immovable cultural heritage objects of Ukraine destroyed by the war should take into account both the experience of post-war heritage reconstruction accumulated in Ukraine and the world, as well as the legislation in the field of monument protection and restoration and the experience of the effectiveness of the application of restoration methods technologies.

Among the developed source base, it is worth paying special attention to the monograph of M. Orlenko [5], as it is to a certain extent consonant with the topic of the presented research and the tasks set in it. M. Orlenko analyzed the stages of

formation of the monument protection and restoration industry in Ukraine, building his monograph on the basis of the thesis of a doctor of architecture in such a way that he first identified the general aspects, achievements and shortcomings of each stage of the formation of the restoration school in Ukraine, later determined the structural components of buildings and their features, the main problems of the emergency state of elements and structures, later moved to the methods of liquidation of the emergency state of objects, illustrating their positions with examples of reproduction and as a result, moved to the consolidated level of management of monument protection and restoration activities taking into account the requirements of today.

However, at the same time, this monograph differs from the presented study, as it was written in peacetime and did not take into account the conditions of existence of cultural heritage during a full-scale war.

Therefore, although data on the restoration of destroyed cultural heritage sites after the Second World War and information on the extent of damage are used in this study, this is done to assess the current situation through the prism of existing experience, in order to predict, if possible, the difficulties and risks that will arise during reconstruction destroyed monuments.

At the same time, those measures that were implemented in the period after the Second World War cannot be literally repeated now, for several reasons:

- then these programs and measures were developed in another legal field, in the then Soviet Union, now they are being developed for independent Ukraine;
- the then economic opportunities allowed immediately after the end of the war to create powerful restoration organizations with the possibility of further development of their structure and the appearance of numerous branches, instead, Ukraine will probably have to create programs with international participation and international financing.

Processing of the existing source base revealed aspects that are planned to be investigated in this study, in particular:

- the conditions of modern war differ from previous wars, including weapons, so the damage to cultural heritage objects is not the same as it was during the Second World War;
- during the Second World War, the massifs of urban development were based on different types of structures than now, therefore the nature of the urban environment, which was restored after the war, was different;
- Ukraine currently does not have the economic and human resources to independently create and implement a program for the reconstruction of destroyed and damaged cultural heritage, so it is necessary to create such programs with the involvement of investors and partners abroad, as well as private business;

- since humanity has not had the experience of such a war since the Second World War, certain aspects of reconstruction must be rethought, taking into account the conditions and needs of today;

- the scale of losses of cultural heritage requires systematic actions - both in the creation of programs with the involvement of foreign partners and institutions, and in the training of experts, in the creation of a register of damaged and destroyed objects by region with the identification of their functional purpose.

Along with the direct issues of the monument protection and restoration industries, related to the preservation of the authenticity of the historical environment, compliance with the principles of zoning of city territories, legislation in the field of protection and restoration, with issues of restoration methods and technologies, an important issue is the dating of architectural objects, decorative elements and works of art.

As the experience of Ukraine shows, the same object can have layers of different times. And in the case when such an object is being restored or destroyed fragments are being rebuilt, there is always a debate about what is actually authentic or most valuable in this object.

It is possible to predict the mass emergence of this question when the monuments destroyed during the Russian-Ukrainian war are rebuilt, especially when there are layerings and later reconstructions in them, which call into question the authenticity and value of the object.

The war made adjustments to the developed proposals for the training of certified experts, so although these developments were worked out as basic in this study, it is worth noting that they have undergone adjustments according to the conditions of today.

Given the realities of today, the problems associated with the destruction of various types of weapons, as well as the fires and blast waves caused by them, have now come to the fore.

The problem is related to the fact that those restoration documents and scientific studies that were issued before the full-scale invasion were focused on the traditional causes of the emergency state of historical buildings, caused by negative external factors and non-compliance with the rules of operation of the object, in addition, attention was paid to the imperfect legislation, which led to non-compliance with the rules of construction in the buffer zones of UNESCO World Heritage sites, deliberate arson and bringing historical objects to an acute state of emergency by their owners or balance-keepers, unauthorized reconstructions, superstructures and changes in the functional purpose of objects.

The experience of post-war reconstruction is also currently not relevant for European countries. So, we can predict that during the reconstruction of the entire

collection of destroyed and damaged cultural heritage, Ukraine will have to focus not on the pre-war experience of traditional problems of monuments, but on the experience of how historical heritage objects were rebuilt after the Second World War, involving the experience of surveying and restoring residential buildings destroyed by the war in Kyiv region - Irpenya, Buchi, Borodyanka, where specialists conducted detailed surveys and accumulated and analyzed information on the extent of destruction caused by various types of modern weapons and developed and implemented schemes for the reconstruction of such objects.

At the same time, the problem is that it is impossible to apply such measures, which were applied in Irpin or Borodyanka, where emergency multi-story buildings or entire residential complexes are dismantled, and new construction is planned in their place, in the field of cultural heritage.

In the same way, the use of the experience of rebuilding modern civil and public objects using modern materials and structures should be analyzed for the possibility of its application in the restoration of damaged or destroyed objects of cultural heritage, where the principle of preserving the maximum authenticity of the building and the use of modern materials and technologies is the basis, which contribute to this.

The most thorough are proposals for the creation of expert systems in the field of restoration activities, developed by the president of the corporation "Ukrrestavratsiya" M. Orlenko based on the experience of the corporation and foreign restoration experience [5, p.149-153].

First of all, it is worth analyzing these proposals in the conditions of war and post-war reconstruction and determine which provisions can remain unchanged and which will be adjusted.

M. Orlenko emphasized the issue of controversy over which period a damaged architectural object should be restored, if there are layerings of different times in it. We will continue this thesis in accordance with the realities of post-war reconstruction: how will the boundary be defined when later layers, repairs and reconstructions have so altered the original appearance of the object that it has lost its value as an architectural monument?

Results. The changes, in our opinion, will be as follows:

- since the main causes of the state of emergency of cultural heritage monuments are fundamentally different from the causes of the state of emergency in peacetime, and the experience of the negative impact of modern types of weapons on the nature of destruction is only beginning to accumulate, this will require the emergence of new developments aimed at restoring the object of architecture after being hit by an aerial bomb, missiles, drones, after artillery fire or an explosive wave;

- it is likely that three types of documentation will be developed for carrying out specific restoration works: separately for objects whose main damage was caused by the war, separately for traditional causes of accidents (soil subsidence, violation of the statics of the object, blocking of the roof by biofouling, etc.), however, with taking into account the constant change in technologies and the appearance of new, more effective materials, separately for objects that suffer from war destruction, and from the traditional problems of emergency caused by them (for example, the impact of a missile or an anti-aircraft missile system causes a violation of statics, deformation, jamming, etc.);

- probably, in the conditions of the complexity of financing and the amount of destruction of objects of cultural heritage, primary attention will be paid to outstanding objects, the destruction of which was caused by the war and the very fact of their existence depends on the speed of their restoration, therefore, expert systems based on the principle of "if something » should be primarily developed for examples of the destruction of various structural schemes from air bombs, missiles of various types, drones and their fragments, artillery, blast wave;

- since such data on the comparison of the destructive factor, the scale of consequences and the possibility (impossibility) of restoration using the remaining fragments are already available according to the materials of surveys of the destroyed buildings of Borodyanka, Bucha, Irpen, carried out by construction specialists of the Kyiv National University of Civil Engineering and Architecture, it is advisable to use the accumulated experimental experience in relation to similar damage to objects of cultural heritage;

- M. Orlenko emphasized in his publications on the need for professional training of restorers in peacetime, but the training of restorers and memorial guards in war and post-war times will also include other professional competencies, this is the creation of a specialized unit in the Armed Forces of Ukraine for the protection of objects of cultural heritage (Cultural Property Protection Unit, CPP Unit);

- the huge projected volume of restoration works requires a fundamental revision of the attitude towards cultural heritage only as a source of expenditure for maintenance and the use of foreign experience in changing investment and legal approaches to the forms of ownership of a cultural object and forms of its use;

- the entry of Ukraine into the European space requires integration in the field of restoration as well, and the emergence of international certified programs for the training of specialists with recognized European diplomas and fluency in foreign languages, for such specialists, it is necessary to provide internships in restoration institutions abroad in order to familiarize themselves with the existing world experience of restoration technologies;

- the system of education of students in the direction of "Architecture" needs to be corrected, where future specialists need to be introduced to modern restoration projects in different countries of the world, examples of investment attractiveness and repurposing of objects, a positive role will be played by student internships abroad and the practice of a double diploma in the specialization "Restoration".

On the basis of these aspects, the dissertation formulates the peculiarities of the transformation of the preservation and restoration industries of Ukraine under the influence of the war, when not just the aesthetic, but the consolidating and national functions of cultural heritage as a carrier of the national identity of the Ukrainian people come to the fore.

Список використаних джерел

1. Ivashko Y., Dmytrenko A., Belinskyi S., Pabich M., Kuśnierz–Krupa D., Kobylarczyk J., Bednarz L., Kuzmina H., Kovtiukh N. (2024). The Influence of Colonial Policy on the Destruction of National Cultural Identity and Ways of Overcoming its Consequences. *International Journal of Conservation Science*. Volume 15, 2024, pp. 31-42. DOI 10.36868/IJCS.2024.si.03 {In English}
2. Ivashko Y., Dmytrenko A., Pawłowska A., Lisińska-Kuśnierz M., Krupa M., Tišliar P., Hlushchenko A., Serafin A., Shpakov A. (2024). Destruction of the Architectural Heritage as a Result of War: The Experience of Reconstruction (Conservation and Logistical Aspects) *International Journal of Conservation Science*. Volume 15, pp. 17-30. DOI 10.36868/IJCS.2024.si.02 {In English}
3. Ivashko Y., Dmytrenko A., Molodid O., Ivashko O., Molochko V., Belinskyi S., Bigaj P. (2024) The Destruction of the Established Urban Environment of Borodianka and Irpen as a Result of the Russian-Ukrainian War. *International Journal of Conservation Science*. Volume 15, issue 2, pp. 785-800. DOI 10.36868/IJCS.2024.02.03 {In English}
4. Molodid O., Kovalchuk O., Ivashko Y., Kusnierz–Krupa D., Tisliar P., Dmytrenko A., Bednarz L. (2023). Research For Banksy Mural ‘Judoki’ In Borodyanka. *International Journal of Conservation Science*. Volume 14, Issue 4, December, pp.1381-1390. DOI 10.36868/IJCS.2023.04.08 {In English}
5. Орленко М. Проблеми та методи реставрації пам'яток архітектури України (XI -початок XX століття). К., Фенікс, 2018, 336 с. {In Ukrainian}
6. Sandu I.C.A., Spiridon P., Sandu I. (2016). 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), 591-606 . {In English}

7. Spiridon P., Sandu I., Stratulat L. (2017). The Conscious Deterioration and Degradation of the Cultural Heritage. *International Journal of Conservation Science*, 8 (1), 81-88. {In English}

Молочко В.О.,

Київський національний університет будівництва і архітектури

ПРОБЛЕМИ ПІСЛЯВОЄННОЇ ВІДБУДОВИ КУЛЬТУРНОЇ СПАДЩИНИ УКРАЇНИ

У статті аналізуються розбіжності, з якими стикаються реставратори у мирний час та під час післявоєнної відбудови зруйнованих об'єктів культурної спадщини. Зазначається, що під час війни основними факторами ураження є різні види бойового озброєння, а наслідками ураження зі зброї є звичайні природні фактори негативного впливу – осідання, замокання, біообростання.

Зміни, на нашу думку, будуть такими. Оскільки основні причини аварійного стану пам'яток культурної спадщини під час війни принципово відрізняються від причин аварійного стану в мирний час, а досвід негативного впливу сучасних видів зброї на характер руйнування тільки починає накопичуватися, слід відзначити, що основні причини аварійного стану пам'яток культурної спадщини принципово відрізняються від причин аварійного стану в мирний час. Це вимагатиме появи нових розробок, спрямованих на відновлення об'єкта архітектури після ураження авіабомбою, ракетами, безпілотниками, після артилерійського обстрілу чи вибухової хвилі.

Ймовірно, в умовах складності фінансування та обсягів руйнування об'єктів культурної спадщини першочергову увагу буде приділено видатним об'єктам, руйнація яких була спричинена війною і сам факт їх існування залежить від швидкості їх відновлення, тому експертні системи за принципом «якщо-то» слід розробляти в першу чергу на прикладах руйнування різних конструктивних схем від авіабомб, ракет різних типів, безпілотників та їх уламків, артилерії, вибухової хвилі.

Величезний прогнозований обсяг реставраційних робіт вимагає кардинального перегляду ставлення до культурної спадщини лише як до джерела витрат на утримання та використання зарубіжного досвіду зміни інвестиційно-правових підходів до форм власності на культурний об'єкт та форм його використовувати.

Входження України в європейський простір потребує інтеграції й у сфері реставрації, а також появи міжнародних сертифікованих програм підготовки спеціалістів із визнаними європейськими дипломами та вільним володінням іноземними мовами, для яких необхідно забезпечити стажування в

реставраційних установах за кордоном з метою ознайомлення з існуючим світовим досвідом реставраційних технологій.

На основі цих аспектів у дисертації сформульовано особливості трансформації охоронно-реставраційної індустрії України під впливом війни, коли не лише естетична, а і консолідуюча та національна функції культурної спадщини як виразника національної самосвідомості українського народу.

Ключові слова: виклики; післявоєнна відбудова; культурна спадщина; Україна.

REFERENCES

1. Ivashko Y., Dmytrenko A., Belinskyi S., Pabich M., Kuśnierz–Krupa D., Kobylarczyk J., Bednarz L., Kuzmina H., Kovtiukh N. (2024). The Influence of Colonial Policy on the Destruction of National Cultural Identity and Ways of Overcoming its Consequences. *International Journal of Conservation Science*. Volume 15, 2024, pp. 31-42. DOI 10.36868/IJCS.2024.si.03 {In English}
2. Ivashko Y., Dmytrenko A., Pawłowska A., Lisińska-Kuśnierz M., Krupa M., Tišliar P., Hlushchenko A., Serafin A., Shpakov A. (2024). Destruction of the Architectural Heritage as a Result of War: The Experience of Reconstruction (Conservation and Logistical Aspects) *International Journal of Conservation Science*. Volume 15, pp. 17-30. DOI 10.36868/IJCS.2024.si.02 {In English}
3. Ivashko Y., Dmytrenko A., Molodid O., Ivashko O., Molochko V., Belinskyi S., Bigaj P. (2024) The Destruction of the Established Urban Environment of Borodianka and Irpen as a Result of the Russian-Ukrainian War. *International Journal of Conservation Science*. Volume 15, issue 2, pp. 785-800. DOI 10.36868/IJCS.2024.02.03 {In English}
4. Molodid O., Kovalchuk O., Ivashko Y., Kusnierz–Krupa D., Tisliar P., Dmytrenko A., Bednarz L. (2023). Research For Banksy Mural ‘Judoki In Borodyanka. *International Journal of Conservation Science*. Volume 14, Issue 4, December, pp.1381-1390. DOI 10.36868/IJCS.2023.04.08 {In English}
5. Orlenko M. *Problemy ta metody restavratsii pamiatok arkhitektury Ukrainy* ({XI -pochatok XX stolittia). K., Feniks, 2018, 336 s. {In Ukrainian}
6. Sandu I.C.A., Spiridon P., Sandu I. (2016). 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), 591-606 . {In English}
7. Spiridon P., Sandu I., Stratulat L. (2017). The Conscious Deterioration and Degradation of the Cultural Heritage. *International Journal of Conservation Science*, 8 (1), 81-88. {In English}