

KHARKIV ARCHITECTURAL HERITAGE IN THE 19TH-20TH CENTURIES STANDS IN THE PERIOD OF THE NEWEST CHALLENGES OF MODERNITY

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Abstract

Preservation of the nation's cultural code is a very urgent issue. This issue is especially acute during armed conflicts. Today, during the Russian-Ukrainian war, Ukraine is losing its outstanding historical and cultural heritage of cities. One such city is Kharkiv, which concentrates significant cultural, economic and industrial potential. It has an exceptional historical and architectural environment, formed by famous architects of different eras, including the late 19th-early 20th centuries. For Ukraine in the conditions of the Russian-Ukrainian war, as a state with a rich and unique cultural heritage, the issue of developing effective mechanisms and methods for preserving historical heritage is very urgent. It is extremely important to form a register and photograph destroyed and damaged monuments, use modern technologies to preserve historical and architectural heritage at least in digital format for future generations; monitor losses and damage using satellite images; training of professional specialists. It is important to explore the world's experience in resolving these issues in situations of armed conflict.

Keywords: Architectural heritage; Cultural heritage; Kharkiv, Historical and cultural monuments; Historical buildings; Military actions; Damage

Introduction

Since ancient times, mankind has thought about the issue of protecting cultural monuments during armed conflicts. For example, the Chinese commander and thinker Sun Tzu (Sūn Zǐ bīngfǎ), in his work “The Art of War,” said that during war nothing should be destroyed without urgent need: “The best thing is to preserve the enemy's state intact” [1]. But the rejection of other people's views, ideas and opinions leads to the deliberate destruction of cultural heritage sites. As Francois Bugnion, Director of the Department of International Law and Cooperation within the International Committee of the Red Cross movement, notes, the purpose of destroying monuments is “...to kill the human soul, its history, culture and religion, in order to subsequently erase all traces of its existence...” [2]. So, the otherness of culture is used by the aggressor country as a justification for its own criminal actions. This allows us to say that the destruction of cultural heritage sites, which is carried out with the aim of destroying

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the history and culture of the people, is a terrorist crime that undermines peace and international security.

Over the centuries, Ukrainian culture fought with titanic efforts for the right to establish and preserve its own national identity. Many monuments of Ukraine's architectural heritage are of global importance and are included in the UNESCO World Heritage List. However, today, as a result of the Russian armed aggression, Ukrainian cities are undergoing considerable destruction. Russia is a party to the Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict (The Hague, 1954). But at the same time, it systematically destroys civilian buildings in Ukrainian cities. Architectural monuments in Kharkiv, Chernihiv, Mariupol, Sumy, Odesa, Kyiv and other Ukrainian cities and towns are being destroyed. As a result, the outstanding historical and architectural heritage of Ukraine is being lost.

As of November 2024, 1,179 cultural heritage objects in Ukraine have been destroyed or damaged as a result of the Russian-Ukrainian war. To date, cultural monuments in 18 regions of Ukraine have been damaged. Cultural monuments in the Kharkiv, Donetsk and Kherson regions were most affected, in particular in the Kharkiv region – 315 [3].

Kharkiv is known for its magnificent architectural heritage, which includes buildings from different historical periods. Kharkiv is a city that has suffered considerably from shelling since the very beginning of the full-scale invasion. And its historical and architectural heritage has been the object of numerous missile attacks, threatening its existence and leading to significant destruction. Exact statistics on the lost buildings will be available after the war. Some of the destroyed buildings are architectural monuments of local and state importance. This sad statistic is constantly growing. Almost every day, Russia shelled the city, which is the second largest after Kyiv, the former capital of Ukraine, a big scientific, cultural and industrial center. This is a city where outstanding architects—innovators with world names, including Russian ones—worked. Architectural monuments of Kharkiv are pearls without which it is impossible to imagine the city. This is the history hidden behind the facades of old Kharkiv buildings. Together they create a unique, unrepeatable architectural environment of the city. Damage to architectural monuments has led to irreparable losses, which are difficult to measure not only in financial terms but also in terms of loss of cultural and historical value. Many of these structures, which have become city symbols, may be completely lost. Their recovery may require considerable effort and finances.

One such sad example is the Palace of Labor, also known as the Profitable Building of the Insurance Company “Russia.” It is one of the largest buildings in the central part of Kharkiv. It occupies an entire quarter in the very center and is a symbol of the city. The seven-story building with three courtyards is one of the most valuable architectural monuments of local importance in the neoclassical style. The building was built according to the design of the St. Petersburg architect Ippolit Pretro in 1914-1916. In March 2022, the Palace of Labor building was hit by a missile strike by Russian troops. As a result, the upper floors, roof and windows were destroyed over a significant area (Fig. 1).

So, now in Ukraine there is an urgent issue of conducting a detailed analysis of losses, destruction and damage in cities that are regularly shelled. This also applies to the territories that are free from occupation. It is necessary to digitize preserved architectural monuments. Since the buildings that function today and decorate the city, creating a historical flavor, may be lost forever tomorrow. And the lack of comprehensive information about the memorials will not make it possible to carry out their further full recovery and restoration. It is also important to conduct a special scientific study dedicated to this problem, which requires urgent updating.



Fig. 1. The Palace of Labor building in Kharkiv, architect I. Pretro, 1914–1916:
a – the state of the building before the start of Russia’s full-scale invasion of Ukraine [4];
b – the state of the building after the missile strike on March 2, 2022 [5]

Materials and methods

The objects of the study were architectural monuments of local and state importance in the city of Kharkiv from the late 19th to early 20th centuries, which were destroyed during the Russian-Ukrainian war. The following materials were used for the analysis and research: archival materials of various historical periods, photographs, texts of historical publications, scientific articles and Internet sources.

The research methodology includes the use of the following methods:

- Empirical research methods, such as observation and comparison;
- Historical and architectural methods for identifying the history of the formation and development of architectural heritage objects of the city of Kharkiv;
- Analytical methods for systematizing available scientific, archival and literary sources, based on which the features of the architectural formation of objects in the structure of the city and their current state are revealed;
- Visual analysis – based on the serial visions, study and comparison of the objects under study.

In previous publications, the authors extensively cover the architecture of Ukraine from different periods [6-12] and its national traditions in this field [13-16], including the issues of the formation of Kharkiv’s architecture in the late 19th and early 20th centuries [17, 18], the preservation of Ukraine’s architectural monuments [19, 20] and the formation of building interiors [21].

Results and discussion

The architecture of Ukraine in the 19th–20th centuries developed in the context of the development of capitalist reforms, the territorial disunity of Ukrainian lands, changes in the social sphere and the politicization of public life. This contributed to the formation of new architecture, new forms. This was reflected in modern, previously unknown spatial planning, style and artistic and compositional solutions. They proved themselves in construction through the latest designs, building materials and applied methods. The new architecture required the construction of new types of structures. When designing them, architects introduced new scientific and technical achievements, ideas that reflected complex changes in the economic and socio-political life of the country.

The above processes contributed to the development of the city of Kharkiv as a significant industrial hub, in which important cultural, socio-political, industrial and economic changes took place at the beginning of the 20th century. Several large districts were formed in the city, which had their own functional differentiation. There are the historical center (University Hill, Mykolaivska and Pavlovska Squares and Sumska Street), a new shopping center in the Zalopanskyi part (Pryvokzalna Square, Katerynoslavska and Blahovishchenska Streets) and an industrial district near the Balashivska railway station [22].

The central district of Kharkiv developed as a financial, administrative and cultural center. It acquired a distinctive composition created by a system of squares that passed one into another. The historical center of the city was built up with large banks, hotels and apartment buildings. It expanded and took on a new architectural scale. This dynamic composition created the distinctiveness and originality of the center and gave it an imposing appearance. During the reign of the Russian Empire on the lands of the Kharkiv Region, the city was actively developed by Ukrainian and foreign architects. Among them were Boleslav Mykhailovsky, Oleksii Beketov, Serhii Tymoshenko, Oleksandr Ginzburg, Oleksandr Rzhepishevsky, Viktor Estrovych, Mykhailo Piskunov, Viktor Velychko, Serhii Tymoshenko etc. These and other architects testified to the great potential and real achievements of the architectural school that had developed here at that time. It gave the city of Kharkiv its own distinctive features and unique architectural flavor. And the stylistics of neo-Renaissance, neoclassicism, neo-Baroque, modernism and other styles of the turn of the 19th and 20th centuries confirmed the entire diverse range of searches for architectural expressiveness.

The key role in the formation of the main squares and ensembles of the city at the turn of the 19th and 20th centuries belongs to the city's most legendary architect, Oleksii Beketov. As Maksym Rozenfeld notes in his work, O. Beketov is spoken of not only as an outstanding architect but also as one of the most famous and prominent Kharkiv' residents. The buildings built according to Oleksii Beketov's designs belong to the city's "golden fund." His authority in the professional environment is undeniable. He was a true academician – a wise, talented scientist [23]. Oleksii Beketov made a significant contribution to the formation of a new type of building for that period – banks. He was an outstanding architect, professor of the St. Petersburg Imperial Academy of Arts and academician of architecture. He left behind a wide range of scientific works, stood at the origins of architectural education in Ukraine, conducted active scientific and teaching activities and educated a galaxy of young architects.

According to the designs of Oleksii Beketov, about forty buildings were erected in the central squares and streets of Kharkiv. They still determine the character of the development of the main ensembles of the city today. These buildings are characterized by monumentality, magnificent proportions, expressive plastic details and impeccable functionality. Most of Oleksii Beketov's buildings are now architectural monuments and are under state protection.

Four monumental bank buildings, designed by Oleksii Beketov, still define the architectural appearance of one of the main squares of Kharkiv – Konstytutsii Square (formerly

Mykolaivska Square). These buildings are architectural monuments. Three of them were damaged during shelling:

- Azov-Don Commercial Bank (1894–1896). The building was rebuilt in 1915 by architect and chief engineer L. Terven without the participation of O. Beketov. The glazing of the building was damaged;
- Land Bank (1896–1898). Now there is an educational building of the State Motor Transport College. Partially lost glazing;
- Commercial Bank (1898–1899). Today there are various commercial organizations here; no damage to date;
- Volga-Kama Bank (1907). Now it is the State Academic Puppet Theater named after V. Afanasyev (Fig. 2); the building's glazing was damaged.

When designing the Land Bank, architect Oleksiy Beketov developed the interiors, their decoration and finishing in detail (Fig. 3). These interiors, unfortunately partially changed by Soviet symbols, have been preserved to this day.



Fig. 2. Bank buildings on Konstytutsii Square in Kharkiv (former Nikolaevska Square), built according to the design of the architect O. Beketov (from N. Novoselchuk's scheme, using open sources)

The Kharkiv State Scientific Library named after V. Korolenko (1889–1901), which was built according to the design of Oleksii Beketov (Fig. 4), was destroyed. He designed it free of charge. The functional organization of the building was worked out by the architect flawlessly. The building had a clear and expressive volumetric and spatial composition. It was determined by the functional connections of the premises of the reading rooms, the staircase hall, the book depository, offices and catalogs. The main reading room, with an area of 365sq.m. for 300 seats, occupied the corner volume of the second floor. The main staircase led to the large reading room for 300 seats and was illuminated by overhead light. The interior of the reading room had a ceremonial solution. A large book depository bordered the hall directly. It was equipped according to the so-called “store system.” According to it, books stood in six rows on

open shelves, made in the form of double-sided, multi-tiered metal shelves running through seven floors. The floors of the book depository were connected to each other by metal stairs. Therefore, any book could be taken out and put in place without a ladder. In 1906, on the initiative of Dmitro Bahalii, the rector of the Imperial Kharkiv University, a Ukrainian department appeared in the library. Here, works of Ukrainian writers were collected and scientific work was carried out. As a result of the shelling, the library's unique archive and the destroyed glazing were damaged.

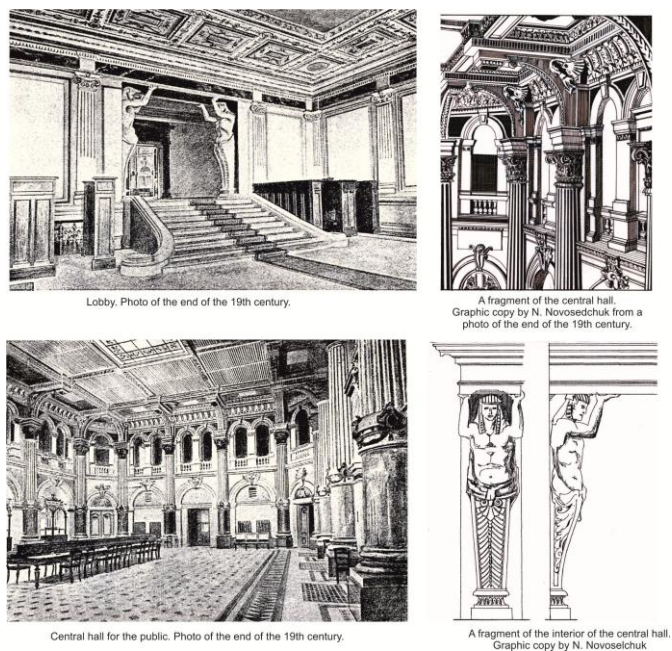


Fig. 3. Interior of the Land Bank building in Kharkiv (1896–1898, O. Beketov) [17]. The scheme by N. Novoselchuk

The Judicial Institutions Building (1899–1902) was the largest court building in the empire. It was built according to the design of Olexii Beketov with the participation of Yulii Tsaune and Volodymyr Khrustalov. The facade of the building combined traditional features of classicism with neo-Renaissance details. The building had a symmetrical layout, close to an almost square shape (90m×80m) and two courtyards located on either side of the main axis.

Beketov's student Vasyl Krychevskyi took part in the design of the facades and interiors of the building. The building has not changed its functional purpose. Today it is the Kharkiv Court of Appeal. The design of all the main rooms of the Judicial Institutions Building was designed in the neo-Renaissance style with elements of classicism. Traditional features of classicism were combined with Renaissance details in the design of the facades of this building. The architect designed the interiors of the office of the head of the court chamber and the public meeting hall. The furniture was made according to drawings and templates under the personal supervision of O. Beketov.

One of the most famous buildings, where the original, luxurious interiors have been preserved, is the House of Scientists in Kharkiv (1896–1897, Fig. 5). In the past, it was the mansion of the Beketov family. As a result of Russian missile strikes in March 2022, the House of Scientists was damaged. The unique stained glass window, created in Germany according to the sketches of O. Beketov, was completely destroyed, the roof, ceiling paintings and stucco in the main hall were damaged and the windows were broken.

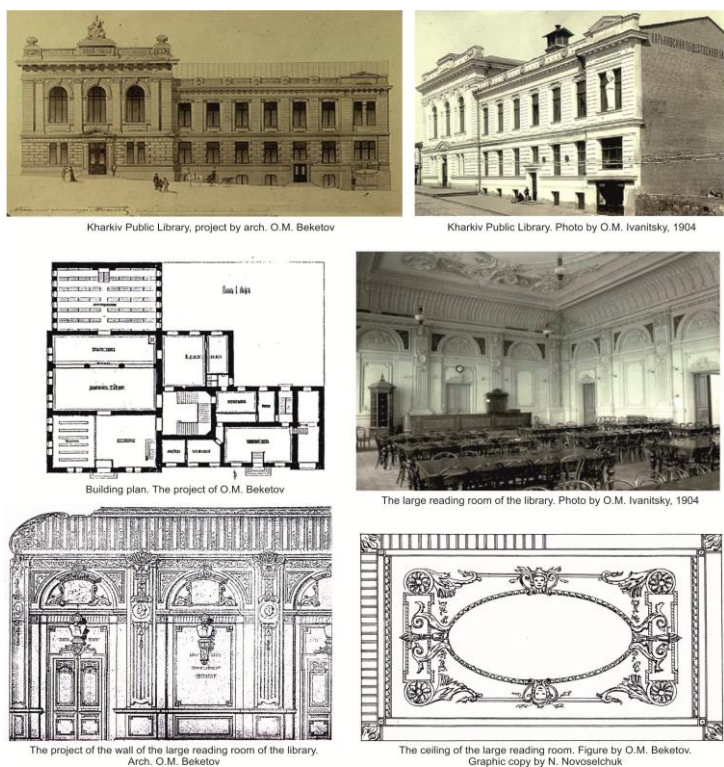


Fig. 4. City Public Library in Kharkiv (1889–1901, architect O. Beketov) [17].
The scheme by N. Novoselchuk

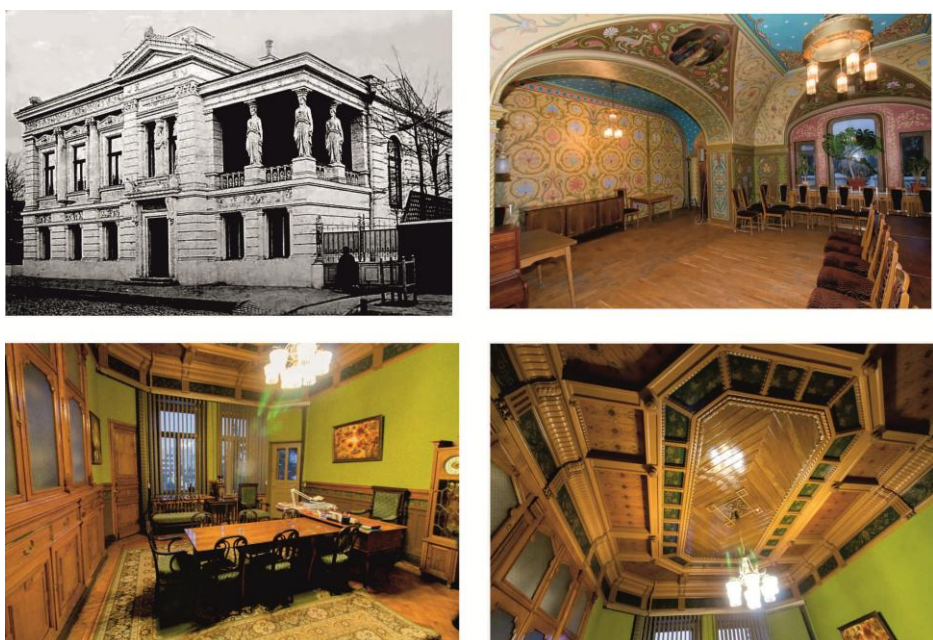


Fig. 5. House of Scientists in Kharkiv (1896–1897, architect O. Beketov) [24]

One of the famous buildings of the city, which is an architectural monument and has significant cultural and semantic significance, is the V.N. Karazin Kharkiv National University. Founded in 1804 on the initiative of the outstanding educator Vasyly Karazin, it is the second oldest university in Ukraine. Thus, the building of the Faculty of Economics has a rich history and was built in the style of Ukrainian architectural modernism by architect Serhii Tymoshenko (presumably). He was one of the founders of this style. The building was completed by architect Pavel Kushnaryov in the 1920s as the People's Commissar of Labor. The blow to the building of the educational institution, which survived the Second World War and the occupation of Kharkiv, fell in March 2022 (Fig. 6). As of March 22, 2022, according to the university's press service, there was not a single undamaged building left. But after the war is over, it can and should be restored.

Another outstanding landmark of the city and the most striking example of Ukrainian architectural Art Nouveau in Kharkiv is the building of the Kharkiv State Academy of Design and Arts (1911–1913, architects K. Zhukov and M. Piskunov). This is the building of the former Kharkiv Art School (Fig. 7).



Fig. 6. The building of the Faculty of Economics of the V.N. Karazin Kharkiv National University, 1916–1926, architect P. Kushnaryov: a – the state of the building before the missile strike [25]; b – the building during the Second World War [25]; c – the building destroyed by a missile strike in March 2022 [25]; d – the state of the building from the inside after the destruction [26]

It combined the achievements of the folk heritage of the western regions of Ukraine and Art Nouveau. The building belongs to the decorative-romantic trend of Ukrainian Art Nouveau. It has a low, active, expressive and original silhouette. The interior of the building was modest and had a well-thought-out organization of space, well-lit offices and halls [13]. The building's tiled roof and stained glass windows were damaged during Russian shelling in 2022.

At the time of writing, in October 2024, a direct hit by a Russian missile destroyed three floors of one of the most prominent objects in Kharkiv – the State Industry building (Derzhprom, 1925–1928, architects M. Felger, S. Serafimov and S. Kravets). This is a 13-story

skyscraper—a monument of architecture in the constructivist style, located in the very center of Kharkiv on Svobody Square



Fig. 7. The building of the Kharkiv Art School, architects K. Zhukov and M. Piskunov, 1911–1913: a – general view, photo by S. Taranushenko [13]; b – a fragment of the facade [27]; c – a fragment of the facade [13]

The Derzhprom building, like the entire quarter around it, is the most prominent historical and cultural heritage. In 2017, Derzhprom was included in the Tentative List of UNESCO World Heritage Sites. After that, it is expected to be included in the main list. Last year, UNESCO included Derzhprom in the list of objects of enhanced protection.

Within one article, it is difficult to dwell on all the architectural monuments of Kharkiv from the turn of the 19th–20th centuries. This is only a part of the city’s architectural monuments that were damaged during the shelling. Currently, Ukraine needs to work on compiling registers of destroyed and damaged architectural monuments to be able to apply the procedures for their repatriation and compensation in the future.

Currently, a single register of damages is being formed in Ukraine, which includes detailed information about all cultural heritage objects, including architectural monuments, that have been destroyed. Besides that, at the initiative of the Ministry of Culture and Information Policy of Ukraine, an electronic database of destroyed cultural heritage is being maintained (culturecrimes.mkp.gov.ua). Witnesses of destruction from all regions of Ukraine can submit information and send relevant photo and video evidence. This register lists destroyed archives, libraries, architectural monuments, historical buildings, religious buildings, museums and sculptures. In addition, the Ukrainian Institute is conducting the “Postcards from Ukraine”

project. Its goal is to fix and demonstrate the damage caused to Ukrainian culture as a result of bombings and shelling.

The 1954 Convention for the Protection of Cultural Property in the Event of Armed Conflict provides that parties to a conflict are obliged to respect and protect them and to prohibit and put an end to any acts of theft or misappropriation of cultural property in any form, including any acts of vandalism. During military operations, parties must take special precautions to avoid damage to cultural heritage and cultural property. The exception is the conversion of monuments into military facilities [28].

The deliberate destruction of cultural heritage and cultural property that is a civilian object is classified as a war crime by the 1998 Rome Statute [2]. This may be subject to consideration by the International Criminal Court or a separately established tribunal. In Ukraine, despite all the adopted international documents, war crimes continue to be committed by the aggressor state. Cases of export of cultural values from Ukraine are also widespread.

It should be noted that one of the reliable modern methods of restoring an architectural monument is its laser scanning. Yes, thanks to this method, carried out in advance, the restorers of Notre Dame de Paris hope to completely recreate this masterpiece.

In the current realities of Ukraine, digitization of cultural heritage is a vital strategy. It will make it possible to preserve, at least in digital format, the historical and architectural heritage and the memory of its past for future generations. Using scanning and modeling, we can create a digital passport of an architectural monument. It is possible to digitally restore the decor and create digital passports during restoration. During reconstruction and restoration, data from such a passport can be converted into a physical object. Also problematic in our time is the restoration of complex ornaments on the facades of historical buildings. But a new technique using 3D printing allows you to create and embed elements of facade ornamentation at low cost. 3D printing allows you to get perfect details the first time. An example is the experience of architects from New York. They used 3D printing during the restoration of a historical building from the 1940s, which almost fell under demolition. The unique facade was restored using 3D-printed forms. Before that, the facade was digitized using a 3D scanner and the resulting models were adjusted in 3DS Max and Rhino. This project had a clear goal – to expand the capabilities of restoration architects and find a way to restore and preserve historical and architectural heritage (Fig. 8).

Thus, the restored decorative elements of the architectural object will have the “touch of old masters” instead of the refinements and conjectures of modern sculptors. Thus, specialists from the company “Skeiron” work in Ukraine on a volunteer basis. They have already scanned more than 100 cultural monuments in Ukraine and abroad [31].

Unlike ordinary buildings, monuments cannot simply be demolished and something new built on their site. They must be restored. However, a number of problems of various natures arise here. Today, it is urgently necessary to approve a simplified procedure for stabilizing immovable cultural heritage objects and the possibility of urgently performing emergency and conservation work on such sites. At an international forum held in December 2023 in Kyiv, the creation of a concept for a strategy for the preservation of monuments, historical and cultural objects and territories was initiated. It was decided that the restoration of architectural monuments of national importance would be a priority.

The forum reached an agreement on the conclusion of a Memorandum of Cooperation between the Ministry of Culture and the All-Ukrainian Association for the Protection of Cultural Heritage with the aim of restoring the cultural heritage of Ukraine after the war. The enemy’s attack led to the massive destruction of cultural heritage sites throughout the country. The preservation of these sites is becoming a matter of national security, as the enemy is trying to destroy our cultural code.

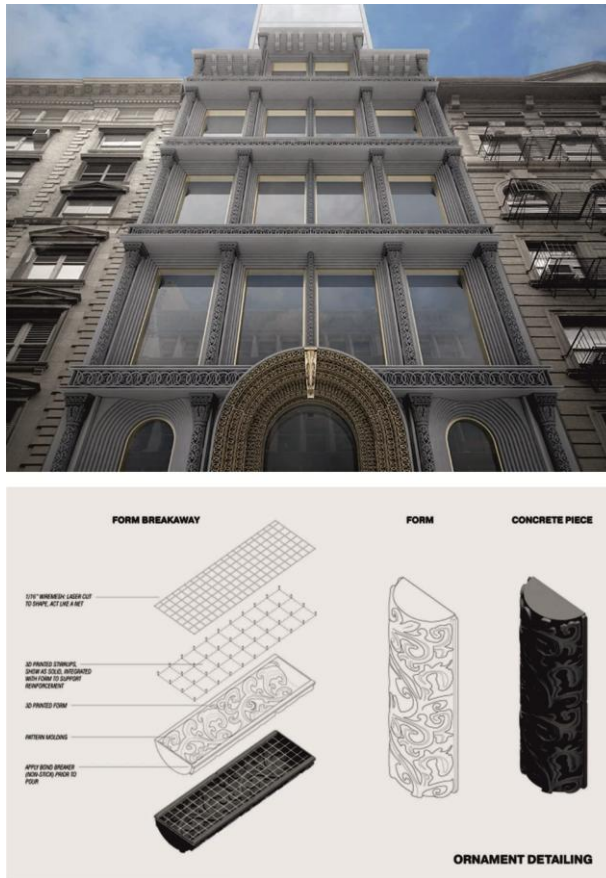


Fig. 8. Ornament reproduced using additive technologies during the restoration of a historic 1940s building in the USA on Fifth Avenue, 2018 (EDG Architects) [29], photo by EDG [30]

According to the head of the All-Ukrainian Association for the Protection of Cultural Heritage, Oleksandr Nikoryak, “we need to act immediately, right now. We are gathering all representatives of the professional community to help and cooperate with the state in saving our cultural heritage. First of all, we must consider the fate of monuments of national importance and the costs of heritage should become part of reparations” [32].

Conclusions

Ukraine is a country with a rich and unique cultural heritage. Therefore, it is important for it to develop effective mechanisms and methods for preserving architectural heritage, especially in the conditions of the Russian-Ukrainian war. It is necessary to form a register and serial visions of the destroyed and damaged architectural monuments. An element of the post-war reconstruction of Ukrainian cities should be compensation for losses by the aggressor country as a result of their destruction and destruction.

The lack of preventive measures following the 1954 UNESCO Convention is a serious obstacle to the effective preservation of architectural heritage during war. Therefore, preparatory measures that Ukraine should have developed at the beginning of the war could be important. The most important of these are:

- Preparation of registers, including in digital format;

- Ensuring easy access to them by the relevant authorities and agencies;
- Ensuring the possibility of proper local protection;
- Planning emergency measures to protect against fire, structural damage, or structural collapse of architectural objects and the designation of a competent civil authority responsible for the object preservation.

As of today, there are many international and Ukrainian initiatives for the preservation of architectural heritage. The entities that provide such support are diverse and numerous. Among the initiatives aimed at the preservation of architectural heritage are monitoring of losses and damage using satellite images (UNESCO, SCRI and ICCROM specialized program), formation of registers of architectural heritage objects and training of professional specialists. It is important to focus on the stage of heritage restoration and to explore global experience in situations of armed conflict. Restoration projects should pay more attention to post-conflict memory.

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