

DESTRUCTION OF THE ARCHITECTURAL HERITAGE AS A RESULT OF WAR: THE EXPERIENCE OF RECONSTRUCTION (CONSERVATION AND LOGISTICAL ASPECTS)

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Abstract

The article is devoted to the current topic of the destructive impact of wars on the state of historical and cultural heritage. The vulnerability of architectural monuments to the chaos of war was evidenced by the recent events of the war in Ukraine. The thesis of the article is illustrated by examples of the destruction of specific objects in Chernigov. As any war comes to an end and the question of reconstruction and restoration of the destroyed is raised, the experience of rebuilding the Old Town in Warsaw, which officially introduced a new direction in the restoration activity – restitution, is analysed, and the fate of museum collections in Slovakia is also analysed. The presented good conservation practices and their results in the reconstruction of Warsaw's historical monuments can be used in the development of detailed action plans for the reconstruction of objects related to the national heritage of Ukraine. It also seems expedient to use the principles of urban logistics when analysing and designing, and then implementing the assumptions of the operation of reconstructed historic cities.

Keywords: Destruction; Architectural heritage; War; Reconstruction; City logistics; Ukraine; Poland; Slovakia

Introduction

Historical experience shows that wars not only become a tragedy for peoples, causing migration, economic, political, social crises, but also destroy and destroy the historical and cultural heritage. Recent events in connection with Russia's brutal attack on Ukraine and its escalation into a full-scale war with thousands of casualties and mass destruction have shown how vulnerable material objects are from this point of view – modern buildings and architectural monuments. The war in Ukraine is still going on, but we can already talk about

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thousands of damaged and destroyed historical sites in many regions of Ukraine. That is why, even before the end of hostilities, there is a need to objectively analyse the situation, based on the experience of the destruction of previous wars and ways to rebuild destroyed facilities.

The main purpose of the article is as follows: to draw the attention of the world community to the destruction of Ukraine's historical and cultural heritage, to assess the extent of destruction and based on the analysis of existing world experience to determine what can be successfully used in post-war reconstruction of Ukraine. From this point of view, the Polish experience of rebuilding the Old Town in Warsaw is a valuable experience, which opened and legalized a new direction in monument protection and restoration – restitution. Thanks to the experience of rebuilding the Old Town, it became legally possible to rebuild in Ukraine partially destroyed and destroyed in the 1930s and during the Second World War Kyiv shrines – St. Michael's Golden-Domed Monastery, Assumption Cathedral of the Kyiv-Pechersk Lavra, Church of Our Lady of Pyrohoshcha and St. Volodymyr's Cathedral in Chersonesos.

The destruction caused by the war with Russia affected the architecture of all historical periods. As an example of historical architecture of world, national and regional value, the destroyed and damaged monuments of Chernihiv were used (Fig. 1), as an example of Soviet-era architecture and new architecture – objects in Mykolayiv region (Figs. 2 and 3).



Fig. 1. The destroyed courtyard facade of Tamowski's mansion in Chernihiv

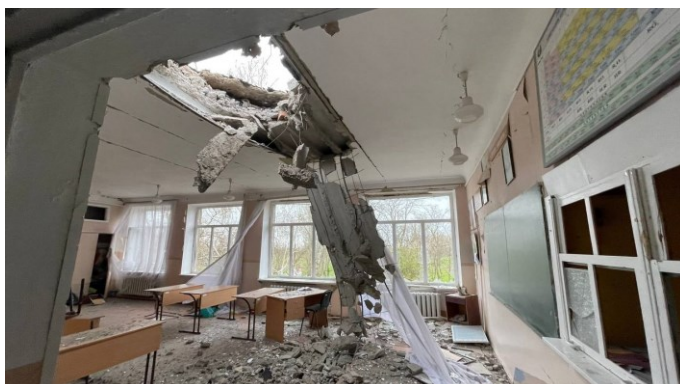


Fig. 2. The destroyed school of the Soviet era in the Mykolaiv region [Photo by S. Belinskyi]



Fig. 3. The destroyed Orthodox church in Mykolayiv Region [Photo by S. Belinskyi]

According to the objectives of the study, scientific sources on the following issues were developed:

- 1) general aspects of historical and cultural heritage protection and museology [1-4];
- 2) protection of Ukraine's historical and cultural heritage and specifics of historical cities development [5-14];
- 3) wooden architecture, its features, specifics of restoration measures [15-23];
- 4) artistic aspect in restoration activities [24, 25];
- 5) influence of natural environment on the perception of architectural style [26, 27];
- 6) specificity of professional training of restorers [28];
- 7) Polish experience of restoration [29-31].

Materials and methods

The set tasks determined the list of necessary general scientific methods: the method of historical analysis, the method of comparative analysis, the method of system analysis, the graph-analytical method, the method of photofixation.

The method of historical analysis allowed to illuminate the history of the described destroyed objects and prove their value, the method of comparative analysis allowed to compare the scale of destruction and thus predict the scale of measures to rebuild objects, the method of systematic analysis allowed to systematize existing similar experience of historical and cultural heritage to argue the possibility of its application in specific conditions, the graph-analytical method and the method of photofixation allowed to bring the theoretical statements to the visual basis. Photo-fixation was performed directly by the authors of the article – in Chernihiv – Artem Hlushchenko, in Mykolayiv region – Serhii Belinskyi.

Results and discussion

Analysis of the destruction of brick architectural monuments in the Chernihiv region and Chernihiv

Constant rocket and artillery shelling by Russia of the territories of the regions of Ukraine has led to mass destruction of critical and transport infrastructure, utilities, housing,

and public facilities. Historical and cultural heritage sites have also been severely damaged and destroyed. Indicative in this respect is the example of Chernihiv region, which is one of the most affected by hostilities in Ukraine and at the same time occupies one of the first places in Ukraine in the number of architectural monuments that are of exceptional historical, architectural, artistic, and scientific value not only for area, but also for the country as a whole [7]. In total, there are 135 architectural monuments of national and 175 local significances. The high architectural and artistic level of objects and their concentrated location is evidenced by the unification of some monuments into reserves, of which there are 3 in the region: National Historical and Cultural Reserve “Hetman’s Capital”, National Architectural and Historical Reserve “Ancient Chernihiv”, National Historical and Cultural Reserve “Kachanivka”. The Department of Urban Planning and Architecture of the Chernihiv Regional State Administration deals not only with the preservation and protection of the historical and cultural heritage of the Chernihiv region – its competence in modern conditions includes the coordination of all measures for the post-war restoration of monuments.

We will consider the problems of destruction caused by the war on the examples of some outstanding brick architectural monuments of Chernihiv – Tarnowski’s mansion, the former Chernihiv branch of the Noble and Peasant Land Bank, as well as the walls of the Yeletskyi monastery. These outstanding objects represent the entire unique architectural and stylistic palette of ancient Chernihiv – Yeletskyi monastery has a history dating back to Kyivan Rus and reached its peak in the Cossack Baroque era, Tarnowski’s mansion is an example of historicism-eclectic architecture of the late 19th century, the former bank building is a rare example of “northern national romanticism” – “northern Art Nouveau” in Ukraine [7, 9, 10, 13].

Yeletskyi monastery has a rich history dating back to the 12th century, when it was founded, and the Assumption Cathedral was built on its territory. Subsequently, the cathedral was radically rebuilt in 1668–1670 – during the reign of the Cossack Baroque [25]. In the times of Kyivan Rus it was a three-nave six-pillar three-apse brick church with one dome measuring (with apses) 20 x 30m. In the first tier in the southern part of the narthex there is a baptistery with an apse, which protrudes into the nave, the northern and southern parts of the choir were covered with domed vaults. Originally, the facades of the cathedral were decorated with angular blades and pilasters with half-columns, later transformed into creped pilasters. At the level of springings of arched gable and under the cornice of the original dome there is a decor of arches and a decorative band made of brick angles protruding from the masonry. As a result of significant reconstructions of the original structure of the Assumption Cathedral in the 1670s, the southern, northern, and western porches were dismantled and two-tiered baroque domes and one baroque dome over the ancient Kyivan Rus dome were erected over the central apse and choirs. The Assumption Cathedral is rightly considered a masterpiece of the Chernihiv school of Kyivan Rus architecture of the feudal fragmentation period [14].

The period of historicism-eclecticism of the 19th century in Chernihiv is represented by the Museum of Antiquities – Tarnowski’s mansion, where until recently the youth library was located (Fig. 4) [13]. The museum is part of the rich history of patronage in the Chernihiv region: it was opened in 1902 based on Vasyl Tarnowski’s private art collection of artifacts. It is a one-storey building, the facades of which are divided by vertical pylons in the pillars between the large elongated pointed windows. Niches on the side facade and window openings are completed by lancet arches. The walls of the facades are completed by a stucco decoration in the form of a strip, and a patterned brick parapet runs along the top of the walls.

The mansion was destroyed because of the bombing by Russian troops on the night of March 11, 2022, and the fall of a bomb nearby. Preliminary inspection of the monument and the extent of destruction at the end of May 2022 showed the destruction of part of the walls of the courtyard facade, brick plinth of the courtyard building with a concrete pavement around, destruction of a gable rebate roof, emergency exit doors, lancet windows of the courtyard facade with frames and glazing (Fig. 1). The internal architectural and structural elements –

walls, ceiling, floor, decor elements – were also destroyed. In addition, the building's engineering systems were disabled. The result of the inspections was the drawing up of an act with the fixation of all visually fixed destructions and damages, as well as the conclusion of the need for more detailed inspections to determine the preservation of the load-bearing properties of architectural and structural parts.



Fig. 4. Drawings of the courtyard facade of Tarnowski's mansion

The monumental building of the Chernihiv branch of the Noble and Peasant Land Bank was erected by the Chernihiv provincial engineer D. Afanasiev according to the project of the St. Petersburg architect von Gauguin in 1910 – 1913, on the model of the Penza branch of the same bank erected during 1910 – 1911 [7].

The main facade of the Chernihiv bank branch is decorated with majolica panels of traditional northern motifs, which are erroneously referred to in the literature as Ukrainian national romanticism – Ukrainian Art Nouveau [7]. Von Gauguin himself did not come to Chernihiv, and all author's supervision was carried out by D. Afanasiev, who kept the general style of von Gauguin's project, but slightly modified the majolica inserts on the facade, really giving them a certain resemblance to majolica in the traditions of Ukrainian national romanticism. Such changes have made the Chernihiv building more different from the branches of the same bank in Penza, Samara, and Vitebsk. The Chernihiv branch began operating in February 1913.

Despite the stylistic adjustments made by D. Afanasiev, the building of the Chernihiv branch retains the main features inherent in northern national romanticism – the dynamic asymmetry of the main facade is emphasized on a large scale, monumentality, silhouette accentuated by the tower, multi-textured finishing of facades in combination with majolica inserts [7].

The destruction of Warsaw in World War II and its reconstruction as an experience for the reconstruction of Ukraine

Destruction of Warsaw

Warsaw in the 1st half of the 20th century was a large and well-developed city. Its development was primarily due to the fact that King Sigismund III Vasa moved the capital from Krakow to Warsaw at the end of the 16th century.

The modern city with the developed multidirectional potential and cultural heritage symbolizing its position in the past was destroyed on a huge scale during World War II. This destruction, carried out consistently by Nazi Germany, was carried out gradually.

By 1939, Warsaw already had a population of more than 1.3 million. The city's buildings were extensive and came from different cultural periods. 10% of the buildings were destroyed during the September campaign in 1939. Two years later, in 1941, the city suffered repeated damage because of the Soviet Union's air raids on German-occupied Warsaw. Further damage to the city's architectural structure was associated with the liquidation of the Warsaw Ghetto in 1943. At that time the north-western part of the city was destroyed. In 1944, the Warsaw Uprising took place. The two-month fighting associated with it and the subsequent collapse of the Uprising led to the destruction of more than 25% of the built-up area of left-bank Warsaw and the almost complete annihilation of the medieval fabric of the Old Town (Fig. 5).

At that time a huge historic resource of Warsaw was annihilated considering both immovable monuments (Fig. 6) and works of art belonging to the State but also in private hands [32, 33].



Fig. 5. Ruined buildings in the Old Town in Warsaw, 1945

[Photo by W. Zdziarski, Narodowe Archiwum Cyfrowe - National Digital Archive, sign. no 13-63]



Fig. 6. Ruins of Warsaw main train station, 1945

[Photo by W. Zdziarski, Narodowe Archiwum Cyfrowe - National Digital Archive, sign. no 13-67]

Reconstruction

The extensive destruction of Warsaw's urban and architectural structure (55% of buildings to be demolished and 18% to be completely repaired in the left-bank part of the city, and 30% to be demolished and 11% to be repaired in the right-bank part) entailed an urgent need for its reconstruction, which had both a practical aspect, restoring the city to life, and a national and psychological one.

The need to rebuild the city from war damage was officially postulated by a decree issued in 1945 by the National Council. The decree also established the Supreme Council for Reconstruction, the Committee for Reconstruction of the Capital and the Agency for Reconstruction of the Capital. The task of the Supreme Council for Reconstruction was to mobilize the spiritual and material resources of the entire nation for the work of rebuilding the capital. This council was to establish the principles of reconstruction and pronounce on reconstruction programs and projects. The Reconstruction Committee, in turn, was to coordinate the work of reconstruction, oversee the progress of the work and control its results. Work on reconstruction itself was to be carried out by the Agency at the President of the City of Warsaw [34].

The Agency of Reconstruction of the Capital was headed by Jan Zachwatowicz and Roman Piotrowski, supported by Jozef Sigalin and Witold Plapis (Fig. 7 and 8). At the first stage, it was decided to secure the surviving relics of the buildings and make an inventory of them. The main office was also supported by local studios, which made it possible to act on a wider scale, and the results of the work were impressive. The Agency, divided into several departments, acted as the city's urban planning studio, which also carried out all administrative, engineering and conservation work. When the city's administration was revived, the bureau's activities gradually began to be limited, with competencies within individual areas of activity (e.g. roads and bridges, urban development, conservation of monuments) began to be taken over by the appropriate bodies of the City Office [35, 36].



Fig. 7. Reconstruction of the Old Town in Warsaw, 1952 [Photo by Z. Siemaszko, Narodowe Archiwum Cyfrowe - National Digital Archive, sign. no 51-539-9]



Fig. 8. Rebuilt tenements in Warsaw's Old Town Square, 1952 [Photo by Z. Siemaszko, Narodowe Archiwum Cyfrowe - National Digital Archive, sign. no 51-541-2]

When currently analysing the work of rebuilding Warsaw after the war, several important facts and aspects should be recalled. It should be recalled that immediately after the

liberation of Warsaw from German occupation, there were proposals to leave the Old Town as a reminder of the barbarism of World War II in the form of a "permanent ruin". However, it was decided to fully reconstruct the Old Town, which was proposed and carried out by Jan Zachwatowicz. He convinced both the political authorities and the community of conservators and architects that in the case of Polish monuments destroyed by the Germans during the war, especially those in the Polish capital, full reconstruction was exceptionally acceptable. He motivated this with both patriotic arguments: "The nation and the monuments of its culture are one," as well as the fact that "Entire pages of our history, written in stone letters of architecture, have been deliberately torn out. We cannot agree to this" [37].

The plan to rebuild Warsaw was to reconstruct entire buildings and monuments from scratch - based on documentation, using all available sources, such as e.g. 18th century drawings by Canaletto [38].

The decision to introduce a uniform style, contrary to historical facts, was in part an implementation of pre-war demands. Since there were many neoclassical buildings in Warsaw, this style was considered appropriate, and the term "Stanislavski Warsaw" appears in documents [39]. Thus, efforts were made to recreate the city from Canaletto's paintings and the "New World" from the time of the Congress Kingdom [38].

The Agency for the Reconstruction of the Capital also used several urban planning proposals contained in the pre-war design for the development of Warsaw, which in 1937 was awarded at the World Exhibition "Art and Technology in Daily Life" in Paris [33].

Zachwatowicz, along with art historian and museologist Prof. Stanislaw Lorentz, was also a great advocate of rebuilding the Royal Castle in Warsaw. After many efforts, in 1971, the decision to rebuild the Castle was made. In 1979, the Royal Castle in Warsaw was transformed into a Monument of National History and Culture by a resolution of the Council of Ministers [40].

Despite the drawbacks of the extremely rapid reconstruction of Warsaw after World War II, the pioneering efforts of this major reconstruction were recognized by the world public in 1980, when Warsaw's Old Town was inscribed on UNESCO's World Heritage List. In 2011, meanwhile, the archives of the Agency of Reconstruction of the Capital were recognized as one of the most valuable examples of documentary heritage in the history of mankind and inscribed on UNESCO's Memory of the World List (Fig. 9).



Fig. 9. Old Town in Warsaw, Royal Castle nowadays

Such satisfactory results of the capital's reconstruction could only be achieved through a combination of three elements, such as architectural expertise, implementation of systemic management of reconstruction processes, and public involvement.

Slovak museums during World War II

The last war conflict, which significantly threatened the cultural and natural heritage of the Slovak Republic, took place during World War II. Every war brings not only terrible human suffering but also extraordinary material damage. They do not avoid cultural monuments either. The current territory of Slovakia belonged to the Czechoslovak Republic before the direct outbreak of World War II. Subcarpathian Russia, now an integral part of western Ukraine, was also a part of it [41, 42]. The Munich Conference of Powers seceded parts of Czechoslovakia in favour of Germany (especially on the Czech border). It was soon followed by Hungary's occupation of southern Slovakia and some parts of northern Slovakia by Poland. In March 1939, the Czechoslovak Republic was destroyed, and the Protectorate of Bohemia and Moravia was established, occupied by Germany and the proclamation of the Slovak Republic. Subcarpathian Russia was annexed by Hungary after the so-called The Little War in March and April 1939. The Slovak Republic became a subordinate German satellite, with an authoritarian government that saw many models in Nazi Germany and fascist Italy. Among other things, this was partly reflected in the perception of culture and cultural heritage. A good example was the establishment of the Military and Hygienic Museum in Bratislava, directly following the example of Nazi Germany [43]. Territorially reduced Slovakia also lost several important regional patriotic museums in southern Slovakia. It was mainly the East Slovak Museum in Košice, renamed the Rákoczy Museum during the Hungarian occupation, which had to change its scope and focus by changing its borders. Among other regional museums that have become part of Hungary by changing borders, it is necessary to mention the museums in Rožňava, Lučenec, Nové Zámky and Komárno. During the first years of the war, there were also partial relocations of museum collections in the occupied territories or inventory of the important Košice Cathedral of St. Elizabeth. These were justified mainly by protection from the approaching front and air attacks. Significant losses and damage to museum collections did not occur until the last two years of the war [44].

In 1944, the territory of Slovakia also became a legitimate target of Allied air bombing. It so happened that on June 16, 1944, the building of one of the largest museums in Slovakia, the Slovak Museum in Bratislava, was hit during the bombing of Bratislava (Fig.10).



Fig. 10. Slovak Museum after the aerial bombardment of Bratislava on June 16, 1944

The raid's aim was not a museum but the nearby Apollo refinery [45]. Nevertheless, this air-raid also captured the building of the Slovak Museum on the Danube embankment and caused significant damage, not only to the building but also to the collections. As many as 10,149 museum items were destroyed. The most important part was the archaeological (3200 pieces) and ethnographic (2633 pieces) collection. At that time, the price of destroyed items was almost 1.5 million Slovak crowns. The damage to the building was also significant. The entire roof and the top floor, where the depositories were located, burned down, and the tympanum, the façade and the statics of the whole building were partially damaged. Damage to the building calculated an astronomical sum of 12.5 million Slovak crowns. This museum experienced a similar raid on October 14, 1944, and was also hit during the crossing of the front when the German army proceeded to set fire to the museum building on April 2, 1945 [46]. Air-raids where the primary target was not museums or other landmarks, but various nearby strategic targets also took place in other Slovak cities. The museums in Nové Zámky, Nitra, Poprad, Rimavská Sobota, Kežmarok, but also others town were affected [46]. This also significantly affected many monuments.

In addition to air attacks, the crossing of the front, which took place in Slovakia from the end of October 1944 to May 1945, and the Slovak National Uprising of August and September 1944 had devastating effects on Slovakia, in which several museum buildings were affected, as well as many significant historical buildings, both sacral and civil, were already directly in that period and monument protected. In addition to the Slovak Museum in Bratislava, especially the Tatra Museum in Veľká near Poprad, the Carpathicum Museum in Poprad, which eventually merged into one museum due to war damage and losses, but also the State Museum in Nitra, the Municipal Museum in Bratislava. The museum in Zvolen and the Municipal Museum in Kežmarok, where the buildings were damaged, and the collections were destroyed and completely stolen [47]. The Slovak National Museum in Martin and the Mining Museum in Rožňava also showed significant war damage, whose collections were stolen by retreating German troops. For some time, this museum in Rožňava disappeared [48, 49].

The Slovak museums never fully compensated for the war damage caused by World War II. Although the damaged museum buildings were repaired and rebuilt, the losses on the collections, where the unique pieces and collections were located, have in many cases not been replaced to the present day.

The process of rebuilding war-ravaged Ukraine, including the preservation of the national heritage, began by giving it an international profile. The country's president was aware that without the involvement of international partners, it was impossible to implement the reconstruction and development plan.

In July 2022, an international conference on the reconstruction of Ukraine - the Ukraine Recovery Conference (URC 2022), organized by Switzerland and Ukraine, was held in Lugano, Switzerland.

The URC 2022 discussed such topics as the plan for the reconstruction and development of Ukraine (within the framework of President Volodymyr Zelensky's "United 24" initiative), how international partners will contribute to the reconstruction of Ukraine, the methods, priorities and principles of reconstruction, as well as the areas of social, economic, environmental and infrastructure reconstruction after the destruction and losses caused by the war, and the reforms possible and necessary to implement in the current situation. The final document of the Lugano Declaration stated the necessity of an inclusive approach and the application of the principle of joint responsibility in the reconstruction phase as a condition for guaranteeing the success of the measures taken [50].

It should be noted that the Reconstruction Plan (Ukraine's National Recovery Plan) is a document with as many as 24 thematic sections, only a few of which are related, and indirectly, to the reconstruction of Ukraine's historic cities from war damage. These are: " Audit of war

damage", " Construction, urban planning, modernization of cities and regions", " Culture and information policy", " Economic recovery and development" [50, 51].

The detailing of those thematic sections, included in the Restoration Plan of Ukraine, which are directly related to the operation of restored historic cities requires not only the use of good practices used in various countries for the development of recovery plans, but also new management tools. The use of such a management tool as city logistics makes it possible to include in the analytical and design work and concerning the reconstruction and restoration of damaged buildings and historic cities, a systems approach, and the resulting principle of looking through the lens of the whole, as well as the principle of coordination of activities, analysis of cost interdependencies, as well as the search for synergistic effects [52-55].

Conclusions

Recent events in the war in Ukraine have proved the vulnerability and insecurity of the historical and cultural heritage and the need to develop mechanisms for post-war reconstruction based on the analysis of similar world experience [2, 3]. Europe and the world have not known such a scale of destruction and war in general since World War II. On February 24, 2022, the phrase “never again”, which for decades had sounded like an indisputable axiom, turned into empty words behind which nothing stands.

Despite the fact that the war is still going on, it is necessary to develop comprehensive programs of post-war reconstruction and restoration of the destroyed and damaged historical and cultural heritage, based on the world-renowned monument protection and restoration documents [4]. Among them are the Venice Charter of 1964 – the International Charter for the Protection and Restoration of Immovable Monuments and Sites and the Recommendations for the Protection of Cultural and Natural Heritage at the National Level, adopted by the United Nations General Conference on Education, Science and Science. culture in November 1972 in Paris.

In parallel with the issues of restoration and restoration of the destroyed historical and cultural heritage, the question of perpetuating the heroic resistance of the Ukrainian people in the war with Russia in museums and art galleries arises.

The use of the general guidelines included in Ukraine's National Recovery Plan, as well as the analysis of foreign good conservation practices and the implementation of the principles of urban logistics, should contribute to the development of rational programs for the reconstruction and restoration of damaged historic buildings and cities.

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