

REPRODUCTION AND RESTORATION OF ICONOSTASES OF UKRAINIAN CHURCHES

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Abstract

The article is devoted to the problem of reproduction and restoration of wooden iconostases in churches of Ukraine. The experience of the "Ukrrestavratsiia" Corporation in the reproduction of unique wooden iconostases of the Baroque era in the St. Michael's Golden-Domed Cathedral and in the Dormition Cathedral of the Kyiv-Pechersk Lavra was analyzed. The purpose of the study was to analyze how the existing domestic and foreign experience can be used in the post-war reconstruction of Orthodox churches of Ukraine. The scientific novelty of the research lies in the fact that the recommendations are formed on the basis of the author's photo-fixation of objects and practical experience of restoration and reproduction of iconostases of outstanding monuments.

Keywords: *Wooden iconostases; Ukraine; Russian-Ukrainian war; Reproduction; Restoration*

Introduction

The wooden Ukrainian iconostasis is an integral part of the distinctive art of Ukraine. The period of the maximum flourishing of the Ukrainian iconostasis is called the Baroque period of the 18th century. As early as the 17th century, the process of complicating the thematic composition of the iconostasis by introducing new compositions began. It is believed that a number of subjects of the icons were borrowed from Western European art. Starting from the 17th century, the art of wooden carving of the iconostasis developed in parallel with the iconostasis painting, the maximum flowering of which occurred in the middle of the 18th century. At the end of the 18th century, during the late Baroque period, exquisite carving became almost the main element of the church iconostasis.

The active development of the art of the Ukrainian iconostasis in the 18th century was determined by external socio-political factors and the general trend of the development of national culture, art and architecture. Since sculpture is not used in Orthodox churches, the iconostasis became the main element of the interior starting from the 17th century. In the 17th century, the basic iconographic type of iconostasis with five tiers was formed, represented by

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varieties of different sizes, compositions and decoration. The versatility of this basic type consists in a clearly defined order of tiers, the location of certain defined subjects in each tier, and the completion of the iconostasis with the composition "Crucifixion with Bystanders".

Researchers note the commonality of the iconography of the Ukrainian iconostases of the 17th century with the iconography of the iconostases of some Orthodox countries, however, Stepan Taranushenko defined as authentic features the uniformity of the icons within the tier, the defined order of the images in the tiers, as an integral element – the icon of the "Holy Image of the Saviour Not Made by Hands" above the Royal gates, in the festive row – location of calendar church holidays with the "Last Supper" icon. Gradually, Holy Passion scenes appeared, where the icon of "laying on the coffin" was in the center, and the passion row itself consisted of twelve icons. The Passion row was above or below the apostolic row.

In the 18th century, under the influence of Baroque traditions, fundamental changes took place both in the painting technique and in the character of the iconostasis. Tempera painting is replaced by oil painting. The wooden carving is covered with gilding.

Wars and years of Soviet forced atheism had a negative impact on the number of preserved ancient iconostases, as hundreds of churches, both brick and wooden, were destroyed. The full-scale phase of the Russian-Ukrainian war, which began on February 24, 2022, also led to numerous destructions of objects of various functional purposes, including churches. Therefore, the reconstruction of churches and church utensils will become one of the directions of post-war reconstruction. The presented study offers a broader vision of this problem, in particular, from the point of view of aspects:

- religious (for the faithful);
- socio-political (as a symbol of the revival of Ukraine);
- cultural (reconstruction of monuments that are expressive of Ukrainian culture and self-identity, many of which have monument protection status).

Sources were studied in the following areas:

- a. general aspects of museification as a way of prolonging the life of monuments, preserving the cultural environment, perceiving architecture through the environment – articles by *P. Spiridon and I. Sandu* [1], *P. Spiridon et al.* [2], *I. Sandu* [3], *O. Sleptsov et al.* [4];
- b. methods of modeling the historical environment, a systematic approach to restoration activities – articles by *D. Giaccone et al.* [5], *M. Orlenko* [6];
- c. general aspects of restoration activities – publications by *M. Orlenko and Y. Ivashko* [7], *M. Orlenko et al.* [8], *M. Dyomin and Y. Ivashko* [9], *Y. Ivashko et al.* [10], *P. Gryglewski et al.* [11];
- d. restoration and reproduction of outstanding monuments – articles by *Y. Ivashko et al.* [12], *S. Baiandin et al.* [13], *M. Orlenko et al.* [14].

Such a review of the sources made it possible to analyze the reproduction and restoration of wooden iconostases of Ukrainian churches destroyed by the war as a component of the general process of the post-war reconstruction of Ukraine.

The experience of reproducing unique wooden iconostases gained by the "Ukrrestavratsiia" Corporation was analyzed as a separate aspect.

The topic of the article determined the purpose and task of the research. The main goal was to determine what is the domestic and foreign experience in the reproduction of wooden iconostases and what wood protection technologies can be used in the reproduction or restoration of iconostases of destroyed churches in Ukraine. The tasks of the research were as follows:

- to systematize the accumulated experience of the "Ukrrestavratsiia" Corporation in the restoration of damaged wooden fragments;
- to analyze examples of reproduction of unique wooden baroque iconostases implemented in practice by the "Ukrrestavratsiia" Corporation.

Materials and methods

The purpose and tasks of the research determined the choice of general scientific research methods. As the main ones, an analytical method was used, which made it possible to analyze the main problems of the emergency state of wood, the technologies used by Ukrainian restorers and to give suggestions for their borrowing in the reproduction and restoration of iconostases of churches destroyed by the war. A comparative method was also used to compare the execution processes of the unique iconostases in the St. Michael's Golden-Domed Cathedral and the Dormition Cathedral of the Kyiv-Pechersk Lavra in Kyiv. The photofixation method was used to fix the ruins of churches in the South of Ukraine (Fig. 1) and to fix the reproduced iconostasis of the unique churches of Kyiv.

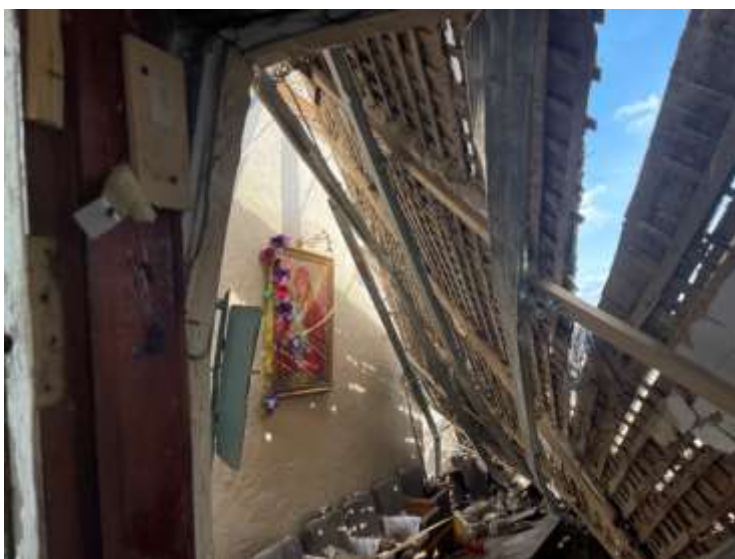


Fig. 1. A ruined church in the Mykolaiv region. Photo by S. Belinskyi

Results and discussion

1. Peculiarities of the Ukrainian wooden iconostasis of the Baroque period of the 18th century and the technology of conservation of damaged wood

As mentioned above, the Ukrainian iconostasis reached its peak in the middle of the 18th century. One such example is the iconostasis of the Transfiguration Church in the village of Velyki Sorochyntsi in Poltava region, 18m high and 22m long, which originally consisted of 130 icons. Among the signs that testify to its originality, we will mention the following:

- self-sufficiency of each of the three parts according to the subject matter and compliance with the canon;

- a harmonious combination of parts – the central iconostasis and the iconostasis of the chapels;
- application of traditional technologies of icon painting on linden boards on levkas with oil paints.

During its existence, the iconostasis suffered losses, in particular:

- 12 icons were lost, a levkas with a paint layer was partially lost and damaged;
- the icons of the main royal gate and the royal gate of the iconostasis in the aisles have been lost.

The study of the central iconostasis proved that linden boards were used, which had a smooth surface and had a thickness of 2–4cm. The columns lose their purely constructive significance and their full-bodied fust is replaced by a slotted openwork one with a complex carving pattern of a phytomorphic nature. Apostolic icons are interspersed with semi-columns only in the center, that is, they are no longer used everywhere. The design of the wall of the iconostasis is as follows: shields, which are combined with each other and the frame with forged hooks and nails. Thin through-cut fish with motifs of bunches of grapes, apples and pears, poppy heads, oak, grape and acanthus leaves were used. This carving made of linden wood and covered with a layer of levkas and gilding ("on polyment") does not carry a structural load, but is purely decorative. Icon boards consist of two or three glued parts, connected by pins. The joints of the reverse (and sometimes the front) side were sealed with yarn, hemp. The chemical analysis of the composition of levkas proved that it is multi-layer glue chalk, white in color, up to 2mm thick, not strong. Areas of peeling were recorded. The oil paint layer is dense, with a smooth surface. The painting technique involved many layers and glazing with more attention to the painting of individual fragments. The ornaments were gilded.

The main attention of the authors of the article was devoted to the problems of the emergency state of wood and its conservation technologies. In doing so, we relied on technologies used by specialists of the "Ukrrestavratsiia" Corporation at Ukrainian objects [15].

Traditionally, immediately before the start of conservation work, an examination of wooden elements is carried out in order to identify damaged parts that must be removed. Common problems are rotting of wood, danger of catching fire and infection by wood-destroying insects.

Wood decay is a biochemical process that is accompanied by its destruction. The causative agent of rotting is fungi – a heterogeneous group of eukaryotic, chlorophyll-free heterotrophic organisms that feed mainly osmotrophically, using a "vegetative" way of nutrition, in which the organism absorbs soluble nutrients. Wood can be infected in two ways: spores that, under favorable conditions of temperature and humidity, germinate on wood, forming hyphae – mycelium, or contact of healthy wood with rotten wood, on the surface of which there is a living mycelium. Thus, the decay of wood is accompanied at the first stage by the consumption of water, and at the second stage by its release and moistening of the rotting wood. There is a gradual destruction of cellular tissue; the wood loses weight, longitudinal and transverse cracks of various sizes appear in it, as a result of which it breaks into pieces in the form of cubes or prisms or is separated by annual layers. Destruction leads to a complete loss of wood strength. Wood affected by fungi most often changes its color, is covered with a network of longitudinal and transverse cracks.

The most favorable conditions for the development of wood-destroying fungi are: wood humidity, for different types of fungi, ranges from 20 to 70%, temperature – from 15 to 35°C, the presence of oxygen, without which the fungus does not grow (for example, under water or in vacuum). By changing these conditions, you can prevent wood from rotting. Freezing stops

the growth of the fungus but does not kill it. Heating up to 80°C kills mycelium, and spores die at temperatures above 120°C; however, this does not prevent further contamination of the wood.

The main means of combating wood rot is keeping its humidity within the air-dry state (not higher than 12°C). Thus, the main measure to combat wood rot is the fight to clearly control its moisture content, protection against possible wetting of dry wood and its drying to the required parameters.

Specialists of the "Ukrrestavratsiia" Corporation tested in practice several methods of applying an antiseptic and flame retardant solution to wooden surfaces, in particular:

- impregnation of wood by spraying method
- saturation of wood by the method of continuous pouring
- the method of immersing wood in a solution
- diffusion saturation method.

You can compare the main methods with each other. At the same time, it should be noted that their application to the details of iconostases can be significantly limited based on the conditions of preservation of the painting layer (icon) and the paint/gilding layer (frame). These methods can be most fully applied to the unpainted details of the frame of the iconostasis.

Saturation of wood by the spraying method involves spraying the treated surface in 4–6 cycles, and with this method, the depth of saturation is determined by the depth of the wood lesion and is fixed by the survey. Each subsequent treatment is performed after the solution has been absorbed by the wood to a given depth. After that, the treated surface is covered with polyethylene layer and kept like that for 3–4 days. If necessary, after removing the layer, the cycle is repeated.

The method of saturating wood by continuous pouring differs from the previous one in that, in the previous method, spraying occurs cyclically and each subsequent cycle occurs after the wood has completely absorbed the substance of the previous layer, on the other hand, according to the second method, the operation principle of the device for supplying the impregnation solution consists in the continuous circulation of the solution from the feeder-collector through a filter, a pump, a pouring device onto the treated surface and then back into the feeder-collector. For the intensity of the process, the solution is heated. The whole process is carried out under a polyethylene layer, which is removed 3–4 days after the completion of saturation. This method is based on the fact that the penetration of the solution into the thickness of the wood occurs under the action of capillary forces and slight hydrostatic pressure, while the depth of penetration of the solution depends on the density of the solution and the permeability of the wood. In the case when the performance of the pouring device from one tube is insufficient for complete wetting of the treated surface, a system of tubes connected by couplings is used. At the same time, the length of the tube, the diameter of the hole and the distance between them are determined depending on the performance of the pump and the height of the treated surface. With a pump performance of 25–30L/min and a maximum height of the liquid column rise of 8.5 meters; the length of the tube does not exceed 3–4 meters. A feature of this method is the presence of a device for continuous supply of the solution, and such a device is installed on the upper crown of the structure on a bracket, close to the treated surface.

As the solution is used, the tank is refilled. The number of processing cycles is determined by the depth of saturation, with the calculation that 2–3 cycles provide impregnation to a depth of 1.0–1.5mm, the consumption of the impregnation solution is approximately 16L/m² when treated by the method of periodic irrigation 20L/m².

At the end of the saturation process, the salt that has appeared on the surface is washed off with water.

Prevention of decay is impregnation with antiseptic substances, and fire retardants are used to protect against fire. Ukrainian specialists of the "Ukrrestavrtsiia" Corporation also use the diffusion impregnation method. As protection against insects, preventive methods are used to prevent the infection of wood by insects, mechanical, chemical and physical methods of destroying insects are also used. The chemical method involves the use of special poisonous substances – solutions, suspensions, aerosols and powders. Compared to mechanical or chemical methods, the physical method is used more limited, because high and low temperatures and high-frequency currents can damage wooden fragments. The method of strengthening wood by deep impregnation with solutions of polymers or monomers with their subsequent hardening is also used. In the process of restoration of wooden elements, oil varnishes became the most widespread, although pentaflave, nitrocellulose, glyphthal paints, colored and colorless varnishes are also used.

White linden wood is traditionally used for iconostases, the texture of which is without a pronounced pattern with a surface of a calm color with a barely noticeable direction of the fibers.

A separate problem related to the strengthening of levkas, as it is usually multi-layered on a glued base. The main problems of the unsatisfactory state of levkas in iconostases are related to its detachment from the base, the appearance of swelling, peeling and cracks.

In the villages of Velyka Vysotska, Volytsa Derevlianska and in the town of Zhovkva in the Lviv region, aqueous solutions of 8–10% skin glue, antiseptic with phenol, ketamine and other substances, were used to strengthen levkas on carvings. The antiseptic was 2–3% of the weight of dry skin glue. The solution manufacturing procedure consisted of the following stages:

- impregnation of the area with ethyl alcohol, if there is no tinted varnish on the surface;
- dry skin glue is soaked in cold boiled water until it swells, then boiled in steam, filtered through cheesecloth or kapron and mixed with an antiseptic – phenol or ketamine;
- apply the solution under the areas of lagging and swelling of levkas in a warm form at a temperature of 40–60°C with a soft brush and a medical syringe with straight and curved needles;
- they wait until the glue penetrates well under the lagging surfaces, the cracks become less obvious, and the levkas with gilding or silver becomes elastic and begins to be laid without cracking;
- they perform laying with fluoroplastic spatulas of various configurations, using heated and cold spatulas, while during strengthening, glue residues are removed from the surface;
- they put a bag with sand on the reinforced area until the layer dries completely. The bag fills the unevenness of the thread and tightly presses the levkas layer to the base in all places.

A separate type of work is related to supplementing the losses of the framing thread. The order of work in this case is as follows:

- before adding minor losses, the threads of the frames under the gilded surface are carefully cleaned with a scalpel, degreased and wiped with turpentine;
- apply the first layer of mass with a spatula;
- stuffing over the entire area and the edges of the lost section of the butt thread;
- after drying of the first layer, subsequent layers are applied to the level of the authentic layer;
- after applying the top layer, prepare a thinner mass with a smaller amount of chalk;

- wash the top layer with turpentine;
- additions are manually formed in the grooves according to the shape of the thread;
- if necessary, sand some additional places with sandpaper.

2. *Reproduction of unique wooden iconostases*

Unique examples of the reproduction of multi-tiered wooden iconostases were the iconostases of the St. Michael's Golden Domed Cathedral and the Dormition Cathedral of the Kyiv-Pechersk Lavra in Kyiv [16]. Both cathedrals were destroyed – the St. Michael's Golden-Domed Cathedral with a bell tower was blown up in 1934–1937 due to the decision to turn Mykhailivska Square into a part of the Government Center, the Assumption Cathedral was blown up by Soviet saboteurs on November 3, 1941. Only the foundations remained of the St. Michael's Golden Domed Cathedral and the bell tower, and the ruins of the Dormition Cathedral and the St. John the Theologian aisle. There are no analogues of such large-scale reproduction, including frescoes and mosaics, in the world practice of restoration.

We will deliberately limit the review of the entire process of revival of these unique cathedrals to one aspect – the reproduction of baroque iconostases, carried out by specialists of the "Ukrrestavratsiia" Corporation. Both cathedrals had several iconostases, which were the best examples of Ukrainian baroque and the main accent elements of the interiors, since sculpture was not used in Orthodox churches. In both cases, we are talking about the Ukrainian multi-tiered iconostases of the High Baroque era of the middle of the 18th century, when we see the presence not only of elements of the Baroque style, but also of the Rococo style. This period is considered the heyday of the art of the Ukrainian iconostasis with particularly masterful and sophisticated carvings. In the middle of the 18th century along with the characteristic floral ornament of the baroque style, elements inherent in the rococo style are used, when the floral motifs acquire an emphasized expression, the shell motif "rockaille" appears, the so-called "caterpillar" ornament, etc. (Fig. 2). That is why it was extremely difficult to reproduce the destroyed unique iconostases of St. Michael's Golden-Domed and Dormition Cathedrals on the basis of archival sources and analogues of the iconostases of that time.

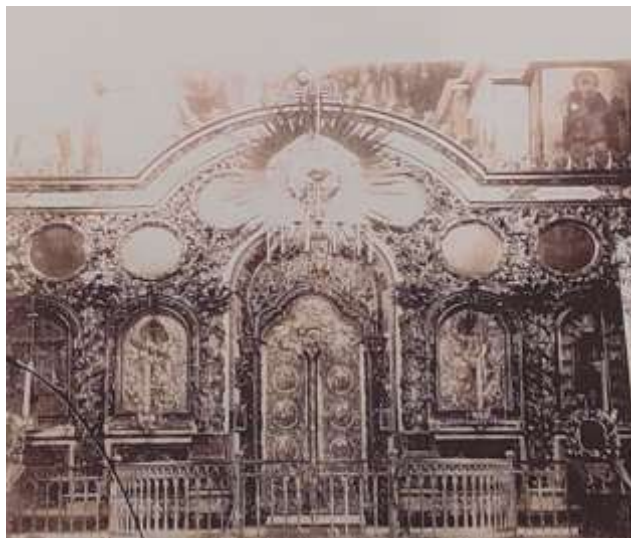


Fig. 2. Archival photo of the central iconostasis of St. Michael's Golden-Domed Cathedral. From the stocks of the "Ukrrestavratsiia" Corporation.

The only preserved part of the original central iconostasis of St. Michael's Cathedral is the authentic Royal Doors. It did not belong to the Baroque period, as it was made in 1811. The Royal Doors actually consisted of six elements: two silver leaves in the minting technique, each of which was assembled from three parts. The composition of the Royal Doors was completed by the image of God the Father in clouds and rays located in the arch of the iconostasis above the gate. As it was found out by the specialists of the "Ukrrestavratsiia" Corporation, the Royal Doors were decorated with copper and silver gilded overhead parts, and two types of gilding were used on these parts – a rather dense and bright gilding of a "warm shade" on copper on the figures of sitting angels, and a thin, transparent "cold shade" – for silver [16].

The examination revealed a different condition of the parts of the Royal Gate, because although the gate leaves were in good condition, the bas-relief with the image of God the Father was in an unsatisfactory condition, it needed to be restored. Due to the special value of the authentic Royal Gate and the conditions of operation of the recreated St. Michael's Cathedral as an active cathedral, a copy of it was made by the electroplating method and installed in the cathedral. Given the openwork complex surface of the leaves of the authentic Royal Gate, the large number of elements and the large size, the authentic Royal Doors were disassembled into its components to produce the exact shape, and then reassembled. The project of the central iconostasis was developed by the creative architectural workshop of Yu. Losytskyi. The reproduction of elements and details took place as closely as possible to the original, however, in some cases, the reproduction of lost elements could take place on the basis of studying the corresponding analogues. The central iconostasis was recreated as it was at the time of the destruction of the St. Michael's Cathedral, since it was originally not three-tiered, but five-tiered, the two upper tiers were dismantled in 1888, in order to open for viewing ancient mosaics and frescoes. The lower part of the multi-tiered baroque iconostasis, built in 1718 at the expense of Hetman Ivan Skoropadsky, was to be reproduced. This lower part of the iconostasis consisted of three tiers of icons, the lower row of which depicted scenes from the Old Testament and the Apocalypse, and above it the local and Feasts tiers were placed [16].

The source base for the drawings of the reconstructed iconostasis (Fig. 3) were archival photos of the general appearance of the iconostasis and its individual parts from the National Art Museum and in the Munich edition of the book by H.K. Lukomskyi "Kyiv".

Drawings of the carpentry structures of the iconostasis were developed separately, templates were made in the Ukrainian Baroque style, carpentry preparation for artistic finishing and high-relief openwork through-and-through carving with hand tools was carried out (Figs. 4, 5 and 6).

Were used 95m³ of linden wood to make one central iconostasis (and there are also separate iconostases of St. Barbara's and St. Catherine's aisles). The area of carved decoration is 170m², the surface area of leaf gilding is 220m² [16].

If St. Michael's Golden-Domed Cathedral had three iconostases, then in the Dormition Cathedral of the Kyiv-Pechersk Lavra there were from six to twelve of them at different times. According to archival evidence, separate iconostases were located in the Transfiguration, St. Andrew, St. Anthony, St. Theodosius, St. Stephen, John the Forerunner's, and Three Saints' aisles, in the altar of Archangel Michael and in the John the Theologian's aisle.

All iconostases were dated to the Baroque period, as they were made between 1718 and 1780, which ensured their stylistic similarity. Such simultaneity was explained by the fact that they were made after the fire of 1718, which completely destroyed the interior decoration of the cathedral.

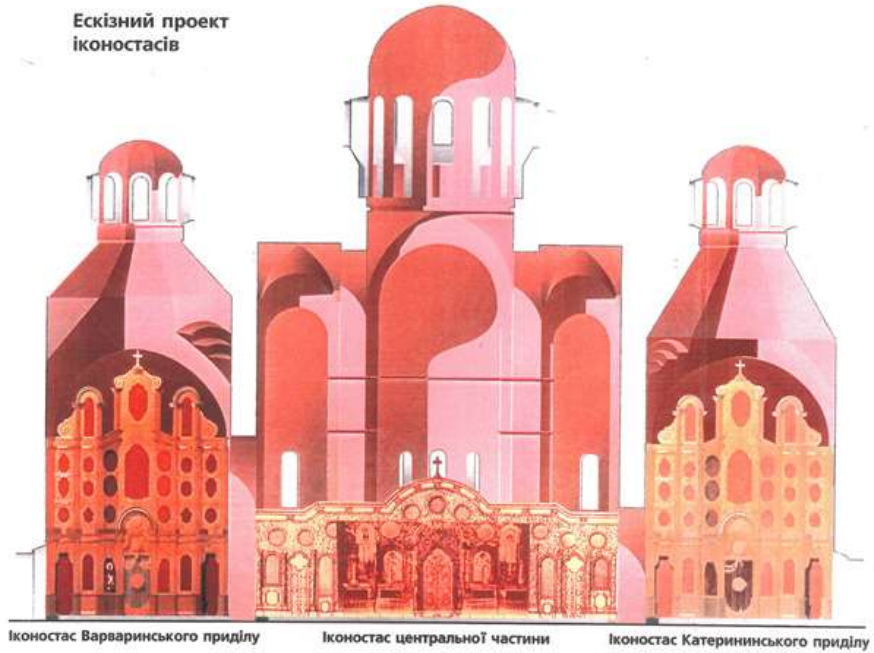


Fig. 3. Sketch project of the iconostasis of the central nave, St. Barbara's and St. Catherine's aisles of St. Michael's Cathedral. Photo from the stocks of the "Ukrestavratsiia" Corporation.



Fig. 4. A fragment of the portal of the Royal Door of St. Michael's Cathedral. Photo from the stocks of the "Ukrestavratsiia" Corporation.



Fig. 5. A fragment of the carving of the Feasts tier of the central iconostasis of St. Michael's Cathedral.
Photo from the stocks of the "Ukrestavratsiia" Corporation.



Fig. 6. The process of carving parts of the central iconostasis of the Dormition Cathedral.
Photo from the stocks of the "Ukrestavratsiia" Corporation.

This led to the simultaneous combination of baroque and rococo motifs, the Corinthian order and gilding in all iconostases. However, in the 19th century, the original appearance of the iconostasis underwent changes in accordance with the synodal traditions of church architecture of that period [16].

As in the case of St. Michael's Cathedral, the period of the maximum architectural and artistic development of the Dormition Cathedral was also the Baroque period of the 18th

century, and the cathedral was restored to the condition of this period, including elements, church utensils, iconostases and wall paintings (Fig. 7).



Fig. 7. Preparation of fragments of the central iconostasis of the Dormition Cathedral for gilding.
Photo from the funds of the "Ukrrestavratsiia" Corporation.

Like the original central iconostasis of St. Michael's Cathedral, the central iconostasis of the Dormition Cathedral was five-tiered, made of carved and gilded wood. It was also a gift of Hetman Ivan Skoropadskyi and his wife. Rococo features were clearly visible in the decoration, which was noticeable in the character of the eleven slotted columns of the Corinthian order, with gilding and stylization of the carvings of the columns under exotic plants and vines. The iconostasis was decorated with sixty-four icons with gilded robes and silver crowns. Almost a century earlier than in St. Michael's Cathedral, in 1713, the main iconostasis of the Dormition Cathedral was decorated with a silver Royal Door.

Unlike the central iconostasis of St. Michael's Cathedral, there was much more information about the central iconostasis of the Dormition Cathedral. In particular, specialists of the "Ukrrestavratsiia" Corporation analyzed the description of the iconostasis of 1729, the description of 1767, the "Essay on the iconostasis of the Great Church of the Kyiv-Pechersk Lavra in 1852", the "Description of iconostasis" of the middle of the 19th century, the watercolors of F.G. Solntsev in 1840, the diagram of the iconostasis is given in V. Shcherbyna's book "Main Buildings of the Pechersk Lavra" in 1929 and a number of other archival documents. The reconstruction project of the main iconostasis was developed by the "Ukrproektrestavratsiia" Institute in the workshop under the leadership of O.O. Grauzhys [16].

However, as in the case of the central iconostasis of St. Michael's Cathedral, even such information turned out to be insufficient due to the lack of information about individual icons. In this case, analogues were used, in particular Ukrainian icons and engravings of the end of the 17th and 18th centuries, Bible engravings by Piscator and G. de Yode, as well as a watercolor drawing of the iconostasis by F.G. Solntsev and descriptions of icons of the 18th century.

According to the theme, the icons of the main iconostasis of the Dormition Cathedral were divided into two groups. The production of the main iconostasis of the Dormition

Cathedral took place in accordance with the program of 93 icons developed on the basis of archival sources. All the names and subjects of the icons corresponded to archival evidence.

The entire technological cycle from harvesting wood to the final assembly of the manufactured parts of the iconostasis was a kind of reconstruction of an ancient technological process with an adjustment to modern conditions. One of the most important tasks in this process was the creation of templates-patterns of individual carving details based on the architectural project and illustrative material. The artists of the "Ukrzakhidproektrestavratsiia" Institute were engaged in painting the icons.

The main iconostasis of the Assumption Cathedral was recreated for two years by about 72 highly qualified carvers from Kyiv, Poltava, Cherkasy, Ivano-Frankivsk, and Vinnytsia under the general direction of the design and production workshop of Akant LLC in Kyiv [16]. During this time, almost 560 m² of carved decor of the highest complexity, in the style of high Ukrainian baroque, was produced. The depth of the relief decoration on the profiled rods was 20–50mm, and the height of the volumetric two-plane carved decoration was from 50 to 200 mm.

The production of the main iconostasis of the Assumption Cathedral was carried out by Akant LLC, Ukraina – Restavratsiia JSC, "Ukrzakhidproektrestavratsiia" Institute and other contractors.

The supporting structure of the main iconostasis was made of metal to facilitate further operation and strengthen the iconostasis. Thus, the wooden parts of the frame structure – pine boards for the carved decor – were relieved of the excessive weight of the lush decor. Finished details of the carved decor were gilded with gold leaf.

The complexity of the task was due to the scale of the reconstruction, as well as the large number of carvers involved. Since the carved details of the decor were executed in the classical technique of hand carving, each of the masters, even working according to a sample, would definitely find signs of their own style of carving in the work. All this could violate the integrity of the artistic image of the manufactured iconostasis.

Taking this into account, the management of the "Akant" workshop built the work in such a way as to minimize the differences in the individual plastic techniques of the masters. The entire technological cycle from harvesting wood to the final assembly of the manufactured parts of the iconostasis was a kind of reconstruction of an ancient technological process with an adjustment to modern conditions.

One of the most important tasks in this process was the creation of patterns-patterns of individual carving details based on the architectural project and illustrative material [16].

The production of patterns and samples for carving was preceded by a thorough study of the plastic language of the original iconostasis by the leading restoration artists of "Akant" on the basis of a large amount of material prepared by the designers, as well as on the basis of collected archival and library data.

The produced patterns and samples became the basis for the organized work of a large team of carvers. Further work was built in such a way that each of the manufactured parts passed quality control before the artistic council of "Akant" before the part was transferred to gilding. The clear organization of the work and fairly thorough control made it possible to maintain a high level of quality and fulfill the main task: to reproduce the plastic features of the original, as well as the compositional techniques characteristic of bricklayers of the Baroque era, built on a unique combination of stylized and naturalistically interpreted elements.

During June–August 2000, LLC "Akant" produced the carved decor of the iconostasis, JSC "Ukraina – Restavratsiia" carried out gilding of the carved decor, profile rods and cornices

during the same period, during June-August, specialists of the "Ukrzakhidproektrestavratsiia" Institute painted icons for the iconostasis. Installation of gilded decor on the iconostasis and installation of icons on the iconostasis lasted until the end of August 2000. The production of the Royal Gate continued during June – August. The iconostasis was covered with antiseptics and fire retardants.

The artists of the "Ukrzakhidproektrestavratsiia" Institute under the leadership of Ivan Mohytych were engaged in painting the icons. For the central iconostasis, the icons of the Feasts tier and the "Last Supper" were painted, table icons in the central part, "Pantokrator" with bystanders, "God the Father" and seraphim, "Laying into the coffin" and images of the righteous, "Crucifixion with Bystanders", the deacon's door was also painted and icons were installed on the doors. After finishing the painting works, gilding and silvering were carried out.

Today, the five-tiered carved iconostasis, reproduced according to archival photographs and written evidence, once again adorns the majestic interior of the Dormition Cathedral (Fig. 8).



Fig. 8. Reproduced central iconostasis of the Dormitionion Cathedral.
Photo from the stocks of the "Ukrestavratsiia" Corporation.

The iconostases of the St. Andrew's and the St. Stefan's aisles were also reproduced.

The modern reconstruction of the iconostasis of the St. Andrew's aisle was carried out according to the drawing by F.G. Solntsev. The icons of this iconostasis are also described in the Lavra lists.

Conclusions

According to the data of the Institute of Religious Freedom, presented on January 31 and February 1, 2023 at the Summit on International Religious Freedom in Washington, USA, since February 24, 2022 – since the beginning of large-scale Russian aggression – at least 494 religious buildings, religious educational institutions and shrines have been destroyed, damaged and looted in Ukraine, including at least 143 Orthodox religious objects (mainly churches) [17].

Given the dynamics of damage to religious sites (since last year's summit in July 2022, the number of damaged and/or destroyed religious sites has more than doubled), during the post-war reconstruction one of the problems will be the restoration or reproduction of religious sites (including Orthodox churches). Of course, the restoration or reproduction of iconostases, which are a key element of the interior of any Orthodox church, will also be part of this significant task.

Despite the considerable experience accumulated by Ukrainian restorers in the field of restoration and reproduction of iconostases, it should be recognized that the specificity of the damage received by iconostases during the current Russian-Ukrainian war determines the rather rare application of restoration measures aimed, for example, at eliminating damage from insects or fungi.

Instead, the most frequent types of damage to iconostases are damage by bullets and shrapnel, mechanical destruction and partial burning due to explosions. And finally, one of the most widespread damages is the complete destruction of the iconostasis due to fire caused by bombing and/or artillery or mortar shelling of the church building. In this case, the only measure to preserve the cultural heritage remains the reproduction of the iconostasis.

The accumulated experience of Ukrainian restorers in scientifically based reproduction of completely or partially lost iconostases, described in this article, can be used to preserve cultural heritage objects of religious purpose (including iconostases), which are an integral part of Ukrainian national culture.

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Received: September 20, 2022

Accepted: May 21, 2023