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Comprehensive conservation and restoration of two frames for the temple icons of the Sampson Cathedral in St. Petersburg

Annotation: The article is devoted to the restoration of two carved gilded frames to the temple icons of the 1760s in the Rococo style, during the work on which the techniques of conservation, restoration, reconstruction and recreation associated with the severe physical condition of the objects of church decorative and applied art received in the restoration were comprehensively applied. The purpose of the study and practical work was to return the expositional appearance of church objects of decorative and applied art as monuments of cultural heritage of Russia. During the study part of the project, printed and handwritten materials of many Russian experts in art and restoration, including Andrei Petrovich Aplaksin, a member of the Imperial Archaeological Commission, author of the restoration project of the Sampson Cathedral in 1908-1909, diocesan architect-restorer, civil engineer, artist, archaeologist, historian of Russian architecture, writer, were studied. Thanks to the well-coordinated and consistent restoration and restoration processes performed on the monuments, professional craftsmen: sculptors, carpenters, wood carvers and gilding restorers managed to turn the shapeless, heavily soiled fragments of fragments of two frames to the temple icons back into frames. After a comprehensive restoration of the two frames, it was possible to restore them to their former expositional appearance, prolong their life and preserve these monuments of church art for contemporaries and descendants, and then place them in the temple in their former historical places, i.e., to fulfill the main task of the restorers – to preserve the cultural heritage of Russia.

Keywords: conservation, restoration, reconstruction, recreation, carved wooden ornamental, sculptural decor, gilding, frames for temple icons, rococo style, church decorative and applied art, silvering, gilding tinting.

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Комплексная консервация и реставрация двух рам к храмовым иконам Сампсониевского собора в Санкт-Петербурге

Аннотация: Статья посвящена реставрации двух резных золочёных рам к храмовым иконам 1760-х годов в стиле рококо, в ходе работ над которыми были комплексно применены приёмы консервации, реставрации, реконструкции и воссоздания, связанные с тяжёлым физическим состоянием поступивших в реставрацию предметов церковного декоративно-прикладного искусства. Целью исследовательско-практических работ было возвращение экспозиционного вида церковным предметам декоративно-прикладного искусства, как памятников культурного наследия России. Благодаря слаженным и последовательно проведённым на памятниках процессам реставрации консервации и реставрации, мастерам-профессионалам: скульпторам, столярам, резчикам по дереву и реставраторам позолоты удалось превратить бесформенные, сильно загрязнённые, обломки фрагментов двух рам к храмовым иконам снова в рамы. После комплексной реставрации двух рам удалось вернуть им прежний экспозиционный вид, продлить их жизнь и сохранить эти памятники церковного искусства для современников и потомков, а затем разместить их в храме на прежних исторических местах, то есть выполнить главную задачу реставраторов – сохранять культурное наследие России.

Ключевые слова: консервация, реставрация, реконструкция, воссоздание, резной деревянный орнаментальный, скульптурный декор, золочение, рамы к храмовым иконам, стиль рококо, церковное декоративно-прикладное искусство, серебрение, тонирование позолоты.

Introduction

The relevance of the topic lies in the fact that nowadays a huge number of monuments of church decorative and applied art, which lost their original appearance in the years of timelessness and persecution of religion, need competent, scientifically based conservation and restoration, which will prolong the life of these monuments and revive them for contemporaries and descendants.

The purpose of the study and practical project was to return the expositional appearance of church objects of decorative and applied art as monuments of the cultural heritage of the Russian Federation.

Based on the purpose of the project, the following tasks were developed:

- conduct scientific research of monuments;
- select archival documents on the history of the creation and restoration of the monument in previous years;
- choose the most appropriate methods of conservation and restoration, as well as the sequence of restoration processes;
- realise all planned restoration measures and return the monuments to their exposition appearance.

During the study part of the project, printed and handwritten materials of many Russian experts in art and restoration, including Andrei Petrovich Aplaksin, a member of the Imperial Archaeological Commission, author of the restoration project of the Sampson Cathedral in 1908-1909, diocesan architect-restorer, civil engineer, artist, archaeologist, historian of Russian architecture, writer, were studied.

Historical background

Two frames for the temple icons "Nicholas the Wonderworker in Life" and "Mikhail Malein and John the Warrior" were brought to the restoration workshops from St. Sampson Cathedral

alternately with an interval of one year. It was simply impossible to call the fragments brought in bags frames. They were dirty, shapeless pieces of old wood decrepit from time and lack of storage conditions. These fragments were listed as fragments of the once gilded frames for temple icons, but no gilding was visible under the thick layer of dirt and dust that had accumulated over decades and eaten into the surface. The condition of these fragments could be assessed as extremely emergency (Figures 8-18, 29, 45, 49, 53, 54, 57, 59, 61, 64).

The Restoration task received from the Inspectorate for the Protection of Monuments read that "Restore the base of the frames, make up for the loss of sculptural and ornamental decor, as well as their decoration in the form of decorative gilding." The team of restorers needed to figure out and understand what exactly was meant by the points of this task. To begin with, it was necessary to figure out what kind of "legacy" the masters got, and what could be done with it.

The chief specialist of the restoration company, Fomicheva Natalia Mikhailovna, an artist-restorer of gilding of the highest category (already familiar with this monument from other works earlier), turned first to the "Jubilee Album" published in 1909 and written in the form of a detailed scientific and technical report of the period of the previous restoration in 1908-1909 in the St. Sampson Cathedral of St. Petersburg by Andrei Petrovich Aplaksin, the architect, the author of the restoration project (Figures 1, 3). This is a serious scientific work, one of the documents of the early 20th century, in which the author of the project for the restoration of the temple outlined in detail the technical condition of the monument before the restoration of the temple, explained the reasons for the destruction of the decor in the absence of conditions for proper heating, ventilation, and the presence of a stable microclimate. He pointed out the huge role of the human factor in the preservation of the monument, its changes during its existence in time. He drew attention to the careful attitude to the temple associated with the history of Russia, its victories in the Northern War, in honor of one of which, the Poltava battle, it was built as a temple-monument of military glory.

In the "Jubilee Album", the architect described in detail all the restoration processes carried out, explaining certain methods of restoration of various types of work. The report also contained information concerning the restoration of works of church decorative and applied art made of wood with gilding and the methods of their restoration. The large-scale restoration work of 1908-1909 was timed to coincide with the 200th anniversary of an important historical event and the construction of a church in the name of the Holy Venerable Sampson the Hospitable, built in 1709 by the personal decree of Emperor Peter I. A.P. Aplaksina for its time, was quite well and fully illustrated. It contained many photographic materials useful for restorers, but their printing quality was not enough to accurately complete the upcoming set of works. After studying the sources of information and obtaining information about what work was performed on these two frames by the predecessors, the masters of the early 20th century, the restorers needed high-quality illustrative material, which was found even earlier in the archive of film-phono-photo-documents (St. Petersburg Branch of Film, Phono, and Photo Archive) in Muchnoy Lane of St. Petersburg (Figures 6, 7).

These were genuine negatives from the period of the last restoration of the St. Sampson Cathedral, made by Karl Karlovich Bulla (1855-1929), the famous photographer of the early 20th century. He was a portrait painter and a well-known master of documentary photography

in St. Petersburg, a hereditary honorary citizen of St. Petersburg. He opened his Atelier in 1875. In 1886, he received permission from the Ministry of the Interior for the right to produce photographs outside the home, which allowed him in 1894 to set up printing production of postcards in the standard of the Universal Postal Union. Since 1897 Karl Bulla published his photographs in the popular mass magazine Niva, and since 1908 he did this in the magazine "Ogonyok". At the same time, he opened his studio at Nevsky, 54. Karl Bulla's talent was multifaceted: he photographed architectural facades, interiors, factories, shops, cars, monuments, went to film jubilee celebrations (Figures 4, 6, 7). So, in 1908, at the invitation of the Jubilee Committee, in honour of the celebration of the 200th anniversary of the Battle of Poltava and the construction of the memorial church of St. Sampson Cathedral, he photographed the decoration of the temple, in particular, three of its iconostases and other church utensils, taking pictures on large glass negatives, which made it possible today to obtain prints from them with the greatest accuracy, so necessary for carving and gilding restorers. For active participation in the restoration of the famous temple on May 25, 1910, Karl Karlovich received a commemorative medal "In Memory of the 200th Anniversary of the Battle of Poltava". Photographic materials on this monument of history and culture are invaluable both for art historians and especially for restorers. They served their purpose for the restorers of the 21st century as an invaluable iconographic material.

One of the photographs from 1908 shows a gilder's workshop where two frames for temple icons were being restored. It clearly shows the frames' listels in a disassembled state and the details of the carved Altar Canopy of the main cathedral altar. After the restoration in the A. Zhessel's workshop, both of the aforementioned frames for temple icons returned to their rightful places in 1909. After their restoration, photographs of these two large frames for temple icons and small frames for the images of St. Nicholas the Wonderworker and the Mother of God of Vladimir, which are part of the compositions, were posted in the "Jubilee Album" of A.P. Aplaksin (*Figure 5*).

The Historical Reference, written by the senior researcher Yu.V. Trubinov in 1984 on the eve of the restoration of the cathedral by the specialists of this scientific and restoration association, was kept in the archive of the scientific department of the SNPO "Restorer". The document was compiled on the basis of rare archival materials and supplemented the A.P. Aplaksin's "Jubilee Album" by earlier historical information, which is also very important for restorers of the 21st century. This information was necessary to understand the frequency of restoration work in the temple, identify the causes that cause the destruction of the wooden carved and sculptural gilded decor and its decoration in the form of combined gilding. Unfortunately, the earlier archive of the temple was only partially preserved. Many documents important for the restorers were missing, as some of them died in a fire, and most of them were lost during the years of iconoclasm.

From the Yu.V. Trubinov's Historical Reference and the text of the report in A.P. Aplaksin's "Jubilee Album", the restorers learned that the first wooden church, founded in honour of the victory of Russian weapons during the Battle of Poltava taken place on June 27, 1709, quickly fell into disrepair. Next to it, a new stone temple was later erected, retaining its name and part of the decoration in the form of two small iconostases.

The main aisle, erected later, was decorated with a five-tier iconostasis created by Russian serf craftsmen from linden wood, traditional for this type of work, possibly under the guidance of a foreign architect, whose name is still disputed by art historians. This iconostasis was illuminated in 1740, and dates back to the reign of Anna Ioannovna, i.e., to the style of Anninsky Baroque.

Frames for temple icons, which will be discussed below, were created later, only in 1761. They were made in the Rococo style, and the icons were painted by Yaroslavl icon painters.

These two framed icons were commissioned specifically for the temple by Mikhail Yakovlevich Lapshin-Gryaznovsky, the nephew of the Cathedral Ktetor, who was engaged in the "beautification" of the cathedral after his uncle, Ivan Andreyevich Lapshin, a Yaroslavl merchant, through whose efforts this stone church was erected and decorated for many years. The icon "Mikhail Malein and John the Warrior" was dedicated to him, the first ktetor, and was donated to the temple. It is signed, which is rare in this genre of painting. On the reverse side of the icon it is written, "The great icon painter Trofim Bazhenov painted this holy image of the Kostroma province in the Posad of Salt in 1761 of July on the 13th day" (Figures 6, 7).

In 1908, in anticipation of the restoration, the Jubilee Committee was created, which, in turn, entrusted Andrei Petrovich Aplaksin, a member of the Imperial Archaeological Commission, a diocesan architect, archaeologist, writer, civil engineer, to lead the restoration of the temple. Control over the restoration processes was entrusted to the architect-restorer, archpriest, Pavel Petrovich Pokryshkin, who was also a member of the Imperial Archaeological Commission (*Figures 1, 2*).

For these purposes, a local Scientific and Restoration Council, which supervised the restoration work, set specific tasks for the craftsmen, controlled their implementation and gave its recommendations, was created at the site.

In addition to A.P. Aplaksin and P.P. Pokryshkin, the temporary Jubilee Committee included well-known in St. Petersburg specialists in restoration, architects, art historians, e.g., V.T. Georgievsky. A.N. Benois, N.F. Romanchenko, G.I. Kotov, E.A. Sabaneev, A.A. Spitsyn, A.N. Pomerantsev, N.E. Lansere, icon painter-restorer G.N. Chirikov, and such clergies as priest Vladimir Pokrovsky, Chairman of the Committee, and the members of the Committee – priest G. Ostrogorsky, deacon Alexei Shipunov, deacon V. Lebedev, Lazarev, Alexei Afanasiev, headman Nikolai Eliseev, engineer N. Egorov, deacon Peter Vladimirsky (secretary of the Committee), and the whole parable of the temple.

The handwritten archive of the St. Petersburg branch of the Institute of World Culture contains interesting historical documents from the period of restoration of the church in 1908-1909 (Case no. 55). These are the correspondence of the Temporary Jubilee Committee with the Imperial Archaeological Commission, petitions for the allocation of funds for restoration, projects, protocols of their discussion, the acts of inspection of the monument before restoration, the certificates of examination of the clearing performed by the gilder A.A. Kalmykov on the main iconostasis, protocols of restoration councils.

There is even a private letter in the file about problems with icons after restoration, in which there is a private letter from a "lover of antiquity" informing the Imperial Archaeological Commission that in the recently restored St. icons of the Mother of God, St. Nicholas, Saints and others. He asks questions of the Imperial Archaeological Commission about the imminent

deterioration of icons and suggests paying serious attention to this. On June 8, 1912 (*Case no. 121, inc. no. 945*), Archpriest John Ostrogorsky, the rector of the cathedral, answers this letter. He explains the reason for the damage to the icons and reports that the clergy and the headman of the cathedral have already entrusted their repair to the icon painter Tyulin (*Case no. 55, inc. no. 703*).

To this day, the Councils meetings' minutes, in which the tasks and persons responsible for their implementation were spelled out in detail, have been preserved. P.P. Pokryshkin, as the curator of the temple restoration project, was at the site every day, kept his short notes, which were also miraculously preserved in his notebook. They were written with abbreviations, and not every person would be able to decipher them if he is not associated with the restoration of monuments of a similar plan. These documents are carefully kept in the fund of the Imperial Archaeological Commission of the St. Petersburg branch of the Institute of World Culture, which, before the revolution of 1917, was engaged in the construction and restoration of churches in Russia and St. Petersburg as well.

From the A.P. Aplaksin's album, it became known that the work on the restoration of the main iconostasis was performed by the master gilder Alexei Aleksandrovich Kalmykov. The names of the masters-performers were identified from the note written in pencil and found on the main iconostasis in 1958, e.g., "master gilder Alexey Aleksandrovich Kalmykov, carver gilder Afanasy Ivanovich Abramov, carpenter Vasily Shirkov" (*Case No. 595, 1958*).

The restoration of three iconostases and some frames for icons in 1908-1909 was performed by 30 craftsmen who completed the complex work in just seven months.

Specifically, the restoration of the gilding on two frames for the temple icons "Nicholas the Wonderworker in his life and "Mikhvil Malein and John the Warrior" was performed by the French master Antonio Jessel, who had his workshop in St. Petersburg on Gorokhovaya Street, 45. He was a supplier to the Imperial Court and had his own brand name, which he pasted on the back of his work.

Conservation and restoration of frames for temple icons in the 21st century

In parallel with scientific research and the selection of iconographic material, experimental work was performed on the selection of compositions, their concentration, and the technology of applying them to the surface on the monument fragments. The craftsmen had to decide on the sequence of work by profession, analyse all the results of the experiments, and then choose the optimal solution and draw up Methodological Recommendations for the Conservation and Restoration of the Base, the Restoration of the Loss of Carved Sculptural and Ornamental Decor and the Combined Gilding of Two Frames for Temple Icons. After a short time, the studies were completed, the Methods were written and approved by the State Supervision Committee, Presence and Protection of Historical and Cultural Monuments and the Customer.

In the wood carvers' workshop, all the workbenches were placed along the walls to make room on the floor for the upcoming painstaking work. The woodcarvers received enlarged copies of photographs of the frames dated by 1909 to work with. They further enlarged them with graph paper. Then they re-shot the drawings on tracing paper, on which they made the outline borders of the frame in full size, and began to disassemble the fragments like puzzles,

laying out the author's fragments into historical places to determine the exact number and size of the loss of the base and carved decor of the frames.

The technical condition of the frames' base was in an emergency, as the integrity of the frames' base was broken: fragments of the carved decor had warping, numerous cracks and tears in the wood along the fiber, the discrepancy of adhesive mates in gluing the layers of the base along the fumes led to the loss of connecting elements. Losses of fragments of angels' sculpted heads were numerous. The crown and pillow fell apart. On the surviving fragments of the carving, the ends of the brackets, rocailles, and leaves, as well as flowers, were lost. As a result of a visual inspection, traces of the activity of tree beetles in the form of flight holes and destruction of the base wood were found on the details.

The wood of historical fragments, having lost all its strength characteristics was dilapidated and weak due to time and lack of operating conditions. For further display in the walls of the temple in the complete set with heavy icon boards, it required duplication on a new basis. In connection with this circumstance, it was decided to duplicate all listels of both frames on a new basis.

The following restoration program was needed:

- 1. Removal of unstable surface contaminants from the surface of a wooden carved decor.
- 2. Antiseptic and prophylactic treatment of author's wood affected by the tree beetle with a composition against beetles and microorganisms.
- 3. Correction of deformation of the base wood.
- 4. Restoration of wood that has lost its mechanical strength characteristics
- 5. Modelling of lost fragments in a soft material with the transfer of models to plaster.
- 6. Compensation for the loss of ornamental carvings and sculptures, restoration of natural and mechanical damage to the base wood.
- 7. Duplication of historical carved and recreated decor on a new base due to its emergency condition.
- 8. Production of metal fasteners.

The removal of unstable surface contaminants from the surface of the wooden carved decoration was performed using a vacuum cleaner and a soft bristle brush with great care so as not to damage the remnants of the ground-levkas and decorative historical gilding.

Antiseptic and prophylactic treatment of author's wood, with a composition against microorganisms was performed with a 3% alcohol solution of catamine A-B on the back side of the parts, and from tree beetles – with an alcohol solution of 2.8% concentration of an antiseptic from ACIMA (Switzerland) by the method of feeding from the back side and by injection into flight openings with great care, wearing gloves and respirators in a well-ventilated area or in the fresh air.

Correction of the deformation of the base wood had to be done from the back side with great care and accuracy, since there were remnants of the historical finish on the front side. In order to eliminate deformation, the parts were placed on a flannel moistened with distilled water on a flat surface and covered with polyethylene foam, on which the cleats were placed for quite a long time. The details were fixed with vimes and clamps until the wood dries and takes the desired shape. After that, the fragments were glued onto a new base.

Restoration of wood that lost its mechanical strength characteristics, consisted in the removal of rotten knots, crumbling wood, which did not allow gluing thread fragments together. Rotten areas of wood and knots were removed mechanically, the resulting nests were treated with a 3% alcohol solution of catamine A-B twice with an interval of 30 minutes. Then the nests were filled with mastic from 10-12% sturgeon plasticised glue and wood flour with the addition of 1% catamine A-B. Before applying the mastic, all working areas were impregnated with sturgeon glue. Large losses of wood were replaced by new inserts of authentic material – linden wood. Before gluing, all working areas were impregnated with 5%, 10 and 20% concentration of sturgeon glue sequentially with an interval of 15 minutes, and then they were firmly pressed against each other and fixed with clamps.

To recreate the loss of carved and sculptural decor in linden wood, it was first necessary to make models of specific losses in a soft material – plasticine. Modelling at the place of sculptural and ornamental decor loss was performed by carvers together with sculptors.

After presenting the soft models to the commission, the identified missing frame fragments were transferred through molding into plaster, and then the losses in the authentic material of the monument and the wood of the linden tree traditional for this type of work were replenished. The fragments were glued together using natural fish glue.

Next step there was duplication on a new basis. The carvers prepared linden wood veneer of the required thickness (about 3 cm) to perform this technological operation. On a new basis, gradually supplementing the missing reconstructed fragments of the frame with the preserved historical elements, they assembled dry all the sheets of the frame, fitted the fragments at the gluing points tightly to each other. Only after that, the elements were glued to each other and to the new basis to give the composition mechanical strength. According to this technique, all listels of two frames were duplicated. The work on the most complex detail of the frame composition – the upper listel – consisted in duplicating the base on new wood due to the dilapidation of the historical base and a large number of losses (*Figures 21, 50, 63*).

The loss of the base consisted of shapeless pieces with oblique chips. It was not possible to simply glue them together due to the loss of numerous small connecting fragments. Quite a few fragments of carved decor were deformed due to the fact that they lost contact with each other, and many fragments from the influence of dampness and temperature changes for a long time received deformations and structural destruction of the base wood, such as uneven looseness and shrinkage of wood along the fiber (*Figures 8-18*, 29, 45, 49, 53, 54, 57, 59, 61, 64).

On the back side, at the corners the frames were previously fastened together with iron forged corners to withstand the huge weight of four listels and icon boards when they were hung in the temple. For the suspension of frames on the walls of the cathedral, in turn, special plates with forged rings that would withstand heavy weight, were previously attached to the vertical listels. All the details of the fittings were also lost at the time of the restoration of the frames. According to the trace prints on the back of the frame, the necessary fittings, which were later installed on historical sites during the assembly of the frames were calculated and made of black metal.

The restorers also did several discoveries and finds. On the back side of a fragment of one of the frames, namely on the frame to the icon *Nicholas the Wonderworker in Life*, a branded paper label of the company A. Jessel was found in a very good state of preservation during the

restoration of the carving of the right vertical listel. About A. Jessel's participation in the restoration of the frames, it was first known by us from the *Anniversary Album* by A.P. Aplaksin. The same fact was confirmed when the company label was discovered during restoration during the work at the beginning of the 21st century. Not every job was branded (*Figure 28*).

After the restoration of the carving and fitting the parts dry to each other in the disassembled state of the frame, the gilding restoration workshop was alternately received to perform the conservation of the partially preserved historical ground-levkas with traces of gilding from 1909 (*Figures 34, 63*).

The historical levkas of 1909 was very thin and fragile. The gilding restorers had a difficult job to preserve the historical and make up for local losses of the ground-levkas, and then decorative gilding associated with the loss of fragments of the author's foundation.

In A.P. Aplaksin's report, it was written about the performance of decorative combined gilding with a combination of glossy and matte areas according to the technology of the 18th century. The restorers also thought so before starting work on the frames, until they were faced with the fact that this time lacquer, and not traditional glue gilding, as in the 18th century, was performed on both frames in combination with high-gloss gilding on the polymer in 1909.

Restorers were also alarmed that there was no tiling at all, i.e., carving on the ground-levkas, adopted in the decoration of the 18th century, on the historical ground-levkas fragments of the front side of these frames. The small thickness of the historical soil itself would not technically allow it to be polished, since a thicker layer of soil was needed to perform it. The reason for its absence was unclear. Was it lost in 1909 during the next restoration or did the restorers of this period repeat the finishing of the frame that appeared before them before its restoration in 1908, when the masters removed the old levkas and replaced it with a new one due to the severe emergency state of preservation?

In the old days, as in the early 20th century, there was no such thing as the conservation of leucas. In case of poor technical preservation of the author's or historical soil, it was simply removed from the details to the wooden base along with the remaining gilding, the wood base was repaired, the lost fragments were cut and a new soil was applied, and then a new gilding. So, the gilding restorers had to preserve the historical levkas with gilding of the beginning of the 20th century on the frames, but not the author's 18th century.

The method of conservation and restoration of both frames was similar and justified by the technical condition, both in terms of the restoration of the wooden base with carved decor, and its finishing, the presence of strong persistent surface contamination that covered both the exposed wood of the originals and the decorative finishing of the ruined fragments of the frame listels.

The differences in the compositions of the upper listels of the frames consisted in the loss of small sculptures of angels in the upper part of the frame listel to the icon *Mikhail Malein and John the Warrior*, attached to this part with the help of small hanging consoles. However, the preservation of historical gilding on the vertical listels of this frame was better than on similar listels on the frame for the icon *Nicholas the Wonderworker in Life*. In addition, local silvering under gilding on the ribbons in the ornaments of the lower listels of both frames was also revealed.

The program of conservation and restoration of levkas with gilding consisted of:

1) preservation of historical levkas and gilding;

- 2) replenishment of local losses of ground-levkas;
- 3) removal of persistent strong surface contaminants;
- 4) making up for the loss of glossy gilding on the polymer;
- 5) making up for the loss of lacquer gilding;
- 6) tinting of restoration gilding to match the color of historical;
- 7) staining the back side of the frame listels with ochre with glue.

After removing some of the light surface contaminants in the form of dust and dirt, the preservation of the historical soil with the remnants of gilding was performed using a weak solution of natural mezdra glue of the Extra brand, which in strength characteristics exceeds similar characteristics of sturgeon glue, and at a much cheaper price, which is important when performing a large amount of restoration work. Restoration glue was prepared according to traditional technology with the addition of antiseptic Katamin group A-B, used in modern restoration of levkas and gilding.

In parallel with the preservation of the historical soil, a three-time sequential impregnation of the bare author's base and newly performed restoration inserts of the wood base of the frames with the same aqueous glue solution of different concentrations was performed to compensate for local soil losses.

At the junctions of old and new wood, pasting the joints with cotton cloth (calico) was made to strengthen the joints of the multi-time basis and prevent further destruction of the gilt-plated levkas during operation.

A traditional levkas was prepared from the floured (melted) chalk and an aqueous solution of the same Extra mezdra glue. The ground-levkas in a warm form was applied layer by layer to areas of restoration wood with bristle brushes at intervals of two and a half to three hours for drying layers. The restoration levkas applied to the surface of the plots was slightly higher than the author's layer in height. Then, almost dry, only slightly moistened with distilled water, it was very carefully cut with scalpels and steel hooks to the level of the historical layer.

Lacing-grinding of the surface of the restoration levkas was performed dry with the help of a water-resistant emery cloth of medium and fine grain. To control the quality of this operation, the restoration levkas areas were previously covered with a suspension of the pigment "ochre light" on the water in one layer. The surface of the working area during the lacing-grinding was constantly thoroughly dusted with a vacuum cleaner and a small brush of medium hardness.

All the frame listels were not the same in their technical state of preservation and the percentage of preservation of the historical levkas with gilding. This is clearly seen by the amount of historical gold on them after clearing the surface of the listels from persistent contamination and by the amount of replenished soil (*Figures 20, 21, 24, 30, 32, 51*).

An aqueous solution of warm glue, used in the conservation process, the excess of which was removed from the surface with moistened in distilled water and well-pressed cotton swabs of medium size and density, made it possible to remove most of the strong persistent surface contaminants from the surface of the historical gilding. Additional sampling of contaminants in individual recesses of the relief was performed using enzymes, which slightly moistened micro tampons on toothpicks.

The historical gold on the lacquer binder, after the soil conservation and removal of persistent contaminants' surface, came to life and sparkled with a new luster, as if the masters of the beginning of the last century had performed it only yesterday.

In the technology of the 18th century, there was silver under the entire matte gilding surface, since at that time they gilded the so-called "double", bimetallic plates, one side of which was silver and the other was gold. In the 19th century, the "double" was replaced for simplicity with adhesive silvering of the matte areas surface, on top of which glue gilding was performed, which gave almost the same effect. In our case, the masters of the early 20th century did not do this work for two reasons: firstly, they had little time (only seven months); and secondly, the restoration leaders of that period did not see the difference in the shades of gilding on silver and without it. This is written in A.P. Aplaksin's report (*Figure 27*).

The high-gloss gilding on the polymer on both frames suffered greatly from the effects of dampness and dirt, it lost its gloss and the appearance of cast metal. In places, instead of gilding on the polymer, only trace ends of the polymer remained. The gilding restorers had to restore these two types of gilding locally at the respective sites.

The trace remains of the historical poliment on the preserved historical fragments, knowledge of the laws of the style of the 18th century, the technologies of the old masters helped modern masters to determine the traditional areas of glossy gilding. After applying several layers of the new polymer to the areas of the replenished restoration and historical levkas, glossy gilding with gold leaf, weighing 2.5 g in the book, was performed after drying the cast metal polished according to tradition, with agate teeth to shine (*Figures 22, 25, 31, 35, 52, 62, 66*).

All other sections of the restoration levkas intended for matte gilding were successively coated with alcohol shellac varnish three times with drying of each layer, and then a gulfarba was applied to them. This is a multicomponent oil composition applied to areas of matte gilding before applying gold in one layer. After the appearance of the "working impression" on the lacquer layer, matte gilding was performed with light gold leaf with the weight of the book already 1.25 g (*Figures 22*, 25, 31, 35, 52, 62, 66).

During the conservation of the historical soil, all the historical gold of the frames was preserved and served as a standard of color for the restorers of gilding for subsequent tinting in the areas of the recreated matte (lacquer) gilding. These tinting was performed on the areas of the new gold coating to match the color of the preserved historical by applying a tinted matte protective solution, which included alcohol extracts of their bark, plant roots, and exotic resins.

The matte solution was applied to the areas of the entire gilding (both historical and restoration) on a well-dried surface, 21 days after gilding in a warm form with a squirrel flat brush-a large shovel without leveling. It is very important to pay special attention to this operation, since repeated exposure to the tinted surface with a solution can lead to the loss of the cover protective film of the matte solution and distort the color solution (*Figures 22*, *25*, *31*, *35*, *52*, *62*, *66*).

The back side of the frame, in order to protect the wood from contamination and fluctuations in air humidity, was glued with mezdra glue and painted with a composition of the pigment "ochre light" on the same aqueous solution of mezdra glue.

Both icons, painted on wooden boards, originally had niches in which small icons – images of saints – were previously inserted. In the hagiographic icon of *Nicholas the Wonderworker*, just

above the middle of the icon board, there was his image, according to legend, written in the 17th century. Previously, it was placed in a small frame, which was lost during the years of oblivion of the temple, but the image itself miraculously survived (*Figures 6*, *36*, *44*).

The customer decided to reconstruct (recreate) the frame to the preserved sample on the basis of iconographic material, which was done by woodcarvers. They first made a life-size model of soft material based on K.K. Bulla's photo published in the Jubilee Album; then, after its approval by the commission, they transferred this model to plaster and executed it in authentic monument material (*Figures 6, 36, 37, 38, 39*).

The gilding restorers, in turn, recreated the ground-levkas on natural mezdra glue and performed a combined gilding with a combination of glossy and matte gilding, as it should be according to technology on a large original frame to the icon. It was tinted with a colored coating matte solution, which was sampled with vegetable dyes, not to differ in color from the historical gilding of the early 20th century (preserved at least partially) for the new frame (*Figures 40, 41, 42, 43, 44*).

On the icon Mikhail Malein and John the Warrior there was also a niche for the icon in the upper part, but, unfortunately, the original objects were not preserved: neither the original icon of the Vladimir Mother of God, nor the frame to it. However, among the photos of the Anniversary Album there was an image of a lost icon in a frame. It was possible, as in the first case, to reconstruct the frame, and to pick up an icon with the image of the Vladimir Mother of God or even create a list of it, since this is a fairly common image (Figures 7, 65, 66).

In this situation, the commission made a different decision: not to restore this fragment, explaining its decision by the absence of historical artifacts. In this unfinished version, the icon *Mikhail Malein and John the Warrior* in a large gilded frame was placed in the main chapel of the temple opposite the icon of *Nicholas the Wonderworker in Life* (*Figure 66*).

All types of work were constantly monitored and accepted by the Customer and the representative of the Committee for State Control, Use and Protection of Historical and Cultural Monuments with a high assessment of the performance of works on conservation, restoration and recreation of individual elements, about which the relevant documents were drawn up. The assembly of frames and their hanging on historical sites was already performed in the cathedral.

Conclusion

The frames for the temple icons, transferred to the work of the restorer of sculpture and woodcarving, as well as the restorers of gilding, have passed a complex technological path. The lost fragments were modeled in soft material and all the missing fragments of the base were filled in the authentic material of the monument made of linden wood. The basis of all the frames listels has been duplicated.

The historical ground with gilding has been strengthened, that is, preserved, persistent multilayer surface contamination has been removed. Areas of local preservation of historical gilding have been identified. In addition, local silvering under gilding on the ribbon in the lower part of the lower frames' listel was also revealed. This type of finish was repeated by the masters of the 21th century on the corresponding sections of the frames.

Locally, the ground-levkas was replenished and a type of decorative gilding on a polymer and a lacquer binder – gulfarbe, corresponding to the historical variant, was locally made on it.

The restoration gilding was tinted to match the color preserved on the frames using a reversible matte solution with natural dyes.

The success in this work is due not only to their professional experience and skill, but also to the informative iconographic material that helped the restorers to bring back to life and preserve two beautiful monuments of the history of church art of the 18th century, created by the hands of Russian serfs, preserved by the hands of restorers of the early 20th century and almost died irretrievably in the dashing years.

All tasks assigned to the team of restorers of various professions were completed in full, and the step-by-step photo fixation of the restoration processes shows how the master restorers brought two monuments of church decorative and applied art back to life from the dirty wreckage.

To the delight of the restorers, the two frames and the icons returned to their rightful places to delight their contemporaries and descendants with their beauty and uniqueness, to teach them a careful attitude to the work, often nameless, masters of the past, to remember the need to preserve cultural heritage.

A large creative team of restorers participated in this difficult work: wood carvers Vyacheslav Gennadievich Karabanov, Alexander Sergeevich Shirmanov, Andrey Alexandrovich Agapitov, Alexander Nikolaevich Anisimov, Valery Sergeevich Antonov, and Alexey Valeryevich Antonov; sculptor and wood carver Viktor Vasilyevich Larionov; sculptor Elena Viktorovna Stepanenko, gilding restorers Margarita Alexandrovna Zavgorodnaya, Tatiana Nikolaevna Kozhukhar, Natalia Borisovna Babanova, and Irina Yuryevna Rybalko. They worked under leading of Natalia Fomicheva, a gilding artist-restorer of the highest category, chief specialist of the company, head of the project of restoration of frames to temple icons, author of Methodological Recommendations.

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Appendix



Figure 1. Diocesan architectrestorer, civil engineer, artist, archaeologist, historian of Russian architecture, writer, member of the Imperial Archaeological Commission, author of the restoration project of the Sampson Cathedral in 1908-1909 – Andrey Petrovich Aplaksin (1879-1931)



Figure 2. Architect-curator of the restoration of the Sampson Cathedral in 1908-1909, teacher, archpriest of the Russian Orthodox Church, member of the Imperial Archaeological Commission – Pyotr Petrovich Pokryshkin (1870-1922)



Figure 3. Anniversary album about the restoration of the Sampson Cathedral in 1908-1909, published for the 200th anniversary of the Victory in the Battle of Poltava in 1709.



Figure 4. Karl Karlovich Bulla – portrait painter and master of documentary photography, hereditary honorary citizen of St. Petersburg (1855-1929)



Figure 5. Details of the frames for the temple icons and the altar Canopy of the Sampson Cathedral in the process of restoration in the workshop. 1908.



Figure 6. The frame and the temple icon *Nicholas the Wonderworker in the Life* of the Sampson Cathedral after the restoration of 1909



Figure 7. The frame and the temple icon *Mikhail Malein and John the Warrior* of the Sampson Cathedral after the restoration of 1909



Figures 8-9. The loss of fragments of the carved decor of the frame and strong persistent surface contamination of the surface of the frame parts



Figures 10-11. The loss of fragments of the carved decor of the frame and strong persistent surface contamination of the surface of the frame parts



Figures 12-13. The loss of fragments of the carved decor of the frame and strong persistent surface contamination of the surface of the frame parts



Figures 14-15. The loss of fragments of the carved decor of the frame and strong persistent surface contamination of the surface of the frame parts



Figures 16-17. The loss of fragments of the carved decor of the frame and strong persistent surface contamination of the surface of the frame parts



Figure 18. Frame for the temple icon *Nicholas the Wonderworker in Life.* The top listel is used before the restoration of the foundation and the restoration of its losses



Figure 19. The frame for the temple icon *Nicholas the Wonderworker in Life*. The upper listel after the restoration of the loss of sculptural and ornamental decor



Figure 20. Frame for the temple icon *Nicholas the*Wonderworker in Life. The upper listel is in the process of restoration: local reconstruction of the losses of the levkas and removal of persistent surface contamination while preserving the historical gilding of 1909



Figure 21. The frame and the temple icon *Nicholas* the *Wonderworker in Life*. The back side of the upper listel with a duplicated base in the process of recreating the lost ground-levkas



Figure 22. The frame for the temple icon *Nicholas the Wonderworker in Life.* The upper listel after performing a complex of conservation and restoration works



Figure 23. Frame for the temple icon *Nicholas the Wonderworker in Life*. The lower listel before the preservation of the historical soil and the removal of persistent surface contamination in the process of replenishing the loss of sculptural and ornamental decor



Figure 24. Frame for the temple icon *Nicholas the Wonderworker in Life.* The lower listel after the preservation of the historical soil, local replenishment of its losses and removal of persistent surface contamination



Figure 25. Frame for the temple icon *Nicholas the Wonderworker in Life.* The lower listel after a complex of conservation and restoration works



Figure 26. Fragment – the center of the lower leaf of the frame to the temple icon *Nicholas the Wonderworker in Life* before the conservation and restoration of the levkas and gilding, after the restoration of the loss of ornamental and sculptural wood carving



Figure 27. Fragment – the center of the lower leaf of the frame to the temple icon *Nicholas the Wonderworker in Life* in the process of resetting the decorative trim with a silver gilt lining on the ribbon, as an analogue of historical decoration



Figure 28. The label of A. Jessel's company, found on the back of the right listel to the temple icon Nicholas the Wonderworker in Life during the restoration



Figure 29. The left frame listel to the temple icon *Nicholas the Wonderworker in Life* before the restoration of the loss of the base with characteristic strong persistent surface contamination of the base and historical gilding



Figure 30. The left frame listel to the temple icon *Nicholas the Wonderworker in Life* in the process of preserving the historical levkas and local reconstruction of its losses with the control of clearing the surface from persistent contamination (in the center)



Figure 31. The left frame listel to the temple icon *Nicholas the Wonderworker in Life* after a complex of restoration works



Figure 32. The right frame listel to the temple icon *Nicholas the Wonderworker in Life* in the process of preserving the historical levkas and local reconstruction of its losses, with the surface cleared of persistent contamination of historical gilding



Figure 33. The right frame listel of the to the temple icon *Nicholas the Wonderworker in Life* after the preservation of the historical levkas with gilding, local soil replenishment. Gilding of two types and tinting of restoration gilding to match the color of the historical



Figure 34. General view of the frame for the temple icon *Nicholas the Wonderworker in Life* in the assembly after a comprehensive restoration of the foundation and reconstruction of the loss of ornamental and sculptural carved decor



Figure 35. General view of the frame for the temple icon *Nicholas the Wonderworker in Life* in the assembly after a comprehensive restoration of the base and decorative decoration in the form of gilding



Figure 36. Iconographic material for the reconstruction of the lost work. Small frame to the image of St. Nicholas from the icon *Nicholas the Wonderworker in the Life.* Photo from the album of A.P. Aplaksin. Executed by K.K. Bulla in 1909



Figure 37. Reconstruction of the lost small frame to the image of *Nicholas the Wonderworker* based on the photo of K.K. Bulla in 1909. Execution of the model in a soft material



Figure 38. The transfer of the model from soft material to plaster to continue working in the authentic material of the monument – the wood of the linden tree



Figure 39. Execution of the frame to the image of *Nicholas the Wonderworker* according to the model in the wood of the linden tree



Figure 40. Reconstruction of the ground-levkas on the recreated frame to the image of *Nicholas the Wonderworker*. Designation of places of glossy gilding on the polymer



Figure 41. Performing glossy gilding on a polymer and covering areas of future matte gilding with alcohol shellac varnish



Figure 42. Execution of glossy gilding on a polymer and matte on a gulfarb, followed by tinting of restoration gilding to match the color preserved on the large frame to the icon *Nicholas the Wonderworker in Life*



Figure 43. The image of *Nicholas the Wonderworker* of the 17th century in a recreated frame inserted into a niche on the icon of *Life*, according to the photo of K.K. Bulla, 1909



Figure 44. The frame to the temple icon after a comprehensive restoration of the base and decoration in the form of decorative combined gilding and reconstruction of the lost frame to the image of Nicholas the Wonderworker of the 17th century



Figure 45. The frame for the icon *Mikhail Malein and John the Warrior* before the restoration of the base during the selection of authentic fragments for the restoration of the carved decor



Figure 46. The upper frame listel to the temple icon *Mikhail Malein and John the Warrior* before the restoration of the losses of carved and sculptural decor with losses made up in soft material-plasticine





Figures 47-48. Small angels, models in soft material



Figure 49. The upper frame listel to the temple icon *Mikhail Malein and John the Warrior* after the restoration of the loss of carved and sculptural decoration in the authentic material of the monument – linden wood



Figure 50. The back side of the upper frame listel to the temple icon *Mikhail Malein and John the Warrior* after duplicating the original carving of the 18th century on a new foundation



Figure 51. The upper frame listel to the temple icon Figure 52. The upper frame listel to the temple Mikhail Malein and John the Warrior after the restoration of the loss of carved and sculptural decoration, local reconstruction of the lost groundlevkas



icon Mikhail Malein and John the Warrior after the restoration of the loss of carved and sculptural decoration, local reconstruction of the levkas and local decorative gilding on the polymer and lacquer with tinted restoration gilding to match the color of the preserved historical



Figure 53. Search and selection of fragments for a specific part of the frame



Figure 54. Search for the specific location of the identified fragment of the frame part to the icon



Figure 55. The left frame listel to the icon *Mikhail Malein and John the Warrior* in the process of modeling the loss of carved and ornamental decor



Figure 56. The left frame listel to the icon *Mikhail Malein and John the Warrior* in the process of recreating the loss of carved and ornamental decor in authentic material



Figure 57. Mikhail Malein and John the Warrior selection of fragments for the restoration of the carving of the right listel



Figure 58. The right frame listel to the icon Mikhail Malein and John the Warrior in the process of modeling the loss of carved and ornamental decor



Figure 59. The bottom frame listel to the icon. Selection of fragments for the restoration of the base and carving



Figure 60. The lower frame listel to the icon *Mikhail Malein and John the Warrior*. Modelling the loss of carved decor in plasticine



Figure 61. The lower frame listel to the icon *Mikhail Malein and John the Warrior* after recreating the carved and ornamental decor



Figure 62. The lower frame listel to the icon Mikhail Malein and John the Warrior after a comprehensive restoration



Figure 63. General view of the back side of the frame to the temple icon *Mikhail Malein and John the Warrior* in the process of duplicating the base and dry assembly of the frame



Figure 64. General view of the front side of the frame to the temple icon *Mikhail Malein and John the Warrior* in the process of restoration – recreation of carved and sculptural decor



Figure 65. The icon of the *Vladimir*Mother of God in a carved gilded frame.

Photo of 1909 from the album of

A.P. Aplaksin



Figure 66. General view of the temple icon *Mikhail Malein and John the Warrior* in a frame after a comprehensive restoration of carved ornamental and sculptural decoration with gilding of two types without the icon of the *Vladimir Mother of God* and the frame to it in the upper part