

# Methods of the Restoration of Wooden Architectural Monuments in Russia\*

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**Abstract**—Monuments of wooden architecture constitute a significant and valuable part of the architectural heritage of Russia. Work on their preservation has its own specifics, due to the material and its properties. The article deals with the methods of restoration of historical wooden buildings. The main trends in the Russian restoration practice are noted. Examples illustrating various restoration methods and approaches are analyzed. The advantages and disadvantages of each of the considered restoration methods for wooden objects are revealed. The criteria for assessing the quality of implemented restoration solutions are the accuracy and authenticity. Restoration correct results on the majority of monuments of wooden architecture give the application of an analytical method.

**Keywords**—restoration of wooden buildings; restoration methods; analytic approach

## I. INTRODUCTION

Wooden architectural monuments are an original part of Russia's cultural heritage. Wood was the dominant building material used in Russia for hundreds of years. The abundance of timber and the ease with which it could be worked made wooden structures readily available and inexpensive. Furthermore, in comparison with masonry edifices, wooden houses were warmer and drier, and therefore more comfortable for habitation. Expertise in building with wood was accumulated and perfected over the centuries, being handed down from generation to generation. This made it possible to develop the most rational construction techniques and striking architectural forms [1].

Due to the short life of the material, a relatively small number of historical wooden buildings have come down to us today. Despite the tremendous losses, however, our country still has around 130 wooden churches built in 16th-

18th century. There are additionally around 150 churches built in 19th century. Besides these, in the regions of the Russian North there are around 300 surviving chapels dating from the 19th to early 20th centuries and countless dwelling houses from the late 19th and early 20th centuries. We focus on questions of the methodology employed in restoring wooden buildings, examine various approaches and analyze planned restoration solutions and their implementation.

## II. RESTORATION WORKS AFTER THE SECOND WORLD WAR

The evolution of the restoration of wooden architecture in Russia has on the whole been in line with general European tendencies. The first attempts to carry out such work date from the early 20th century [2] - the same time, when the first studies of monuments of wooden architecture and the formation of the heritage protection system took place [3]. They were marked by a fairly relaxed attitude to authenticity. After 1917 hardly any restoration of timber buildings was carried out. Large-scale restoration of wooden architectural monuments unfolded only after the Second World War. At that time the predominant aims in such work on both wooden and masonry buildings were to recreate the original appearance.

The most significant restoration projects of the post-war years were carried out on the Dormition Church in Kondopoga (1774), the Dormition Cathedral in Kem' (1711–17), the Kizhi pogost complex (XVII–XIX centuries, see Fig. 1), the Church of the Virgin from the village of Kholm (XVIII centuries), and the Transfiguration Church from the village of Spas-V žhi (1713).

In the late 19th and early 20th centuries, the majority of those buildings were given wooden cladding, metal roofs and new extensions and porches in place of old ones. The restorers of the 1950s and 60s inherited the attitudes of the early 20th century architects. To return buildings to their original appearance, they resolutely removed later additions and cladding and carried out reconstruction of the wooden roofs. In doing so, they performed a fair amount of non-authentic recreation of porches, galleries and decorative details. As a result of restorations of this sort, the buildings

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acquired an exceptionally expressive and stylistically whole outward appearance. The architect-restorer Aleksandr Opolovnikov established a methodology for the restoration of wooden edifices in accordance with the tendencies prevailing at that time [4]. ("Fig. 1")



Fig. 1. The Kizhi pogost complex (17th-18th centuries) (Picture of the author).

Particularly strong alterations were made during the restoration of architectural monuments that were being moved to open-air museums. The dismantling of a structure opened up extensive opportunities to replace and reconstruct lost parts of a building. The re-sited churches of the Nativity of the Virgin from the village of Perëdki (early 16th century), of St. Nicholas from the village of Vysokii Ostrov (18th century), of the Ascension from the village of Kushereka 1669 (see "Fig. 2") and of St. George from the village of Verzhina (1672), have a large number of dubious reconstructions made on the basis of marks on the walls or by analogy.



Fig. 2. Church of the Ascension from the village of Kushereka (1669) in open-air museum "Malyie Korely". (Picture of the author).

On the other hand, the removal of the buildings to museums preserved them from destruction. The reconstructions carried out on the edifices at that time are historically plausible and display excellent artistic taste. The removal of later accretions made it possible to uncover and demonstrate the beauty of Russian traditional wooden buildings and make them part of the world's cultural heritage.

Dwellings and service buildings are easier to restore since they are relatively late works without a complex constructional history. Yet they, too, have undergone numerous changes and losses over their lifetime. The majority of restored objects are to be found in open-air museums. All the dwelling houses in museums have been restored back to their original appearance. The recreation of their details and parts is made easier by an abundance of analogies.

However, not all buildings in the post-war period were restored back to their original appearance. In some edifices that were left in situ, later additions were preserved during restoration.

The Church of St. John the Divine in the village of Bogoslov on the River Ishnia (1687) came down to us with a refashioned superstructure and cladding on the walls, a lost gallery and a bell tower that was added on later. In Opolovnikov's project drawings we find various solutions: removal of the bell tower with the recreation of the original porch; removal of the cladding without the recreation of the gallery with preservation of the later bell tower [5]. The example of the treatment of this object shows us an attitude that contemplated alternatives, a deviation from strict insistence on recreating the original appearance and a search for a more flexible part-by-part approach.

### III. RESTORATION WORKS DURING 1970-1990

Restoration projects in last soviet period have displayed a greater variety of approaches. On a par with all-of-a-piece restorations, the practice has emerged of keeping all later additions. A number of new projects have been appearing in which opening up of the original structure is combined with the preservation of later parts.

In all-of-a-piece restorations, major removals remain quite frequent. For example, in the cases of the Church of John the Baptist in the village of Shirkovo 1694 (see "Fig. 3") and the Church of the Prophet Elijah in the village of Samino (1692), to achieve a harmonious appearance the bell towers built on in the 19th century were removed.



Fig. 3. Church of John the Baptist in the village of Shirkovo (1694). (Picture of the author).

The restoration of the Church of the Nativity of the Virgin and its bell tower in the village of Gimreka (1695) entailed the removal of cladding. Many details and decorative elements were recreated. The ensemble undoubtedly lost in authenticity, but it acquired an expressive and integral appearance. This project precisely continued the course laid down by Opolovnikov's post-war restorations.

A fairly authentic result was produced by the restoration of the Church of St. Demetrius of Salonica in the village of Verkhniaia Uftiuga (1784). This building was not reconstructed much over its history. It escaped cladding and retained many authentic details. The recreations were made with a high degree of confidence. On this project, for the first time in restoration practice, experience was obtained in the revival of historical carpentry techniques [6].

One of a number of buildings restored with the preservation of a look that took shape at a later stage of construction — the Church of St. George in the village of Iuksovichi (1495). It was refashioned in the 17th and 19th centuries. The restoration envisaged the retention of all the changes and additions, including the cladding. Inside, however, authentic antiquity is preserved: log walls and carved pillars. The only change that was made during the restoration was the removal of the nineteenth-century porch and the hypothetical recreation of the ancient porch [7].

There are a special small group of cases in which uncovering of the exterior is combined with preservation of a considerable portion of later changes. Such restorations began to appear in the 1980s.

The Church of St. Nicholas in the village of Liavlia dates from 1584 and is the oldest surviving tent-roofed church in Russia. In the course of restoration the ancient part was freed of cladding, but it was not restored to its original height. The old windows were opened up in its walls and traces of the lost gallery were revealed. The original wooden shingle covering of the tent roof, the cupola and the ogival-sectioned "barrel" roofs of the side parts was reinstated, while the later narthex was retained [8]. The Church of St. Nicholas in its restored form has practically no questionable recreations. This instance demonstrates the uncovering of the ancient parts of a building with a minimum of recreation.

The Church of St. Nicholas in the village of Soginitsy 1696 (see "Fig. 4") was also reconstructed over the course of its history. The church and bell tower were built at different times. During the restoration the main part of the church was completely returned to its original appearance, but the later cladding was retained on the bell tower along with the later treatment of the belfry stage. Different restoration approaches were applied to different parts of the ensemble. The resultant contrast is softened by the fact that the church is separated from the bell tower by an open porch.



Fig. 4. Church of St. Nicholas in the village of Soginitsy (1696). (Picture of the author).

#### IV. RESTORATION WORKS DURING 2000-2018

This period is characterized by a more cautious approach to the removal of later layers. Many restorations are carried out with the preservation of later layers. Among them the complex of the Il'insko-Vodlozersky pogost comprises a church, a bell tower and an enclosure with a gate. The Church of the Prophet Elijah (1798) has been through at least four stages of construction. During restoration all the later accretions were preserved, including the cladding of the walls and the metal covering of the domes. A large portion of the cladding had been lost and was made anew [9]. The large volume of the building covered in cladding looks rigid and doesn't go with the old log enclosure.

A recent example of the historical approach is the restoration of the Church of the Prophet Elijah in the village of Tsyfino (1755). The building was heavily reworked in the nineteenth century: the entrance part, the top, the cladding of the walls and the metal roofs. In the 1980s a plan of restoration was drawn up to take it back to its original appearance. In the early 2000s an amendment was made to the plan calling for the combination of the removal of the cladding with the reconstruction of the later domed top with metal roofs. At the time of the restoration, however, a new plan was adopted — to preserve precisely the external appearance as it had formed by the start of the 20th century.

While the later appearance of the exterior was preserved, on the inside the log walls and traces of the refashioning of window and door openings were almost always uncovered and the original details of the interior were reinstated. As we



have seen, a full-blown authentic recreation of the appearance is not achieved either through all-of-a-piece restorations or with the preservation of later accretions.

Currently, restoration projects are still being implemented with the return of the original appearance, although there are not many such works.

For many years, the restoration of the Church of the Transfiguration of Kizhi churchyard continues [10]. The restoration project involves the preservation of open log walls and wooden roofs. In General, this is the restoration of the original appearance.

The Church of the Deposition of the Robe from the village of Borodava 1485 (see "Fig. 5") was moved to the compound of the Kirillo-Belozerskii Monastery. It was refashioned many times and has been restored more than once. During the first restoration, the cladding and metal roofs were removed. At the time of the 2010 restoration further research was carried out. On the basis of traces, various types of nail-less roofs were recreated. However, there are no analogies for such nail-less roofs and details in any known Russian church [11]. It seems to me that reconstructions like this which provoke questions would be better left on paper and not implemented on such a unique edifice.



Fig. 5. Church of the Deposition of the Robe from the village of Borodava (1485) before the restoration in 2010. (Picture of the author).

A recreation of the original appearance was carried out on St. George's Church from the village of Semënovskoe (1685) that has been moved to the Kolomenskoe Museum-Preserve in Moscow. During restoration all later accretions were removed and the original forms were reinstated. There were sufficient grounds for the recreation of the details of the main part, but the porch was made on the basis of analogies [12]. All objects moved to museums consistently continue to be restored back to their original appearance.

Finally, I shall examine fragmental restorations.

Church of St. Nicholas, in the village of Nënoksa (1762), has also been through a series of reconstructions. The project was undertaken containing five alternative approaches to its restoration. Methodologically this was very useful for the adoption of the optimum solution. Each alternative was

assessed in terms of the preservation of authenticity and degree of documentary evidence. An option was chosen that included only trustworthy recreations with minimal resort to analogies [13].

The Church of the Presentation in the Temple in the village of Zaoostrov'e (1688) has also come down to our times with significant changes and losses. This is a unique building, imitating the forms of masonry churches. There is insufficient information for a full recreation of the original appearance of the edifice. The walls bear indecipherable traces of a gallery and a walkway to another church that is long since lost. A further consideration is that the later four-sloped roof is practical for the reliable preservation of the building. The restoration plan proposed a restoration by parts. The late metal roof is combined with partially revealed rounded gables usually associated with vaults. Organised guttering is being planned. The roofs of the sanctuary and narthex are being reconstructed on the basis of traces. On the walls, the original windows can be found alongside later ones. A modern simply shaped porch is proposed.

## V. CONCLUSION

So, a variety of methods are employed in Russia for the restoration of wooden architectural monuments. The dominant trend is to completely remove cladding and recreate the original appearance. As we have seen, however, the results are varied. A building's authenticity is diminished by too many removals and recreated parts. The shortcoming of restorations that preserve all the later elements is a failure to reveal the building's history and the early stages of construction, which are the most interesting from an architectural and artistic point of view.

Timber buildings are easier to reconstruct than masonry ones. The wooden architectural monuments that have come down to us are made up of elements from different times and have many additions of varying quality as well as losses, including those that can no longer be made good with reliable authenticity. The artistic integrity and stylistic unity of a building undergoing restoration is usually achieved at the expense of its authenticity.

Maximum preservation of the authenticity of an object undergoing restoration requires the minimization of recreations and removals. In the majority of works of wooden architecture, the optimum balance between recreation and removal can only be achieved with an analytical approach, differentiated for each differently dated part of the building. This makes it possible to reveal the history of the building to the greatest extent, while at the same time preserving its authentic later parts and details.

However, despite the promising and attractive qualities of the differentiated method, it cannot be considered exclusively preferable. Each building has its own unique history and, furthermore, the situation regarding preservation is different in each case. This determines an individual approach for each building and the particular method of restoration that is optimal for its preservation.

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