

## QUESTIONS ON THE OBJECT'S AUTHENTICITY IN UKRAINE'S RESTORATION SECTOR

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### Abstract

*The authors focused on an important aspect of the preservation and restoration industries – authentication of works of art, details and elements of architecture, as well as the importance of proving the dating of architectural objects and works of art. This issue has always been relevant for Ukraine, as well as for other countries, and it became even more relevant during the post-war reconstruction when 863 objects of cultural heritage were destroyed and damaged in the period from 24.02.2022 to 25.11.2023. The existing experience of the "Ukrrestavratsiia" corporation in the field of authentication and dating of architectural monuments, decorative elements, and works of art was analysed. The procedure for establishing the dating and authenticity of works of art is described in specific examples*

**Keywords:** *Scientific investigation; Restoration industry; Ukraine; Authentication problem*

### Introduction

Along with the direct issues of the monument protection and restoration industries, related to the preservation of the authenticity of the historical environment, compliance with the principles of zoning of city territories, legislation in the field of protection and restoration, with issues of restoration methods and technologies, an important issue is the correct dating of architectural objects, elements of decor and works of art. As the experience of Ukraine shows, in the same object there can be layers of different times. In the case when restoration of such an object or reconstruction of destroyed fragments is carried out, there is always a debate about what is authentic or most valuable in this object.

For example, such a discussion arose during the reconstruction of the destroyed St. Michael's Golden-Domed Cathedral and the Assumption Cathedral of the Kyiv-Pechersk Lavra in Kyiv. These two cathedrals, which are symbolic of Ukraine, underwent several stages of reconstruction, starting from the time of Kyivan Rus until the beginning of the 20th century. Not all reconstructions were successful, so it was customary to take as a basis the appearance of cathedrals in the Baroque period – the times of the greatest perfection of the architectural and artistic image.

The same problem arises when assessing the significance and period of works of art, since there may be later images on top of frescoes or paintings, and the task of restorers and art

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historians is to objectively assess the artistic value of those layers to decide whether they should be preserved, or delete. In the case when later records also need to be preserved, special restoration technologies are used, which will be discussed later.

The main purpose of the article is to prove the importance of authentication of artifacts, and their dating, as well as to analyse the existing experience of their research and restoration with the possibility of further exposure, using specific examples of Ukrainian objects.

The purpose of the study led to the selection of the source base in the following directions:

1) problems of degradation of the historical environment, museumification of monuments, preservation of architectural heritage – articles by V. Petrušonis [1], L. Pujia [2], P. Spiridon, I. Sandu I. [3], P. Spiridon et al. [4];

2) analysis of the role of natural and climatic conditions in the perception of an architectural object in the environment – articles by D. Chernyshev et al. [5], Y. Ivashko et al. [6], O. Sleptsov et al. [7];

3) restoration experience – articles by J. Abbasi et al. [8], P. Alfieri Paula et al. [9], S. Baiandin et al. [10], G. Chidichimo et al. [11], G. Frunzio, L. Di Gennaro [12], P. Gryglewski, et al. [13], J.V. Oliver-Villanueva et al. [14], M. Orlenko et al. [15–18], I. Sandu et al. [19];

4) problems of vocational education – articles by D. Kuśnierz-Krupa et al. [20], O. Fomenko et al. [21];

5) problems of the cultural heritage of wartime – articles by S. Belinskyi et al. [22], Y. Ivashko et al. [23–26], T. Kozłowski et al. [27], A. Nadolny et al. [28];

6) specialized handbooks on restoration [29].

The processing of the source base proved the need for a wider coverage of the aspect of the reliability of dating and authentication in the field of restoration, which must be shown on specific examples.

The tasks of the research were as follows:

– to argue the relevance of the research topic, especially during the Russian-Ukrainian war;

– provide information on the total number of objects in the Register of Cultural Heritage of Ukraine;

– provide data on loss and damage to objects of cultural heritage;

– to argue the importance of objective dating of architectural monuments and works of art, and authenticity of artifacts for the field of restoration and preservation.

Based on the study of the existing source base, it was established the need for wider coverage of the methods of determining and dating architectural monuments and works of art, as well as those methods of determining the authenticity of artifacts that are currently used in Ukraine.

## Materials and methods

The choice of general scientific research methods was influenced by the specific research topic. The main methods used were:

1) theoretical: historical analysis, art analysis, comparative analysis;

2) practical: photo fixation, graph-analytic, experimental.

In particular, the methods of the theoretical group provided a basis for the experimental practical part and supplemented it with reasoned archival and art history sources. The methods of the experimental group demonstrated how the process of dating the artifact takes place, how

the problem of restoration and reproduction of the object as of a specific period is solved, and establishing the authenticity of the object.

## Results and discussion

### *Experience in resolving issues related to the restoration and reproduction of an object to its specific historical period*

The topic of attributing architectural monuments and works of art is particularly relevant for Ukraine, where as of December 31, 2022, the total number of registered cultural heritage sites and objects reached 144643. However, the total number of cultural heritage sites registered in the State Register of Immovable Monuments as of January 2024 was 24502, which is 17% of the total number of registered sites. Architectural and artistic landmarks are being damaged not only during the Russian-Ukrainian war but also due to lack of funds for their maintenance.

Of course, the main losses of the cultural heritage of Ukraine today are related to the war, the number of destroyed and damaged objects of cultural heritage in the period from 24.02.2022 to 25.02.2024 amounted to 945 objects, of which 128 were monuments of national importance, local value – 742, newly discovered objects of cultural heritage – 75. This figure is constantly growing [30].

Among the damaged and destroyed landmarks there are 293 architectural monuments, 269 monuments of architecture and urban planning, 236 historical monuments, 33 monuments of architecture and history, 25 monuments of monumental art, etc. [30].

Objects of cultural heritage were damaged or destroyed in 17 regions, in particular [30]:

Kharkiv region – 235 damaged or destroyed monuments of cultural heritage (Bogodukhiv district – 6; Izium district – 14; Krasnohrad district – 2; Lozova district – 1; Kharkiv district – 197; Chuhuiv district – 15). Including 10 of national importance, 221 of local importance, 4 newly discovered cultural heritage objects.

Donetsk region – 128 (Kramatorsk district – 44; Mariupol district – 27; Bakhmut district – 28, Pokrovsk district – 24; Volnovakha district – 5). Including 15 of national importance, 113 of local importance.

Odesa region – 119 (Bilhorod-Dnistrovskyi district – 1; Odesa district – 117, Izmail district – 1). Including 28 of national importance, 91 of local importance.

Kherson region – 116 (Beryslav district – 18; Kakhovka district – 35; Kherson district – 63). Including 17 of national importance, 64 of local importance, 35 newly discovered cultural heritage objects.

Chernihiv region – 70 (Chernihiv district – 63; Koryukivka district – 1; Novhorod-Siverskyi district – 2; Nizhyn district – 3; Pryluky district – 1). Including 27 of national importance, 37 of local importance, 6 newly discovered cultural heritage objects.

Kyiv region – 69 (Bila Tserkva district – 1; Brovari district – 5; Bucha district – 14; Vyshhorod district – 6, Kyiv city – 43). Including 16 monuments of national importance, 37 monuments of local importance, and 16 newly discovered objects.

Zaporizhzhia region – 38 sights of local importance (Vasylivskyi district – 12; Zaporizhzhia – 15; Polohy district – 10; Melitopol district – 1).

Lviv region – 36 (Zolochiv district – 1; Stryi district – 1; Lviv district – 34). Including 2 of national importance, 34 of local importance.

Dnipropetrovsk region – 34 (Dnipro district – 15; Kryvyi Rih district – 4; Nikopol district – 14, Pavlohrad district – 1). Including 1 of national importance, 27 of local importance, 6 newly discovered cultural heritage objects.

Luhansk region – 31 monuments of local importance (Svatove district – 5; Severodonetsk district – 24, Shchastia district – 2).

Sumy region – 25 (Konotop district – 5; Okhtyrka district – 12; Sumy district – 7; Shostka district – 1). Including 5 of national importance, 20 of local importance.

Mykolaiv region – 23 (Mykolaiv district – 23). Including 3 of national importance, 16 of local importance, 4 newly discovered cultural heritage objects.

Khmelnyskyi region – 10 (Shepetivka district – 2; Khmelnytskyi district – 8). Including 1 of national importance, 6 of local importance, 3 newly discovered cultural heritage objects.

Vinnysia region – 4 (Vinnysia district – 4). Including 1 of national importance, 3 of local importance.

Poltava region – 4 (Kremenchuk district – 4). Including 1 of national importance, 2 of local importance, 1 newly discovered cultural heritage objects.

Zhytomyr region – 2 (Korosten district – 2). Including 1 of national importance, 1 of local importance.

Kirovohrad region – 1 (Oleksandriia – 1). 1 of local importance.

According to statistics, the greatest number of losses occurred in the Kharkiv, Donetsk, Odesa, and Kherson regions.

It is already possible to predict huge amounts of restoration of cultural heritage, and important in this process will be the aspect of dating objects, establishing different time layers, assessing their value, identifying valuable and low-value works of art and elements of interior decoration to determine the sequence of restoration and restoration measures. It is objectively clear that the most significant objects will be restored first, while the situation with monuments of local importance is more complicated due to lack of funds and lack of technical information. Even those objects that are monuments of national importance are now only carrying out conservation measures, which should preserve the monument from negative natural factors with the possibility of further complex restoration measures.

As noted by M. Orlenko in his publications [15 – 18], in Ukraine there is accumulated experience in the reproduction of destroyed unique objects, when the question of the feasibility of reproduction for a certain period and dating of both parts of the object and elements of utensils and decor was also raised. This is particularly relevant for sacred objects, since, for example, the St. Michael's Golden-Domed Cathedral and the Assumption Cathedral of the Kyiv-Pechersk Lavra were formed over many periods, each of which made its corrections. The same applies to interior decoration. For example, as noted by M. Orlenko [31, pp.216 – 218], “Based on previous research carried out in 1998, the periodization of the wall painting of the Assumption Cathedral was established:

1) the Ancient Rus period, which began after the completion of the cathedral in the 11th century, during which there was a mosaic image of the Virgin Mary, Jesus Christ, and the saints in the altar area, an image of the Savior in the main dome, and fresco images of martyrs on the walls. Unfortunately, a significant portion of the wall paintings were damaged in the 1230 – 1240s, but fragments of the compositions were preserved until the 17th century, as recorded by Paul of Aleppo. He also reported that high-quality gold smalt and marble were used in the mosaics of the Assumption Cathedral;

2) the 15th century, when during the time of Prince Symon Olelkovych, the Assumption Cathedral was rebuilt, and its interior was decorated with wall paintings. This mural existed until the destruction of the Pechersk Monastery in 1482;

3) the period of the 16th – early 17th centuries, when during the time of the Ostroh princes, repairs were carried out in the Assumption Cathedral, and new paintings appeared in the interior;

4) the period of 1627–1647, when the picturesque compositions mentioned by Paul of Aleppo appeared on the facades of the Assumption Cathedral after the renovation work by Metropolitan Petro Mohyla: "Great Crucifixion", "Three Patriarchs", "Lord and John", the image of St. Stephen above the northern entrance, the image of the Assumption of the Virgin above the central entrance, the wall painting of the western facade with the image of saints. Above the small door of the cathedral was an image of the Mother of God with angels, above the door leading to the Church of John the Forerunner – John the Baptist, and above them, under the very roof, there were plant ornaments;

5) the period of 1687 – 1708, which is associated with the repair work carried out under Hetman Ivan Mazepa. It was during this period that the famous "portrait gallery" of benefactors of the cathedral appeared. Already at the end of the 19th century, only individual fragments of compositions survived from Ancient Rus wall paintings and wall paintings executed before the beginning of the 19th century. In 1896, the four upper rows of the iconostasis were removed, and at the same time the 18th-century frescoes on the interior walls of the cathedral were covered over, including the "portrait gallery" of benefactors of the Lavra Monastery and hetmans, including hetmans Bohdan Khmelnytskyi and Ivan Mazepa;

6) the period of 1720 – 1730, when the wall painting appeared, made after the fire of 1718;

7) the period 1772 – 1777, when painting works were carried out in the Assumption Cathedral under the direction of Z. Golubovskyi. At the same time, some compositions from the previous period were removed or supplemented;

8) the period of the first half of the 19th century, when in 1813, 1824, 1829 – 1831 the renovation of the old wall painting continued, and during 1840 – 1842 under the supervision of F.G. Solntsev – his "correction";

9) the period of the end of the 19th century, when in 1893 new paintings on the walls were executed by the artist V.P. Vereshchagin".

Accordingly, when the object is different in time, there is a problem of determining the period for which it should be reproduced. For example, the appearance, decorative decoration, dimensions of St. Sophia Cathedral, St. Michael's Cathedral, Assumption Cathedral in Kyiv were fundamentally different in Ancient Rus times, in Baroque times and underwent certain changes in the 19th and 20th centuries, although not so global. For example, in accordance with the program of reproduction of St. Michael's Golden-Domed Cathedral, the central part was recreated in the style of the Old Russian period, and the side aisles of St. Barbara and St. Catherine – in the style of Ukrainian high baroque (Fig. 1).

And here it is worth mentioning a common problem: in the 18th – 20th centuries, the old wall paintings in churches were renewed and new ones were applied on top of the old images. For those cases when the later wall painting also has a certain artistic value, the specialists of the "Ukrrestavratsiia" corporation have developed techniques for layering the wall painting and transferring the upper, later painting to a new base for its further exposure.



Fig. 1. Wall painting of Catherine's side aisle. Photo by S. Baiandin, 2021.

For example, if it is necessary to open a fresco, without destroying the later layer of wall painting on top of it, restoration measures are carried out in the following sequence [29, pp. 561 – 562]: cleaning the surface from contamination, sealing the surface, marking fragments, dissecting the upper layer of the painting, peeling off fragments, processing of the reverse side of the fragment, preparation of the base for the transfer and installation of fragments, puttying of joints of cuts and cracks, fixation of fresco pigments, puttying of small losses of the fresco. As a result, the upper removed layer of the painting is moved to a new base – a wooden parquet board, on which a layer of fiberglass is glued. Then, the fragment transferred to a new base is opened from the gluing with gauze and paper.

If necessary, it can be transferred to a duralumin base and an oil mural [29, pp. 564 – 565].

Determining the authenticity of works of art, especially from damaged and destroyed objects, will become especially important in post-war restoration efforts, since a certain number of imitations may appear among the artifacts.

#### ***Experience in determining the dating and authenticity of works of art***

Art expert examination occupies an important place in restoration and preservation activities, as it resolves the issue of authenticity, value, and dating of the artifact. When examining artifacts for forgeries, measurements, photo-fixation, and microscopic studies are carried out.

Regarding the determination of the authenticity of the work, the most frequent questions are about the authorship of the artifact, the correspondence of the author's technique, and belonging to a certain school of icon painting. The most frequent questions in expert activity are as follows:

1. Is the subject provided for research an original (author's work), a copy made on behalf of another author, or a copy made on behalf of the author?
2. Who is the author of the work of art provided for research?
3. Is the work submitted for research authentic?

The examination of a work of painting takes place in a certain sequence. First, the basis for painting is characterized, then the type of ground coat.

A detailed description of the basis of the painting includes the type of fiber of the canvas, the colour of the canvas; the nature of thread interweaving, thread tightness, thread defects, duplicated or unduplicated canvas, presence or absence of edges of the author's canvas, method of processing the edges of the canvas and features of its attachment to the subframe, presence/absence of contamination.

The description of wooden bases involves fixing the vertical and horizontal dimensions, the thickness of the base, the method of processing (manual or machine), the number of boards that make up the base, the method of fastening the boards to each other, structural elements (keys, spikes, nails).

The description of metal bases includes the characteristics of the base metal (iron, copper, zinc, tin, silver), the method of production (casting, forging, minting); the presence or absence of stigmas.

The description of cardboard or paper bases has information about the thickness of the base and the presence or absence of duplicate materials. In the case of bases made of glass, bone, and porcelain, the features of the surfaces and their colour are indicated.

After the description of the ground coat, a description of the canvas stretcher (sliding or non-sliding), the dimensions of the canvas stretcher slats, the method of manufacture, the type of connection of the slats, the period of manufacture, the method of attaching the base to the canvas stretcher; additional elements.

The next stage is a stylistic and compositional analysis of the image according to various artistic characteristics, which additionally allows the dating of the artifact to be established.

Together, based on all these stages, a conclusion is made about the dating, authorship, authenticity, or non-authenticity of the work of art, and its monetary value is estimated.

The conduct of the examination is analysed on specific examples of research conducted by N. Kovtiukh from her photo. Examples of non-canonical artifacts and imitations are given. The first investigated work of art is the "Paternity" icon (Figs. 2, 3).

Examination of the icon established that its size is 51 x 41 x 3 cm, the painting is made with oil paints on well-gessoed canvas on a base of three birch boards, connected vertically and fastened with two through oak planks. According to the manner of execution, the icon is dated to the end of the 19th and the beginning of the 20th centuries. The state of preservation of the icon is assessed as satisfactory: the entire surface of the painting layer is covered with a mesh craquelure, and numerous small losses of the paint layer are observed, which are concentrated mainly in the upper part of the icon. It was recorded that the places of loss were covered with a new top coat. Along the perimeter of the icon, there are numerous chips of small size and shedding of the paint layer – from 0.2 cm to 1 cm. The damage also includes four chips from impacts from 0.5 to 2 cm long on the reverse side of the icon on the base along the right edge. The presence of dense surface pollution of various origins was also noted.

Analysis of the stylistics of the plot confirmed the unusual composition of Saint Trinity, where God the Father is represented in a pink-lilac chiton and a green himation, with raised hands, the child Jesus is depicted on the knees of God the Father, he is dressed in a white himation, and above the head of Jesus is the Holy Spirit in the form of a white dove, a six-winged seraph is depicted in the lower part of the icon.

As it was mentioned above, the dating of the icon was carried out according to the style of the image, which includes colours, the construction of the composition, and the image of clothes.



**Fig.2.** Icon "Paternity"



**Fig. 3.** The reverse side of the "Paternity" icon



According to these indicators, the icon was determined chronologically – the end of the 19th and early 20th centuries, and territorially – the regional icon painting school of the south of the then Russian Empire.

Appraisal of the icon proved that it has less artistic value than antique value, and the value of the icon has been reduced due to artisanal restoration in the form of topcoat on top of paint layer losses. Conclusion: the icon does not belong to the cultural values that have artistic, historical, ethnographic, and scientific significance.

According to the same scheme, the icon "St. Great Martyr John the Warrior" (Fig. 4). The icon was dated to the beginning of the 20th century, painted in the technique of oil painting on a linden board with one mortised, through-and-through birch bark (Fig. 5). Its dimensions: 41.7 x 31.4 x 1.8 cm. The surface of the painting is covered with a dense layer of dust and contamination in the form of stains, including mold. Signs of simulated aging were recorded in the topcoat layer, in particular, wrinkling and sagging (Fig. 6).



**Fig. 4.** The icon "St. Great Martyr John the Warrior"



**Fig. 5.** The reverse side of the icon "St. Great Martyr John the Warrior"



**Fig. 6.** A fragment of the icon with simulated varnish deposition

Modern nails with two small pieces of copper alloy foil imitating the remains of the frame were noticed along the perimeter of the front surface of the icon.



**Fig.7.** Imitation of the remains of the frame

On the reverse side of the icon, dense contamination with a layer of dust and stains of various origins is recorded.

As in the case of the "Paternity" icon, the non-canonicity of the construction of the image of the "St. Great Martyr John the Warrior", is because according to the iconographic canon St. John the Warrior is depicted with an uncovered head and three attributes – a cross, a spear and a shield. In this case, the canonicity is violated, and the simulated signs of aging of the icon prove its inauthenticity.

General conclusion: the investigated icon is an imitation of an icon of the early 20th century, does not belong to cultural values, is not authentic, and does not belong to cultural values.

The next object of research for authenticity was the icon "Resurrection with Feasts and Passions" (Figs. 8, 9).



**Fig. 8.** The icon "Resurrection with Feasts and Passions"



**Fig. 9.** The reverse side of the icon "Resurrection with Feasts and Passions"

The size of the icon is 40.3 x 35.2 x 3 cm, it is painted on a base of linden wood, with two counter-incised sprigs of birch, on well-gessoed canvas, with leaf gilding, tempera, applying a pattern with matte gold on a polished gilded surface, engraving on levkas. The condition of the icon is rated as satisfactory. The painting of the ends of the icon and the additional fixing of the base at the ends with staples made of modern metal nails are recorded.

During the inspection, numerous artificially made holes were recorded on the sides of the base, the ends, and the front plane of the icon, imitating the paths traveled by wood-boring insects. Careful examination of these holes proved the absence of wood powder in-depth, and the "affected" areas have an intact wood structure. The artificial imitation of surface damage is evidenced by the simulated restoration mastication of wood-gnawing tracks (Fig. 10).



Fig. 10. Simulation of wood-boring damage

According to the description of the image, inside the icon there is a composition that represents the Resurrection and the Descent into Hell, and around the perimeter there are 12 stamps with scenes of the Lord's Passion, and around the Passion on the perimeter – 16 stamps with twelve main Christian holidays and four plots of the "extended festive rite". An unprofessional imitation of the icon-painting style of the workshops of the Central region of the Russian Empire (the Vladimir icon-painting centers) was recorded:

- rough imitation of writing with "spaces";
- physiques uncharacteristic for this school - short and stout, not graceful;
- an uncharacteristic way of depicting slides with rough, generalized strokes;
- the paper sticker on the back of the icon is also a failed attempt to prove the ancient origin of the icon. The handwritten text on the sticker, which is partially legible, contains information about the execution of an order for an icon by the famous master from Mstyora Guryanov (Fig. 11) "...Guryanov. Tarasova / Polnitsu so Strastyami pocher zolo Poluchena...", where "Polnitsu" is the professional term of the Palekh icon painters for the "Resurrection-Descent into Hell" plot, but the image quality is much lower than the works of the Palekh school.



**Fig.11.** Sticker on the back of the icon

However, the low pictorial quality of the icons does not correspond to the refined style of the icons of the Mstyora school.

Thus, it has been proven that this icon is not authentic, is a modern fake, and has no artistic value.

The author of the article, N. Kovtiukh, studied the icons for their dating, authenticity, and artistic value. In addition to the icons described above, a copy of the painting "Caesar's Dinar" by Titian was studied. In addition to the unsatisfactory condition of the painting, it was noted that the painting by an amateur artist has no artistic value.

Instead, the "Annunciation" icon was recognized as authentic, from the end of the 17th – the beginning of the 18th century as such, which was located (taking into account its folk style) in the festive row of a small iconostasis of a village church. Its artistic value, artistic, historical, ethnographic, and scientific significance were argued. The same style also belongs to the icon "Meeting of the Lord", probably from the iconostasis of the same village church.

Among the studied icons there are authentic, but typical, replicated ones, such as, for example, the studied icon "Of the Three Hand" from the end of the 19th century. In addition, there are traces of unprofessional renewal – covering the holes of the wood-gnawing holes with oil varnish on top.

An example of a modern imitation of icons of the 18th century there is the icon "St. Nicholas with his hagiography" on well-gessoed canvas, with leaf gilding, tempera, oil varnish. The inauthenticity of the icon is as follows:

- simulated aging of the painting layer – craquelure on a gold background drawn with a thin brush, imitation of paint fading;
- simulated style and technology of writing icons of the period of the Russian Empire.

## Conclusions

It has been proven that the well-argued dating of the architectural monument, its separate parts, interior furnishings, and works of art is an important aspect of the monument protection and restoration industry, as it determines a certain set of restoration measures following the era of the creation of the object. This aspect is also important in the study of works of art, where the aspect of authenticity of the work of art is added.

Based on the accumulated experience of establishing the authenticity and dating of works of art, the order of examination, as well as elements that testify to the forgery of the works, have been determined. The events of the Russian-Ukrainian war harmed cultural heritage: in addition to the damage and destruction of objects, the illegal circulation of cultural values took various forms: from the looting of archaeological monuments, thefts from museums, the illegal export of cultural values abroad to the filling of the cultural environment with fakes. During 2022-2024, cases of forgery of artifacts, made at a high professional level, which are very often exhibits of private museums or collections, have become more frequent in Ukraine. Objects of forensic art examination in the framework of criminal proceedings most often become objects of archaeology, numismatics and bonistics, objects of sacred art (in particular, icons), and works of painting.

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*Received: January 10, 2024*

*Accepted: May 20, 2024*