

The Monastery Church Rubik

The conservation design for the wall painting



Tirana, March 2022

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Location



Fig. 2 Aerial photo of the Church and the ruins of seminary

The medieval Benedictine monastery is positioned in a favorable location, on a prominent position above the bank of the Fan river (fig. 2), above the town of Rubik (I Mirdita district, Lezhë district). The monastery was built in such a way as to ensure the control of the passage via the river and land routes: the river connected the coast with Arbanon up to the heights of Oroshi, while the land route is referred to as *l'Itinerarium Lissus-Naissus*.¹

The Monastery Church (historical data)

The Monastery Church in Rubik², is a designated monument of culture as per the decision nr. "586/4874/DT, dated to 17.03.1948 and 23.09.1971".

Historiography has recognized the abbey of the Monastery (Shelbuem) as well as the parish church of the same name. Formerly Franciscan, located in the city of Rubik and in the district of Lezha, the church was historically part of diocese of Lezha. Today the Church is included in the

¹ G. Campobasso, *Testimonianze di culto iacopeo e cateriniano in Albania ed una poco nota direttrice di pellegrinaggio: la chiesa di Shën Barbullës (S. Barbara) a Pllanë, in Adlimina*. Revista de investigación del Camino de Santiago y las peregrinaciones, 3, 2012, pp. 43-71, in partic. f. 70.

² Referring to the conservation project: Conservation Project – Monastery Church, Rubik, we understand that the church withholds the name Monastery and not the Church of St Mary. Throughout this document it is referred to as Monastery Church of Rubik

newest bishopric of Rreshen. In late documents the building is variously named de Rebico, de Robico or de Rubico.

The continuity of the attendance of the church has seen the alternation between the Benedictines and the Friars Minor, who settled there as early as 1640³, until the establishment of the parish church of the city. The physiological moments of abandonment and destruction, the various circumstances due to Albania's history or natural disasters, must be taken into consideration, which explain the special layering of the current building, which typologically adheres to the model of a Franciscan church⁴. The Church of Shelbuem, since 1166 until 1972, is mentioned a total of 34 times⁵.

History of the building

The church of our Savior⁶ is a single nave church (fig. 3) and its configuration is a result of a number of radical changes resulting from previous reconstruction and restoration efforts. From the end of the 19th century to the first years of 20th century, interventions have completely changed the original appearance of the building⁷. On the other hand, these transformations allow the distinction of the few surviving medieval phases integrated into the new building. At present the classical facade in gray stone has a single portal framed with 4 cornices.



Fig. 3 Plan

³ Da una relazione di *Fra Marco Scura*, arcivescovo di Croia, fatta a seguito di una Santa Visita intorno al 1640 si apprende che: “[...] *Santo Salvatore di Veglia, Santo Salvatore di Rubico ambidua Conventi de PP. minori Osservanti, Robico anticamente Abbatia* [...]”. In Fulvio, CORDIGNANO, *Geografia ecclesiastica dell’Albania, dagli ultimi decenni del secolo XVI alla metà del secolo XVII*, in *Orientalia Christiana*, 99, 1934.

⁴ G. Campobasso, *Alcune fonti per lo studio del Regnum Albaniae degli Angiò : documenti, epigrafi, araldica e visual evidences*, Edizione digitale, URL: <http://mefrm.revues.org/3291>, DOI: 10.4000/mefrm.3291, ISSN: 1724-2150

⁵ G. Hoxha, *The archaeological context of the site and the surrounding landscape of the church of Shelbuem in Rubik*, *Hylli i Drita*, 2-2016, Shkodër, f. 157

⁶ A. Meksi, *The churches of Albania* (centuries, VII-XV), Tiranë, 2004

⁷ F. Cavallini, *Franciscan epigraphy in Albania*, II, "Hylli i Ditës" 4, Shkodër, 2006, 57-62



Fig. 4 Wall paintings



Fig. 5 The scene of the Deisis in the apse

Wall painting and iconography

The frescoes (fig. 4) in the interior are visible only in the surviving part of the eastern section (the apse). According to an inscription on the painting they date back to 1272. But before that year, other events had defined the history of the building. The bishop of Lezha, Benedetto Orsini, wrote about it in 1629 in the report of his Holy Visit, where he cited an inscription on the church gate and the year 1267⁸:

An earlier phase of the restoration is ascribed to frescoes, as documented from the text of the inscription positioned in the section on the right of the apse, where inscription mentions the one who commissioned the work. This is documented at Deesis⁹ where inscription mentions Abat Innocenti (fig. 5,), and it refers to 1272¹⁰.

In Rubik's mural painting, the classical Byzantine tradition prevails, especially in the linear treatment of the figures. The cycle corresponds to the Byzantine canons in themes and style with representations of the saints shown in the central belt of the apse such as the Communion of the Apostles and Desis. In the communion scene, the figures, grouped three by three, follow each other, in a light and free step, almost

⁸ [...] S. Saluatore di Rebico; fu Badia à tempi antichi come da questa inscrizione appare, che si uede sopra la porta della Chiesa di sotto, che dice così: anno D.ni N.ri Iesu Christi 1267. Inditione nona, /residente in S.ta et Ap.lica sede n.ro imperatore constantinopoli / Michaelae Paleologo; / captar ban cmibri id. e Andreas Vrana venies destruxit istam ecclesiam, /rex Manfredo dominauit Dirachium [...] ». shih Gianvito Campobasso Alcune fonti per lo studio del Regnum Albaniae degli Angiò : documenti, epigrafi, araldica e visual evidences, Edizione digitale URL: <http://mefrm.revues.org/3291>, DOI: 10.4000/mefrm.3291,ISSN: 1724-2150

⁹ G. Campobasso, "Rubik, chiesa del SS. Salvatore (diocesi di Rreshen, già di Lezhe)", in PEPE A. (a cura di), Itinerari... cit., pp. 14-16, ed in MAIELLARO N. (a cura di), Albania... cit., pp. 125-132.

¹⁰ *Protege D(omi)ne (i)n(dign)um famul(um) te abati Inocenti / cum on(ibus) frat(ri)b(us) eclesie. Ani D(omi)ni MCCLXXII .*

as if they were dancing. The drawing shows all elements as in movement, as if feet are stepping, and as if hands are opening in embrace and if the heads are bowing according to the music including the drapes of traditional clothes showcased in a number of moving felts¹¹. As for the announcement scene, it is divided into two scenes on both sides of the conch. Today this scene is not visible any longer, while its iconography is confirmed only through historical documentation of Dh. Dhamo (fig. 5, fig.6). Painted plaster surfaces can be seen on both side walls of the apse (north and south). Although fragmented, the colors contained as well as the geometric motifs presented are clearly discernible. A good part of them are covered with different layers of plaster, placed carelessly and irregularly (fig. 7, fig. 8).



Fig. 5 the lost Annunciation Scene



Fig. 6 The Annunciation scene (drawing of Dh. Dhamo)



Fig. 7 Decoration above the southern section



Fig. 8 Decoration above the northern section

Technique and material

Although the wall painting of the church of Shelbuem is quite damaged, the technique of making the painting on the eastern side is easily verifiable. It is attributed to the fresco technique due to the distinct signs that manifest themselves after careful observation and specific lighting. Direct engravings made with hard materials on the wet plaster can be identified in the case of the inscription positioned in the upper register, on the south side (fig. 9). On the other hand, another identifying and typical element for the

¹¹ Dh. Dhamo, The wall paintings and its newest dating, Studime Historike, 2, 1964, f. 87 -94,

realization of the mural painting are the working days. This is a typical technique for the realization of mural painting as observed in the division of the surface to be painted on working days (fig. 10).



Fig. 9. Engravings in the fresh plaster

Fig. 10. Division of sections for days of work over eastern wall

Observations with a portable microscope were also part of the direct research done on the wall painting. From these observations, it is observed that the color layer is placed after the application of two preparatory layers. After the two layers of plaster were added the color was applied (Fig. 11). It is observed that the first preparatory layer consists of lime as well as aggregates with different granulometry and it appears dark in color. The presence of organic materials is also evident in this composition. Perhaps in this case we are dealing with straw fibers or chopped wood fibers (Fig. 12)



Fig. 10. Photo of section indicating base layer

Fig. 11. Presence of organic materials in the base layer and the painted layer

Previous conservation efforts

Although it was declared a cultural monument early on and put under state protection, the wall paintings were neglected and not properly taken care of. Namely, in the Municipality of Rubik, where the Church is located, the copper production factory was constructed and put in use. For about 60 years of the plant's operation, by-products from copper production have been discharged into the river (which has been turned green by copper sulfate). Also, the mixture of sulfuric acid and dioxides were released into the atmosphere. It was once a major source of air pollution and groundwater contamination¹². This pollution has significantly contributed to the irreversible damage resulting in permanent erasure of the painted images in the apse which were the only authentic portions of the wall painting.

Conservation interventions throughout the time on the other hand were mainly related to partial interventions. During the years 1988 and 1989¹³ Several emergency consolidation interventions were done, whereby the interventions consisted in consolidations of the base layers and layers of paintings and strengthening of the crumbling edges of remaining portions of paintings. These interventions were coupled with architectural conservation efforts which were aimed at improvements of overall condition of the church and the elimination of humidity widely present in the church.¹⁴ Works for the conservation of the mural painting were also carried out in June 2007, and consisted of fixing of the layers of paint, and the consolidation of base layers.

The problems and pathology

The mural painting of the interior of the Monastery church presents very complex problems of the state of preservation. These manifested problems are mainly attributed to the copper processing factory, which was in operation for 60 years. A strong abrasion is evident that affects not only the painted later but also the base layer. The paint layer in certain areas is completely lost, especially in the portions of segments painted with ochre. Dark residue of the painted surface mainly appears in the lower sections, and in particular in the two niches on both sides of the apse. This dark residue has come as a result of burning candles and leaning against the wall. Candles have also caused paraffin particles to stick to the mural. Although processes related to the consolidation and fixing of the base layers have been carried out, there are still areas identified voids in between the base and painted layers. These are mainly located in the central and upper sections of the painting.

The painted layer appears fragile in some areas, especially in the upper portion of the apse, as well as on its two sides. According to historic records of interventions, these portions of painting were neither

12 The Rubik Copper Factory was built in the late 1930s to produce processed copper products. After more than 60 years of production, the factory was closed in 1998, see: Merita Mansaku – Meksi, Jan Šamánek, Miroslava Jopková, List of hotspots for Organic polluters (NOQ) Former copper plant, Rubik, Albania, https://www.eden-al.org/OldWeb/media/Rubik_hotspot_report_shqip.pdf

13 Arkivi IKTK - Relacion teknik nr. 2. Dt. 19.04.1988

14 Arkivi IKTK - Relacion teknik nr. 35. Dt. 16.09.1987

consolidated nor researched in the past. Salts are another phenomenon that has affected the eastern wall of the church, and it can be observed as a light beige patina, concentrated mainly in the central and upper portions of the painting. Further to this, old lime residues of different thicknesses are observed on the painted layer. Detachment of the pigments within the painted layer, are as well observed in the upper and middle portions of the painting.

Mechanical damage is present on the wall paintings and those appear to be the result of carelessness and engravings resulting from attempts to repaint the portion of the painting. In the lower portion of the painting, the mechanical damage was most likely done deliberately after 1968. And as a result it damaged three remaining portraits in the lower portion of the painting as well the one on the north side of the apse. Areas of fallen sections of painting are also identified. (Attached annex 1 shows illustrated pathologies of degradations).

Conservation proposal

Consolidation is the first necessary intervention process that is recommended for the wall painting in Rubik Monastery Church.

For the first stage of consolidation, the pigmented layer which is separated from the base is fixed by applying acrylic resin Acryl 33 diluted in distilled water. Mowital B 60HH could be a good option as well, since it responds very well regarding reversibility, resistance to time and aging, transparency and quick application. Further to this, Mowital B 60HH as well secures minimal shrinking. Mowital B 60HH can be applied as diluted with alcohol in a multiple ratio, depending on application. Mowital B 60HH can be reversed by alcohol and acetone. Melinex, when added, should further secure stabilization of the painted layer within its original place.

The consolidation process should also aim at consolidating the base layers from abrasion and decomposition. For the specific case, which is related to the pathologies of abrasion and decomposition of the base layers and painted layers, - Nanorestore is suggested to be used. It is important that the materials used in the consolidation operation do not change the chemical and physical characteristics of the original materials and constitute a cause of chemical degradation of the original material, neither at the time of injection nor in the subsequent stages. Based on the conversion of hydroxide to calcium carbonate by the action of atmospheric carbon dioxide, Nanorestor is the "par excellence" consolidator compatible with frescoes but also with other materials with a carbonate based material mixture. As such, Nanorestor has excellent permeability to water vapor, does not imply chromatic variations or glossy effects, and maintains hydrophilicity and the absence of hydrophobic surface films.

This process should continue with the appropriate fixing and adhesion of the base layers to the support. In this case, the adhesion between the base layers must be evaluated with a non-invasive study (acoustic survey) which allows the assessment and localization of the "gaps" corresponding to the points of detachment both between the base layers and the masonry. Consolidation consists of performing localized micro-injections of a consolidator selected on the basis of compatibility with the component

materials of the wall structure. For this we suggest PLM, a consolidator based on natural lime without salts and additives with selected aggregates and other additives that modify the rheological (structural and mechanical) properties.

Cleaning of the painted surface

The cleaning intervention consists of a series of operations aimed at removing foreign substances from the surface of the painting, which cause additional layers of impurity (such as recent surface deposits, stains, chromatic changes, biological deterioration and unsuitable materials) and therefore affect the aesthetic appearance of the painting. The cleaning needs to be undertaken and to remove the remains of lime currently observed at the painted layers.

Cleaning is a very special and delicate process as it is an irreversible intervention, and must be evaluated very carefully on a case-by-case basis. The cleaning intervention shall be directed at removing the foreign substances, without affecting the original material and while respecting the historical patina of the painting. Therefore, the removal of unstable inadequate surface materials will be done with soft brushes. The removal of materials firmly attached to the surface (layers of lime or superimposed plaster) will be carried out mechanically using spatulas and scalpels.

Darkening of painting surfaces will be treated with Tween 20 - neutral non-ionic surfactant derived from ethylene oxide. Tween 20 is soluble in water, alcohol (ethyl, methyl, isopropyl), ethylene and propylene glycol.

Biological deposits as well as numerous salt deposits evident on the surface are meant to be treated with the solid homogenized gel obtained from the double baking of AgarArt (Nevek) usually used for cleaning of the surface of the fresco in this case. Nevek in this case can also be mixed with suitable solutions such as ammonium carbonate in different percentages (according to the situation on site). Nevek strongly retains water and can be used to absorb dirt even from moisture-sensitive surfaces.

The layers of paintings of different and undefined phases can be found on both sides of the walls. Those shall be carefully observed and analyzed. Careful surveys and subsequent stripping of the walls from the new superimposed plaster will reveal the remaining painted surfaces on both walls, which will then be subject to scientific analysis for the identification of pigments and base layers.

Plastering/filling of missing plaster surfaces

After stabilizing the surface through consolidation, as well as after cleaning of the surface, the necessary filling of lacunae and voids shall be undertaken. As currently observed the different stages of restoration have brought a number of different interventions and materials to appear on the surface. The removal of old plasters and the infills of gaps and surfaces with a new plaster similar to the original plaster shall be undertaken. Removing the old infills shall secure the structural stability of remains of the wall painting and will make the surface more readable.

As for the edges or the remaining painted layers, those would be consolidated using the same mortar composed of lime and aggregate, while respecting the materials and ratios of the original plaster.

Aesthetical integration

With the completion of the plastering process, and the integration of the missing plaster, stage of aesthetic (pictorial) reintegration shall commence with the aim to restore and allow for adequate reading of the artwork. This will be done by creating a chromatic connection while adding light layers of neutral color on portions of gaps in the painted composition and in portions where the painting has eroded beyond recuperation.

The methodology and technique of reintegration shall be evaluated case by case, keeping in mind the fundamental criterion of conservation intervention, the one of reversibility.

In this particular case, special care shall be given to this operation/intervention considering the extent of the damage observed on the painted surface and the observed abrasions of color. The Windsor & Newton watercolors and brushes with natural bristles shall be used for this intervention.

Recommendations

Before the conservation intervention starts, following analyzes shall be conducted:

- Stratigraphic analysis with preliminary description of the sample observed in a stereomicroscope, cross-section preparation and study under a polarizing microscope in reflected light, with a full photographic documentation.
- Identification and chemical microanalysis of inorganic pigment with an energy dispersive electron microprobe (EDS).
- Liquid chromatography analysis (HPLC) with UV detector for the identification of organic pigments.
- Analysis of composition of degrading elements (dust, copper dust – to understand whether they are still affecting and adding to deterioration)
- Biological analysis
- Segregation of plaster ratio - Preliminary description under a stereomicroscope, thin cross-section preparation and study of plasters and plasters under a polarized transmitted light microscope including a full photographic documentation.

The results from the aforementioned set of analysis shall be checked once again against the materials suggested for conservation, as to draw a final list of conservation materials. (No major changes are expected given that none of the proposed conservation materials have a compromising impact on fresco painting we are dealing with in the case of Monastery Church of Rubik)

Photos of wall paintings













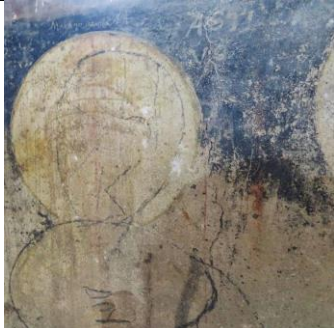

The cost estimate does not include the costs of analysis.











Tirana March, 2022


Anex 1: Monastery Church, RUBIK

Pathology and damages of the wall painting

NR	PATHOLOGIES	PHOTO
1	Darkening of the painted surfaces	
2	Abrasion of the wall painting surface	
3	Recent addition of plaster	

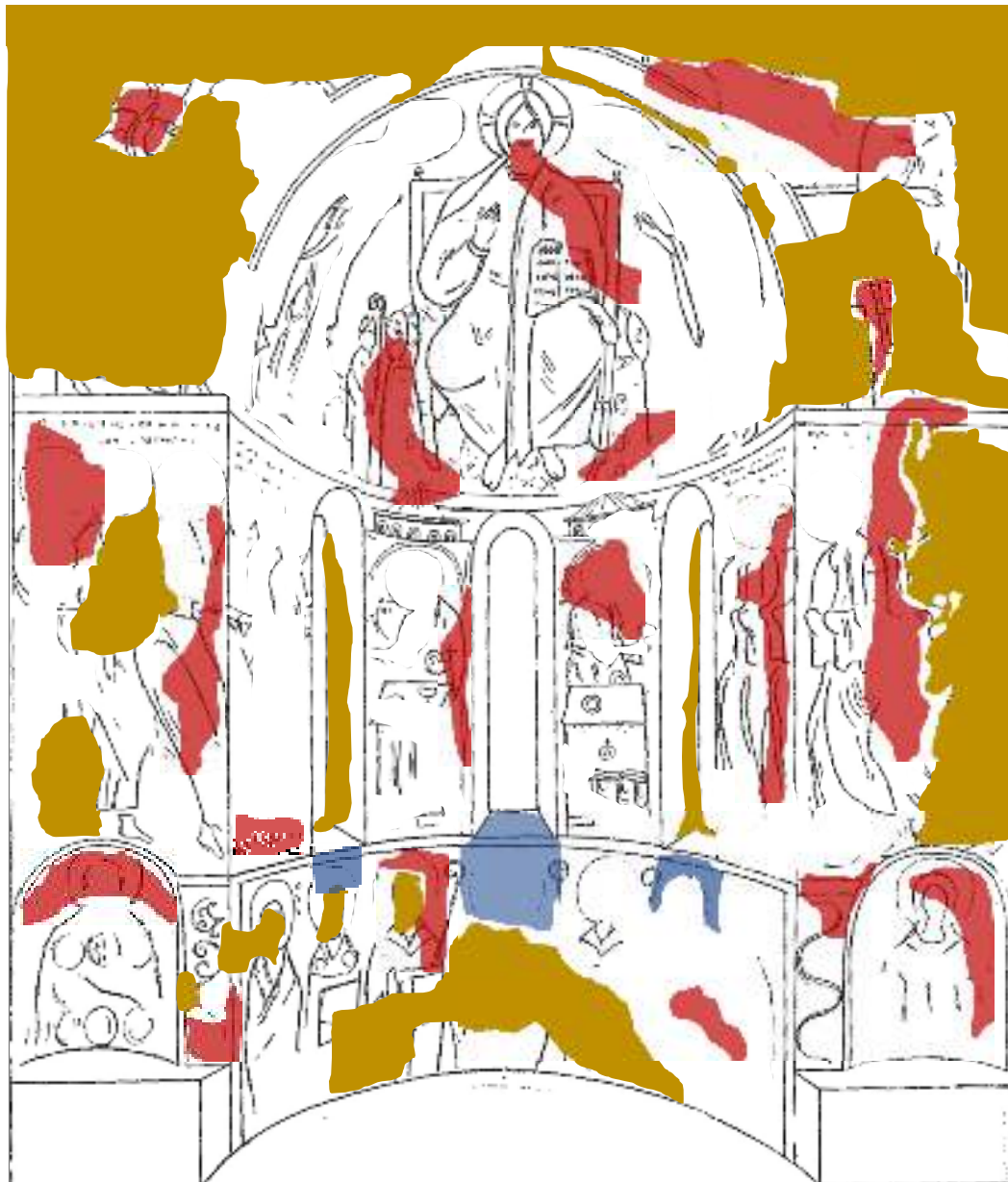
4	Collapse of base layers	 
5	Disconnection of base layers	
6	Cracking of base layers	
7	Collapse of painted layers	
8	Re-painting efforts	 

9	Salts/efflorescence	 
10	Remains of the lime over the painted surfaces	  
11	Detachment of painted layers	
12	Drops and dirt over the painting	 
13	Mechanical damages	 

14	Drops of wax (from candles)	 
15	Lime plaster over the painted layer	

ANNEX 2 - KISHA E SHELBUEMIT – RUBIK

Conservation of wall paintings - documentation – 2022



New plaster



Detachment of painted layer from base

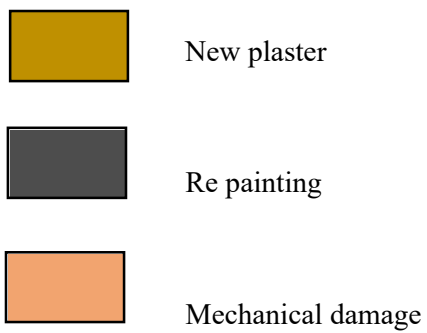
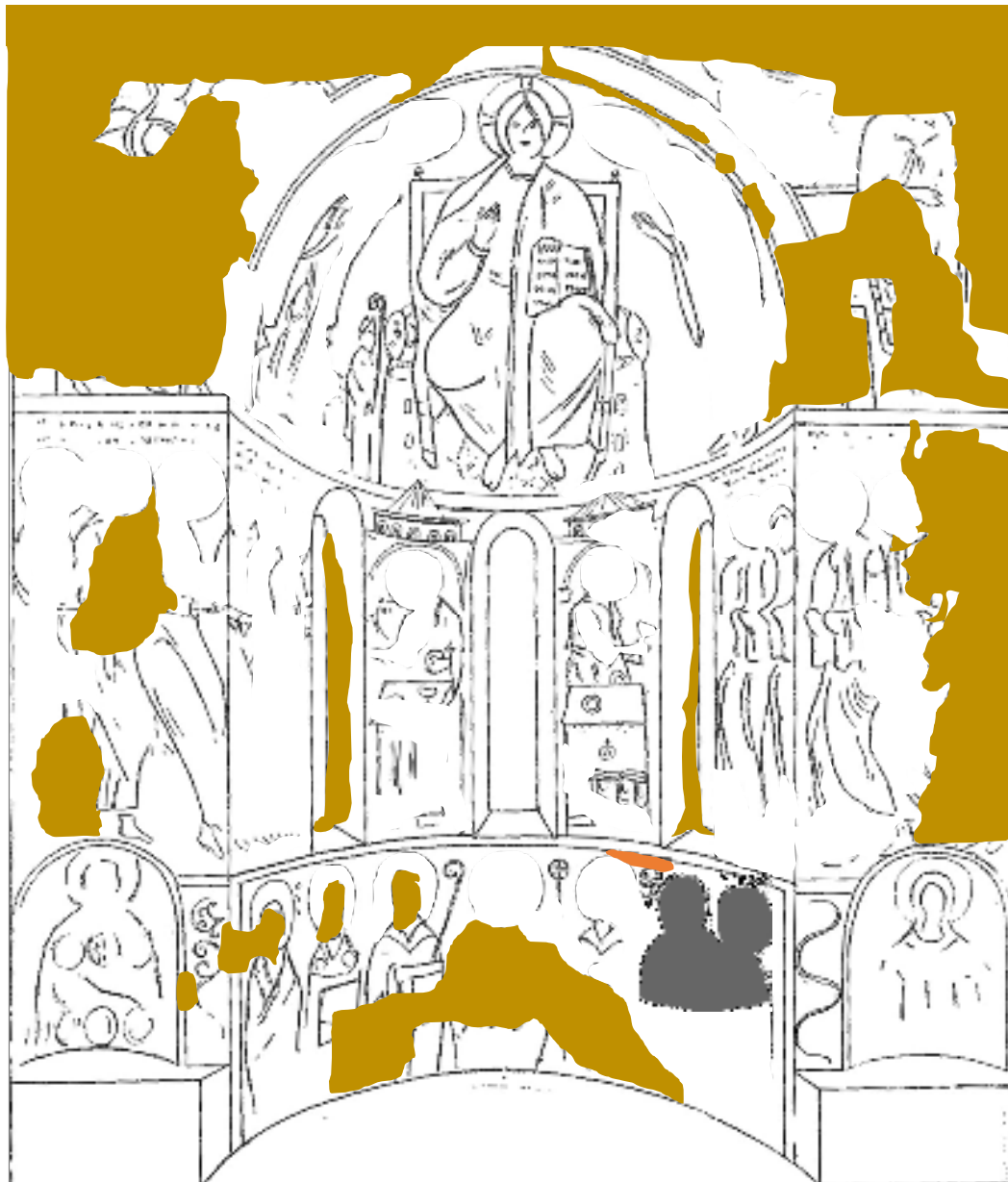


Candle wax drops



KISHA E SHELBUEMIT – RUBIK Conservation of wall paintings

- documentation – 2022



KISHA E SHELBUEMIT – RUBIK Conservation of wall paintings

- documentation– 2022



New plaster

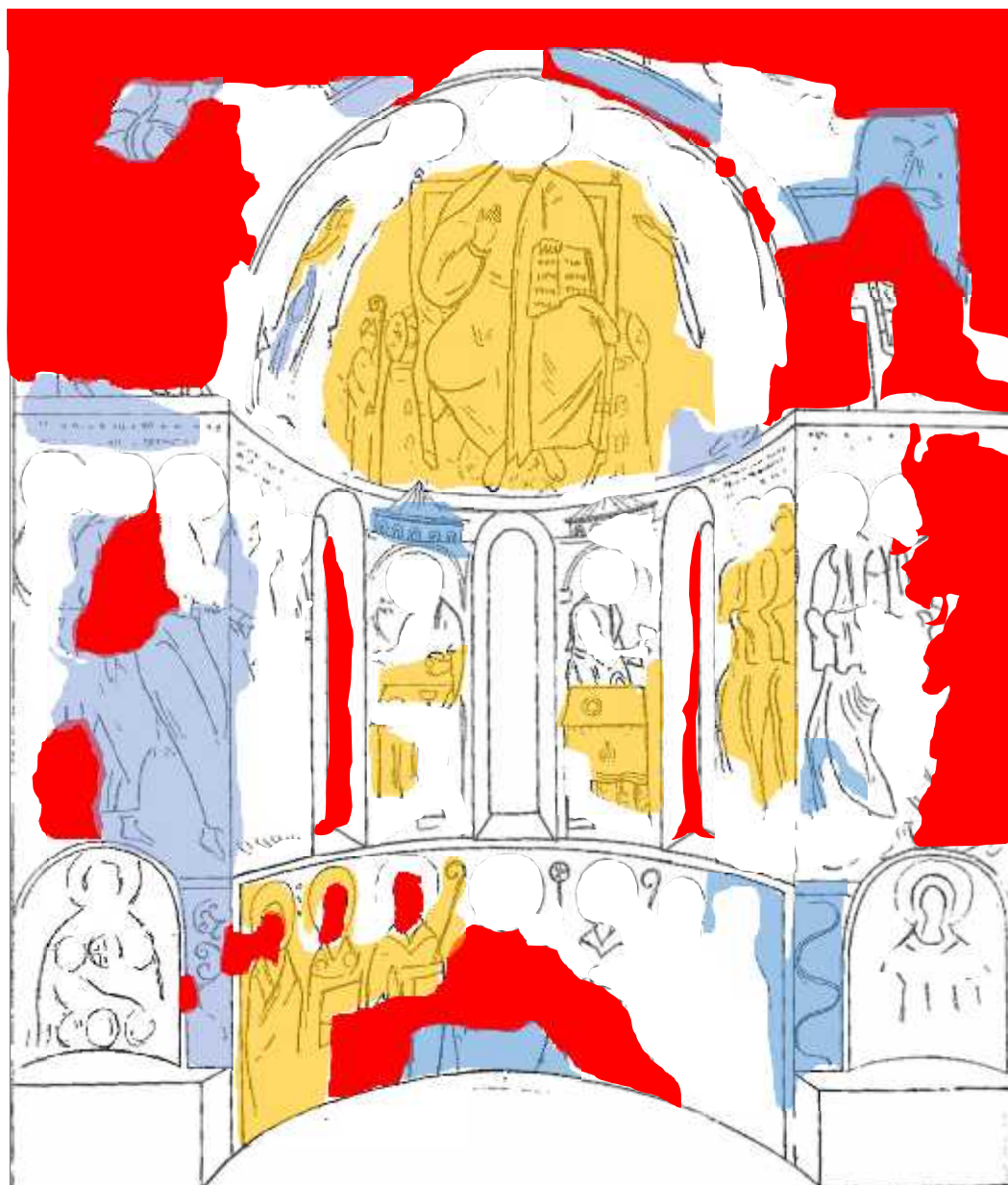


Presence of salts



Darkening of painted layers





Loss of base layers



Abrasion of painted layer



Damage to painted layer





New plaster



Loss of painted layer



ANNEX 3 - MONASTERY CHURCH – RUBIK

Conservation of wall paintings – DOCUMENTATION OF APSE– 2022

Legend of pathology and damage

	Complete loss of painted layer
	Complete loss of base layer
	New plaster
	Darkening of painted layer
	Abrasion of the painted layer
	Repainting
	Detachment of painted layer from the base
	Damage to painted layer
	Mechanical damage
	Candle wax drops
	Presence of calcium salts

ANNEX 4.

Painted wall surfaces and surfaces covered with plaster – the Monastery church of Rubik

The are very few preserved painted wall surfaces in its interiors. Those are positioned on the east side of the church at the area of the apse and the two walls adjacent to it, respectively on the north side and on the south side:

Portion of apse wall with wall painting: **26 m²** + side walls

The respective positions:

Interior walls	Painted surface	Plastered surface	Surface with additional cover of plaster
Apse and east side	18 m ²	8 m ² + 4.9m ²	no
Vault	no	no	no
Northern side			18.9m ²
Western side	no	no	no
Southern side			18.9m ²
Narthex	no	no	no