

## Wall painting conservation activities

After the mutual agreement between the Patriarchate of Georgia and the Ministry of Culture, Sports and Youth of Georgia, on April 6th, 2023 a contract was signed between the National Agency for Cultural Heritage of Georgia and the Patriarchate of Georgia according to which the Gelati Rehabilitation works will be undertaken by Patriarchate of Georgia.

The Patriarchate of Georgia started guiding with the document prepared as a result of the mission carried out by the UNESCO World Heritage Center, ICOMOS, and ICCROM from November 28 to December 2, 2022. The report stated several concerns, among those were the lack of research into wall painting technology, as well as scarce documentation for condition and treatment mapping, risks of the proposed conservation treatments, need for regular monitoring and development of the safe intervention methodology for painting conservation. One of the main recommendations involved the development of a sophisticated conservation plan for Gelati monastery complex as well as renewal of the management plan.

Initial preparatory stages, which have been undertaken towards the fulfillment of the recommendations related to the wall paintings were:

- To start a detailed condition assessment of the wall paintings of the Complex
- To start research into technology in order to understand original materials and techniques.
- To start exploring physical history, including recent interventions, which have not been mapped or documented properly.
- To determine scale and complexity of the paintings, its environment and correlation with architecture
- Create a reasonable foundation to develop a conservation plan for whole monastery complex
- To elaborate wall painting conditions and environmental monitoring systems

*The conservation approach of the wall painting conservator's working on the project is based on internationally established ethical and technical principles of conservation. The current team of conservators recognizes the unique value of Gelati and the responsibility for preserving it for the future.*

*The aim of the team is to preserve the significance of Gelati Monastery Complex, in particular its cultural, historical, religious, artistic, and technological values - by means of minimal intervention.*

*Understanding the past and present risks to the site requires a rigorous evidence-based scientific approach. Similarly, determining an approach to addressing the problems identified requires a clear preference for preventive measures over remedial measures in order to achieve long-term stability of the site.*

*Therefore, general criteria, which are critical elements of our conservation approach, are:*

- *preservation of significance;*
- *minimal intervention;*
- *knowledge of the original and added materials;*
- *understanding of physical history and present condition;*
- *knowledge of conservation materials and methods;*

- *retreatability / reversibility, stability, and compatibility.*
- *health and safety; and*
- *documentation.*

In April 2023, priorities were determined regarding the selection of the areas for starting on-site non-invasive activities.

The first stage of the preparatory works focused on condition assessment of the wall paintings executed at the vault level of the West, South, and North arms and pendentives at the main space of the Church of the Virgin. Condition assessment involved graphic documentation and a visual glossary of the condition phenomena according to the stratigraphic layers, additionally, it included a summary of the results.

The mapping of the state of condition was started from the vault level of the West, North and South arms of the main space, due to the severity of the deterioration and its activity, which was caused due to the water infiltration from the roof. Those areas have been heavily treated during 2021 – 2022, without appropriate documentation.

Condition assessment has revealed on-going deterioration process and complexity of intertwined condition phenomena. Detection, categorization and documentation of condition phenomena is in progress. Currently, identified condition phenomena are sorted according to the wall painting stratigraphic layer and illustrated with macro and micro images. Here is the list of condition phenomena documented in April 2023.

<b>1. Primary support</b>	<b>2. Plaster layer</b>		<b>3. Paint layer</b>	
1.1 Loss of mortar	2.1 Loss	2.1.1 Full	3.1 loss	3.1.1 Full
		2.1.2 Partial		3.1.2 Partial
1.2 Cracks of stone	2.2 Crack	2.2.1 linear	3.2 Adhesion failure	3.2.1 flaking
		2.2.2 net type		
1.3 Decohesion of stone	2.3 Delamination	2.3.1 Closed		3.3 Cohesion failure
		2.3.2 open – between primary support and plaster layer	3.4 Drips	
		2.3.3 open – between plaster layers		
	2.4 Decohesion			
	2.5 Pitting			
<b>4. Superficial deposition</b>		<b>6. Salts</b>		
		6.1 Crust		
		6.2 Crystalline dots		
<b>5. Bioactivity</b>		6.3 Fluffy		
black and pink colonies		6.4 White vail		

**Please, find the condition assessment report (appendix 2/2) with the visual glossary and examples of graphic documentation (Attached reports are in Georgian, however, overall structure of the document illustrates undertaken non-invasive research approach. It is planned to translate reports in Georgian at the end of the initial phase)**

Note: National Forensics Bureau has assessed condition assessment report undertaken in April 2023, remarks were made about condition mapping, which requires on-site visits and corrections. Further assessment of the condition of the paintings in the church will also include refinement of the maps.

In July 2023, the second stage of the preparatory works focused on the technology of the wall paintings from the same areas (at the vault level of the West, South, and North arms and pendentives at the main space of the Church of the Virgin Mary). The wall painting technology was investigated using non-invasive methods (macro and microscopic observations) and was thoroughly documented.

The tasks of the second stage were:

- Research into existing analytical reports from 2021-2022 concerning the technology of the paintings.
- Determination of the wall painting schemes from different periods as well as their stratigraphy.
- Preparation of the visual glossary for wall painting technology (descriptive textual and photo documentation)
- Initial stage of graphic documentation of the original technology (plaster joints, preparation techniques)
- summary of the gathered information about the wall painting technology
- Raising the research questions related to the technology (in order to develop a sampling strategy)
- research into existing conservation reports from 2021-2022 concerning the undertaken remedial interventions of the paintings.
- identification and determination of the locations of interventions undertaken on the wall painting between 2020-22.
- the initial stage of graphic documentation of those interventions

here is the summary of the complex wall painting technology with two painted schemes and numerous heterogeneous stratigraphic layers.

Wall Painting Technology of the Vaults at the Main Space of the Nativity of the Virgin Mary's church			
Stratigraphic layers			
4.1 Primary Support			
4.1.1 Stone			
4.1.2 Mortar			
West Arm	South Arm	North Arm	
<b>4.2 Painted scheme 1 (early period)</b>		<b>4.3 Painted scheme 2 (XVI)</b>	
4.2.1 Plaster layer	4.2.1.1 Undetected plaster patches	4.3.1 Plaster layer	
	4.2.1.1 Main plaster		
	4.2.1.1 Preparatory layer	4.3.1.3 type - Lower	
4.2.2 Preparatory techniques	Underdrawings	4.3.1.4 type - Upper	
		4.3.2 Preparatory technique	
4.2.3 Paint layer	4.2.3.1 Blue 4.2.3.2 Green 4.2.3.3 Red 4.2.3.4 Yellow	Underdrawings	
		Setting out geometry	
		4.3.3 Paint layer	Colours observed on preliminary stage: 4.3.3.1 Dark Blue (type I) 4.3.3.2 Light blue (type II) 4.3.3.4 Green: blueish green, yellowish green, dark green and whitish green 4.3.3.5 Red: dark red, brownish red, purple red, brick red 4.3.3.6 Bright yellow (type II) Yellow ochre (type I) White Black Gold
4.3.3 Paint layer			
4.3.3 Paint layer			
<b>4.3 Painted scheme 2 (XVI)</b>		<b>4.3 Painted scheme 2 (XVI)</b>	
4.3.1 Plaster layer	4.3.1.1 type – Lower	4.3.1 Plaster layer	
	4.3.1.2. type - Upper	4.3.1.2 type- Upper	
	4.3.1.5 type – Upper	4.3.1.5 type	
4.3.2 Preparatory techniques	Underdrawings	4.3.2 Preparatory technique	
	Setting out geometry	Underdrawings	
4.3.3 Paint layer	Colours observed on preliminary stage: 4.3.3.1 Dark Blue (type I) 4.3.3.4 Green: blueish green, yellowish green, dark green and whitish green 4.3.3.5 Red. dark red, brownish red, purple red, brick red 4.3.3.6 Bright yellow (type II) Yellow ochre (type I) White Black	Setting out geometry	
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Based on the information gathered through the on-site assessment and documentation related to Gelati Monastery Complex, local team and international experts are aimed to create a wall painting conservation plan for the whole complex, which includes improvement of the monitoring systems, determination of the research and remedial interventions, determination of work stages and its schedule.

Please, find the report of the observations and documentations of the original technology with the visual glossary and examples of graphic documentation (Appendix 2/3) (reports are in Georgian, however, overall structure of the document shows undertaken non-invasive research approach. It is planned to translate reports in Georgian at the end of the initial phase)