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# The Faras Cathedral: A History of Transferring and Conservation of the Wall Paintings (1961–1974)

In the years 1960–70, in the border area between Egypt and northern Sudan, a rescue campaign to save monuments and artefacts was carried out related to the construction of the Aswan Dam and the planned flooding of this territory.[1] Archaeologists from various countries discovered temples and buildings whose walls were decorated with unique Nubian paintings with Christian depictions. Immediately, a decision to safeguard the greatest number of monuments possible was taken. The largest group of paintings are the ones from the cathedral in Faras, discovered by the Polish archaeological mission directed by Professor Kazimierz Michałowski, who excavated in the years 1961–64. In accordance with the conditions of UNESCO's Nubian campaign, half of the rescued monuments was handed to the country who performed the excavation works. On this basis, 67 paintings became property of the National Museum in Warsaw.[2] The remaining ones found their way to the Sudan National Museum in Khartoum.

## The State of Preservation of the Paintings Before the Transfer

The paintings from the cathedral were painted in tempera on a layer of whitewash covering lime or mud plaster on a stone, fired-brick or mud-brick construction.[3] During the period when the cathedral was attended, its walls were covered with new plaster layers and paintings during several reconstruction and refurbishment works. As many as three or even four overlaid chronological layers of plaster, whitewash and painted decoration occur in various areas in the church. Some older paintings would be entirely covered by new ones or repainted, or complemented with new elements.[4] After the sand which filled the cathedral's interior was removed, the paintings in diverse states of preservation were found (**fig. 1**).[5] They featured

[1] Bożena Mierzejewska, *The Professor Kazimierz Michałowski Faras Gallery. Guidebook* (Warsaw, 2014), pp. 13–14.

[2] Ibid., p. 13.

[3] Kazimierz Michałowski, *Faras. Malowidła ścienne w zbiorach Muzeum Narodowego w Warszawie* (Warsaw, 1974), p. 70; Hanna Jędrzejewska, "The Warsaw National Museum: conservation of the mural-painting from Faras," *Museum*, vol. 19, no. 3 (1966), p. 204.

[4] Michałowski, op. cit., p. 69; Stefan Jakobielski, "Malowidła z Faras. Pół wieku po odkryciu," in *Sztuka Afryki w kolekcjach i badaniach polskich*, Sławomir Szafrański et al., eds (Szczecin, 2014), pp. 258–64. Biblioteka Naukowa Muzeum Narodowego w Szczecinie, Seria Etnologiczna.

[5] Józef Gazy, *Jak odcinano tynki z freskami w Faras i ich konserwacja*, MS, unpublished (Warsaw, 1972), pp. 3–8, Instytut Kultur Śródziemnomorskich i Orientalnych Polskiej Akademii Nauk (IKŚiO PAN) [The Institute of

extensive damage, and often only fragments of the compositions managed to survive. Surface layers of many depictions suffered in particular, since the roof of the building had not been preserved and neither had upper parts of the walls. Unfavorable atmospheric conditions such as the sun, wind, desert storms and high amplitudes of humidity greatly contributed to the degradation of the paintings. The layers of ground, plaster, whitewash and paint stratified considerably. Apart from insufficient adhesion and numerous blisters in many places, weakened binder caused technological layers to lose cohesion and to crumble and, locally, to powderize. The problem was intensive salination of the ground and the migration of salt to the surface of the paintings. When the walls were uncovered, they were damp, and the quick drying process caused new cracks and salt efflorescences to appear. The mud plaster covering the walls was of low quality, non-resistant to water, and additionally compromised by the network of termites' tunnels. The surface of the paintings bore numerous mechanical damages and abrasions and was intensively soiled. It carried wasp nests, dark stains of soot from oil lamps and other impurities. An additional cause for the damage done to the faces of certain painted figures was vandalism.

## Detaching the Paintings from the Walls of the Cathedral[6]

The first four paintings were detached from the cathedral walls by conservator Stanisław Jasiewicz. The remaining 120 were detached by Józef Gazy[7] during the third and fourth excavation seasons (1962–64). These seasons were almost entirely dedicated to the safeguarding and detaching of the paintings from the walls.[8] Conservation works involved the combined effort of all members of the Polish mission. At first, makeshift roofs of reed were constructed to prevent the walls from drying up too quickly and to provide protection against the sun. Loose spots between plaster layers were cleansed and reinforced with injections of gypsum and additionally secured with wooden blocks wherever necessary. Fragments of painted layers found in the fill were glued back to the paintings on the walls.[9] The surface was cleansed of dirt, salt efflorescences and wasp nests. The weakened surface of the paint layer was reinforced with a weak solution of white shellac in 95% ethanol.

After the paintings were cleansed and their structure reinforced, the next stage involved gluing layers of the facing, i.e., Japanese tissue, gauze and linen cloth onto the surface of the painted layer, the binder being a mixture of wax bleached in the sun, bleached light colophony and Venetian turpentine. The mixture was ironed into the facing with hot irons mounted on long handles (**fig. 2**). Damp paintings had been dried with the use of mirrors reflecting the sun light before the facing was applied. In more difficult cases, it proved necessary to isolate the walls from the damp fundaments. Wooden blocks were installed in the bottom parts of the wall and after a fragment of the wall was removed, a waterproof insulation layer was inserted instead.

Mediterranean and Oriental Cultures of the Polish Academy of Sciences]; documentation of the excavations in Faras, collections of the IKŚiO PAN.

6 Information on the conservation treatment performed as related by Józef Gazy (Gazy, op. cit.) and Dr Stefan Jakobielski.

7 Michałowski, op. cit., p. 68.

8 Mierzejewska, op. cit., p. 40.

9 *Bishop Marianos and the Virgin Mary with Christ the Child*; Gazy, op. cit., p. 15a.

Stanisław Jasiewicz cut off the first transfers, beginning the procedure with the top edge. He would build a wooden construction above the painting, to which linen cloth strips were tied that were glued to the facing. The detached paintings were transferred onto curved constructions that were positioned vertically leaning against the walls. Józef Gazy changed this method and would detach the paintings beginning with the bottom. He also employed a different type of construction – flat wooden boards and fibreboard. Ropes sewn to the linen cloth and gauze of the facing on the margins of the paintings were then tied to metal hooks embedded in boards which leaned obliquely against the walls. The cut-off painted layer complete with the layer of plaster, leaning against the facing's linen cloth, would briefly hang freely on ropes (**fig. 3**) and then would be carefully shifted into vertical position and slowly laid horizontally, face to bottom. A different method was applied in paintings having a concave surface, like the one from the niche of the Virgin Mary with Christ the Child or the depictions from the arches. When the facing had been glued to the surface, strips of linen cloth were glued into a layer of wax with one end hanging loose. Next, the facing was covered with gypsum[10] and the concave surface was stiffened with a scaffolding made of oakum, gypsum and wooden slats. The wall was then dismantled from the other side and the painting was laid horizontally, face to bottom, onto a construction mirroring the original shape of the painting.[11] If older paintings were found under the plaster of paintings handled, the top compositions were very delicately sawn off in the first place, and only then were the bottom ones detached. Large-sized compositions were divided into smaller fragments.[12]

The cut-off paintings were arranged on pads face to bottom and prepared for packing in cases and shipped to Khartoum or Warsaw. Before they were packed, the plaster layer was partially thinned on the reverse side of the paintings, so that the transfers were lighter and free of excess crumbling and salinated layers. Further works were parallelly performed at the National Museum in Warsaw and the Sudan National Museum in Khartoum. The transfers were given new supports. The reverses were reinforced with layers of mortar and fabric which replaced the original plaster layer. Next, stiffening superstructures were added. Then the painted layer could finally be unveiled and prepared for the display. The conservation works complete, the transfers were rendered stable, durable in variable conditions and relatively light.

## The Conservation Treatment of Faras Paintings at the National Museum in Warsaw[13]

The two first paintings[14] underwent conservation by Konstanty Tiunin.[15] He built experimental constructions which he directly placed on the reverses of transfers – firstly, he applied

[10] Hanna Jędrzejewska, "Konserwacja malowidła z niszy z katedry w Faras," *Rocznik Muzeum Narodowego w Warszawie*, Ann. 14 (1970), p. 454.

[11] Ibid., pp. 432–33, information acquired from Dr Stefan Jakobielski, photographic documentation of the IKŚiO PAN.

[12] *Saint Mercurius* in two parts, *The Nativity* in four parts, the composition from the apse in five parts.

[13] Description of works based on papers by Dr Hanna Jędrzejewska, conservatorial documentation of the NMW and relations of conservators Jerzy Kozłowski and Barbara Lewandowska.

[14] *Saint Mercurius* and the *Angel of the Lord with a Sword*; Hanna Jędrzejewska, "Konserwacja dwóch malowideł ściennych z Faras," *Rocznik Muzeum Narodowego w Warszawie*, Ann. 9 (1965), p. 217.

[15] Ead., "The Mural Painting from Faras. Ethical and Technical Problems of Conservation," in *Études nubiennes, conférence de Genève: actes du VII^e Congrès international d'études nubiennes, 3–8 septembre 1990*, Charles Bonnet, ed. (Paris, 1992), p. 202. Société internationale d'études nubiennes.

a layer of gypsum and then added a gypsum framework reinforced with aluminium wire. The method did not prove successful, though, as the paintings turned out extremely heavy and practically impossible to be positioned vertically.[16]

In the years 1962–64, Dr Hanna Jędrzejewska became the director of the conservation team[17] of the National Museum in Warsaw. Jędrzejewska,[18] a chemist and conservator, worked out her own method of conservation of the Faras paintings. In the course of the conservation works directed by Jędrzejewska,[19] detailed photographic documentation was continually prepared, as well as 1 : 1 drawings. Numerous samples were taken[20] for laboratory examination and conservation reports were drawn up. The documentation is stored at the National Museum in Warsaw until present day.[21]

In the first place, layers of gypsum[22] were removed from the first two objects handled by the first conservator, and replaced with reinforcement layers based on polyvinyl acetate (PVA) in water dispersion. The original layer was reinforced with mortar consisting of sand, chalk and glue with a glass fibre veil embedded within, an intermediate board and a fibreboard superstructure.

Nineteen sixty-four was the year when the remaining paintings were subjected to conservation treatment (**fig. 4**). The work began with the reverse sides. The transfers, still being protected by the facing based on a mixture of beeswax and resin, were placed face down on pads (**fig. 5**). The plaster layer was very precisely thinned with the use of scalpels until it measured not more than several millimetres and the whitewash layer showed. A decision was made to remove the original mortars because of the poor state of preservation, their salination, low adhesion and cohesion, and in order to facilitate the penetration of the impregnation into the whitewash layer and the painted decoration. Wherever the plaster proved hard to scratch off, it was damped with water or alcohol. The sand acquired in this way was carefully washed in distilled water and later used to prepare filling for the paintings from which it originally came.

As the plaster was being removed, fragments of earlier paintings appeared, presenting a new challenge of saving and transferring them onto a new artificial support. The layers were separated with careful precision which brought another discovery of two older versions of the depiction from the niche of the Virgin Mary with Christ the Child (including monograms),[23] the earlier paintings from the apse and the negative print of the depiction of the figure of the

[16] Ead., "Konserwacja dwóch...," op. cit., pp. 227–32; as related by J. Kozłowski.

[17] The team included the conservators from the NMW: Aldona Romanowicz, Maria Wodzińska, Joanna Prosnak, Joanna Tiunin, Wanda Zaufel, Jerzy Kozłowski, Barbara Lewandowska, Leonard Bartnik, Włodzimierz Dec, Leszek Woliński and Ewa Długosz.

[18] [18] Jędrzejewska, "The Mural...," op. cit., p. 202.

[19] Ead., "The conservation of wall-painting from Faras," *Bulletin du Musée National de Varsovie*, Ann. 7, no. 3 (1966), pp. 81–89; ead., "The Mural...," op. cit., pp. 203–05; ead., "Zagadnienia...," op. cit., pp. 244–47; ead., "The Warsaw...," op. cit., pp. 204–06.

[20] Ead., "The Mural...," op. cit., p. 206.

[21] The preserved documentation is fragmentary and has never been completed.

[22] Hanna Jędrzejewska, "Zagadnienia konserwacji malowideł ściennych z wykopalisk archeologicznych," in *Zagadnienia technologiczne konserwacji malowideł ściennych. Materiały z konferencji w Krakowie w dniach 22–24 października 1964 r.*, Halina Andrzejewska, Piotr Rudniewski, eds (Warsaw, 1965), pp. 238–44. Biblioteka Muzealnictwa i Ochrony Zabytków (Seria B), 9; ead., "Konserwacja dwóch...," op. cit., pp. 227–59.

[23] Ead., "Konserwacja malowidła...," op. cit., pp. 435–45.

sainted bishop in a crown together with fragments of a diacon figure found on the reverse of the painting depicting Saint Kauu.[24]

The separation of painted layers complete with the whitewash was a meticulous process. So far, gum arabic, nitrocellulose lacquer, Japanese tissue and celluloid were used for protection.[25] The layers, secured with the facing, were mechanically separated by means of sharp tools and transferred onto new superstructures, just like other paintings.[26]

The plaster having been thinned, the reverse could be desalinated through abundant sprinkling with distilled water which was then reclaimed with cellulose wadding compresses, a process repeated several times until the surface was free of salt which could crystallize on the paintings' surface and cause degradation. Next, works on the replacement artificial support started. Starting with the reverses, Jędrzejewska employed PVA in water dispersion Mowilith D 50 with chalk as stabilizer,[27] avoiding solvents which could damage the facing of the painted layer in this way. After the reverse was impregnated, the gaps in the paintings were filled with almost dry putty based on original sand, chalk and emulsion of PVA. The fillings differed from original plasters through the addition of chopped black brush hair.

The reverse sides of the paintings were soaked with glue and coated with a liquid layer of mortar of sand, chalk and PVA in water dispersion (c. 1 mm thick), into which a glass fibre veil was embedded with the use of a rubber roller. The veil consisted of random oriented pressed fibres of good penetrability and adhesiveness. Then, another layer of mortar was applied. Weighing down the construction with a plastic framework guaranteed that it would dry up evenly. After it did, another layer of mortar was applied. Due to this treatment, fragments of the painting were stabilized. The reverse sides were disinfected. Finally, asbestos cloth (c. 1 cm thick) was adjusted to the back, pressed with a wooden roller into a wet layer of mortar which was denser and stronger than previous ones. The same method had been implemented in order to reinforce most of the paintings[28] earlier superstructures, constructed in various ways, before being mounted (**fig. 6**).

The first two paintings were reinforced with an intermediate board[29] matching the shape of the painting. It consisted of two fibreboards glued together, with removable brass screws. They were used to adjust the entire object to a construction providing a rectangular background to the painting, consisting of two boards with a wooden framework inside, with the frontal board adjusted permanently and the back board removable.

This method was simplified and eventually the remaining paintings, handled under the guidance of Dr Hanna Jędrzejewska, were given superstructures[30] made of two perforated fibreboards with an inner framework having triangular or rectangular fields, made of fibreboard,

[24] Michałowski, op. cit., p. 150.

[25] Details in the conservatorial documentation of the NMW concerning the paintings from the niche and the apse.

[26] See descriptions in the conservatorial documentation; Jędrzejewska, "Konserwacja malowidła z niszy...," op. cit., pp. 435–45.

[27] Ead., *The conservation*..., op. cit., s. 85.

[28] The scheme indicating the sequence of layers complete with their composition in the conservatorial documentation of the NMW.

[29] Jędrzejewska, "Zagadnienia...," op. cit., pp. 243–44, 252–54.

[30] Ead., "The conservation of...," op. cit., pp. 85–89; ead., "The Mural...," op. cit., pp. 204–05.

or, in the case of larger compositions, of wooden slats glued together with PVA emulsion or polyester resin.

A rigid and deformation-resistant honeycomb-like construction was achieved. Custom-made for each individual painting, they were glued to their reverse sides with thick PVA with an addition of chalk and weighed down to dry up (**fig. 7**). The glue would go through the perforation of the fibreboard, additionally reinforcing the binding. The fibreboard's perforation also allowed for air ventilation. The superstructures were given irregular shapes, fitted to the preserved original and did not increase the transfer's weight. They were only a little larger than the paintings themselves, forming a small margin around them. In case of significant damage – of the head, feet or halo, more margin was allowed in order to give adequate proportions to the composition. Paintings having a concave surface (from a niche or an arch) were endowed with custom reinforcement construction crafted of wooden slats, while the concept of two fibreboards with an internal reinforcing framework was continuously implemented. And so the first board made of contiguous equilateral triangles was directly modelled on a convex reverse and glued with mortar directly onto asbestos cloth. [31]

After the works on reverse sides were concluded, the transfers were reversed face up and the facing was removed through the extracting of the beeswax-resin paste (**fig. 8**). Trichloroethylen compresses proved the most effective at this stage. Minor loosened spots or blisters on the painting's face were glued back with PVA Mowilith 50[32] in ethanol.[33] Finally, the internal putties were levelled and an external background was added around the original painting, consisting of sand, chalk, pigments and PVA in water dispersion, its colour matching individual compositions.

In the years 1970–74, Józef Gazy assumed the leadership over conservation works.[34] He had earlier participated in transferring the paintings at Faras cathedral and performed conservation treatment on the paintings at the Sudan National Museum in Khartoum. Continuing conservation works on the paintings at the National Museum in Warsaw, he introduced a different method of preparing superstructures.[35] He employed it on the reverse sides previously reinforced by Dr Jędrzejewska where works had been concluded with the asbestos cloth embedded. Paintings still protected by the facing were placed face down on a smooth surface covered with foil.[36] Margins maintained, a frame was built around the painting, which outlined the final shape of the transfer, this time – regular and rectangular. Mortar of sand and PVA in alcohol with a bit of chalk was then poured all over the reverse side. After it dried up, the surface was levelled, polishing it with carborundum stones and impregnated with PVA in alcohol in order to insulate properly the surface before the superstructure was installed.

The framework construction was assembled of fibreboard stripes on the painting's reverse, protected with foil. After the framework was glued together, it was impregnated with PVA in alcohol. Before final mounting, glass fibre cloth was fastened to the reverse with polyester resin Polimal 109 and a prepared framework placed over it when it was still wet and the entire

**31** Ead., "Konserwacja malowidła...," op. cit., p. 448.

**32** Based on preserved label of package.

**33** Jędrzejewska, "The conservation of...," op. cit., p. 86; methanol was also used (as related by J. Kozłowski).

**34** Ead., "The Mural...," op. cit., p. 206.

**35** Ibid., p. 206; as related by J. Kozłowski.

**36** The construction scheme of the painting *Archangel Michael* (inv. no. 234042 MNW), in the conservatorial documentation of the NMW.

patch was weighed down. In order to better fasten the construction to the painting's reverse, the framework's cells were lined with stripes of glass fibre cloth and soaked with polyester resin. On top of that, a perforated fibreboard was glued, which was fulled with PVA emulsion. After the transfer was reversed face up, the external background of the painting – which, in this method, protruded several millimetres above the level of the painting – was polished with carborundum stones. Ultimately, the beeswax-resin facing was removed from the painted layer. The fibreboard side walls were reinforced with PVA in alcohol and covered with three layers of glass fibre cloth glued with polyester resin.

In the following conservation treatments of the paintings the two methods were combined: Dr Jędrzejewska's doubling layers and Gazy's superstructure, whereas the layer of asbestos cloth was rejected.[37] Superstructures built of glass fibre cloth, framework and polyester resin proved much lighter than previous ones. They were effectively used in the conservation of the apse paintings – a composition of large size and concave surface. [38]

## The Conservation of the Paintings at the Sudan National Museum in Khartoum

Until 1970, conservation work on the paintings was conducted in the Sudan National Museum in Khartoum under the leadership of Józef Gazy.[39] In the years 1974–78,[40] they were continued by Leonard Bartnik from the National Museum in Warsaw, who had been member of Dr Hanna Jędrzejewska's team before.

Two paintings from the Khartoum collection were treated in Rome.[41] After they were returned to Sudan, they were subjected to another conservation treatment by Józef Gazy[42] because of their poor state of preservation. In the Sudan National Museum in Khartoum, conservation[43] commenced with the paintings being placed face down and desalinated by means of water compresses. Gaps in plaster on the reverse side were refilled with mortar of sand, chalk and weak solution of PVA in alcohol. A certain thickness of the original plaster was maintained as it was not thinned down to the whitewash layer like in Warsaw.[44] After the reverse was thoroughly dusted, its surface was repeatedly impregnated with PVA in alcohol until it permeated down to the whitewash layer. Next, Gazy applied the method of building a superstructure which he later used in the National Museum in Warsaw. A rectangle was outlined around a painting facing the floor, the reverse's surface was coated with mortar which was levelled and impregnated, and covered with a glass fibre cloth soaked with polyester resin and a framework of formica stripes lined with glass fibre cloth with polyester resin (**fig. 9**).

[37] The photographic conservatorial documentation of the painting malowidła *Archangel Michael* (inv. no. 234043 MNW) shows the consecutive stages of the work.

[38] Jędrzejewska, "The Mural...," op. cit., p. 202. The transfer and conservation of the paintings from the apse are discussed in the study by Katarzyna Rachuta-Wierniewska in the current issue of the Journal.

[39] Ibid., p. 202.

[40] As related by Leonard Bartnik.

[41] Jędrzejewska, "Konserwacja dwóch...," op. cit., p. 217.

[42] Gazy, op. cit., pp. 23–24.

[43] Ibid., pp. 25–37.

[44] Ibid., p. 25; as related by J. Kozłowski.

When the painting was reversed face up, the facing of linen, gauze and Japanese tissue as well as excess wax were removed with the help of benzine compresses.

With Józef Gazy having completed his part of work, in the next years Leonard Bartnik would cleanse the surface of selected paintings of the remaining beeswax facing with benzine. He also safeguarded the loosened painted layer and blisters arising in the plaster left on the reverses.[45]

### The Preparation of the Transfers for the Display

The paintings from the National Museum in Warsaw received not only various types of superstructures, but also various finishes, as a result of changing concepts for replacement ground preparation and aesthetic solutions. The transfers completed by the conservation team directed by Dr Jędrzejewska were given an irregular shape with a small margin around the depiction's outline[46] (**fig. 10a**), which permitted unlimited ways of placing the transfer at the display. The colour of plaster filling in gaps within the original paintings was obtained through an addition of original sand acquired from the plaster scratched off the reverse sides which matched the original colour. The level of fillings was slightly lower as compared with the original layers, which was aimed at suggesting a loss. Around the paintings' surface, a new background was added, around 5 mm lower than the original one, applied with spatula, having a rough texture imitating plaster and individually matched colour. The outline of the original and external background was marked by a wavy profile.[47]

External backgrounds in paintings were crafted in a different way in paintings supervised by Józef Gazy.[48] The shape was closed inside a rectangle, and the level of the added background was 2–3 millimetres higher than the original painting (**fig. 10b**). Between the depiction and the background, a sloping step was moulded. Through pouring the mortar from the reverse side onto the surface of margins and polishing, a background of an even and fine texture was acquired. Gazy's fillings had the colour of pure Opoczno sand in every object. The paintings at the Sudan National Museum in Khartoum were worked on likewise.

I am indebted to the participants of the related events: Jerzy Kozłowski and Barbara Lewandowska, conservators from the National Museum in Warsaw, and Dr Stefan Jakobielski, archaeologist from the excavation mission in Faras, for providing me with invaluable information on the topic.

Translated by Karolina Koriat

[45] As related by L. Bartnik.

[46] Jędrzejewska, "The Mural...," op. cit., pp. 204–05; ead., "Zagadnienia...," op. cit., p. 244; ead., "The conservation...," op. cit., pp. 86–87.

[47] Ead., "The conservation...," op. cit., pp. 86–87.

[48] Ead., "The Mural...," op. cit., p. 206; Gazy, op. cit., pp. 33–34.