

CONSERVATION WORK, SAQQARA 2001

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This year, as in previous seasons, the funerary chapel of the vizier Meref-nebef continued to be the focus of our conservation efforts. Data on temperature and humidity taken every two hours for the past year by a Rotronic thermohygrometer, installed by the mission in the chapel doorway in October 2000, at the end of the season, has confirmed the extensive influence external atmospheric factors continue to have on the climatic conditions inside the chapel. There have been abrupt changes of humidity from about 30% to almost 75% in November and December 2000 (heavy rains) and in March 2001. Changes of temperature throughout the year have been equally dynamic, from 12.5°C-17.5°C in January-February up to over 29°C in August and September.

Furthermore, on-site observations carried out in the course of the conservation work have confirmed the existence of some differences in the climatic conditions (mainly of the humidity) between the inside of the funerary chapel and the area immediately outside it, but within the confines of the shelter constructed by the mission.

The essential thing is to stop these tendencies and stabilize conditions. Hence, all ventilation holes have been veiled at the close of the season, and the skylights covered with stone slabs and sand on top. The thermohygrometer remains in place to collect data during the period until the next campaign; the results will then be compared with those obtained during the past year.

CONSERVATION OF THE PAINTED DECORATION

A check on the condition of the decoration inside the chapel revealed no substantial losses during our absence. Some detaching of the painted surface has occurred, but it was neither as numerous nor as sizeable as in previous years. The mortar ground layer also showed some detaching from the rock. The southern wall of the chamber is believed to constitute the biggest problem, but even there most of the multiple cases of peeling and detachment have been stabilized and are under control. Urgent intervention is required only on the lower part, the leveling stratum in particular.

Many tiny new concentrations of salt have been observed. The salt that crystallizes under the layer of polychromy causes cracks and detachments, and subsequently disintegration of the painted layer.

A larger salt accumulation in the form of white down covering 20 by 10 cm has appeared in the northern part of the eastern wall, about a meter above the floor, near the feet of a figure representing the deceased (the second figure from the north). There being no polychromy in this spot, it was possible to remove the salinity with a soft brush.

On both false-doors, at about one-third of their height, there is a zone of permanent salt accumulation. It has the structure of a homogenous layer (up to 1 mm thick) covering the rock wherever the decoration has already been destroyed. This and other types of salt concentration were removed with scalpels. The façade of the chapel was subjected to a different treatment. Here, the destructive activity of salts could be observed particularly on the walls below the outer architrave, where no conservation activities have been implemented after 1999. Their upper part, just underneath the “lintel” (above the debris filling removed in 1998) and their lower part in the north of the façade, especially up to c. 1.30 m above the floor, are particularly endangered.

The part of the architrave re-inserted in 2000 is in perfect condition. Not so the lateral walls. However, their badly eroded middle sections, reinforced twice (in 1999 and 2000), are integrated satisfactorily. Multiple crevices and fragmenting of the rock occur on all levels, extending in all directions. Fragments of the rock are threatening to fall.

The peeling fragments of the leveling layers and of the polychromy in the southern part of the eastern wall (including the hunting scene), as well as in the lower part of the southern wall, have been pasted together (using a c. 8% solution of Paraloid B-72 in toluene). Rifts and detachments, which had appeared in the lower part of the “offering list” in the southern part of the western wall, were

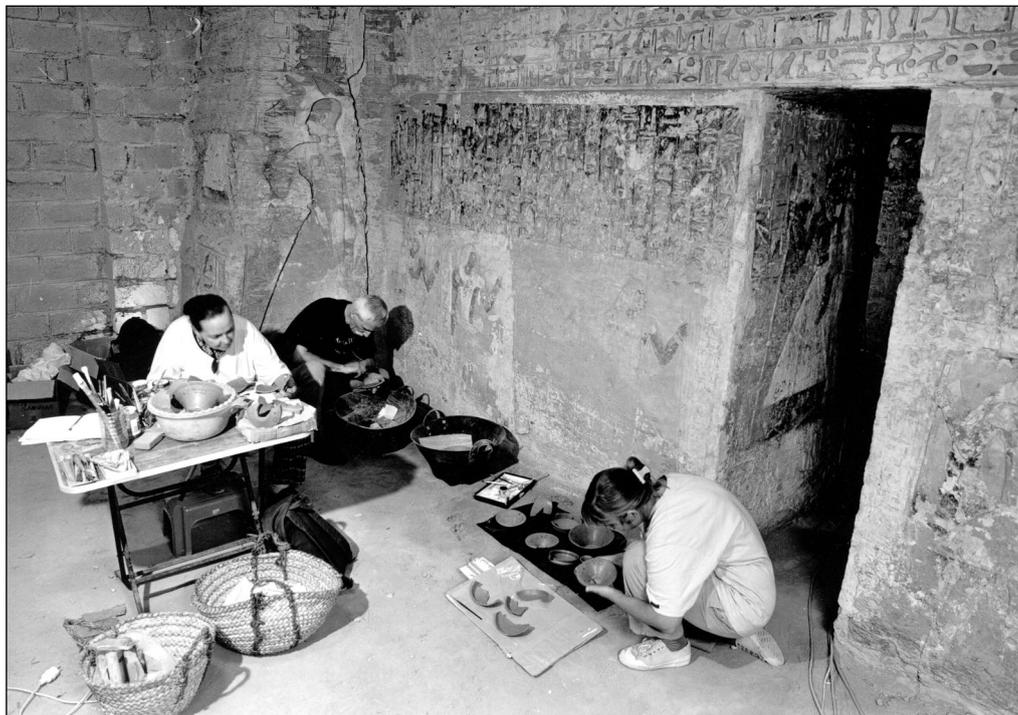


Fig. 1. The conservation team at work on the decoration of the funerary chapel of Meref-nebef and on pottery from the tomb of Qar (Photo M. Jawornicki)

mounted using a c. 8% water solution of Primal AC-33. Some corrections were introduced into earlier mountings of hands and other parts of a representation of the deceased seated at the offering table. The cracked parts were first fastened with Japanese tissue paper, using a solution of paraloid B-72 in toluene, then lifted to the appropriate level. The resulting voids were filled with a lute made of Primal AC-33 as the base, and containing pure, sifted sand, calcium carbonate (CaCO₃) with some pigment (Raw Siena). Some small and thin fragments of the polychromy below the representation of the offering table have also been mounted (Primal AC-33, as above).

A different way of mounting detachments has been applied in the middle and northern part of the eastern wall and on both "false doors". To remove surface brightening (result of rescue treatment immediately following the discovery of the tomb in 1997), subsequent fragments of the wall were overlaid with toluene, which reactivated the viscous material contained

in the thin layer of polychromy and enabled us to re-attach it to the matrix.

Some mounting has also been performed on detaching parts of the northern and the western (northern part) walls, on both sides of the northern "false door" and in the façade, beneath the architrave. Depending on the degree of salt density, a choice was made between a water solution of Primal AC-33 and a solution of paraloid B-72 in toluene as the adhesive.

Both lateral walls of the façade were subject to procedures aimed at stopping the erosion of the rock, particularly in the middle part of the walls. The most destroyed, small fragments of peeling rock were removed. At this stage of structural consolidation Remmers Funcosil KSE 500 STE was used. This silicon concoction was injected into all rifts, adding fillers, such as Funcosil KSE-Füllstoff A (mineral flour) and Funcosil KSE-Füllstoff B (quartz powder) in a ratio of 2:1, and pigment (Raw Siena). Larger cavities were treated with these materials, enriched with well-sieved sand for proper consistency.

CONSERVATION OF POTTERY AND OTHER FINDS

Pottery vessels found by an Egyptian mission in the tomb of Qar, chief physician of the royal court (probably late Fifth Dynasty), underwent treatment that began with securing the hieroglyphic inscriptions written with a sort of black ink on these vessels. The inscriptions were very loosely attached to the surface, hence the need to use a c. 2-3% solution of paraloid B-72 in toluene on the sherds. Surface cleaning was mechanical. The vessels were restored – 33 vessels put together from 196 sherds. First, the breaks were impregnated with a 5% alcohol solution of crystalline polyvinyl acetate (PVA Mowilith-50), then using

20% PVA Mowilith-50 with acetone added for gluing purposes. Also treated were 14 complete pottery vessels and one complete stone jar.

Four round offering tables, unique for the finely painted representations of various offerings decorating their surface, were restored from 70 sherds, after undergoing treatment to secure the poorly adhering polychromy with a c. 3% solution of PVA Mowilith-50 in alcohol. The procedures for removing dust and sand, impregnating breaks and gluing together particular pieces, were as described above.

Another inscription, which was painted black on the cream-colored slip of a large ceramic jar, was treated with a c. 2-3% solution of paraloid B-72 in toluene.

One of the vessels from the Polish-Egyptian excavations that were restored this year is a huge 4th-2nd cent. BC amphora, originating from Samos (SQ 98-564). It was found in 1998, in context with late burials. Before the actual restoration could proceed according to procedures already described above, it was

necessary to remove remains of UHU glue from an earlier failed reconstruction attempt (the breaks needed to be soaked in an acetone-alcohol bath).

Scalpels and hard brushes were applied to remove the thick layer of salt covering the surface of a hieroglyphic inscription in relief, decorating the front of a limestone jamb. UHU Epoxy Quick was used to reattach parts that were coming loose. The jamb now consists of four separate, loosely connected elements.

PROTECTION OF MUD BRICK WALLS

Finally, steps were undertaken to protect the integrity of original parts of some Old Kingdom mud brick walls. The following architectural elements were provided with protective capping of strong modern mud bricks: superstructure of mastaba of Merefnebef; walls bordering the eastern chapel of this mastaba (no. 1); and walls of the cult chapels nos. 2, 3 (Pehy), 5 (Ni-Pepy) and its mastaba, 7, and 8. In each case,

fragments of the original structure were left uncovered in order to permit further studies. The western end of the northern mud brick wall bordering the vizier's mastaba was given a strong and tall support, built of stone and *tafl*, that reached rock level by Shaft 1. Also the wall bordering the platform in sector I/I was reinforced with modern bricks in its western part.