

TECHNICAL DATA CONCERNING THE MUMMY AND ITS ACCESSORIES, IN THE COLLECTION OF THE NATIONAL HISTORY MUSEUM OF TRANSYLVANIA, IN CLUJ-NAPOCA (ROMANIA)

One of the most visited hall exhibitions of the National History Museum of Transylvania is the Egyptian Hall. Here the most important and spectacular piece is the human mummy¹ (inv. no. V1805) exposed in the lower part of its wooden sarcophagus² (inv. no. V1807) with the lid besides, in a showcase (figure 1). These pieces date from the III-I century BC, the Ptolemeic Age, and proceeded from the old collection of the former Transylvanian Museum.

It is a woman's mummy, 1,7 m. high and being in a very bad state of preservation, its entire surface is cracking and powdery. It could not be handled with any degree of safety.

The funerary mask is broken at the nose, the mouth, the right cheek and the top of the head too. There are many lost parts because some fragments disappeared with the linen support. The funerary mask is lightly misplaced to right-down from the normal position.

The body is covered with a painted linen in the following colours: brick red, brightest blue, black and white. The linen support is degraded and crumpled, the textile threads are oxidized. Only on the front of the body the painted linen exist from the neck to the foots. At the chest level exist horizontal stripes with geometrical drawings, and from the hip to the foots there is a piece of painted linen with a lot of rectangular holes about 0,5-30 cm².

At the front and at the backside of the foots the painted linen does not exist, we can see only the bandages. All the bandages are degraded and dry, without any flexibility of the textiles, with darker brown spots. From an unnatural curiosity the bandages were broken and now we can see the phalanx from the big toe of the left leg.

The sarcophagus was made in strong wood, possible cedar, and it is 2,05 m. long. The lid of the sarcophagus is painted in the following colours: brick red, brightest blue, black and white-yellow, and they are very damaged. On the right cheek is a big break and the painted layer does not exist any more. On both sides and at the foots, where painting does not exist, there are some breaks with lost of wooden material. Where painted layer still exist, it is well fixed on the wood and the colours are fresh with a slightly dusty appearance due to the condition of the paint.

The very damaged condition of the pieces and their rarity in the Rumanian museal heritage impose their conservation.

In 1988, when in Cluj-Napoca was organized the exhibition "Egyptian Antiquities in Rumanian Collections", there were some studies carried on the conservation of the mummy. There were performed specific analyses³ including X-ray photographs⁴, the results were published.

At the same time arrived in the chemical laboratory some colour samples from the funerary mask, from the painted linen of the mummy and a sample with a dark brown material from the inside of the mummy, under their bandages. I tried to identify the material contained in samples by the technique of microchemical qualitative analysis. The following results were obtained:

¹ "Antichități egiptene în colecțiile din România", catalog de expoziție, Cluj-Napoca, 1988, p. 32.

² *op.cit.*, p. 25

³ A. Igna, *Investigații biologice asupra unor mumii egiptene din patrimoniul Complexului muzeal județean de istorie Cluj*, în *Revista muzeelor și monumentelor*, 10, 1988, p. 40-44; A. Igna, *Probleme ale conservării și restaurării faunei mumificate*, în *ActaMN*, XXVI-XXX, I/2, p. 515-524

⁴ Imecs M., *Examinarea cu metoda Rx a unor mumii egiptene*, în *Revista muzeelor și monumentelor*, 10, 1988, p. 45.

1. The bandages, the textile support of the mummy's cloth and the textile ground of the funerary mask are made from flax threads in linen structure.

2. The funerary mask is made in stucco technique. The gesso ground contains chalk (calcium carbonate) and an organic medium as binder. On the gesso ground are painted geometrical drawings and a thin gold layer is on the face. In Egypt during the Ptolemaic Age, the Egyptians used for stucco: chalk (also named lime), which is calcium carbonate, or gyps (also named plaster), which is calcium sulfate hydrate with 2 water molecules, or clay with sand from the Nile⁵, that depends if they lived in Northern, Central or Southern part of Egypt.

3. The painted linen has a thin gesso ground containing chalk and an organic binder, and it was prepared to obscure the weave of the line. On this gesso are applied colour drawings.

4. The identified pigments are the same for the funerary mask and the painted linen of the mummy.

- *Black* is a natural pigment, a carbon black.
- *White* is a mineral natural pigment, calcium carbonate, chalk.
- *Brick red* is a natural mineral pigment, a red ocre, which means an earth colour, the iron oxide giving the nuance.
- *Brightest blue* is a mineral artificial pigment, Egyptian blue, and artificial copper lime silicate. The old Egyptians manufactured for the first time⁶ a sort of frit with a bright light colour, which was broken in very small pieces and used as a pigment, it was called Egyptian blue or blue frit or later Pompeian blue.
- All are well-known pigments since the oldest times and mentioned in art literature as used in Ancient Egypt⁷. Moreover the same mineral pigments were identified on the cloth of a human mummy at the National Gallery laboratory in London: they made also binder analyses⁸.

5. The sample with dark brown material from the inside of the mummy contains bitumen, a mixture of hydrocarbons with organic and inorganic impurities, materials used to embalm Egyptian mummies⁹.

At that time I did not make binder analysis. The literature asserts that three distinct forms of medium are known to have been used then: natural gum, animal glue, or egg emulsion. Methods as thin-layer chromatography, gas chromatography or specific tests on thin cross-sections are used for the identification of organic materials contained in the medium.

The identification of organic materials used by the old craftsmen in artwork is a very difficult one and presumes special tools for taking samples and performant instruments for analyses. Only a close cooperation between museums and scientific laboratories specialized in such analysis permit of the identification of these materials. Our purpose is to continue the analyses on the mummy and its sarcophagus, in respect of their conservation purpose.

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⁵ Vozil I., *Császárkori stucco múmia-maszkok restaurálása* in *Műzeumi műtárgyvédelem*, 15, 1986, p. 258.

⁷ Gettens, R.J. and Stout G.L., *Painting Materials: A Short Encyclopaedia*, Dover Publication Inc., New-York, 1966; L. Lăzărescu, *Pictura în ulei*, Ed. Sigma Plus, Deva, 1966; Szőnyi I. *A képzőművészet iskolája*, Budapest, 1941; Lucas, A. *Ancient Egyptian Materials and Industries*.

⁸ Hillyer L., *The conservation of a group of painted mummy cloths from Roman Egypt* in *Studies in conservation*, 29 (1984) p. 1-9.

⁹ Plesters, J., *Cross-sections and chemical analysis of paint samples*, in *Studies in Conservation*, 2, (1956), p. 150.



Fig.1: The Egyptian Mummy and its Sarcophagus.