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THE JOINT MUMMY RESEARCH PROJECT OF THE MUSEUM OF FINE ARTS AND THE HUNGARIAN NATURAL HISTORY MUSEUM

Éva Liptay[1] Erzsébet Fóthi[2] Zsófia Komáry[3]

The Egyptian collection of the Budapest Museum of Fine Arts has four well-preserved Egyptian mummies (two male and two female bodies), none of which has yet been studied in detail either by an Egyptologist and neither have they been submitted to analytical or archaeometric analyses. The past two decades have seen revolutionary advances in the research on Egyptian mummies by international scholarship. Various research projects of this type are currently in progress in several countries and collections, using mainly non-invasive analytical methods. It was therefore timely to undertake the study of the mummies in the Museum of Fine Arts. A research team was organised and we launched the Budapest Mummy Project in early 2011.[4]

During the second phase of research, the circle of mummies to be examined was broadened and our goal is now to systematically examine all the mummies housed in Hungarian collections. Our study has thus been extended to include the Egyptian mummified human remains in the Egyptian collection of the Museum of Fine Arts (three heads, one hand and the remains of another mummy), as well as the mummies in the Calvinist Collection of Pápa (one body in mummy bandages in a painted wooden coffin) and in the Déri Museum of Debrecen (two bodies in mummy bandages, both placed in their own painted wooden coffin).

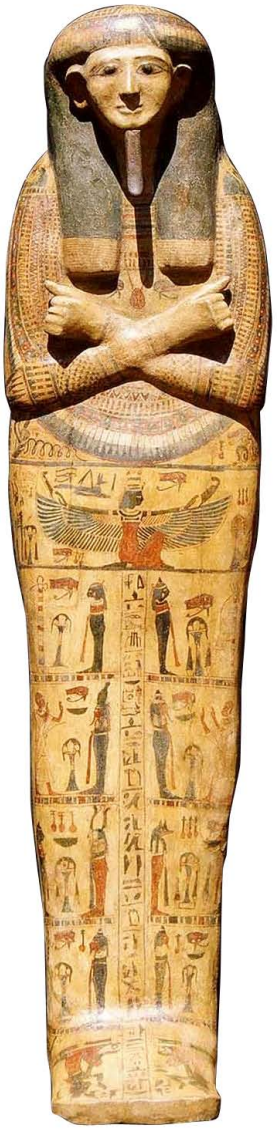

Fig 1. The lid of the coffin in Pápa (Courtesy of the Calvinist Collections of Pápa)

EGYPTOLOGICAL RESEARCH

One of the main goals of the research project was to investigate four of the mummies and their coffins from an Egyptological perspective. Previous studies suggested that further investigations should be pursued in two main directions.

[1] Department of Egyptian Antiquities, Museum of Fine Arts, Budapest
[2] Department of Anthropology, Hungarian Natural History Museum, Budapest
[3] Department of Medical Biochemistry, Semmelweis University, Budapest
[4] The first results of the research project were presented at the exhibition "Mummies uncovered' at the Museum of Fine Arts, between June 8, 2011 and June 30, 2012. A preliminary report on the first results of the research appeared in the catalogue to the exhibition: M. Petrik (ed.), *Mummies uncovered* (Budapest: Szépművészeti Múzeum, 2011).

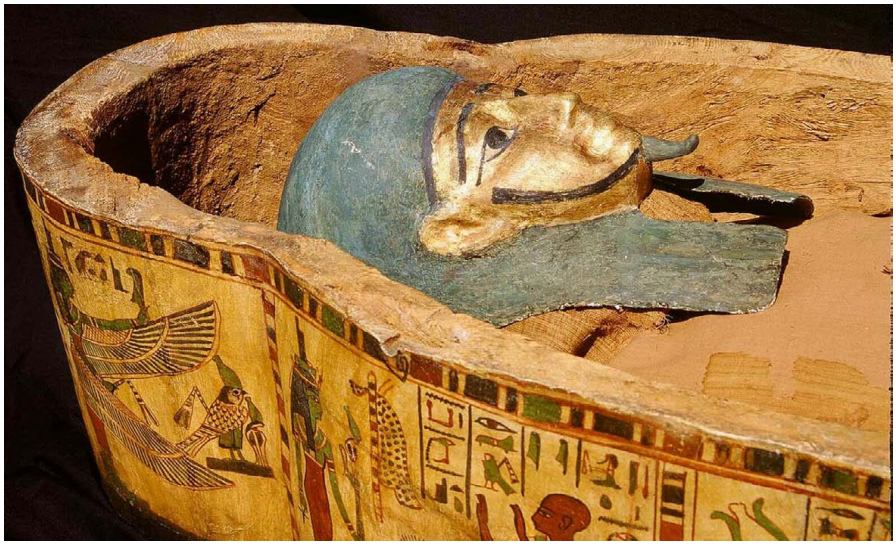

Fig 2. The mummy of Pápa covered with its mask (Courtesy of the Calvinist Collections of Pápa)

I. Akhmim: burial practices in the 1st millennium

According to the collection archives and in view of their stylistic features, the coffins associated with the mummies currently under examination include three pieces, which definitely originate from the town of Akhmim (called Panopolis in Greek).

Each of the three mummies and coffins from Akhmim can be dated to different periods, mainly within the later 1st millennium BC, and thus their examination enables a comparison of the attitudes to traditional Egyptian funerary customs during different periods in the same settlement.

I.1 The mummy and coffin of Hortaiesnakht

Based on the stylistic and iconographic features, the painted wooden coffin with gilded face and the partly gilded cartonnage mummy attachments covering the linen bandages seem to come from the same workshop. Both provide a good example of the actualisation and re-interpretation of former traditions ("Panopolitan coffin type").[5] Although they conform to the traditional Egyptian layout of contemporaneous Panopolitan coffins, the iconography exhibits a few peculiarities that provide clues for a more precise dating of the burial within the Ptolemaic period. Furthermore, the name of the deceased, which can be linked to Ptolemaic Akhmim, is relatively frequently attested among the inscriptions of funerary cult objects,[6] and offers a promising possibility for additional genealogical studies.

I.2. The Szombathely mummy and the coffin purchased with it[7]

The coffin which contained the mummy at the date of the acquisition is a typical example of the painted cartonnage coffin type used around the end of the Ptolemaic period and the beginning of the Roman era. Its appearance in the 1st century BC introduced a radically new style in the Panopolitan coffin material.[8]

Research during the project's first phase clarified the circumstances of the acquisition and provided evidence that the mummy – which can be dated to a somewhat earlier period than the coffin – and the

[5] Brech, R., *Spätägyptische Särge aus Achmim*. Aegyptiaca Hamburgensia 3 (Gladbeck: PeWe Verlag, 2008); Germer, R. – Kischkewitz, H. – Lüning, M. (eds), *Berliner Mumiengeschichten. Ergebnisse eines multidisziplinären Forschungsprojektes*, (Berlin – Regensburg: Schnell & Steiner, 2009), 113–138.

[6] Munro, P., *Die spätägyptische Totenstelen*, 1–2. Ägyptologische Forschungen 25 (Glückstadt: J.J. Augustin, 1973).

[7] Liptay, É., A "szombathelyi múmia" – új kutatási eredmények, *Vasi Honismereti és Helytörténeti Közlemények* (2011/2), 52–58.

[8] Smith, M., Dating anthropoid mummy cases from Akhmim: The evidence of the Demotic inscriptions. In: *Portraits and Masks*, ed. Bierbrier, L. (London: British Museum Press, 1997), 66–71; Riggs, C., *The Beautiful Burial in Roman Egypt. Art, Identity, and Funerary Religion* (Oxford: Oxford Univerity Press, 2005), 61–94, 259–267.

coffin originate from separate burials. The clarification of how these pieces were acquired has highlighted the need for further studies on the modern history of this archaeological find group (as a newly defined, additional archaeological horizon) because the evidence indicates that the finds were re-grouped and, also that fictitious new groups were created through the re-interpretation and re-use of the mummies and objects on the antiquities market around the end of the 19th century.

I.3. The coffin and mummy in the Calvinist Collection in Pápa[9]

The late Ramesside coffin contains a mummy which can be dated to the Late or Ptolemaic period. The secondary burial might have taken place in Antiquity, but it is equally possible that, similarly to the mummy and coffin of Szombathely, the mummy was placed into the coffin by the antiquities dealer in order to make the two more attractive to potential customers. It is also possible that the Early Ptolemaic cartonnage accessories with the mask did not originally belong to the mummy.

II. Identifying the archaeological site of the "unwrapped mummy"

According to archival documents, the mummy was already unwrapped when it was transferred from the Hungarian National Museum to the Museum of Fine Arts in 1934. Further research will hopefully enable us to place this extraordinary mummy in its proper context, for example by identifying its original burial place in Egypt. Our current knowledge suggests that the "unwrapped mummy" was probably brought to Hungary in the first third of the 19th century. Its appearance indicates a possible connection with a group Theban burials from the Roman period (1st–2nd centuries AD).[10] This assumption, however, can only be confirmed by additional anthropological and scientific research.

ANTHROPOLOGICAL RESEARCH

The anthropological examination of Egyptian mummies is based on the assessment of computer tomography (CT) scans. The evaluation of CT scans requires the combined expertise of both a radiologist and an anthropologist owing to the specific features of mummified human remains. So far, four mummies from the Museum of Fine Arts of Budapest and one mummy from the Calvinist Collection of Pápa have been submitted to CT scans.[11] All five mummies can be dated to the Graeco-Roman period, an age when the religious background of the mummification rite became increasingly obscure; in the majority of the cases, mummification was

Fig 3. The face of the "unwrapped" mummy (Photo: Csanád Szesztay)

[9] Germer, R. – Kischkewitz, H. – Lüning, M. (eds), *Berliner Mumiengeschichten. Ergebnisse eines multidisziplinären Forschungsprojektes* (Berlin – Regensburg: Schnell & Steiner, 2009), 113–138; Liptay, É., A local pattern of the 20–21st-dynasty Theban coffin type from Akhmim/Egy thébai koporsótípus ahmimi variánsa, *Bulletin du Musée Hongrois des Beaux-Arts* 114–115 (2011), in print.

[10] We are grateful to B. Gessler-Löhr for drawing our attention to its striking resemblance with other mummies

[11] The CT scan of the mummies of the Museum of Fine Arts, Budapest, was performed by Kinga Karlinger and Csaba Korom of the Department of Diagnostic Radiology and Oncotherapy, Semmelweis University, Budapest; the CT scan of the mummy of Pápa was performed by László Pohárnok of Euromedic Diagnostics Hungary Ltd. in Győr.

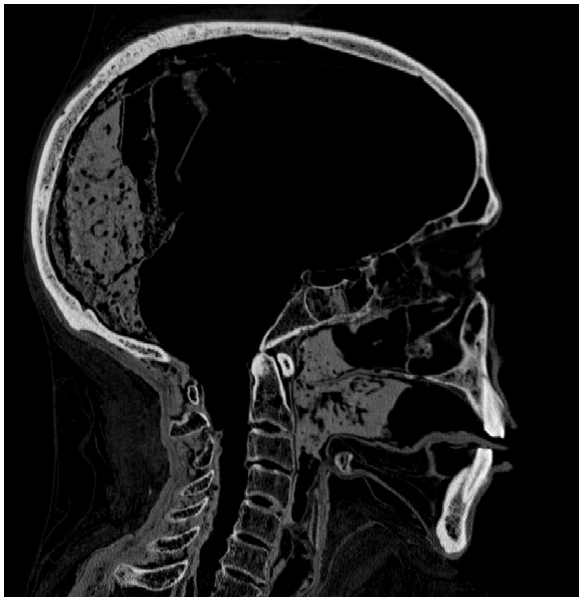

Fig 4. CT scan of the head of the Szombathely mummy. The remnants of the brain tissue are visible in the cranium (Courtesy of TONDO Kft.)

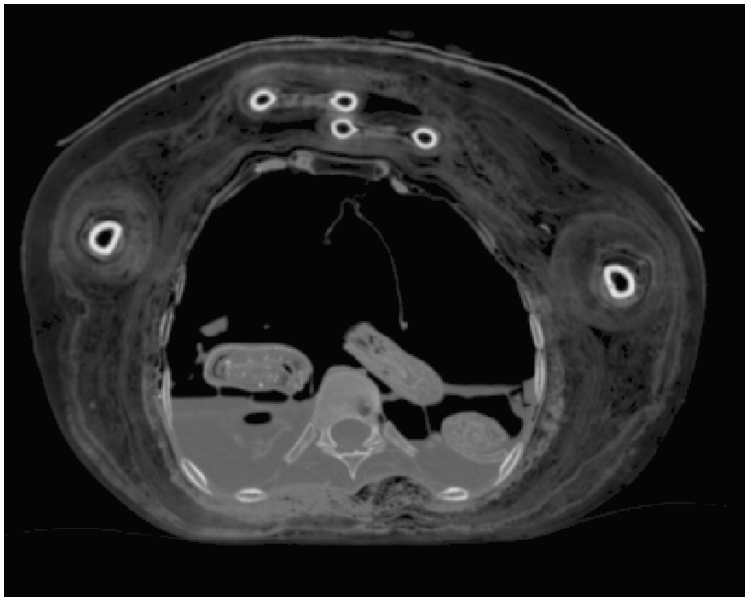

Fig 5. CT scan of the chest of Hortaiesnakht's mummy. Three bundles of mummified internal organs are visible in the chest cavity (Courtesy of TONDO Kft.)

poorly executed.[12] However, all of the five mummies discussed here are characterised by an accurate preparation of the body and careful, good quality bandaging,[13] reflecting the high social status of the deceased and the preservation of Egyptian funerary traditions[14].

Each of the five mummies represents a unique and special case, and the investigation of the contents of the thick bandages can yield unexpected and surprising results.

Three of the five mummies originate from the town of Akhmim in Upper Egypt and thus their systematic examination can contribute to a better understanding of the mummification practices in Graeco-Roman Akhmim. We found that the volume of the dry and thin soft tissues was artificially enhanced by placing a wax or textile filling between the skin and the muscle tissues and the long bones in order to restore the life-like appearance of the limbs in each one of the three mummies. Our studies indicated that this stuffing procedure was not restricted to the mummification practices at the time of the 21st–25th Dynasties and to various sporadic cases reported in the literature,[15] but may have been part of the regular mummification customs in the Akhmim region during the Ptolemaic and Roman periods.

The feasibility of scientific examination strongly depends on the state of preservation of the mummified remains and on the presence of internal organs. The better the tissues are preserved, the more accurately we can diagnose diseases, assess lifestyle and diet, and determine the cause and age at death of the deceased.

[12] Mummies in museum collections do not serve as representative examples for the study of mummification procedures during a particular historical period. Museum collections are usually made up of well preserved, attractive mummies that were produced according to high standards. A studying of the anthropological material from ongoing archaeological excavations is more suitable for reconstructing ordinary techniques of mummification. The examination of the human remains from Theban Tomb (TT) 32, investigated as part of the archaeological fieldwork conducted by the Department of Egyptology of the Eötvös Loránd University, revealed that in most cases, mummification was performed poorly and inaccurately in the Graeco-Roman period and that only about 10 % of the cases represents traditional, high quality mummification. For the anthropological assessment of TT 32, see Fóthi, E. – Bernert, Zs. – Kőrösi, A., *Human and faunal remains from Theban Tomb 32,* Studia Aegyptiaca 19 (Budapest: Department of Egyptology, Eötvös Loránd University 2010).

[13] For the preliminary results of the scientific study of the Egyptian mummies of the Museum of Fine Arts, Budapest, see Petrik, M. (ed.), *Mummies Uncovered*, Catalogue (Budapest: Szépművészeti Múzeum, 2011), 70–79.

[14] Gessler-Löhr, B., Mummies and Mummification in Roman Egypt. Decline or Heyday, in: *The Oxford Handbook of Roman Egypt,* ed. Riggs, C., Oxford Handbooks in Archaeology (Oxford: Oxford University Press, 2012), 664–683.

[15] Ikram, S. − Dodson, A. *The Mummy in Ancient Egypt* (London: Thames & Hudson, 1998).

Of the five mummies discussed here, the mummy of Szombathely and the mummy of Hortaiesnakht were the most promising for a scientific study. In both cases, the body cavities were filled with a mixture of waxes. The internal organs were mummified separately and replaced in the body in the form of cigar-shaped packages. Samples can be taken from these mummified organ tissues without damaging the body, and these samples can then be submitted to additional analyses using histological methods. Hortaiesnakht died very young, at the age of 20. The radiographs revealed traces of calcification on one of her internal organs, perhaps the outcome of a *Schistosoma* infection which was endemic in ancient Egypt.

We could also determine with a fair degree of certainty the cause of death of Rer, a young woman, whose mummy probably originates from Saqqara. The radiological examination of her mummy yielded unexpected results. Before the CT scan, we thought that the 137 cm long bandage covered the body of a child. However, the radiographs revealed the skeleton of a young adult woman whose bones were broken into several pieces and put in anatomical order by the embalmers. We intend to clarify through additional histological examination whether the fractures are post-mortem lesions or whether they were originally caused by a disease that made the structure of the bones fragile and thin.

At first sight, the "unwrapped mummy" appeared be the least promising for an interdisciplinary study: the wholly unwrapped mummy of the young adult man did not provide any clues for researchers. However, according to the literature, its physical appearance and the embalming substances used are highly similar to a mummy in the collection of the Louvre in Paris. The two mummies were acquired in a similar manner: both of them showed up in Europe at roughly the same time and were probably sold by same antiquities dealer. The DNA analysis and the comparison of the embalming substances may confirm the hypothesis that the deceased were both members of the same high-ranking Theban family, whose mummies reached various European museums after their tombs were plundered in the 19th century. The identification of the members of this Theban family calls for international co-operation.

Recommended reading

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