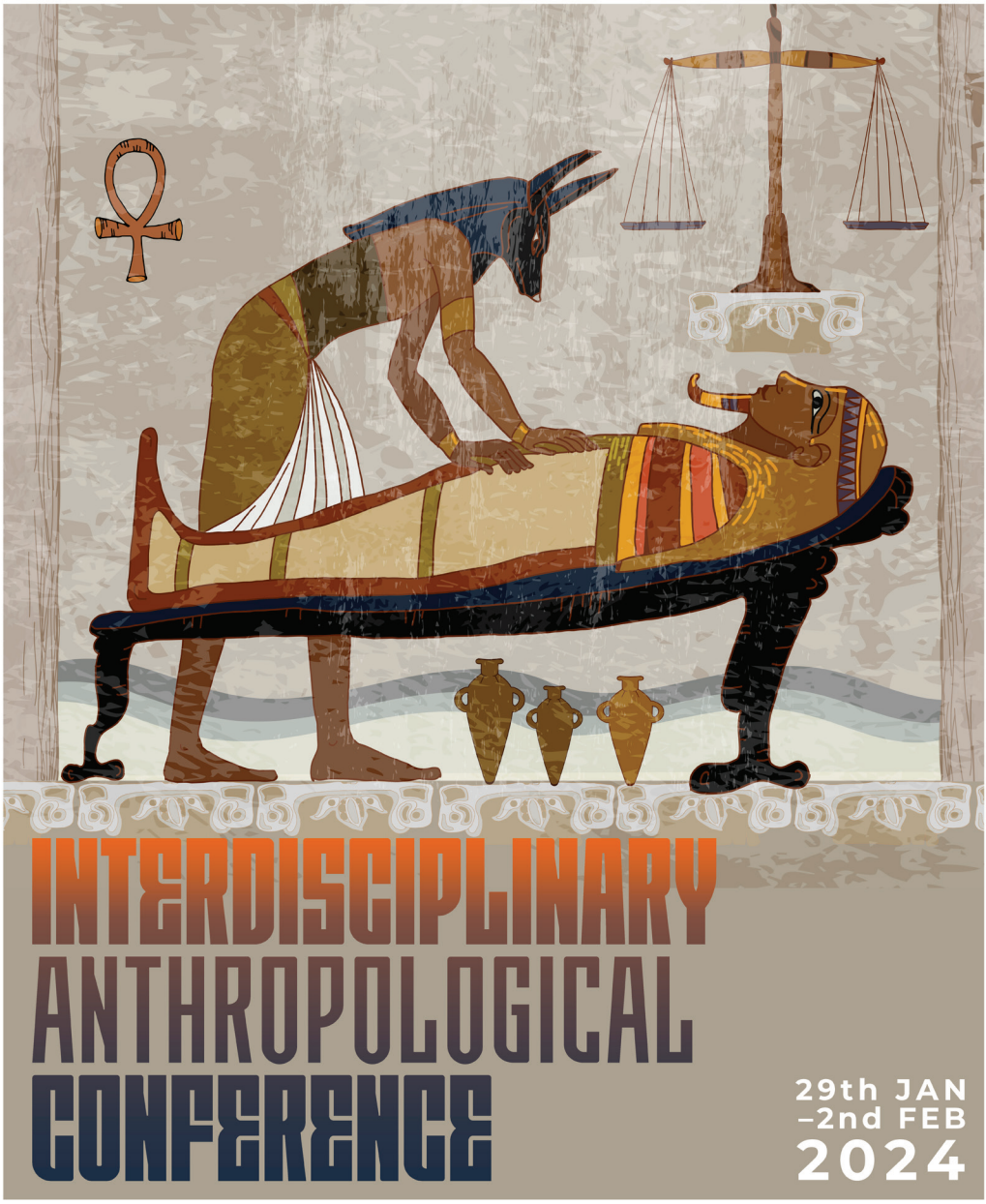

INTERDISCIPLINARY ANTHROPOLOGICAL CONFERENCE

29th JAN –2nd FEB 2024

MUMMIES AND THE ANCIENT EGYPTIANS

ABSTRACTS

MUMMIES AND THE ANCIENT EGYPTIANS

Interdisciplinary Anthropological Conference

Organisers:
Hungarian Natural History Museum (HNHM)
HNM Semmelweis Museum of Medical History
HEFS Ancient Egyptian Committee

Date:
29th January 2024 – 2nd February 2024

Venue:
Hungarian Natural History Museum
Semmelweis Museum in Budapest
Tragor Ignác Museum in Vác

SEMMELWEIS MUSEUM OF MEDICAL HISTORY
Hungarian-Egyptian Friendship Society
Hungarian Natural History Museum

Abdelmoniem M. ABDELMONIEM

Digital Epigraphy of an Anthropoid Wooden Coffin
from the Late Period in Egypt

Department, Faculty of Archaeology, Fayoum University, Fayoum, EG

The aim of this paper is to document the current state of an anthropoid wooden coffin using various methods and to provide the necessary information for appropriate future conservation work. Text transliteration, photographic documentation, technical photography, 2D illustrations, and 3D modules were used to document the coffin. The results showed the presence of an insect infestation in the head of the coffin. The text transliteration showed that the studied coffin dates back to the late period in ancient Egypt. 2D images showed the areas of the previous conservation and the missing parts of the coffin. Furthermore, 3D modules showed that the lid of the coffin had an inward landing. Technical photography highlighted the areas of the previous conservation and the places of the Egyptian blue paint.

Abdelmoniem M. ABDELMONIEM

Unveiling the Hidden Secrets: Multi Analytical Techniques of
Anthropoid Wooden Coffin from Late Period

Egypt Department, Faculty of Archaeology, Fayoum University, Fayoum, EG

The present study aims to present the pigments, ground layer, and previous restoration materials used in a polychrome wooden coffin using multi-analytical techniques. It used optical microscopy, technical imaging, scanning electron microscope attached to X-ray dispersion unit, X-ray diffraction, Raman spectroscopy, and Fourier transform infrared spectroscopy. The results showed the use of yellow as goethite α-FeOOH, blue as Egyptian blue [Cuprorivaite ($CaCuSi_4O_{10}$)], red as haematite (α-Fe_2O_3), and white as calcite ($CaCO_3$). The black pigment was identified as carbon (C) and the binder in both the calcite-based plaster layers and the polychrome layers as animal glue. The previous consolidation material was primal AC33.

Yekaterina BARBASH

Funeral Gallery in the Brooklyn Museum, New York

Egyptian, Classical and Ancient Near Eastern Art Brooklyn Museum, New York, USA

The Funerary Gallery currently on display at the Brooklyn Museum was first installed in 2010. This presentation offers and overview of the thematic and design decisions of the original gallery and the considerations behind them. Originally presented as a vision of Egyptian afterlife, with a focus on technical methods of mummification, the installation included multimedia components and information from scientific testing performed on the preserved human remains. The presentation will review the analyses and the considerable conservation efforts applied to these remains during preparations for their display in the gallery. Because the gallery has seen several small but significant updates since it opened, these will also be discussed.

Valerie BOUDET

An investigation of the treatment of the human feet during human anthropogenic mummification in ancient Thebes

Biomedical Egyptology at the University of Manchester, Manchester, UK

This study, part of my MSc in Biomedical Egyptology at the University of Manchester, aims to present for the first time, an inventory and assessment of different treatments specifically applied to the feet during anthropogenic mummification, from the Middle Kingdom to the Roman Period exclusively in the region of Thebes, Egypt. There is little that has been written about such treatments aside from brief ancillary descriptions in the reports of early mummy unwrappings and later radiographic examinations. Whereas there have been extensive studies of evisceration and excerebration methods, treatment of the viscera, various possible desiccation procedures and wrapping techniques, the treatment of the extremities and in particular of the feet does not seem to have been considered. As a result, a whole area of ancient Egyptian mummification practice has never been systematically explored and documented. Using a variety of sources, I identified nineteen different types of treatment specifically applied to the feet in my original research sample of one hundred and thirty (N=130) individuals and related objects, across all periods and geographical areas of ancient Egypt. I then elected to focus this study exclusively on the 42 subjects (n=42) found in the region of Thebes in an attempt to discover trends in the way individuals of different time periods, social status, sex and age were treated as well as possible reasons for such treatments. Some findings were expected, others perhaps less so, while general trends identified by other researchers did not always coincide with the Theban situation.

Claudia CARVALHO [1] Sabina MALGORA [2], Paula VEIGA [3]

Survey of the human remains in the funerary Complex of Harwa and Akhamunru (TT37 and TT404) in Luxor – updated information

1Museu Nacional (MN), Universidade Federal do Rio de Janeiro (UFRJ) · 2Mummy Project Milan, IT · 3Institut für Ägyptologie, Ludwig-Maximilians-Universität München, München DE

The present abstract is an update on our preliminary study of the human remains found at the funerary complex of Harwa (TT 37) and Akhamunru (TT 404). The monument is located on the west bank of Luxor, in the Assasif necropolis and can be dated to the end of the 8th century BC..(1) Since 1995 the the funerary complex have been excavated by the Italian Archaeological Mission to Luxor under the direction of Prof. Francesco Tiradritti, in cooperation with authorities from the now denominated MoTA-Ministry of Tourism and Antiquities. TT37 was prepared by the Great Steward of the God's Wife Harwa and served as a space for other burials from Dynasty 25th onwards (Tiradritti 2004a, p. 170). Akhamunru, Harwa's successor, reused the unfinished area of his predecessor cenotaph to build his own tomb. During the excavation in the courtyard, the discovery of lime kilns (dated by ceramic evidence to the third century CE), and human bones next to the first pillared hall was registered. Those were remnants of a mass grave, probably resulting from the

need to dispose of infected bodies belonging to the victims of the Plague of Cyprian (middle of the 3rd century AD).(2) This talk is intended to present an updated situation of the data our team gathered during two short field seasons (2009 and 2012), in which we carried out the necessary work to evaluate the condition of the human remains, hoping to continue the study in the future. The initial survey led to an evaluation of the minimum number of individuals (MNI). From 440 storage boxes: we have a total of 519 groups, 97 groups of mummies/or mummy parts, 235 groups of bandages, and 187 groups of scattered bone fragments. 79 groups were formed by two or three categories. The mummies were mainly unwrapped and show evidence of burnings, cut marks, and sun exposure. Traces of gilding were found on one of the mummies (head). Partly preserved wrappings of two mummies allowed us to date them to the Roman period. As presented in the 2013 Rio de Janeiro Mummy Congress, we have identified three almost complete mummies (MAIL 2008 M1, MAIL 2008 M2, and MAIL 2008 M3), recovered in the courtyard in 2008. They show a different grade of preservation, and two of them show traces of robbers' manipulation. Our team was able to conduct macroscopic analyses trying to reconstruct the actions of the robbers, and damage inflicted to the mummies that may have occurred in their search for valuable objects.In the future we hope to continue specific scientific studies about diseases, mortuary practices, and disruptive activities that affected the funerary complex of Harwa and Akhamunru.

([1]) Tiradritti 1999; Tiradritti 2004a; Tiradritti 2004b; Beckerath 1997.
2Tiradritti, F., 2014, Epidemia di Cipriano: le prove sono in Egitto Scavi a Tebe Ovest, Archeologia Viva n. 168 – novembre/dicembre 2014: 40-51.
https://www.archeologiaviva.it/1045/epidemia-di-cipriano-le-prove-sono-in-egitto/)

Prof. Rosalie DAVID

The Potential of Proteomics for Disease Studies in Egyptian Mummies

The University of Manchester, Manchester, UK

Studies on human remains and their burial sites have provided extensive information about the lives, health and deaths of ancient Egyptians. These have included descriptions of a wide range of maladies and infirmities. Until now, palaeohistology and DNA-based assays have led the way in facilitating the identification of infection (particularly arising from parasitic infestations) in human remains.
'Discovery' proteomics, regularly employed in live patients to identify, for example, whether an individual has an infection or cancer, now affords new and exciting opportunities to explore disease in mummies.
In 2018-2019, a multidisciplinary investigation of the mummy of Takabuti in the collections of the Ulster Museum, Belfast, Northern Ireland (UK) included a 'proof-of-concept' study of the proteins in a sample of skeletal muscle taken from the mummy.
Components identified in this sample appeared to match those found in modern 'normal' muscle but provided no evidence of infection or inflammatory disease. However, disease has been found in a more recent proteomic study at Manchester. Proteins from a liver fluke have been identified in a sample from the Ancient Egyptian Mummy Tissue Bank (The University of Manchester), providing direct evidence, beyond histology, of parasitic infection.
These preliminary studies indicate that potentially, proteomics is an important new diagnostic tool, complementing other techniques and adding new insight into disease processes in mummies.

Wojciech EJSMOND, Marzena OZAREK-SZILKE, Stanisław SZILKE Marcin JAWORSKI

Warsaw Mummy Project – current state of the research and perspectives

Mummy Research Centre/Warsaw Mummy Project, Warsaw, PL

The Warsaw Mummy Project was launched in December 2015 to conduct a comprehensive and multidisciplinary investigation of mummies at the National Museum in Warsaw. The project includes non-invasive examinations, such as computed tomography and X-rays. The first step was to check whether the mummies were authentic and reveal what was under their bandages. This brought unexpected discoveries to light in a mummy that was previously thought to be a fake (200334 MNW). CT scans helped answer questions about the sex, biological age, and possible causes of death of the individuals. In one case (236805/3 MNW, the so-called Mysterious Lady), a mummy previously thought to be male turned out to be a pregnant woman. Furthermore, CT and X-ray images present an opportunity to find traces of diseases that occurred in ancient times (e.g., metabolic disorders). In addition to presenting the current state of research on the aforementioned individuals, the paper will also introduce the mummies of Panepy (147801/2 MNW) and two children (Vr.St. 184 and 142474/5 MNW), along with numerous mummy parts preserved at the museum. This highlights some methodological issues. Moreover, the project extends beyond medical analyses. As an innovation, a hologram of a mummy offers a new way of displaying radiological images, while CT scans are used to produce facial approximations of the deceased. Such effigies help to raise awareness regarding embalmed human remains and can be used to show that these are not only museum specimens but they once were living individuals, whose stories we can tell from their remains.

Essam ELSAEED

The afterlife belief was the cornerstone of the Ancient Egyptian civilization

Faculty of Arts and Social Siences, Sultan Qaboos University, Sultanate Oman (OM)

The preservation of the body was one of the conditions to obtain a good life after the resurrection; this idea appeared with the beginning of the ancient Egyptian civilisation since the predynastic era. This idea was confirmed by the funerary objects found in predynastic tombs and by the manner of burial (fetal position). Studying Egyptian mummies is one of the most important sources of knowledge about their daily life (food, healthcare, beauty, beliefs, ...) One of the oldest mummies was discovered at Gebelein dating from around 3400 B.C. The first body excavated (EA 32751) has been on display at the British Museum since 1901. This mummy was called Ginger because of the red colour of the hair and skin, but this name is no longer used due to the new ethical guidelines for human remains, which are covered by The Declaration of Helsinki (Finnish: Helsingin julistus) which is a set of ethical principles for human experimentation, developed for the World Medical Association. It is widely regarded as the seminal document in the ethics of research

on human subjects. This declaration adopted in 1964. The Guidelines for Research Ethics on Human Remains are based on accepted standards of research ethics within the research community. Research ethics, as applied ethics, is based on a core set of scientific norms and values within the research community, and requires constant reflection and discussion. It is also based on the principle that research should benefit the society and should not cause harm to people, society, nature or the environment. Transparent and honest dissemination of research plays a key role in this. These ethics will be discussed in relation to mummy research as a part of Human Remains (Gebelein mummy as a case study).

Dr. Mahrous ELSANADIDY

A new vision for exhibiting the royal mummies at the National Museum of Egyptian Civilization

National Museum of Egyptian Civilization, Cairo, EG

The presentation on a new vision for the display of the royal mummies at the National Museum of Egyptian Civilization (NMEC) aims to understand the museum's objectives, missions, vision, and message, as well as to identify its concept for museum exhibitions, including highlighting the creativity and inventiveness of Egyptians throughout the ages. The mummification process is undoubtedly one of these remarkable achievements. Furthermore, the presenter will compare the display of the royal mummies at the Egyptian Museum in Tahrir with that at the NMEC. It is worth mentioning that the NMEC received 22 royal mummies of well-known kings and queens from the 17th Dynasty to the 21st Dynasty on April 3, 2021, through an exceptional event called the Pharaohs' Golden Parade.

Laura GEEST

A smile to die for: An analysis of oro-facial trauma caused by the Opening of the Mouth procedure

Classics and Ancient Civilisations, Egyptology, Leiden, NL

The Opening of the Mouth is a ritual in the transformation of the deceased into an effigy of Osiris. Textual evidence of this ritual dates back as far as the Old Kingdom and has been attested throughout different periods. Studies have suggested that an eponymous procedure as part of the mummification process existed, in which the mouth was opened after rigor mortis. Examples of research are a mummified head from Dayr el-Barsha (Chapman and Gupta, 2007), and a case study with several examples from the Swiss Mummy Project (Seihler and Rühli, 2015). Substantial damage has been done to the oro-facial area in order to embalm the mouth of the deceased. Significant in this research was the difference in the location of damage in this area, which is caused by the removal of facial bones or by blunt force trauma to the teeth. Research on this procedure has only been based on small case studies, and should be extended. Moreover, there is a lack of understanding of the development of this procedure over time. The aim of my research is to create a data set based on damage to the oro-facial area presumably inflicted by the Opening of the Mouth procedure. A contextual frame will be made comparing both textual, and material evidence to reconstruct the procedure. An analysis of different types of inflicted damage will reveal how this procedure has changed over time.

**Salima IKRAM [1], Federica FACCHETTI [2]
Sara AICARDI [2], Matilde BORLA [2]
Cinzia OLIVA [2], Johannes AUENMÜLLER [2]
Federico POOLE [2], Alberto VALAZZA [2]
Debora ANGELICI [2]**

An Ancient Egyptian Zoo in Turin

1American University in Cairo, EG · 2Museo Egizio, Turin, IT

The Museo Egizio in Turin has significant holdings of animal mummies. Unlike those in many other museums, the majority of these are provenanced, and excavation notes associated with the specimens are in accessible archives. A few years ago, Christian Greco, Director of the Museo Egizio, suggested that these animal mummies should be studied in detail, and be part of a larger, more detailed exhibit. Thus, the Turin Animal Mummy Project was born. The interdisciplinary project involved Egyptologists, archaeozoologists, textile specialists, conservators, and scientists, with the end result being a catalogue of the animal mummies, and a fresh exhibition with new didactic material. This paper will present an overview of the collection and highlight some of the results.

**Jiří JANÁK, Květa SMOLÁRIKOVÁ
Renata LANDGRÁFOVÁ
Ladislav BARES**

Embalming deposits of the Late Period: their content, meaning and significance

Czech Institute of Egyptology, Charles University, Praha, CZ

Since the late 90´s, the Czech archaeological mission in Egypt has uncovered several significant embalming deposits dated to the Late Period. All these discoveries have been made in the necropolis of Abusir, namely at its northwestern part was a shaft-tomb elite cemetery of the Saite-Persian Period. The deposits of two generals, Menekhibnekau and Wahibrameryneith, are the most significant. The first encompasses inscribed vessels linking concrete days of the mummification process with special embalming substances and materials that were to be used during the appropriate days. The latter tomb held the largest embalming deposit that has ever been discovered in Egypt, consisting of more than 380 large storage amphorae. Both unique discoveries, or rather their scientific interpretation brings new light not only on the meaning and significance of the embalming deposits, but also on the mummification process itself.

Michele Lorraine KOONS

Old Friends, New Tales: The Mummies and Coffins of the Denver Museum of Nature & Science

Denver Museum of Nature & Science, Colorado, USA

In 2016, the Egyptian Hall at the Denver Museum of Nature & Science needed new paint and carpeting, which provided the opportunity to revisit two female mummies and coffins on display. Their removal for renovations allowed a team of archaeologists, Egyptologists, conservators, radiologists, material scientists and museum professionals to properly study their physical forms and historically contextualize their journey to Colorado. The analyses were designed to be as respectful and minimally invasive as possible. The new research included archival history of their journey from Egypt, updated CT scans of both mummies and coffins, radiocarbon dating, analysis of the coffin pigment, wood, linen, style and decoration, as well as gas chromatography of the resins, linen and updated conservation report. When the Egyptian Hall opened in 2000, the entire exhibit focused on the juxtaposition of the mummies, who had been named "Rich Mummy" and "Poor Mummy," based on the quality of the wrappings and materials inside. New research and modern sensibilities highlight that narrative and display as dehumanizing and simplistic. Early research did not consider the dates of the mummies, which indicate that they lived and died 500 years apart. The differences between the two were not due to their economic status, but rather their history. Furthermore, neither are currently with their original coffin. Thanks to new research, conservation efforts, and ethical treatment and display the new hall now includes a touch screen interactive, tells the history of their dubiously ethical travel from Egypt, identifies them as individuals from different times in the history of Egypt and attempts to convey the humanity of the rich Egyptian past for a 21st century audience.

Robert KUHN [1]
Barbara TEßMANN et alii [2]

Gebelein at the Staatliche Museen Preußischer Kulturbesitz Berlin. A review of the human remains and archaeological objects

1Ägyptisches Museum und Papyrussammlung, Staatliche Museen zu Berlin · 2Museum für Vor- und Frühgeschichte, Staatliche Museen zu Berlin, GE

In 1899, the Egyptian collection in Berlin purchased six mummies from the Dragoman C. A. Reinhardt at the German embassy in Cairo. The human remains, some are still wrapped in animal fur and leather clothing. They were accompanied by further archaeological materials which allowed to date these mummies to the Naqada II-period. However, A. Scharff, from the Berlin Museum, was dubious about the authenticity of some of the finds because of the combination. Indeed, even though the exact findspot of the purchased items is unknown, similar mummies appeared on the Luxor art market in the late 1890s that today are housed in different Museums like the British Museum and the Pennsylvania Museum. Moreover, A. Scharff noted that also the Berlin convolute should derive from Er-Rizeiqat, near Gebelein, due to its similarities with the mummies found during

the Italian excavations in Gebelein. Fortunately, the Berlin mummies have never been unwrapped or were studied in detail. Luck still today, as the mummies are still preserved in fairly good conditions as they arrived in Berlin. This will allow us to perform an interdisciplinary project (e.g., anthropology, genetics, geochemistry) involving different scientific partners.
A second convolute could be detected in the anthropological collection of the Berlin Museum of Prehistory that houses a mummy in crouched position enveloped in fur as well as skulls and postcranial skeletal remains. This convolute seems to have been purchased from C. A. Reinhardt, too, and thus we hypothesise that it could be part of the Egyptian collection.
Since 2015, the human remains have been studied through different scientific approaches which will help to extend our understanding of this category of objects.

Magdalena ŁAPTAS [1]
Marzena OZAREK-SZILKE [2]
AbdelRahman MEDHAT [3]
Tomasz POBOZY [4], Wafaa HABIB [5]
Mohammed Abd El RAHMAN [6]

Reality or idealization? A comparison between the mummy portrait of a woman in the Egyptian Museum in Cairo and her real remains

1History of Art Institute, Cardinal Stefan Wyszyński University in Warsaw, PL · 2Mummy Research Centre/Warsaw Mummy Project, PL · 3Department of Conservation, Egyptian Museum in Cairo, EG · 4Department of Orthopedic Surgery, Ciechanów Hospital, Ciechanów, PL · 5Egyptian Museum in Cairo, Department of Greeco-Roman Antiquities, EG · 6Ministry of Tourism and Antiquities, EG

The aim of the lecture will be to present multidisciplinary approach towards the mummy, housed in the Egyptian Museum in Cairo. The mummy comes from the excavations conducted by William Flinders Petrie at Hawara and belongs to the rare group of completely preserved human remains with the portrait. The effigy represents a young woman styled according to the fashion of Trajan's times (more precisely second decade of the 2nd century AD). She looks elegant and wears precious jewellery. Was her portrait realistic or rather idealized? The X-rays radiography taken in the Egyptian Museum in Cairo in 2021 allows comparing the portrait of the woman with her real remains. The paper will present the result of the study conducted by Egyptian-Polish specialists in the fields of the archaeology, art history, conservation, anthropology and radiology.

**Robert LOYNES [1], Sabina ALGORA [1]
Jonathan ELIAS [1], Chantal MILANI [1]
Albert ZINK [1,2] Patrizia PERNTER [3]
Elmar GOBBI [4], Tiziano ROSANO [4]**

The Lady of Meran

1Mummy Project, Italy · 2Institute for Mummy Studies, Eurac Research, IT · 3Bolzano Hospital, IT · 4Palais Mamming, Meran, IT

The mummy is preserved with her coffin in the Palais Mamming of Meran.
The Mummy Project team studied the mummy performing a CT scan and analysis.
The Meran mummy is adorned with remnants of cartonnage decorations that date to the early Ptolemaic Period, (early to mid-3rd century BC), stylistically assignable to the region of Akhmim, in Upper Egypt. They are clearly not in situ and may have been placed on the mummy at the time of its excavation for the purpose of sale. The coffin is a sparsely decorated anthropoid type, dating to a period earlier than the mummy (perhaps as early as the 7th century BC). There is the suspicion, however, that the poorly preserved genealogical text inscribed in a central column on its lid, was added at the time of the mummy's burial by non-professionals. The decoration of its collar corresponds to designs current in the late 4th century BC. The hieroglyphic text presents the identity of the coffin owner as "(Mut (or Bast) en (es) ankh, daughter of the wardrobe priest (sm3ty) of Ipou (Akhmim), Irethorrou." The father's title is connected with the worship of the fertility god Min.
Recently more research has taken place and a great deal of very interesting information been revealed.
The methods of mummification are now more clearly shown in detail, allowing further interpretation so making it easier to place a date/era on the mummy itself and so relate it to the accompanying artefacts of cartonnage and coffin.
However, the most interesting development is the detailed evidence of an uncommon medical condition which must have made the later adult life of the "lady" very difficult to tolerate. This condition (osteomalacia) will be illustrated and discussed in detail. The causes of the condition will be examined with particular reference to their occurrence in ancient Egypt.

Lidija McKNIGHT

3D Printing in Mummy Studies: visualisation, identification and engagement

University of Mancheste, UK

The application of 3D Printing technology in archaeology and mummy studies is a relatively new field, yet it already demonstrated its capability to greatly enhance research, and enable visualisation and engagement with artefacts from the past. This presentation describes a series of projects at the University of Manchester utilising 3D Printing technology to enhance our understanding of mummification and the wider funerary belief system of the ancient Egyptians. Using a combination of radiographic imaging, 3D Printing and experimental methods, skeletal remains and anomalies located within wrapped mummy bundles can be visualised and

'virtually removed' from the wrappings. These 3D replicas are a useful display tool and aid engagement of the public with ancient material, widely used in museum and education contexts worldwide.
3D Printed replicas offer the potential to provide a means by which our identification capabilities can be quantified. A blind experimental programme has established the validity of 3D Printing as a tool for identifying skeletal materials within wrapped mummies, thereby increasing confidence levels and enabling more accurate interpretation of the material.

Jenefer METCALFE

A Reflective Review of the Manchester Mummy Tissue Bank, University of Manchester

School of Biological Sciences, The University of Manchester, UK

The Manchester Mummy Tissue Bank was set up in the 1990s with the intention of supporting palaeopathological research into ancient Egyptian and Nubian human remains. Samples of tissue were donated by institutions from around the world, forming a dedicated repository for researchers looking to study specific diseases, such as Schistosomiasis.
The bank consists of ~1500 samples of material taken largely from mummified remains. These range from soft tissue and bone samples to organ tissues, insect remains, hair, textile and resin samples. Most periods of ancient Egyptian history are represented, although the number of samples from the earlier periods is minimal. Samples range significantly in size and condition, as does the amount of provenance information available for each one. The bank has not been added to since the early 2000s, but it is retained by the University of Manchester as an active research resource.
This presentation will review the composition of the bank and its research potential today. We will explore the ethical challenges posed by the retention and use of the tissue bank and discuss how the bank is to be curated and maintained in the future. We will also reflect on some of the lessons learned from the development and management of this which will hopefully guide researchers wishing to use the bank or considering similar approaches for their own research.

Chantal MILANI

From Forensics to Museums: Facial Reconstruction in the Historical-Archaeological Context

Mummy Research Center/Warsaw Mummy Project, PL

Facial reconstruction, a well-established technique in forensic investigation for identification of unidentified bodies, serves a dual purpose in the fields of history and archaeology. This talk will highlight the invaluable role of facial reconstruction in personalizing human remains, allowing them to narrate compelling stories about the individuals they once were, their historical era, culture, and the population to which they belonged.
In the realm of historical archaeology, facial reconstruction offers a unique lens into our shared human heritage, bringing long-forgotten individuals from the past closer to the present generation. This process enables these individuals to bear witness to their lives, cultures, and societies, shedding light on the rich tapestry of history.

The application of facial reconstruction is especially profound in the context of Egyptian mummies, where ancient bandages often conceal the faces of individuals who lived in a distant past. Through innovative methodology, we can uncover the hidden narratives of these mummies, offering a glimpse into their personalities, historical significance, and cultural affiliations.
By revealing the faces of the past, facial reconstruction acts as a bridge connecting contemporary audiences to the people who walked the earth millennia ago, fostering a deeper understanding of our collective history and cultural heritage. This talk will explore the transformative power of facial reconstruction in historical archaeology, highlighting its potential to transcend time and connect us to our human ancestors.

Samar Ahmed Abu-Dahab Haredy MOHAMED

The Discoveries at Tanis street cemetery site "Burial practices at the eastern cemetery of Alexandria"

Scientific Training Center of Western Delta and Alexandria, EG

The excavations were carried out in Tanis cemetery site as a part of the rescue excavation sites at the Alexandrian Archaeological Department from May 2013 to March 2014; the site was considered part of the Eastern cemetery of Alexandria during the Graeco-Roman period. It was recorded by the Egyptian team according to the MOLAS system. The site was located in 77 Zakareya Ghoneim Street, about 400 m from the Hellenistic cemetery of El-Shatby and near to the four sites recently discovered in the same area: Ibrahimia tomb, El-Abd cemetery site, El-Haddad site, and El-Zankalony site.
The site provided information on tomb types such as burial pits – limestone lined grave – Burial loculi – Red brick grave. In addition, there was information about burial types: single burials – multiple burials – mass graves. In term of burial practices, the funerary rituals were clear on the use of the pottery jar burials, cinerary urns (Plkettenvasen), as well as burial orientation and burial position. In addition of pottery grave goods such as vessels, oil lamps, and bottles, there were also metal objects such as coins, and tree leafs made of gold; probably placed on the eyes of the deceased. The burials excavated were in a good condition.
The preliminary study of the human remains was carried out to determine the percentages of males, females, and children. The future analysis of the human remains will reveal a lot of information about the people, which were buried in the cemetery, their diseases or Non-Metric Traits.

Alexandra MUSSAUER [1,2]
Christina WURST [1,3]
Alice PALADIN [1], Valentina COIA [1]
Frank MAIXNER [1], Albert ZINK [1,2]

Genetic study of Predynastic to early Islamic ancient Egyptian human remains

1Eurac Research. Institute for Mummy Studies, Bolzano, IT · 2Faculty of Biology, Ludwig Maximilian University of Munich, Munich, DE · 3Palaeogenetics Group, Institute of Organismic and Molecular Evolution, Johannes Gutenberg University Mainz, Mainz, DE

Throughout its history, ancient Egypt has experienced interactions with communities in Africa and Western Eurasia related to e.g., trade, warfare, or foreign rule. These interactions entailed the migration and integration of people from these regions into the local Egyptian population, likely influencing its genetic diversity. However, the investigation of Egypt's demographic history using ancient DNA analysis is challenging due to the poor DNA preservation in ancient Egyptian remains and a high contamination risk.
As a result, whole-genome data is currently available for less than five ancient Egyptian individuals, whereas mitochondrial genomes are almost exclusively restricted to the ancient community of Abusir el-Meleq and generally do not predate the New Kingdom period (1550 – 1064 BC). To extend the pool of ancient Egyptian mitochondrial DNA (mtDNA) as well as whole-genome data, we present here the preliminary results of a genetic study of 100 ancient Egyptian mummified or skeletonized individuals encompassing nine archaeological sites in Egypt and dating from the Predynastic to early Islamic Period (ca. 4000 cal. BC – 800 cal. AD). Using targeted enrichment, we were able to reconstruct complete mitogenomes for 27 ancient Egyptian individuals and in six cases also whole-genome data. We observe mtDNA and Y-chromosome haplogroups common in North Africa and Western Eurasia, whereby several mtDNA haplogroups as well as a subclade of Y-chromosome haplogroup E1b1b1 can be found also during periods prior to the New Kingdom. Furthermore, our data suggests different genetic affinity of ancient Egyptians to present-day populations in Mediterranean Europe and the Middle East. Overall, this study extends the pool of existing genetic data for ancient Egyptians, including information for the older periods of Egypt's past, and thus provides further insights into Egypt's demographic history.

Marzena OZAREK-SZILKE

Anthropological Studies of Mummies and Skeletal Remains from Naqlun Cemeteries in the Fayum Oasis

Mummy Research Centre/Warsaw Mummy Project, PL

The subject of presentation are the Coptic mummies and skeletal human remains from the cemetery C in Deir an-Naqlun in Egypt, the site also known in the literature as Deir el-Malak Ghubriel (Monastery of Archangel Gabriel). It is situated in the Western Desert, at the food of a rocky cliff, 16 km south from the city of Fajum and 120 km from Cairo. It is one of the oldest and still operating Coptic monasteries in Egypt with its beginnings reaching 6th / 7th or even 5th century BC.
Excavations at the site have been carried out since 1986 by the Centre of Mediterranean Archaeology of the University of Warsaw since 1986, under the supervision of Prof. Włodzimierz Godlewski. During the research, three Christian cemeteries (A, B, C) were located: late antique and medieval. During the works carried out in the years 2006-2014 more than a hundred graves containing human remains were excavated. The state of preservation of the remains varied greatly from well-mummified bodies to poorly preserved bones. In cemetery C, dating back to the turn of the 6th and 7th centuries AD, there are naturally mummified male remains.

On the opposite of this, in the medieval cemetery at the monastery there were mainly skeletal remains of the community associated with the nearby complex. The bodies and bones analysed revealed numerous palaeopathological changes, including bone tuberculosis, trauma and metabolic diseases. By examining soil samples from the abdominal cavity it was possible to detect parasitic infections. The presentation is a summary of anthropological research, the aim of which is to assess the state of health and living conditions of the Christian inhabitants of the Fayum Oasis, related to the monastery functioning there.

Dario PIOMBINO-MASCALI

Mummiographies. The bioarchaeology of mummies and mummification at Vilnius University

Faculty of Medicine, Vilnius University, LT

Mummies are human remains with nonbony tissue, and are commonly found in both archaeological and forensic contexts. Since 2011, the Faculty of Medicine of Vilnius University launched a research program to investigate this type of remains in Lithuania and other countries such as Estonia and Ukraine from a paleopathological, biomedical, and curational point of view. While the project's main purpose was to extrapolate individual data, it also provided the opportunity to reflect on the ethical issues encountered and reconstruct the formation of those different assemblages. This keynote speech will summarize the first twelve years of mummy studies in Lithuania, illustrating the advancements in the field and discussing future possibilities.

Campbell PRICE

Displaying Transformation: The Exhibition "Golden Mummies in Egypt"

Manchester Museum, Manchester, UK

Manchester Museum's current special exhibition toured to two US and three Chinese venues before moving back to Manchester for its major reopening. The exhibition centres the concept of the transformation of the deceased into a divinity during the Graeco-Roman Period (c. 300 BC-300 AD), and omits biomedical data many have come to expect from such displays. This paper will explore some of the themes of the exhibition and rationale behind them.

Francesca RUSSO

Cartonnage papyri, a complex phenomenon

University of Kent, Canterbury, UK

This paper aims to present my ongoing research into cartonnage papyri, which I am investigaing, for the first time, as a complex phenomenon. Papyrologists study mummy cartonnage cases from the Hellenistic and early Roman Periods, when papyri can be found in them. However, despite the presence of inscribed, discarded and recycled papyri in mummy cases, there are still many unanswered questions. Both reasons for using inscribed material to produce cartonnage and for its disappearance are unknown.

We are also in dark, when it comes to define how the wastepaper trade was organised in Ptolemaic Egypt, and according to what criteria used papyri were selected to be recycled in cartonnage. Moreover, the study of papyri recovered from cartonnage is complicated by the fact that they are scattered over numerous collections around the world and no record has been kept about their provenance and the extracting process. After discussing this research topic and the problems involved in it, I intend to present the interdisciplinary study that I am leading into cartonnage cases and their papyri, as well as the new method through which I am tackling them. My methodology consists of investigating cartonnage cases from three perspectives: first, by tracing their historical and artistic development and production; secondly, by reconstructing their archaeological path as artefacts. Thirdly, by carrying out a cross–textual analysis of those papyri which have been recovered from cartonnage in order to reunite cartonnage documents from the same provenance. Integrating these research perspectives will make it possible for me to shed light on both the cartonnage-making process and papyrological documents and texts that come from cartonnage. In addition, it will also increase our knowledge of this ancient recycling method.

Rasha SHAHEEN [1]
Youssef ELREWWNY [2]
Hany YOUSSEF [3]

Sustainability: Innovative Conservation Strategies for Damaged Human Remains Due to Bad Displaying in the Egyptian Textile Museum

1Egyptian Museum, Cairo · 2Ain Shams University, Cairo · 3Cairo University, Cairo, EG

Many of the artifacts damaged due to bad display in the museums, where some museums display artifacts in the same showcase depending on the aesthetic form not the nature of each piece, which lead to damage these pieces due to the different nature of each material.

This paper presents the damage of two legs of human mummy found in Luxor back to ancient Egyptian period due to bad display with two painted Third Intermediate Period, 21st Dynasty, 1075 – 945 BC wooden funerary stela in the same showcase in Egyptian Textile Museum, Cairo. These two human legs were wrapped in partially cartonnage painted linen bandages. The stripes of the bandages are decorated with prisoners in colours: one of the prisoners is Nubian, the other belongs to Asia. One of the funerary stela shows Panhesy standing in front of the sun god Ra Hor Akhty; he is wearing an incense cone on his head, and a pleated, white garment covering his right shoulder and is tied at the waist with a sash, from Qurna, Luxor. The other piece, from Deir el-Bahari, Luxor, depicts a priest called Pa-nefry is painted, kneeling in front of Osiris, god of death and resurrection. He is offering incense, “the fragrance of the gods” with his right hand, he is wearing a long, pleated, white garment and a headband, with the long ends hanging down behind his head. On the Pa-nefry’s head there is also a cone of perfumed ointment.

Various properties and characteristics of the warp textile and the cartonnage were analysed. The morphology and the properties of warp textile and the cartonnage were analysed. The surface topology was studied by SEM-EDX. The modified surfaces were characterised by infrared spectroscopy. The mechanical performance

was also investigated. The mutation in tonal quantity was specified. The type of wood of both stelae was determined by ultraviolet analysis. The results obtained indicate a strong effect of the poor display with two pieces of wooden funerary stela in the colour characteristics of the cartonnage, a certain change in the mechanical properties of the warp textile and only a slight effect on the two human legs, which could probably increase with time. The two legs of the human mummy are now displayed alone in a private showcase.

Stanisław SZILKE, Marcin JAWORSKI

Imaging techniques of Egyptian mummies

Mummy Research Center/Warsaw Mummy Project, PL

Interdisciplinary research on Egyptian mummies was conducted as part of the Warsaw Mummy Project and Mummy Research Center. We will present various aspects of creating three-dimensional images based on CT scans of Egyptian mummies and their use for the purposes of analysis and popularization of archaeological research. The difference between images created for research and exhibition purposes is presented on the example of mummies from the collection of the National Museum in Warsaw. Particular attention is paid to the problems encountered during the analysis of DICOM data of mummies, emphasizing how helpful 3D imaging is in the matter of disputed interpretations and what are limitations resulting from the research method based on the Hounsfield density scale.

The importance of complementary research with X-ray images is discussed. The range of available programs and visualisation techniques allows to achieve a wide range of results: we can obtain volume renders, segmentations and 3D models that can be used in the form of 3D-prints, animations (including holographic ones). For exhibition and popularization purposes we can produce copies of artefacts, internal organs, bones and other foreign bodies documented inside the mummy. In addition, the ethical aspect related to the presentation of human remains is raised.

Yolanda de la TORRE ROBLES [1]
Inmaculada Alemán AGUILERA [2]
Ángel Rubio SALVADOR [2]

New data concerning the individuals from the Tombs of the Nobles in West Aswan: anthropological and historical issues

1University of Jaén, ES · University of Granada, ES

The conservation of the body in Ancient Egypt was fundamental to the rebirth in the Afterlife on the individual. For this reason, since the Predynastic Period and almost in an accidentally way, the Egyptians realized that the body was preserved in contact with the dry and desertic sand when the bodies were buried in simple pits. This was the beginning of the mummification process which was evolving along with the burial customs during the Dynastic Period. The necropolis of Qubbet el-Hawa, West bank of Aswan, was the place of burial of the governors of Elephantine Nome. This point was a strategical one in different periods of the Egyptian History. The tombs are dated in their original use from the Old Kingdom and Middle Kingdom. Later on, it has been showed that the tombs were reoccupied

from the Second Intermediate to the Late Period. We have had the opportunity to deal with unearthed bodies from a diachronic perspective of burial ritual, since Middle Kingdom to the Late Period, so it is possible to atest the evolution of the mummification process alongside with the burial customs. We can see the differences in the treatment of the bodies according to the period, being the last periods Third Intermediate and Late Period, the peak of the mummification process.
In this presentation, we will show different mummified individuals from the tombs QH33 and QH35p, among others, and the differences documented in them. Also, we will show the results of the TAC's performed to three Late Period mummies from tomb QH33. Innovative non-invasive techniques were systematically applied in the Qubbet el-Hawa Project since 2018 that allow a complete analysis of the mummies (bone remains, soft parts, funerary grave goods and ornaments) without altering its state of conservation.

Marie VANDENBEUSCH

Exploring mummification practices in the 25th Dynasty Theban necropolis

Department of Egypt and Sudan at the British Museum, UK

While we know that ancient Egyptian mummification practices evolved over the three millennia of its use, regional variations still lack thorough examination. This paper proposes to investigate mummified remains buried in the Theban necropolis during the 25th Dynasty (about 747-656 BC).
The British Museum non-invasive research on funerary and embalming traditions will serves as our foundation. However, using a systematic and comparative approach, we expand this study to include mummies curated and documented elsewhere.
After a period of intense innovation in mummification practices during the New Kingdom and a large part of the Third Intermediate Period, new trends seem to appear during the 25th Dynasty, with a simpler process, including a decline in the use of subcutaneous packings, for example. After presenting this transition period, our analysis will centre on the mummified individuals who lived during the approximately 90 years of Kushite rule.
The study uncovers diverse embalming techniques employed by local practitioners during this period, some of which seem to bear distinctive markers.
These variations may reflect evolving trends or preferences and may also indicate the presence of separate embalming workshops with unique methods for preserving the remains entrusted to their care. This research will examine in more detail the complex landscape of mummification during the 25th Dynasty in the Theban necropolis.

Afaf WAHBA

A case of either Brucellosis or Tuberculosis in a New Kingdom double burial, Saqqara, Egypt

Ministry of Tourism and Antiquities, Zamalek, Cairo, EG

This talk will present the skeletal evidence for either brucellosis or tuberculosis in a New Kingdom non-elite female individual, from an intact double burial in an anthropoid wooden coffin, found by the Egyptian excavation mission in Teti

Cemetery, in Saqqara. Individual I, a young adult female shows lytic lesions of the lumbar vertebral column. The lesions are suggestive of either brucellosis or tuberculosis as a differential diagnosis. Individual II is an adolescent, with non-metrics traits, likely having a kinship relation with the female. Both suffered from namel hypoplasia, as suggested by health conditions. These findings provide an insight into the New Kingdom period at Saqqara in general, which is less well known than its Old Kingdom monuments, and will shed light on the non-elite individuals of the New Kingdom in particular, with ongoing analysis expected to provide further insights into the ancient New Kingdom inhabitants of Saqqara.

Albert ZINK [1,2], Christina WURST Alice PALADIN [1], Alexandra MUSSAUER [1,2] Frank MAIXNER [1]

The multidisciplinary study of ancient Egyptian mummies

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The scientific study of Egyptian mummies has developed over time into a serious discipline in which a wide range of methods can be used to gain important insights into the living conditions and diseases, but also into the state of preservation and even the mummification methods of the deceased. In our own investigations of mummies from different periods of Pharaonic Egypt, morphological, radiological and molecular biological methods were used. These enabled us to gain important insights into the age at death and the sex of the mummy finds as well as the detection of diseases ranging from infectious diseases to vascular calcifications. In particular, the combination of imaging techniques, such as computer tomography, and molecular methods, especially the examination of ancient DNA, not only made it possible to describe diseases, but also to gain insights into possible backgrounds, such as the identification of pathogens or genetic predispositions. In addition, by combining different methods, we were able to gain important insights into the preservation and the type of mummification in the Egyptian mummies. This lecture will summarize the most important results of our investigations on Egyptian mummies, with a special focus on the possibilities and importance of multidisciplinary investigations.

Hungarian Natural History Museum