

## In Textile Layers: reconsidering wrapped remains and artefacts in the Nile Valley

By Elsa Yvanez, Matilde Borla, and Luise Ørsted Scharff Brandt

“Alas this loss! The good shepherd has gone to the land of Eternity; he who willingly opened his feet to going is now enclosed, bound, and confined. He who had so much fine linen, and so gladly put it on, sleeps now in the cast-off garments of yesterday”.

*Funerary inscription from the New Kingdom*  
Erman 1907: 137, cited in Ikram and Dodson 1998: 153.

### 1. Introduction

Throughout the long history of the Nile Valley, ritual wrapping with various types of textiles and mats was practiced on a large scale for both human and animal remains. Thanks to the region’s dry climate, a vast quantity of ancient wrapping materials has survived the centuries in exceptional condition, along with many other organic remains. Today, these are housed in museums and cultural institutions in Egypt, Sudan, Europe, and beyond.

Very often, this material is no longer associated with what it once wrapped, as the unwrapping of mummies and objects became common from the Medieval period onward – a practice particularly prevalent as a form of knowledge production during the 19<sup>th</sup> century. One of the most famous examples is the unwrapping of the royal mummies found in the Deir el-Bahari cachette, carried out at the Boulaq Museum in 1881, shortly after the cachette’s discovery (Maspero and Brugsch 1881; see Fig. 1.1). In the 20<sup>th</sup> century, the development of new radiographic technologies contributed to a significant decline in this practice, which has become rare today.

Nevertheless, the intensive archaeological exploration of the Nile Valley has created a vast corpus of human and animal remains, objects, and textiles that are now irremediably separated. As a consequence, these wrapped remains – once conceived as composite objects by the ancient Egyptians – have become *disiecta membra*, often stored and exhibited separately, and even studied by scholars from different disciplines as isolated phenomena.

Studying the wrapping processes of ancient Egypt offers considerable potential to reunify these disparate elements and to renew our understanding of ancient funerary practices. Salima Ikram has provided scholars with a useful chronological overview of these practices, demonstrating the importance of textiles in the arts of mummification (Ikram and Dodson 1998: 153-165). However, wrapping and wrapped remains had not been the central focus of

dedicated research until the publication of *Unwrapping Ancient Egypt* by Christina Riggs in 2014.

Inspired by the many questions raised by this landmark study – and by the recognition that this topic cannot be approached solely through an Egyptological lens – we, the three editors, sought to explore textile wrappings through an interdisciplinary methodology. Our aim was to uncover the network of interconnected crafts and processes required to manufacture wrappings and transform them into economically, ritually, and epistemologically powerful artefacts.

To this end, we organised a session at the 26<sup>th</sup> Annual Meeting of the European Association of Archaeologists, held in 2020, entitled *In Textile Layers: Wrapped Human Remains, Animals, and Artefacts in the Nile Valley*. This volume presents the proceedings of that session.

### 2. Reframing our approach to wrapped remains and artefacts

#### 2.1. The complex history of wrappings and unwrapping in ancient Egypt

To begin our discussion, it is essential to emphasise that textile layers do not merely exist as static artefacts; they are the material outcome of multiple gestures, each performed within its own temporal and ritual framework. “Wrappings” and “unwrappings” play a significant role in the transformation of mummified remains and are a key component in the construction of a mummy’s *object biography* (Harris and Douny 2014; Riggs 2014: 77-116; Kopytoff 1986; Gosden and Marshall 1999).

The history of the royal mummies discovered in the Deir el-Bahari cachette provides a striking example of this process, which can be divided into several key phases:

- The original wrapping of the deceased during the embalming process.
- Disturbance of these wrappings during tomb robberies, spanning the 19<sup>th</sup> to 21<sup>st</sup> dynasties (ca. 1292-943 BCE).
- Restoration and rewrapping of some mummies by priests during the 21<sup>st</sup> dynasty before their placement in the cachette.
- Renewed disturbance during the exploitation of the cachette by the Abd er-Rassul family between 1860 and 1871.



**Fig. 1.1. The remains of Thutmose III after unwrapping. After Maspero and Brugsch 1881: pl. 2 (source gallica.bnf.fr / BnF, consulted 05-05-2025).**

- Further damage and disruption of wrappings during the official clearance of the cachette and the transport of the bodies to the museum in Cairo in 1881.
- Unwrapping of the mummified remains by Gaston Maspero and Emil Brugsch in 1881 and 1886, with the notable exception of Amenhotep I, whose body was exceptionally well-preserved (Elliot Smith 1912; Fig. 1.1).
- Discarding original or 21<sup>st</sup> dynasty wrappings, although in some cases fragments were retained on the bodies.
- Partial rewrapping of the mummies for their modern presentation in the Cairo Museum.
- Restoration of the mummies and their wrappings prior to their relocation to the National Museum of Egyptian Civilisation in 2021. In the new Royal Mummies Gallery<sup>1</sup>, the bodies are now largely hidden beneath textile wrappings, although the head and feet are often left visible.

This complex history of wrappings begins with their funerary use, but it is important to remember all the preceding stages: the production of the fabric and its initial phases of use in daily life. As a highly embodied gesture – engaging both the living (priests, embalmers, robbers, or modern scholars) and the dead – the act of wrapping continuously redefines our relationship with death over time. Viewed through the lens of textiles, wrapping emerges as a dynamic set of evolving gestures and ideas that can be traced and analysed historically. The present volume offers a selection of case studies exploring several of these wrapping practices in detail.

<sup>1</sup> <https://nmec.gov.eg/mummies-hall/> [accessed 08/08/2024]

Wrappings are key components of mortuary rituals in many cultures around the world, but they assumed a particularly distinctive role in ancient Egypt through the development of mummification techniques, beginning in the Predynastic period. Throughout the long history of Egyptian mummification, wrappings accompanied the deceased in numerous forms and configurations (Ikram and Dodson 1998: 153-165). Similar practices can also be observed further south along the Nile, in Sudan and Nubia, where the arid desert sands naturally preserved both the bodies and their wrappings.

In contrast to Sudan, we possess a substantial body of written texts from Pharaonic Egypt that describe in detail how the placement of textiles around and upon the body constituted a crucial stage in funerary ritual – one that involved specific religious actors and prescribed prayers (Sauneron 1952; Janot 2010). From the earliest periods of Egyptian history, wrapping practices were also extended to animal burials, animal mummies, and even vidual mummies – wrapped animal parts deposited in tombs as food offerings for the deceased (Ikram and Dodson 1998: 131-136; Ikram 2005; Ikram et al. 2024).

Beyond humans and animals, textiles were also used in ancient Egypt to wrap objects, particularly those with sacred significance, such as divine statues. In temple rituals, the daily cult of the gods included the “dressing of the deity”, in which four different cloths were offered to the statue, accompanied by five specific ritual formulae recited by the officiating priest (Moret 1902: 178-187, Teeter 2001, Riggs 2014: 130-140). Great emphasis was placed on the disrobing of the statue from the previous day’s garments and its rewrapping in fresh textiles – gestures vividly illustrated in

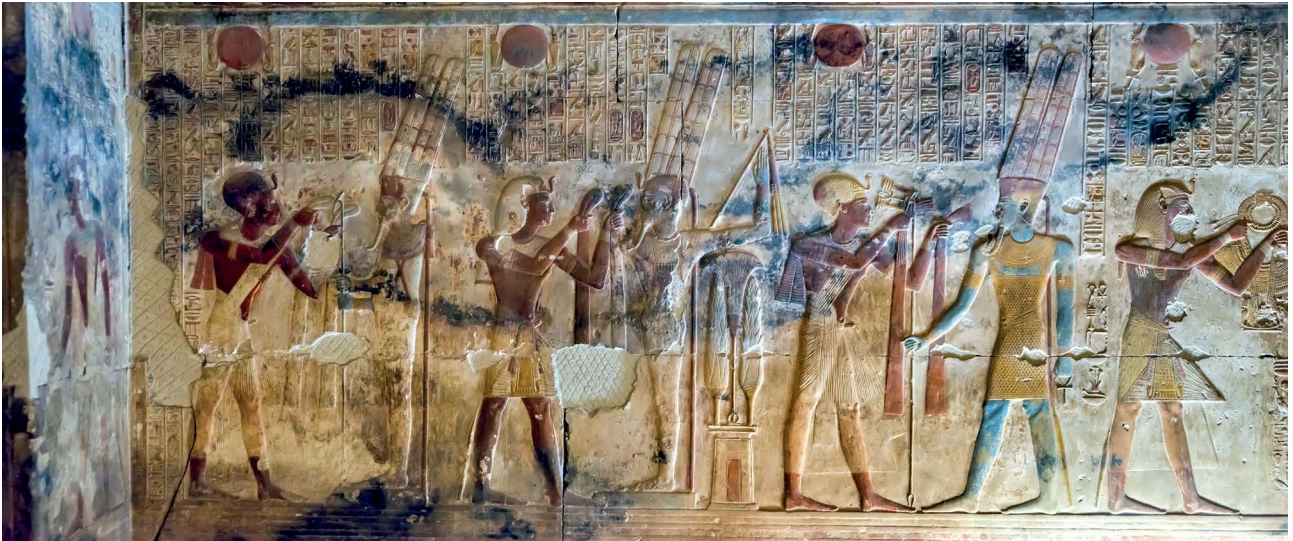
the temple of Seti I at Abydos (David 1981: 58-61; Fig. 1.2). In an Osirian context, these acts resonate powerfully with the ritual wrapping of the deceased.

In many respects, this daily practice has become nearly impossible to observe archaeologically, as very few divine statues have been recovered in undisturbed cultic settings, and the organic materials used for anointing and dressing have rarely survived.

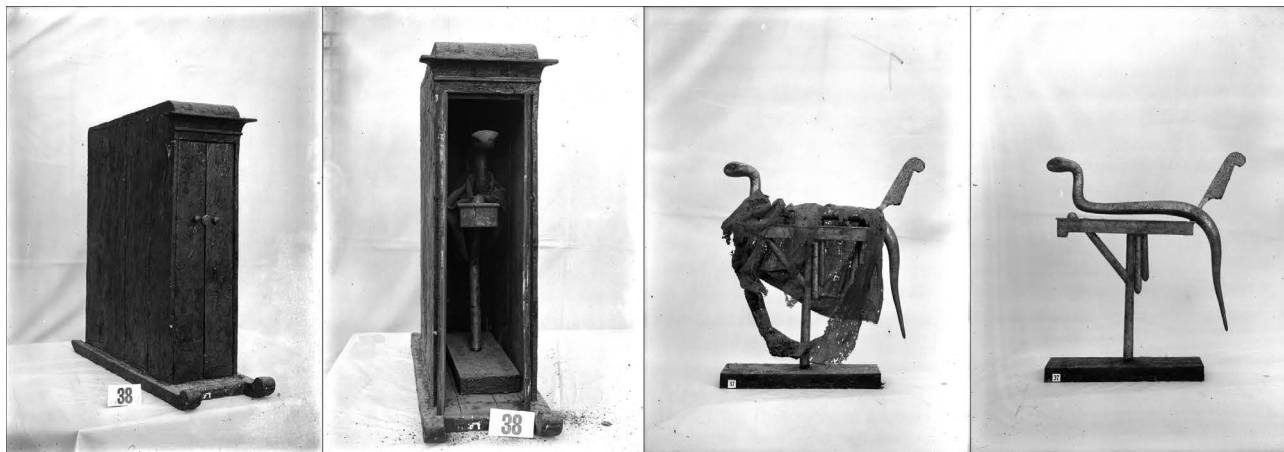
The exceptional discovery of the tomb of Tutankhamun

offers a unique glimpse into the practice of wrapping divine statues. The archives left by Howard Carter, alongside the photographs taken by Harry Burton, provide compelling evidence of how statues of the king and various deities – including the serpent figures depicted on the standard of the Aphroditopolis nome – were carefully wrapped (Fig. 1.3).

In the object cards filled out during the clearance of the tomb, Carter noted the condition and appearance of one such statue found inside a wooden shrine:



**Fig. 1.2.** Relief from Abydos, temple of Seti I, Chapel of Amun. Photos by kairoinfo4u, available under CC BY-NC-SA 2.0 license through Flickr (Attribution-NonCommercial-ShareAlike 2.0 Generic) <https://www.flickr.com/photos/manna4u/13955978663/in/album-72157615143786494/> and <https://www.flickr.com/photos/manna4u/8534859696/in/album-72157632923205852/> - consulted May 05, 2025.



**Fig. 1.3. Wooden shrine, of the “Nome sign of Aphroditopolis”, photographed by Harry Burton, in four stages of its uncovering. Photographs Burton P0304, Burton P0305, Burton P0306 and Burton P0307, reproduced with permission of the Griffith Institute, University of Oxford).**

“Nome sign of Aphroditopolis – Covered loosely with a wrapping of rather coarse cloth. This thrown over back and fastened loosely in front of forepart of snake.”<sup>2</sup>

He continued the description by recording the treatment applied – presumably by conservator Alfred Lucas:

“Cleaned first with dry brush, then damp brush and then sprayed with celluloid in amylacetate.”

Burton documented these successive stages in a series of four photographs (ref. nos. p0302, p0303, p0304, p0305):

1. The shrine is shown closed, as it was found.
2. The shrine is opened, revealing the wooden serpent figure inside, perched on its standard and wrapped in textiles.
3. The figure is removed and shown standing alone, still draped in its wrappings.
4. The figure is displayed after cleaning – possibly conservation – without any of its associated textiles or context.

These photographs and notes not only document the day-to-day treatment of the object during the 1920s excavation but also trace its shifting status – from a venerated divine effigy, wrapped in cloth and housed in a shrine, to a museum artefact, exposed to modern scholarly scrutiny and prepared for public display (Riggs 2014: 17-27, 216-218; Riggs 2019: 105-140).

Carter and his team applied a similar approach to all the statues discovered in the tomb, as well as to the shrines – which were likewise draped in fabric – and even to the mummy itself. Although the body was placed within a series of nested sarcophagi, the entire arrangement was further wrapped and covered with numerous layers of textiles: from the blue and gold-studded canopy of the

funerary shrine, to the shrouds enveloping the coffins, and the wrappings of the mummy itself.

In the race to uncover Tutankhamun’s body, many of these textile layers and their associated floral ornaments were hastily removed or pushed aside. Apart from a limited set of photographs, little direct evidence of these ancient gestures survives today.

## 2.2. Whole vs. fragmented

As previously mentioned, numerous Egyptian texts describe the use of textiles in funerary and cultic contexts. Over time, and depending on their specific function and form, these textiles appear under a variety of appellations. A quick search in the *Thesaurus Linguae Aegyptiae*<sup>3</sup> yields many such terms. Words for linen bandages – textile strips either torn from reused fabric or manufactured specifically for funerary use – are especially common, with the most frequent being *wr*<sup>4</sup>. Whole, rectangular pieces of cloth used as shrouds were referred to by terms such as *t3y*, *t5* or *sj3*.<sup>5</sup> More generally, mummy wrappings could be designated by the term *mnh.yt*<sup>7</sup>, while the act of “wrapping in bandages” had its own verb: *nms*. There was even a designated wooden chest used for storing bandages, referred to with the same root, *wnh* (Janot 2010: 47).

These textual sources reveal a rich and highly codified vocabulary relating to funerary textile use (e.g. Janot 2010: 74), demonstrating the complexity of wrapping practices in mummification rites. Particularly in the Late Period, some textiles were identified according to their

<sup>2</sup> Object archive card no. 037 and 37a, available online via the Griffith Institute, Oxford University, at <http://www.griffith.ox.ac.uk/gri/carter/037a-c037a.html> [accessed 08/08/2024]

<sup>3</sup> <https://thesaurus-linguae-aegyptiae.de/home> [accessed 08/08/2024] – This list is not exhaustive.

<sup>4</sup> <https://thesaurus-linguae-aegyptiae.de/lemma/50990>, in *Thesaurus Linguae Aegyptiae* [accessed 08/08/2024]

<sup>5</sup> <https://thesaurus-linguae-aegyptiae.de/lemma/169450>, in *Thesaurus Linguae Aegyptiae* [accessed 08/08/2024]

<sup>6</sup> <https://thesaurus-linguae-aegyptiae.de/lemma/127890>, in *Thesaurus Linguae Aegyptiae* [accessed 08/08/2024]

<sup>7</sup> <https://thesaurus-linguae-aegyptiae.de/lemma/46980>, in *Thesaurus Linguae Aegyptiae* [accessed 08/08/2024]

provenance – for instance, from the sanctuaries of the goddess Neith – or their designated role on the body or within specific ritual phases (Sauneron 1952).

It is tempting to attempt a one-to-one correspondence between these textual terms and the actual textile fragments recovered from mummies. However, this proves extremely difficult. In many cases, hundreds of years separate the surviving texts from the archaeological remains under study. Moreover, the most detailed records we possess pertain not to human mummies, but to the ritual wrapping of the sacred Apis bull.

Ultimately, attempting to match individual terms to physical fragments risks reinforcing a fragmented view – treating wrappings as isolated elements divorced from the bodies they once enveloped. In contrast, the approach taken here is holistic: we aim to understand the wrapped mummy as a unified whole – comprising body, wrappings, and the practices that bound them together.

As Christina Riggs has demonstrated, mummies were created to transform a deceased individual into a deified being, prepared for the afterlife. Through mortuary rituals, textile wrappings became inseparably united with the body; apart, the human remains and their wrappings cannot be fully understood. The act of wrapping added multiple layers that cocooned the body, creating a new boundary – a second skin – that served as a social surface for the deceased (Knappett 2006). The material properties of textiles made them particularly suited to the tasks of concealing or revealing, shaping, and transforming the body. In some cases, wrappings may even have had protective or apotropaic functions (Riggs 2014).

In these funerary interactions, the wrappings were not passive elements but active participants in a dynamic encounter involving the act of wrapping, the individuals performing it, the deceased, and the bereaved.

To a certain extent, these considerations also apply to animal mummies, in which textile layers were used to entirely reshape the remains. In some cases, textiles and other materials even acted as substitutes for the animals themselves, which were either only partially present or completely absent from the mummy (Ikram et al. 2024: 13-14). Similarly, the wrapping of statues and sacred objects transformed their appearance and function. We can therefore argue that the modern act of unwrapping – by disconnecting the material evidence – reverses these ancient gestures and obscures their original ritual intentions. As a result, the extraordinary potential of these composite remains is lost, as their *raison d'être* can no longer be perceived.

The disparate elements left behind by unwrapping – human or animal remains in varying states of preservation, statues, figurines, personal accessories, and masses of textiles – can no longer tell the story of the whole, but only fragmented narratives anchored to different timelines

and interpretive frameworks. These ritually composed and wrapped remains have ceased to exist as unified entities and have instead become a collection of disconnected objects, each category subjected to the scrutiny of separate academic disciplines.

Human remains, for instance, have traditionally been studied by medical professionals, who conducted autopsies and focused on aspects such as anatomy, osteology, parasitology, or palaeopathology (e.g., the Manchester Mummy Project; David 2008). Textile research has likewise suffered from this compartmentalisation: once removed from their context, wrappings merely become textiles, studied by specialists for what they reveal about raw materials, fibre processing, weaving techniques, or production organisation (e.g., Vogelsang-Eastwood 1994).

Despite the fact that the majority of preserved textiles from ancient Egypt and Sudan come from funerary contexts, they are seldom studied as part of complex burial assemblages. The technical specialisation of the field – reflected in its terminology and craft expertise – has often led archaeologists to disregard textile material, while the frequent lack of provenance and the prevalence of reuse has prompted textile experts to overlook contextual and ritual dimensions.

These examples – from both human bodies and their wrappings – highlight a broader issue: such objects are often studied in isolation, for what they can teach us about ancient *lives*. Rarely are they considered together to enrich our understanding of past conceptions of *death* and ritual practice as an integrated whole.

### **2.3. Working with wrapped (or unwrapped) human remains: ethical concerns and current approaches**

Since the 1980s, cultural anthropological studies have emphasised the importance of considering any object as a whole, including its entire history and its “agency” – understood as the capacity to produce autonomous and unexpected effects in its surroundings (Miller 1987). This perspective is particularly relevant for human remains and artefacts that have undergone ritual wrapping. While the removal of archaeological traces of past actions is inherently problematic, the unwrapping of human bodies raises even greater ethical concerns.

Human remains cannot be regarded as inert “things” completely detached from present-day lives; therefore, the manner in which they are studied and handled carries significant ethical weight (e.g., Scarre 2013; Bahn 1984). The ethics of dealing with wrapped human remains, as well as related deontological issues in conservation, must be carefully considered when working with ancient bodies. From field excavations to museum displays, professionals encounter diverse sets of ethical questions – often influenced by local public opinion, scholarly communities, and practical logistical concerns.

Although practices vary widely, there is currently a strong momentum toward establishing national and international guidelines that govern the handling, display, and study of human remains. These frameworks are increasingly being accepted within the academic and museum sectors.

In museums, much of the discussion has focused on the multifaceted issues of care and display concerning human remains. Key questions include: How should museums preserve human remains? Is it ethical to exhibit them? And what justifications exist for displaying human remains in a museum context? Another important issue is repatriation, especially when remains have been removed from their original cultural context.

Following the 2004 publication of the *Guidance for the Care of Human Remains in Museums* by the Department for Culture, Media and Sports (DCMS) of the United Kingdom, many museums have developed and published their own policies on human remains. For example, the British Museum established its policy in accordance with the 2004 UK Human Tissue Act<sup>8</sup>. These national regulations partly respond to growing concerns expressed by communities from which the remains originate, acknowledging such remains as “sensitive material”. This term was coined by the International Council of Museums (ICOM), which since its inception has advocated for more respectful treatment of human remains (see ICOM’s *Code of Ethics* and *Code of Ethics for Natural History Museums*<sup>9</sup>).

Efforts in governance have been accompanied by an increase in scholarly research focussed on the study, conservation, and display of human remains. Numerous national and international conferences have provided platforms for debate – such as the conference “Human remains - ethics, conservation, display” held in Turin in 2019. Museum curators and conservators are actively engaging with these issues; for instance, the British Museum has published online essays in the volume *Regarding the Dead* (Fletcher et al. 2014). PhD projects have also emerged, sometimes extending beyond museum walls to include public surveys – for example, *Exhibiting Human Remains: a transversal issue between ethics, museology, archaeology, and law*, led by Dr. Nicola Crescenzi and supervised by Prof. Maria Luisa Catoni at IMT School for Advanced Studies in Lucca.

The topic is complex, as museum collections range from entire mummies to objects made from human hair, acquired or donated through various means. These collections serve as the foundation for ongoing debates about beliefs surrounding death and mortuary practices, cultural identity, and repatriation. Current reflections aim to balance these concerns while respecting museums’ institutional roles in caring for, displaying, and researching the human past.

Such discussions have generated a substantial and growing body of literature and guidelines (e.g., Williams and Giles 2016; Licata et al. 2020; Gill-Robinson 2004), which are beyond the scope of this volume to review in detail.

In some respects, Egyptology has been relatively slow to incorporate these broader ethical and methodological developments, likely due to the complex historiography of the field and the composite nature of the remains themselves. In Egyptology, wrapped remains are intrinsically connected to the practice of mummification. The 19<sup>th</sup>- and early 20<sup>th</sup>-century origins of mummy studies unfolded within the historical context of empire, where the collection and treatment of bodies were often influenced by the racial prejudices of the colonial era (Matić 2018). Early medical curiosity, combined with the desire to uncover amulets and other objects concealed within the wrappings, resulted in the unwrapping of countless mummies well into recent times.

For example, the mummy of Wah, a Middle Kingdom dignitary from the Theban region, was completely unwrapped following X-ray imaging that revealed jewellery and precious objects hidden inside (Winlock 1940). Rather than protecting the mummy, this early imaging prompted invasive study: today, the ‘naked’ body is badly decayed and not on display, while the textiles have been flattened, folded, or cut around the lines of the inscriptions or weaver marks. Such destructive methods are no longer practiced.



Fig. 1.4. CT-scanning of two mummified cats and a cat-shaped head from the National Museum of Denmark on the 22 January 2020. Photo: Luise Ørsted Brandt.

<sup>8</sup> <https://www.britishmuseum.org/our-work/departments/human-remains#policy-and-governance> [accessed 29/02/2024]

<sup>9</sup> Latest versions from 2013 and 2017: <https://icom.museum/en/resources/standards-guidelines/code-of-ethics/>

Modern ethical standards in bioarchaeology have transformed how wrapped human remains – including mummies and naturally desiccated bodies from Egypt and Sudan – are studied and exhibited. Advances in imaging techniques, particularly photogrammetry and computed tomography (CT) scanning (Fig. 1.4), now provide highly detailed views of the remains, associated objects, and even the multiple layers of textiles, allowing for non-invasive analysis and preservation (e.g., Taylor and Antoine 2014; Brandt et al. 2021).

Together with the use of other archaeological and natural science methods, these innovations open an unprecedented range of research questions that are increasingly multi- or interdisciplinary in nature. These methods have also revolutionised how mummified remains are displayed in museums, exemplified by digital 3D exhibitions such as *Archeologia Invisibile* in Turin (12/03/2019 – 06/01/2020; Greco and Ferraris 2019). The relationship between ancient bodies and the public is being reconsidered through thoughtful design of partition walls and interpretative signage, as seen in the Museo Egizio in Turin, or entire new galleries dedicated to facilitating these encounters, such as the royal mummies gallery recently opened at the National Museum of Egyptian Civilisation (NMEC) in Cairo. The popular blog *Mummy Stories* (<https://www.mummystories.com/>, consulted 29-02-2024), along with the publication *Mummified: The Stories behind Egyptian Mummies in Museums* (Stienne 2022), testify to this growing public and scholarly interest, calling for more ethical treatments of mummies and human remains.

In the field, however, the situation is more complex. Cemeteries, typically located on the desert fringes of the Nile Valley, benefited from arid conditions that preserved organic remains – including bodies – to an exceptional degree. Consequently, funerary excavations frequently uncover large quantities of human remains, whether whole or fragmented mummies, naturally desiccated bodies, or skeletal material, alongside their wrappings (Fig. 1.5). Managing these volumes of material presents significant logistic challenges, especially in crowded excavation magazines. In the past, many missions reburied remains after study, often discarding textile wrappings in the process. Thankfully, this practice is now largely abandoned, as archaeologists strive to find tailored conservation solutions.

When mummies are relatively well preserved, wrappings are usually kept intact; however, naturally desiccated or poorly preserved remains – often dislocated or fragmented – pose greater challenges. Textiles in these cases tend to be loose, brittle, or partially disintegrated, making it difficult to move them with the remains without compromising the integrity of the funerary assemblage. Additionally, assemblages disturbed by tomb reopening, reuse, or looting often have textiles separated from the bodies and mixed with other tomb contents long before excavation. Consequently, wrappings frequently end up separated from human remains, with specialists studying each component independently over time.



**Fig. 1.5. Ongoing excavation and study cycle of funerary textiles at Qubbet el Hawa (photo José Manuel Alba Gómez, Veerle van Kersen, and Elsa Yvanez, University of Jäen/ Qubbet el Hawa project).**

Nevertheless, recent years have seen a growing interest in textile archaeology within Egyptology, fostering a new awareness of the necessity to study wrappings and human remains together. This volume is a testament to those ongoing efforts, also reflected in recent publications that highlight fieldwork challenges and propose methodologies for *in situ* textile and wrapping analyses of the dead (Yvanez and Wozniak 2025).

Whether in the field or in museums, ethical imperatives demand a holistic approach to human remains, considering their multiple components together and treating them with respect. Practically, this necessitates collaboration among specialists who integrate their methods, share findings, and address concerns collectively. The rigorous study of skeletal remains must be balanced equally with the conservation and analysis of associated materials, a goal best achieved through multidisciplinary projects.

### **3. In Textile Layers – A collaborative attempt at merging material and approaches**

*In Textile Layers* was initiated with this goal in mind: to highlight the diverse approaches and disciplines that can contribute to more comprehensive documentation of wrapped remains. By doing so, it aims to raise awareness on the potential of textile wrappings to deepen our



Fig. 1.6. Map of the sites mentioned in the present volume (Map Joshua Gram Heinesen and Elsa Yvanez).

understanding of ancient burial practices along the Nile over the *longue durée* (see map, Fig. 1.6, and timeline, Fig. 1.7).

### 3.1. The Conference

Our primary goal was to bring together scholars from various disciplines to exchange insights and learn from our collective experiences. Originally planned as a session

at the 26<sup>th</sup> annual conference of the European Association for Archaeologists in Budapest, the event was disrupted by the 2020 pandemic. Thanks to the kind invitation of Luisa Papotti, Superintendent, and Matilde Borla, Egyptologist at the Soprintendenza Archeologia Belle Arti e Paesaggio per la città metropolitana di Torino, the session was held in a hybrid format on 26<sup>th</sup>–27<sup>th</sup> August 2020, hosted at the Superintendency’s seat in Palazzo Chiabrese, Turin (Fig. 1.8)

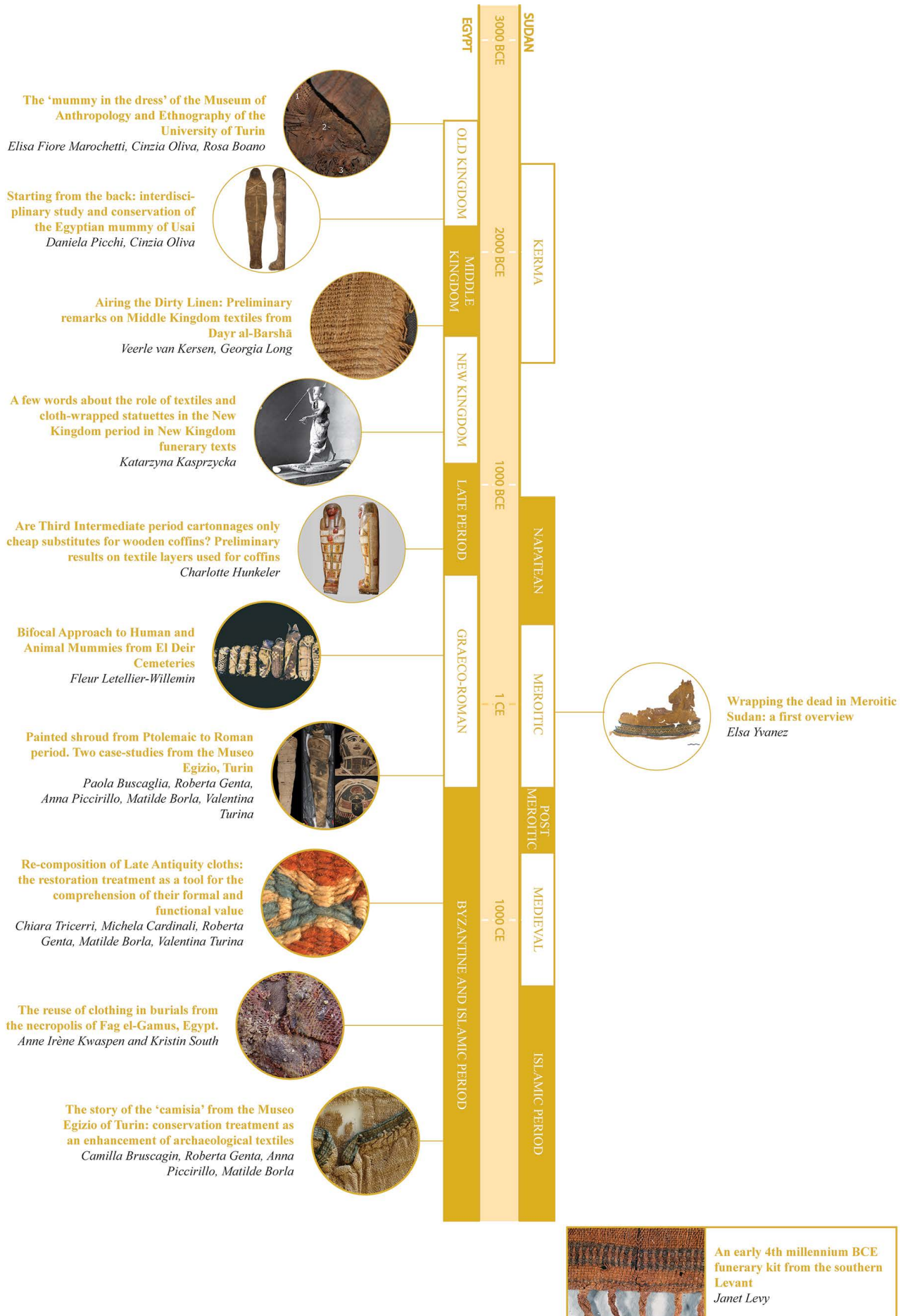


Fig. 1.7. Timeline of the different material presented in the volume's chapters (diagram Rayan Alhag).



**Fig. 1.8.** The organisers and Superintendent Luisa Papotti (left). Photo: Soprintendenza Archeologia Belle Arti e Paesaggio per la città metropolitana di Torino.

We received contributions from scholars affiliated with both museums and universities, covering a wide range of topics in terms of approaches, historical periods, and geographical areas. Presentations addressed wrapped remains dating from the 4<sup>th</sup> millennium BCE to the Byzantine and early Islamic periods, including sites in Sudan, Egypt, and the Levant.

The scholars adopted various viewpoints, often combining expertise and findings from archaeology, philology, history, conservation, physical anthropology, forensic and biomolecular sciences, and imaging techniques. The session featured 19 presentations spanning methodological approaches to wrappings, interdisciplinary studies, and diverse funerary traditions. These were delivered over two days, with nine talks each day followed by discussion time.

Based on the abstracts received and reflecting the diversity of participants' backgrounds, the conference was structured around three interrelated themes: 1) Textiles in the field, 2) Textiles in the museum, and 3) Textiles in the lab (see Table 1.1).

The programme began on 26<sup>th</sup> August 2020 with an afternoon session of presentations focusing on textile case studies, many from field settings and museums, and originating from different sites. They highlighted the many

challenges involved in excavating, preserving, analysing, and storing textiles during and after excavation, as well as their remarkable potential. All presentations took specific funerary contexts as their starting point, illustrating the breadth of textile use in death, either as body wrappings, embalming materials, components of cartonnage, or as active participants in funerary rituals. Different methods and source materials were showcased, ranging from high-definition textile analysis to digital 3D modelling, and from mummies to ritual texts, integrating preserved materials, excavation archives, and ancient textual records.

For example, Alistair Dickey's paper focused on the methodology and analysis of textile remains from Hierakonpolis, shedding light on a comparative and contrastive study of these textiles alongside contemporary evidence from Egypt and Nubia. In another case, Jónatan Ortiz García and colleagues illustrated the importance of studying textile deposits of mummification materials for understanding the techniques used in the early Middle Kingdom for mummifying high officials. The potential of new imaging techniques was particularly well demonstrated by Susanna Faas-Bush, who presented ways to use 3D modelling to recontextualise Graeco-Roman shrouds, and by Luise Ørsted Scharff Brandt and colleagues, who combined CT scanning and textile analysis to assess the economic impact of animal mummification.

**Table 1.1. List of all presentations given during the conference, summarising the main background or approach of the authors. Papers marked with an asterisk are published as articles in the present volume. Please note that the titles of certain contributions have been modified by the authors when writing the following chapters.**

<b>Presentations</b>	<b>Authors</b>	<b>In the Field</b>	<b>In the Museum</b>	<b>In the Lab</b>
The mummy in the dress – a case study*	Elisa Fiore Marochetti, Cinzia Oliva, and Rosa Boano		X	
Adoption of local textile customs? Textiles in the Nubian C-Group cemetery at Hierakonpolis during the Middle Kingdom	Alistair Dickey	X		
Wrapping the elite: The mummification textile deposit of the vizier Ipi at Deir el-Bahari (Thebes, Egypt – c. 2000 BCE)	Jónatan Ortiz García and Antonio J. Morales	X		
Clothing used as wrapping material in burials from the necropolis of Fag el-Gamus (1 <sup>st</sup> millennium AD)*	Anne Kwaspen and Kristin South	X		
Are Third Intermediate Period cartonnage only cheap substitutes for wooden coffins? Preliminary results on textile layers used for coffins*	Charlotte Hunkeller	X	X	
Re-shrouding the past: Recontextualisation of a mummy shroud from Graeco-Roman Egypt with digital 3D modelling	Susanna Faas-Bush		X	X
Wrapping the dead in Meroitic Sudan: A first overview*	Elsa Yvanez	X	X	
A bifocal approach to the human and animal mummies from el-Deir*	Fleur Letellier-Willemin	X		
The economic and religious role of wrapping animal mummies in ancient Egypt – a case study from Saqqara	Luise Ørsted Brandt, Anne Haslund Hansen, and Chiara Villa		X	X
An attempt to trace the role of wrapping figurines placed in tombs in the context of religious texts*	Katarzyna Kasprzycka	-	-	-
Eating the dead: Insect faunas from Egyptian mummies	Eva Panagiotakopulu		X	X
Textile: A time-based marker from Ancient Egypt? An integrated approach combining characterisation and radiocarbon dating	Marie Ferrant, Ludovic Bellot-Gurlet, Anita Quiles, Susanne Bickel, Frederic Colin, Caroline Thomas, and Roberta Cortopassi	X		X
The many layers of the Zagreb mummy wrappings	Margarita Gleba, Ruth Whitehouse, Mathieu Boudin, Thibaut Deviese, and Igor Uranić		X	X
The story of the “camisia” from the Museo Egizio, Turin: Conservation treatments as enhancements of an archaeological textile*	Camilla Bruscajin, Roberta Genta, Matilde Borla, and Anna Piccirillo		X	
Painted shrouds from the Ptolemaic to the Roman period: Two case studies from the Museo Egizio, Turin*	Paola Buscaglia, Matilde Borla, Roberta Genta, Anna Piccirillo, and Valentina Turina		X	X
Recomposition of Late Antique cloths: Restoration treatments as tools for understanding their formal and functional value*	Chiara Tricerri, Roberta Genta, Matilde Borla, and Valentina Turina		X	
Starting from the back: Studies, diagnostics and conservation treatments of Usai’s mummy, face down*	Cinzia Oliva and Daniela Picchi		X	
How to dress an urn – and why? Textiles in funerary rituals in Iron Age Central Europe	Maria Kohle	X	X	
Cave of the Warrior: An early 4 <sup>th</sup> millennium funerary kit from the southern Levant*	Janet Levy	X		

N.B.: While not all presentations resulted in chapters in this volume, we invited Veerle van Kersen to contribute a paper on her ongoing research on the Middle Kingdom site of Dayr al-Barshā.

On the morning of the 27<sup>th</sup>, we resumed with three papers focusing on how natural scientific methods can contribute to the study of wrapped mummified remains. Eva Panagiotakopulu demonstrated how palaeoentomology informs us about post-mortem faunas and, through their preferred habitats, about the mummification process. Marie Ferrant and colleagues shared insights into developments that enable accurate radiocarbon dating of Egyptian textiles while avoiding contaminants, and Margarita Gleba and colleagues showcased how radiocarbon dating combined with textile analyses revealed a spread of dates of textiles found in a single context, suggesting either original textile recycling or historical interference.

In the next part of the programme, four contributions focussed on the role of conservation treatments as tools for the correct interpretation of archaeological artefacts. Their main interest was to highlight the dialogue that takes place between conservators, researchers, and all others involved in the conservation process. Indeed, the state of conservation of textiles on a human body requires discussion that includes both methods and solutions, integrating ethical and cultural implications.

The session concluded with two papers presenting textiles and wrappings from outside the Nile Valley: the dressing of Central European urns by Maria Kohle, and a Levantine funerary context presented by Janey Levy, both illustrating how widespread the use of textiles in funerary rituals was.

On the 28<sup>th</sup>, the conference participants who were physically present in Turin visited the Conservation Centre in Venaria Reale<sup>10</sup> and had the opportunity to observe the conservation of mummified remains (Fig. 1.9), which provided a perfect follow-up to several of the conference papers.

### 3.2. The Structure of the Present Volume

In this volume, we have chosen to divide the contributions into two parts based on case studies and multidisciplinary approaches, rather than organizing them by methods, geographical regions, or chronological periods.

#### Part 1. Textile Wrappings in Context: case studies from Egypt, Sudan, and the Levant

The first part of the book opens with the case study of the *The Gebelein mummy in the pleated dress: a case study*, by Elisa Fiore Marochetti, Cinzia Oliva, and Rosa Boano. This chapter offers a comprehensive archaeological and historical presentation of a human mummy from Gebelein, dressed in a pleated tunic. It further outlines a passive conservation methodology that aligns with contemporary trends in the conservation and display of archaeological materials and organic remains. Additionally, the anthropological and palaeopathological study of the clothed body is discussed, alongside an analysis of other

Old Kingdom human specimens with pleated tunic fragments found in the same Gebelein cemetery.

In their contribution, entitled *Airing the dirty linen: preliminary remarks on Middle Kingdom textiles from Dayr al-Barshā*, Veerle van Kersen and Georgia Long present the methods and results obtained during a textile study mission at Bersha, conducted within the time and preservation constraints imposed by the excavation conditions. These textiles were examined during the 2022 archaeological season and analysed using a custom recording method designed to handle a large volume of material. The outcomes demonstrate that significant information can be recovered from textiles even in disturbed contexts, offering new insights into both Middle Kingdom textile production processes and burial practices.

Bridging the field and museum contexts, Fleur Letellier-Willemin presents textile wrappings from both human and animal mummies, focusing on material recovered during excavations at el-Deir in her contribution, *Bifocal approach to human and animal mummies from el-Deir cemeteries*. This multi-period site, located in the Kharga Oasis, has yielded a rich assemblage of textile materials dating from the 6<sup>th</sup> century BCE to the 5<sup>th</sup>–6<sup>th</sup> century CE. This extensive timeline provides the opportunity to track changes in textile production – such as raw material use and weaving techniques – as well as shifts in the funerary use of textiles over time. Using dog mummies as a case study, Letellier-Willemin compares these findings with animal mummies housed at the Musée des Confluences in Lyon, France.

A paper presented by Anne Kwaspén and Kristin South draws attention to the reuse of clothing in funerary wrappings, using the necropolis of Fag el-Gamous as a case study. Located in the Fayoum region, this site illustrates the diversity of such practices during the Late Roman, Byzantine, and early Medieval periods. The authors specifically focus on the secondary use of tunics as stuffing material – either in face bundles or directly on the body – and on the successive wrapping layers composed of both reused garments and rectangular linen ‘sheets’. Archaeological observations and conservation methods in field settings are integrated into the discussion, allowing the reader to fully understand the condition of the remains and the challenges involved in their study.

In *Wrapping the dead in Meroitic Sudan*, Elsa Yvanez combines archival research, textile analyses, and contemporary archaeological practices to offer a new perspective on the role of textiles in Meroitic and Postmeroitic funerary customs in Nubia. Focusing on *in situ* textile finds, she proposes a categorisation of textile gestures surrounding the dead, aiming to reconstruct different attitudes towards textiles and the body. In doing so, the author discusses the original function of the textiles versus their modes of reuse within the grave, providing archaeologists with analytical tools to better understand burial practices in this region.

<sup>10</sup> <https://www.centrorestaurovenaria.it/>



**Fig. 1.9. Explanation of the conservation process by Chiara Tricerri. Photo CCR Venaria, TO.**

Part 1 of the volume concludes with a case study of textile wrappings from the Levant. In *An early 4th millennium BCE funerary kit from the southern Levant*, Janet Levy examines the unique assemblage found with the remains of a mature male, discovered undisturbed in a cave at Wadi Makkukh. The author provides a detailed review of each item accompanying the deceased, including a wrap-around ‘kilt’, a sash, and an exceptionally large shroud, drawing comparisons with textiles unearthed at neighbouring sites. This chapter offers an overview of Ghassulian textile production in the region while contextualising the use of textiles and other matting materials within contemporary burial practices.

Part 2. Reframing Textile Wrappings: multidisciplinary approaches and textile research

The concept of “reframing textile wrappings” is exemplified in the chapter *Starting from the back: preliminary studies and conservation treatments of Usai’s mummy*, by Daniela Picchi and Cinzia Oliva. In this case, a previous consolidation treatment had contaminated the textiles at the front of the mummy, thus limiting opportunities for scientific analysis. Consequently, the team developed a novel approach involving the repositioning of the mummified body into *norma posterior* – turning the body over to allow interventions to be conducted from the back. This chapter details the procedures undertaken

to safely manipulate the mummy, as well as the diagnostic investigations carried out on the uncontaminated textiles.

The conservation treatments carried out on two mummies from the Museo Egizio, presented in *From the Ptolemaic to the Roman Period. Conservation of wrapped human remains: two case studies from the Museo Egizio in Turin* by Paola Buscaglia, Roberta Genta, Anna Piccirillo, Matilde Borla, and Valentina Turina, aptly illustrate the application of multidisciplinary approaches. One of the mummies (Cat. 2223/02), dating to the Ptolemaic period, features a cartonnage mask, while the other (Cat. 2245), from the Late Ptolemaic/Roman period, retains a painted shroud *in situ*. This study carefully considers the distinct characteristics of each artefact, weighing critical aspects and prioritising accordingly to devise tailored conservation treatments within an innovative and multidisciplinary framework.

In the case of *Recomposition of a set of Late Antique cloths: conservation treatments as tools for the comprehension of their formal and functional values*, authored by Chiara Tricerri, Michela Cardinali, Roberta Genta, Matilde Borla, and Valentina Turina, the conservation treatment focused on reversing a previous intervention carried out at the end of the last century. Several large fragments of blue textiles, dating to the 3<sup>rd</sup>–4<sup>th</sup> centuries CE, had been assembled into a single object, thereby concealing the artefacts’

true significance and provenance. Following thorough investigation, the seven original cloths were separated and subsequently reassembled based on technical data and stylistic consistency, which in turn revealed their original form and function. This case study offers valuable insight into the delicate balance between conservation imperatives and the enhancement of artefacts in museum settings.

In a similar vein, the chapter entitled *The story of the 'camisia' from the Museo Egizio of Turin: conservation treatment as enhancement of an archaeological textile*, by Camilla Bruscagin, Roberta Genta, Anna Piccirillo, and Matilde Borla, deals with a textile that was significantly altered in the recent past to facilitate its sale on the antiquities market. The technical study of the textile's shape and weave revealed elements of the manufacturing process and led the team to identify the item as a 'camisia', a peculiar garment of Sassanid influence. By combining textile analysis, conservation treatments, and experimental approaches, it was also possible to determine that the garment was made for an adult (correcting previous hypotheses) and to reproduce the trimmings used as embellishments around the neckline.

Charlotte Hunkeler then takes the reader to another type of little-studied textile layers: the textiles used in the manufacture of cartonnage. In *Are Third Intermediate Period cartonnages only cheap substitutes for wooden coffins? Observations on the use of textiles around the mummy through time*, the author reconstructs the *chaîne opératoire* of cartonnage, highlighting textiles as one of the main components of this important funerary artefact between the 22<sup>nd</sup> and the early 25<sup>th</sup> dynasties. She then traces the role of textiles in the inner coffins used during the following 22<sup>nd</sup>–26<sup>th</sup> dynasties. Departing from previous studies based on iconography, Hunkeler focusses on material and production techniques to reveal a complex tradition of textile-based funerary artefacts developed to contain the body of the deceased.

Part 2 of the volume concludes with a chapter by Katarzyna Kasprzycka, which takes a different starting point from the previous contributions and draws attention to the role of textiles in Pharaonic religious texts. In *A few words about the role of textiles and cloth-wrapped statuettes in funerary texts of the New Kingdom*, the author examines references to textiles in the *Opening of the Mouth* ritual and the *Book of the Dead*. She specifically traces the use of textiles in the wrapping of religious figures, statues, and figurines, and reflects on possible parallels with the wrapping of the dead.

### *Interconnections*

The twelve studies presented in this volume span from the early 4th millennium BCE to Late Antiquity, covering a wide geographical area including Egypt, Sudan, and the Levant. Together, they reveal significant synergy in addressing the material, technological and symbolic aspects of textiles in funerary and ritual contexts. The

studies analyse the multifaceted role of fabrics in the relationship between the living and the dead, emphasising the value of an interdisciplinary approach and the importance of conservation treatments.

The ritual and symbolic functions of textiles are clearly evident in two studies: *The Gebelein mummy in the pleated dress: a case study*, which originates from Gebelein, and a study of textile wrappings from the Levant entitled *An early 4th millennium BCE funerary kit from the Southern Levant*. In both cases, clothing and shrouds were integral to the funerary assemblage and conveyed both identity and ritual performance.

The practice of wrapping human and animal bodies, or figurines, is the focus of four papers *Bifocal approach to human and animal mummies from el-Deir cemeteries; The reuse of clothing in burials from the necropolis of Fag el-Gamus, Egypt; Wrapping the dead in Meroitic Sudan; A few words about the role of textiles and cloth-wrapped statuettes in funerary texts of the New Kingdom* which reveal a continuous conceptual investment in textiles as protective and transformative media. Together, these works emphasise the enduring link between wrapping and regeneration, a concept rooted in material practice and textual tradition.

From technological and socio-economic perspectives, the textile assemblages from Dayr al-Barshā discussed in *Airing the dirty linen: preliminary remarks on Middle Kingdom textiles from Dayr al-Barshā* demonstrate the complexity and analytical potential of fragmentary contexts. This study reveals how variation in weave quality, dye use, and production marks shed light on labour organisation and craft transmission in two very different contexts.

Further investigations into the production of Third Intermediate Period cartonnages (*Are Third Intermediate Period cartonnages only cheap substitutes for wooden coffins?*) expand this technological discourse by situating the reuse of textiles within the broader context of material adaptation and ritual innovation.

Finally, several papers highlight the methodological and conservation aspects of textile studies. Two of these studies, *Starting from the back: preliminary studies and conservation treatments of Usai's mummy; From the Ptolemaic to the Roman Period. Conservation of wrapped human remains: two case studies from the Museo Egizio in Turin*, demonstrate how diagnostic science and conservation practice operate as complementary epistemic tools, enabling the reconstruction of lost manufacturing techniques and ritual gestures.

Furthermore, the reconstruction of fragmented textiles, as described in *Recomposition of a set of Late Antique cloths: conservation treatments as tools for the comprehension of their formal and functional values*, and the restoration of the *camisia* presented in *The story of the 'camisia' from*

*the Museo Egizio in Turin: conservation treatments as enhancements of an archaeological textile*, demonstrate how conservation treatments themselves can serve as means of interpretation, recovering not only the structural integrity of the textile, but also its aesthetic and functional significance.

These studies present a coherent picture of the ‘agency’ of ancient textiles as active mediators of identity, beliefs, and technological skills. Whether examined as ritual media, objects of craft and economy, or subjects of conservation and reinterpretation, these fabrics collectively highlight the profound interconnection between material culture, mortuary ideology, and modern heritage principles.

#### **4. What Have We Learned?**

Both the conference and the work presented in this volume have highlighted the diversity of textile-related topics in Egyptology and ancient Sudanese archaeology, particularly in funerary contexts. Scholars from a range of disciplines – including philology, history, archaeology, bioanthropology, textile research, conservation, museum studies, imaging techniques, and biomolecular sciences – can draw on different sources, approaches, methods, and interpretative frameworks.

The studies presented here underscore the value of an interdisciplinary approach in providing a more nuanced and comprehensive understanding of textile artefacts – their preservation, significance, and contextual meaning within broader cultural, religious, and social frameworks. This, in turn, deepens our insight into the use of textiles in both funerary rituals and daily life. New advanced imaging technologies, such as CT scanning and digital 3D modelling, even enable non-invasive examination of human remains and their wrappings, preserving the original layering of the artefacts while yielding detailed information.

Moreover, this volume highlights the paramount importance of conservation within textile research. Innovative conservation techniques are essential not only for preserving textile wrappings but also for enabling their detailed study. These methods address issues such as contamination and deterioration, and include strategies for the reassembly and display of fragmented textiles. Such treatments are pivotal in safeguarding artefacts, revealing hidden details, preventing further degradation, and facilitating scientific analysis. Conservation also upholds ethical standards through thorough documentation, improved display and interpretation, and by fostering interdisciplinary collaboration.

These treatments help preserve the integrity and accessibility of textiles for both current and future research. While conservation is most commonly rooted in museum practice – requiring sufficient funding, expertise, and time – it is equally important to consider passive conservation strategies within fieldwork contexts. This aspect remains

underdeveloped in Egypt and Sudan, and we advocate for increased attention and future initiatives in this area.

Throughout this volume, textiles appear in close association with the dead, prompting significant ethical considerations in the study of wrapped human remains. These concerns are complex and multifaceted, encompassing respect for the deceased, cultural sensitivity to diverse perspectives, the appropriate display of remains, and a strong preference for non-invasive methods wherever possible. Ongoing research and collaborative dialogue will continue to shape this evolving field. By presenting textiles and human remains together, we aim to contribute to this discourse and support a more holistic understanding of burial practices in the Nile Valley.

At the intersection of Egyptology, museum studies, and conservation, several chapters also highlight the complex histories of many textile wrappings. Often removed from human remains, brushed off statuettes and other charged objects, or cut into fragments – and sometimes even discarded – these remnants of meaningful gestures have frequently been subjected to significant mistreatment. As victims of widespread unwrapping practices, textile layers and their removal became central to a process of appropriation in which early archaeologists laid claim on ancient Egypt (Riggs 2014: 26-32). In unwrapping bodies and objects, Egyptologists not only desacralised them but also transformed them into subjects of scientific analysis and museum display, in ways that paralleled and supported the broader colonial agendas of Western powers (Colla 2007).

Studying textile wrappings in museum contexts, therefore, often involves reconstructing how these items – or the remains they accompanied – were acquired, transported, stored, and interpreted in recent history, as well as assessing how modern interventions have altered the assemblage. This work requires not only a deep understanding of the material properties of textiles, but also a critical re-evaluation of Egyptological methodologies and legacies. Regardless of our specific discipline or approach, it is vital to confront and transparently present these entangled histories.

Through the many case studies presented in this volume, we aim to demonstrate that what we understand about textile wrappings is profoundly conditioned by past unwrapping. This conundrum, expertly revealed and dissected by Christina Riggs in her *Unwrapping Ancient Egypt* (2014), lies at the heart of our collective inquiry. Riggs posed the questions: “Why were certain Egyptian bodies and objects wrapped in linen?” and “Why have they been so systematically unwrapped in modern times?” (Riggs 2014: 224). The chapters that follow seek to provide elements of answers, while decisively focusing on the materiality of the textile wrappings. Through analyses of fibres, threads, fabrics, and superposed wrappings, we hope to shed more light on the complexities of textile layers – how they were made and arranged, how we can study and care for them, and why they are crucial for understanding past societies.

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