

Cover image:  
Linen tunic KTN 4231-01  
radiocarbon dating (95.4% probability)  
AD 420-560.

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photo H. Maertens.



Very similar linen tunic KTN 546 (detail)  
radiocarbon dating (95.4% probability)  
AD 431-454 (5%)  
AD 466-503 (7%)  
AD 530-660 (83.4%)

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photo H. Maertens.

There are four more fragments of similar tunics in  
The Phoebus Foundation: KTN 547 and KTN 548 (3 pieces)

Edited by  
Antoine De Moor  
Cäcilia Fluck  
Petra Linscheid

# Dress - Continuity and Change in Egypt in the 1st Millennium AD

Proceedings of the twelfth conference  
of the research group 'Textiles from the Nile Valley'

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## PREFACE

*Antoine De Moor, Cäcilia Fluck and Petra Linscheid*

The present volume compiles the papers presented at the 12th conference of the research group ‘Textiles from the Nile Valley’, which took place from Saturday 13 to Sunday 14 November 2021 at HeadquARTers in the heart of the Katoen Natie Company in Antwerp. Due to the Covid pandemic, the conference was offered in a hybrid format, with 47 scholars attending in person and 49 participants joining the conference online. On site, the Covid regulations were strictly observed. Fourteen papers were presented *in situ* and eight online. The total of 96 participants came from 17 countries. As always, lively discussions ensued in the coffee and lunch breaks, during which the participants also had the opportunity to visit the splendid textile galleries at HeadquARTers.

The main topic of the 2021 conference was ‘Dress – Continuity and Change in Egypt in the 1st Millennium AD’. While single items of dress had appeared sporadically in former conferences, this time a broader picture was envisaged that covered the typology, developments, technology, ways of wearing and representations of garments. It will come as no surprise that the most-discussed garment was the tunic, the most popular and widespread dress item in Antiquity. Next to be discussed were head coverings, mantles and shawls. Finally, and going beyond the main theme of “dress”, individual research projects were reported on.

During the conference, twenty-two papers and one poster were presented, of which twelve are published in the present volume (see pp. 184-185). This compilation is complemented by an article by Béatrice Huber on garments from Sharuna. The paper that Sabine Schrenk presented during the conference about representations of women wearing the toga has meanwhile been published in the Festschrift for Johannes Deckers.<sup>1</sup>

The first chapter in the book is devoted to “Clothing from excavations”. Frances Pritchard introduces a sleeveless linen tunic excavated at Athribis, which, when compared with similar tunics, can be placed in the 5th century. As in the previous volumes, Anne Kwaspen and Kristin South report on the textile finds from Fag el- Gamus, this time offering a typology of 7th- to 10th-century tunics and their contextual information. Włodimierz Godlewski, Petra Linscheid and Cäcilia Fluck present an unusual dress ensemble of shirt, gaiters

and boots from a tomb at Naqlun in the context of similar finds. Béatrice Huber’s contribution is about the garments of a deceased wealthy woman in Sharuna who was wearing a tunic with empty sleeves.

The next chapter is entitled “Clothing in museum collections”. In it, Vladimir Ivanovici and Elizabeth Dospěl Williams discuss liturgical stoles by presenting the surviving originals, and they stress the authority of this garment by its connection to Late Roman consular sashes. Gisela Helmecke’s contribution is devoted to three children’s garments from the Mamluk period: a dress, a jacket or vest, and a pair of trousers, all housed in the Museum of Islamic Art in Berlin. Irina Seekamp and Konrad Hirschler discuss a quilted cap from the same collection. It dates from the Mamluk or Early Ottoman period, and the paper layers in its interior are inscribed with Arabic texts.

The chapter “Technical aspects of tunics” covers an investigation by Marie Ekstedt Bjersing on the weaving to shape of linen tunics, especially the warping and the possible loom types.

The next chapter, “Representations of garments”, starts with a study by Cäcilia Fluck and Antoine De Moor of a painted canvas fragment in the Phoebus Foundation depicting a portrait of Saint Theodore which radiocarbon analysis has proven to be one of the earliest representations of this warrior saint. Nancy Arthur Hoskins investigates New Kingdom tomb paintings in order to analyse and reproduce the pattern weaving of gowns and kilts.

In the chapter “Iconography”, Claudia Nauerth covers depictions from the life of the Ancient Greek hero Achilles, which were popular both on textiles and in other media.

In the book’s last chapter, entitled “From collections”, Nicoletta di Gaetano introduces a selection from the little-known textile collection of the Museo del Tessuto e della Tappezzeria Vittorio Zironi in Bologna. Margarita Gleba, Ruth Whitehouse, Mathieu Boudin, Ina Vanden Berghe and Igor Uranić report on a new study and radiocarbon dating of the well-known Zagreb mummy wrappings. Last but not least, Benjamin Hinson presents striped mummy bandages of the New Kingdom, tracing them back to Levantine influences.

<sup>1</sup> SCHRENK S., ... weil nicht sein kann, was nicht sein darf? Überlegungen zum Gewand der Juliana Anicia und zu Frauen in Toga. – In: GIANNOULIS M./LÖX M./OEPEN A. (eds), *Imaginum orbis. Bilderwelten zwischen Spätantike und Byzanz. Festschrift anlässlich des 80. Geburtstags von Johannes G. Deckers*. (Mitteilungen zur Spätantiken Archäologie und Byzantinischen Kunstgeschichte 8), Wiesbaden 2021, 63-78.

## Notes on terminological discussions

Compiled by Veerle van Kersen

### “Tunic”

During the conference an attempt was made to establish a binding terminology for dress types used in the 1st millennium AD in Egypt and neighbouring countries. Hotly debated was the term for a special garment not woven to shape as usual, but cut to shape, with flared sides provided by gussets at the bottom. Several possible names for this type of garment were suggested.

Olga Orfinscaya and Darya Klyuchnikova proposed the term “caftan”. Many participants found it confusing, since this term is often associated with garments featuring an opening down the front. Others pointed out that this is not necessarily always the case and that closed caftans do exist.

The term “cut-to-shape tunic” makes a clear differentiation with the woven-to-shape tunic. However, the cut-out parts can be very small, with there not even being any cut-outs in some cases, which makes this name not applicable to the wider group.

“Sasanian-style tunic”: while this dress style is often associated with Sasanian clothing, it also occurs before the Sasanians’ appearance. It might, therefore, be a bit imprudent to assign this style of tunic to one culture only.

“Waisted tunic”/“tailored tunic” (with and without gores): this seemed like a good description to some, but others found it difficult to understand because it was not so clear what “waisted” means. The term “tailored” was brought up, but some pointed out that it might be confused with modern/premodern western tailoring techniques.

“Vertical warp tunic” (proposed by Anne Kwaspen): this clearly describes what differentiates it from the earlier tunics, which were woven sideways. Some people agreed with this term, but others thought that it might be too technical for practical use in museums.

There was also some disagreement regarding whether this type of garment could even be called a “tunic” or if we should rather just use the modern term “shirt” (suggested by Cäcilia Fluck and Petra Linscheid). Someone offered “tunic-like garment” as a better description, but this was deemed by most to confuse the matter even more. Maria Mossakowska-Gaubert proposed *kamision* or *hypokamision* as a term used in Greek texts. She wrote an article about the terminology for tunics used in papyri.<sup>2</sup> Antoine De Moor brought up that a 1929 book by Eugène Van Overloop also discusses the *kamision*.<sup>3</sup> The editors would like to note that the term *kamision* corresponds to the French “chemise” and Italian “camicia”, which corresponds to the English “shirt”.

In the end, it was decided to write down this discussion in order to open it up to scholars who could not attend the conference.

### “Early Islamic”

The discussion focussed mostly on the phrase “Early Islamic textiles” to denote textiles from the early Islamic period, when Egypt first came under Arab rule. Some participants objected to this use, as most people probably were not culturally Islamic by this time, preferring instead to use “Early Medieval”. Others disagreed with this term, however, as it carries a lot of European connotations and is not specific to Egypt’s timeframe. Maria Mossakowska suggested “early medieval Arab period” as an alternative.

A couple of people agreed that the word “period” is the crucial part here, as it puts the emphasis on the culture and religion as opposed to the historical timespan. There is a big difference between “early Islamic textiles” and “early Islamic period textiles”. The latter would be much preferred.

One presentation used the paraphrase “medieval period under Islamic rule”, which, though quite long and unwieldy, leaves less room for ambiguity.

### “Toga” and “stola”

A third discussion developed after two presentations, one by Sabine Schrenk about “Women in toga?” and the other by Vladimir Ivanovici and Elizabeth Dospěl Williams about embroidered fabrics in Athens, possibly from a stole. Both presentations used the same image, respectively calling the garment a toga or a stole.

The question arose how exactly to distinguish between the terms *stola* and *toga*, especially when you also throw *pallium* and *omophorion* into the mix as synonyms. As many know, it is usually very difficult to connect expressions/terms used in texts to the iconography. Vladimir Ivanovici pitched in on this, stating that *stola* and *omophorion* are different words that were used for the same garment in different parts of the empire. That same garment can also be called *pallium* when it was worn (or gifted) by a pope.

The discussion had to be cut short because of the time schedule, but it would be very interesting to expand on this topic and bring together the known evidence.

<sup>2</sup> MOSSAKOWSKA-GAUBERT M., Tunics worn in Egypt in Roman and Byzantine times: the Greek vocabulary. – In: GASPA S./MICHEL C./NOSCH M.-L. (eds), *Textile terminologies from the Orient to the Mediterranean and Europe 1000 BC to 1000 AD*, Lincoln, NE, 321-345. <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1022&context=termtext>.

<sup>3</sup> [https://www.acad.be/sites/default/files/downloads/annales\\_1929\\_vol\\_75.pdf](https://www.acad.be/sites/default/files/downloads/annales_1929_vol_75.pdf)



Tunic Room at the Katoen  
Natie HeadquARTers.  
© The Phoebus Foundation, Antwerp,  
photo H. Maertens.



## Acknowledgements

First and foremost our heartfelt gratitude goes to Karine and Fernand Huts for their hospitality and generosity. Since 2005, they have welcomed the biennial 'Textiles from the Nile Valley' study-group conferences in their HeadquARTers and funded the subsequent conference publications. They thus provide invaluable support to academic research and exchange on archaeological textiles from the Nile Valley.

Furthermore, we gratefully acknowledge the support of Danaë Vermeulen as well as Kristin van Passel's tireless efforts organising the conference. Kristin also provided numerous photos and data for this book. We extend our thanks to Steven de Beukelaer for making possible and organising the conference's hybrid format. During the creation phase of the book, John Peter Wild proved once again indispensable for polishing the English texts of non-native authors – no artificial intelligence will ever be able to replace him.

The publication was again in the capable hands of Hannibal Books under the direction of Gautier Platteau. We thank Sara Colson and her team for her great efforts in the editorial work, her forward thinking and her patience.

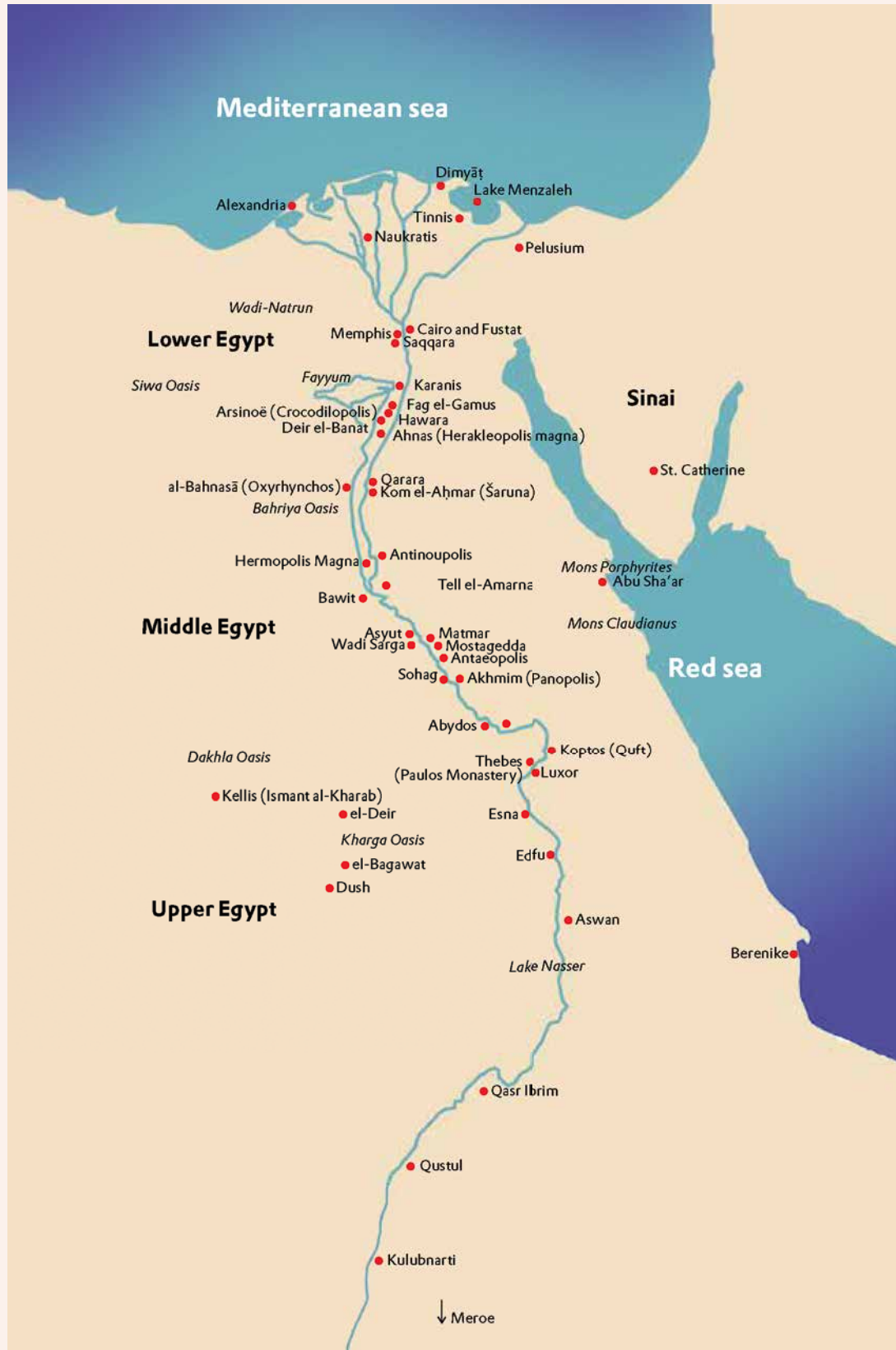
Finally, we would like to sincerely thank all the authors for their work and for sharing their discoveries and thoughts with us.

*The editors*



## Abbreviations

ABB.	Abbildung	MRAH/KMKG	Musées royaux d'Art et d'Histoire / Koninklijke Musea voor Kunst en Geschiedenis, Brussels (today Art & History Museum)
AD	Anno Domini	NB	nota bene
AMS	Beschleuniger-Massenspektrometrie (accelerator mass spectrometry)	n. Chr.	nach Christus
Anm.	Anmerkung	no., nos	number/s
ARCE	American Research Centre in Egypt	p.	page
BC	before Christ	PCMA	Polish Centre of Mediterranean Archaeology, University of Warsaw
BSAE	British School of Archaeology in Egypt	PDA	Photodiode Array Detection (Fotodiodenarray-Detektor)
BYU	Brigham Young University, Provo, Utah	PhD	Doctor of Philosophy (grade)
<sup>14</sup> C	radiocarbon analysis	pl.	plate
ca.	circa	r.	rule
cat.	catalogue	RCE	Rijksdienst voor het cultureel erfgoed (Cultural Heritage Laboratory), Amsterdam
col.	colour	S	yarn spun in S-direction
ed./eds	edition, editor/s	s.	siehe
EDS	energy-dispersive spectroscopy	S <sub>2</sub> Z	two S-spun yarns plied in Z-direction
e.g.	exempli gratia	S <sub>2</sub> *s	two S-spliced threads plied in S-direction
ESEM-EDX	Energiedispersive Röntgenspektroskopie unter Vakuum am Rasterelektronenmikroskop (environmental scanning electron microscopy – energy-dispersive x-ray spectroscopy)	sed.	sedis (hold a position)
et al.	et alii	SEM-EDX	scanning electron microscopy - energy dispersive X-ray spectroscopy
FeG	Fag el-Gamus	Taf.	Tafel
FIG./FIGS	figure/s	UHPLC	Ultra-Hochleistungs Flüssigkeitschromatografie (ultra-high- performance liquid chromatography)
fol.	folio	V&A	Victoria and Albert Museum, London
HPLC	high-performance liquid chromatography	vgl.	vergleiche
ibid.	ibidem (in the same place)	Z	yarn spun in Z-direction
i.e.	id est	Z <sub>2</sub> S	two Z-spun yarns plied in S-direction
inv.	inventory	z. B.	zum Beispiel
Kat.	Katalog		
KTN	collection Katoen Natie (now The Phoebus Foundation)		
MBK	Museum für Byzantinische Kunst, Staatliche Museen zu Berlin		





## Chapter 1

# CLOTHING FROM EXCAVATIONS

Naqlun Burial M2, outer shirt  
(Nd.06.438).

© Photo Włodimierz Godlewski.

# A sleeveless linen tunic recovered at Athribis, Upper Egypt in 1907/08

Frances Pritchard

This paper is concerned with a single tunic that is labelled as coming from the site of Athribis (FIG. 2). I overlooked it in my earlier research into tunics as I was uncertain whether the tunic was a genuine antiquity, especially as it is preserved in its complete state and looks so robust. Indeed, it is through the research of others involved in this subject area, particularly Cäcilia Fluck and Béatrice Huber, that the tunic can now be placed with confidence within an early Christian dating framework.

The site from which the tunic was recovered is discussed briefly first, followed by a description of the tunic and a consideration of comparative material. Finally, an indication of the date, purpose and significance of the tunic is attempted.

## THE SITE

The site in Upper Egypt that Petrie referred to as Athribis, and which is published under that name,<sup>1</sup> was a British School of Archaeology of Egypt (BSAE) expedition directed by W. M. Flinders Petrie from December 1907 to late January 1908. After working on this site, Petrie moved on to Memphis, which was his main objective for the season. However, as it was waterlogged for part of the year, excavating there needed to be postponed until the end of the season.<sup>2</sup> In fact, Athribis comprised three separate sites not far from one another on the west bank of the Nile in the Sohag district: al-Hagarisa, Athribis-Atripe and a large ruin near the White (Shenoute) monastery, which Petrie referred to as a cœnobium (i.e. monastery) predating the basilica associated with Saint Shenoute (ca. 348-465).<sup>3</sup> The latter area was, in fact, mainly excavated by two members of Petrie's team, Ivo Gregg and Edwin Ward. Edwin Ward, a museum assistant at the Royal Scottish Museum, Edinburgh,<sup>4</sup> seems to have taken the leading role; his initials appear at the bottom of the plan published in Petrie's volume *Athribis* (FIG. 1), and it was he who provided Petrie with details of the site for the publication.<sup>5</sup>

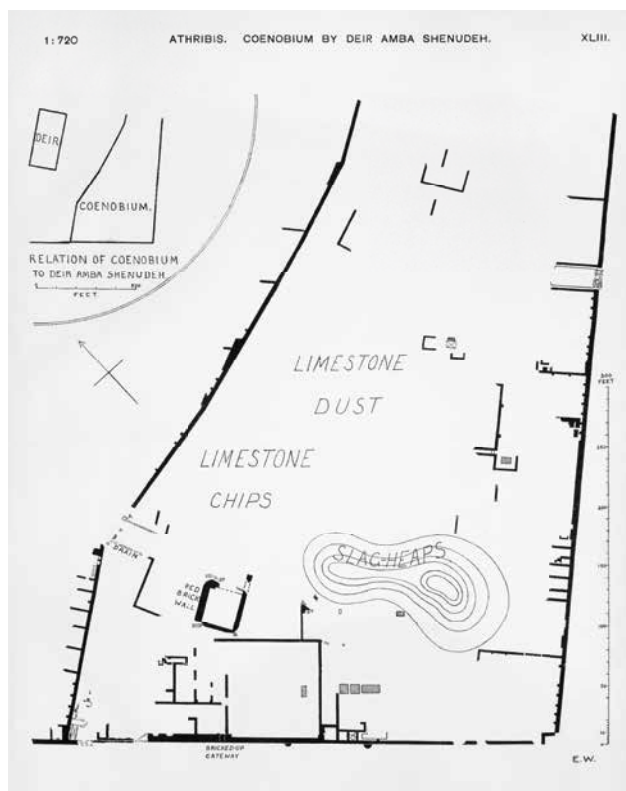


FIG. 1

Finds from this season were duly sent to London apart from those chosen by the Egyptian authorities and allocated to Cairo under the usual provisions for dividing finds, although the latter remain to be identified.<sup>6</sup> After a summer exhibition held at University College London from 29 June to 25 July 1908, where the finds were displayed along with those from Memphis,<sup>7</sup> the artefacts were mainly distributed among the museums that had subscribed to the BSAE. Unfortunately, nowhere does there appear to be any mention of the tunic, neither in Petrie's notebooks,

FIG. 1  
Site plan of cœnobium.  
After W. M. Flinders Petrie, *Athribis*  
(1908), pl. XLIII.

<sup>1</sup> The use of this name is probably incorrect, GARDINER 1945.

<sup>2</sup> DROWER 1985, 308.

<sup>3</sup> A recent discussion of the site and season is given in EL-SAYED 2017.

<sup>4</sup> STEVENSON/LIBONATI 2015, 29.

<sup>5</sup> PETRIE 1908, 13-15.

<sup>6</sup> EL-SAYED 2017, 14, n 34.

<sup>7</sup> CAT. LONDON 1908.

FIG. 2  
Linen tunic, The Whitworth  
T.2020.5.  
© The Whitworth, The University of  
Manchester, photo Michael Pollard.



FIG. 2

the exhibition catalogue, the distribution records or in Petrie's publications *Athribis* and *Memphis I*.<sup>8</sup>

Therefore, the question arises: why is the tunic attributed to the site? Manchester Museum, which acquired the tunic from the BSAE, possesses no detailed records of the object, but attached to the tunic is a card typed "Athribis. 5th. to 8th. century A. D./ 4789" and, in addition, the accession number 4789 is handwritten in black ink next to the neck opening on one shoulder of the tunic (FIGS 3A-B).<sup>9</sup> The museum also received three other objects from the site, a royal sculpture (Acc. #4816), a large Brindisi amphora (Acc. #4932) and a limestone relief (Acc. #4934), but as they date to the Ptolemaic period, they were probably recovered from the vicinity of either the temple of Ptolemy IX or, more probably, the temple of Ptolemy XII,<sup>10</sup> both of which were situated some distance south of the later cœnobium. Other sherds excavated from Athribis during the same season were poorly recorded. Published in the volume entitled *Memphis I*,<sup>11</sup> they are now in a number of museum collections including the British Museum and the Victoria and Albert Museum. A recent study of these ceramics provides a main date range of the 4th-7th centuries AD, although there are a few outliers, and it has been suggested that they are probably associated with the monastic communities that occupied the area.<sup>12</sup> Also among the metalwork were some small ceremonial loop crosses,<sup>13</sup> which provide supporting evidence for the religious character of the site. It, therefore, seems possible to conjecture that the tunic was also recovered from the same general location with its label conveying Petrie's opinion of its date.<sup>14</sup>

## THE TUNIC

The tunic is made from a single, rectangular piece of linen cloth measuring approximately 180 cm in length and 111 cm in width (FIGS 4A-B). The linen yarn, which still retains its sheen, is all S-spun. However, it varies in thickness, ranging from approximately 0.7 to 1.2 mm in diameter, and the resulting tunic is very heavy. The cloth is woven in warp-faced tabby with 16 warp ends per cm and 5-6 weft picks per cm (FIG. 5), and the selvages are unreinforced. A series of selfbands were inserted during the weaving to indicate the position of certain features when constructing the tunic. Three selfbands marked each side of the neck opening at the front and back and a pair of discontinuous selfbands marked the foldline forming one side of the tunic. In addition a row of discontinuous weft twining or soumak worked in Z-ply thread was woven next to the selfbands at the front and back. However, the rows are not identically positioned, as the soumak is five picks to the side of the outermost selfband in one instance, whereas the other rows are woven

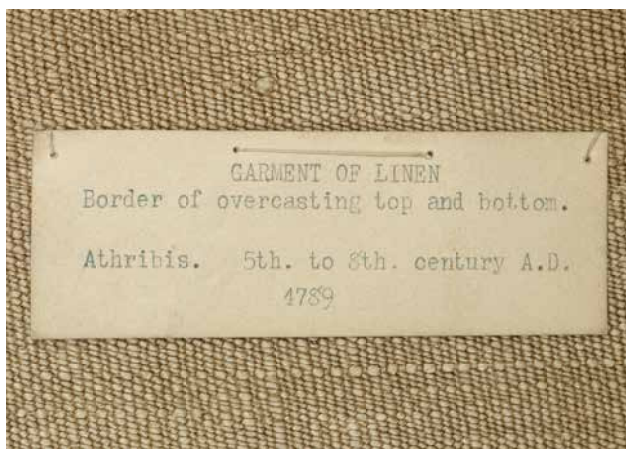


FIG. 3A



FIG. 3B

FIG. 3  
A. Label stitched to the tunic.  
B. Original accession number  
written in black ink on the  
tunic.

© The Whitworth, The University,  
photo Michael Pollard.

<sup>8</sup> PETRIE 1908; PETRIE 1909. Rather confusingly, finds from the Sohag sites are illustrated in the latter volume.

<sup>9</sup> The tunic was transferred from Manchester Museum to the Whitworth in 1968. It now has the accession number T.2020.5.

<sup>10</sup> I am grateful to Campbell Price, Curator of Egypt and Sudan, Manchester Museum for this information. The amphora is catalogued and illustrated in EL-SAYED/LAKOMY 2017, 58-59, fig. 37 and pls. XXXII-XXXIII.

<sup>11</sup> PETRIE 1909, 15, pl. LII.

<sup>12</sup> EL-SAYED/LAKOMY 2017, 16-17.

<sup>13</sup> PETRIE 1909, pl. LI, nos. 4 and 16.

<sup>14</sup> More recent excavations in this area and related research on the finds may help to clarify this matter, EL-SAYED 2020, 46.

FIG. 4

Diagram of the sleeveless tunic made from a single loompiece. A. Cloth as woven. B. Tunic showing how it would have looked when worn normally, i.e. not inside out.

© Christina Unwin.



FIG. 4A

immediately between two self-bands (FIG. 6A). The soumak is worked for 9 cm in an S-direction spanning mainly 5 to 7 warp ends. A short loop is woven into the web of the cloth before the weft wrapping starts. Traces of red pigment are just visible on one face marking the outer position of a row of soumak (FIG. 6B).

To create the tunic, the cloth was turned 90° so that the weft runs vertically. The fabric was then folded in half with the foldline being indicated by a selfband. The four other groups of self-bands were more or less aligned at the front and back for the neck opening to be made (FIG. 6A). One selvedge formed the neckline, and the opening, 29 cm in width, was finished by overcasting it with a Z-cabled cord (FIG. 7).

The seam along the top of the shoulder was formed by overlapping the two selvages and then stitching them with two rows of slip stitches, one row along the inside edge and the other along the outside edge. On one shoulder the back overlaps the front and on the other the overlap is reversed (FIGS 7-8). By contrast with tunics of a similar style found elsewhere, which will be referred to later, the shoulder seam is more or less horizontal with only a narrow seam allowance.

<sup>15</sup> Similar stitching used for reinforcement on armholes can be observed on wool tunics, e.g. PRITCHARD 2006, 102.

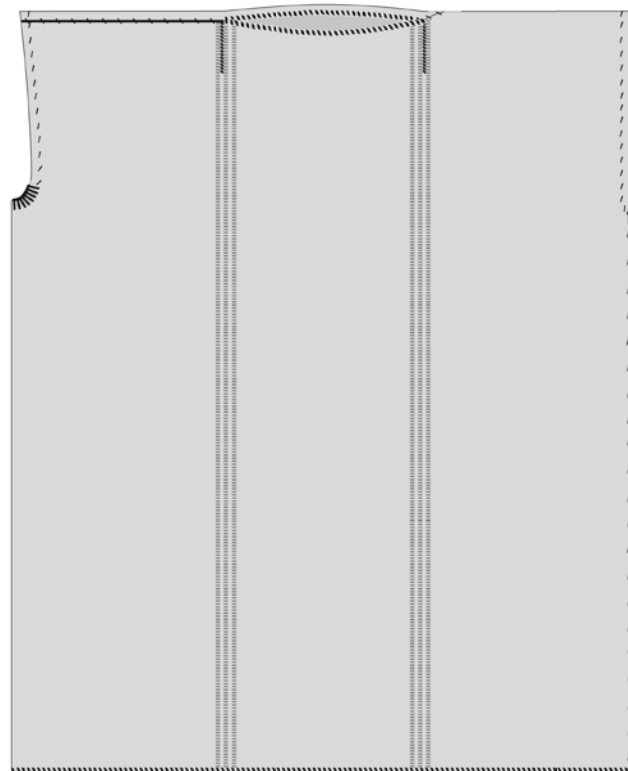


FIG. 4B

The construction of both armholes was also carefully planned. They differ from one another as one is positioned along the folded edge, while the other is formed from the open edge immediately above the side seam. The former's shaping appears to indicate it was cut rather than specially woven with an arm opening. The edge was then double-folded and hemmed (FIG. 8). At the top of the armhole the hemmed edge was secured under the shoulder seam, indicating that the armhole was stitched before the shoulder seam. At the bottom, the edge of the armhole was strengthened with a series of blanket-type stitches worked in Z-ply thread (FIG. 9).<sup>15</sup>

The second armhole has a similar double-folded, hemmed edge (FIG. 10). It is strengthened at its lower edge with Z-ply thread that is inserted three times to form a ring (FIG. 11). The side seam itself is a type of run-and-fell seam formed by stitching the two edges together with large running stitches, 10 to 13 mm in length, then double-folding the cloth and hem stitching it resulting in a seam 10 mm wide.

The selvedge forming the bottom of the tunic was finished by adding a Z-cabled cord, which matches that at the neck opening (FIG. 12).





FIG. 5

All these details, especially the positioning of the selfbands in the weave and the stitching reinforcing the lower part of the armholes demonstrate how carefully the tunic was designed. It shows no signs of wear or staining from body fluids.<sup>16</sup> Thus it seems not to have been used in a burial although it has been suggested by Béatrice Huber that similar tunics were made for this purpose.<sup>17</sup> A question remains as to which is the right side of the tunic as the way it is now shown, which is presumably how it was recovered from the site,<sup>18</sup> is almost certainly inside out; therefore, this may represent a similar ritual to that recorded from some burials in Egypt that can be traced back many centuries.<sup>19</sup>

FIG. 5  
Detail showing the weave (with the warp vertical) at high magnification.

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FIG. 6A

FIG. 6A  
Detail showing aligned rows of soumak at the neckline.

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FIG. 6B

FIG. 6B  
Detail showing a row of soumak with a looped thread at one end where it was inserted into the ground weave and traces of red pigment close to the neck opening.

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FIG. 7

FIG. 7  
Detail of neckline and shoulder seam showing selvage, Z-cabled neck cord and self-band with row of soumak.

© The Whitworth, The University of Manchester, photo F. Pritchard.

## COMPARATIVE MATERIAL

There are few examples of similar tunics excavated in Egypt. Six examples of sleeveless linen tunics with shoulder seams and rows of stitched patterning, woven in warp-faced tabby were recorded in a very fragmentary condition from a Christian cemetery at Deir el-Qarabin where five were recycled as padding in a head superstructure and another as a wrapping fabric in a male burial that has been radiocarbon-dated to AD 380-560 (95.4% probability).<sup>20</sup> None of the tunics were new, and they had been extensively darned and repaired to such an extent that they were little more than rags, but the original quality of the cloth appears

<sup>16</sup> The staining on one corner of the tunic was caused by a flood in the stores at the Manchester Museum.

<sup>17</sup> HUBER 2013, 21.

<sup>18</sup> The tunic remains as it was received by Manchester Museum.

<sup>19</sup> HALL 1986, 27.

<sup>20</sup> HUBER 2007.

FIG. 8

Detail showing shoulder seam and hemmed armhole.

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FIG. 8

FIG. 9

Detail of armhole with stitched reinforcement and selfband marking the foldline on one side of the tunic.

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FIG. 9

FIG. 10

Detail of opposing armhole showing hem stitches.

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FIG. 10

FIG. 11

Detail of armhole with stitched reinforcement immediately below the armhole and part of side seam.

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FIG. 11

FIG. 12

Detail of a bottom corner of the tunic showing stitched side seam and Z-cabled cord.

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FIG. 12

to have been very similar to the one described here.<sup>21</sup> They were made in two sizes: a small tunic 72 cm wide and 90 cm in height was considered to have been made for a child, and the others with an estimated width of 90 cm across the shoulders, which is similar to the tunic from Athribis, were made for adults.<sup>22</sup>

At Qarara, also in Middle Egypt, at least four sleeveless linen tunics of a very similar style were recorded from Christian burials dating to the 5th century AD.<sup>23</sup> However, in this cemetery the tunics, which were made from cloth seamed along both sides as at Deir el-Qarabin,<sup>24</sup> were folded and placed over naked bodies in both male and female graves.

## CONCLUSION

The tunic from Athribis with its corded openings at top and bottom is a more sophisticated version of the sleeveless tunics recorded from Deir el-Qarabin and Qarara. Also, as the tunic is preserved in its complete state, it can be demonstrated to have been made from a single loompiece rather than being seamed along both sides from two matching pieces of cloth. The finished dimensions suggest that it would have fitted an adult reaching to the knees or calves, depending on the person's height.

The good condition of the tunic indicates that it would probably have been made in a local workshop. That weaving and cloth processing took place nearby is borne out by a pile of weaving waste and the impressive dye-working complex that Petrie excavated close to the temple of Ptolemy XII, which more recent excavations have indicated was established in the 5th century AD rather than in the Ptolemaic period.<sup>25</sup> Whether the tunic was initially destined for funerary use is uncertain, particularly as the ragged tunics recovered from Deir el-Qarabin had undoubtedly been worn before burial. Alternatively, it may have been intended as a form of religious offering, which is perhaps why it was turned inside out. That it possessed a link with the monastic lifestyle around the 5th century is probable, but the uncertainty regarding its actual findspot means that the tunic still remains a rather enigmatic garment.

<sup>21</sup> HUBER 2007, 53 and 66, table 2.

<sup>22</sup> HUBER 2007, 55.

<sup>23</sup> HUBER 2013, 21.

<sup>24</sup> HUBER 2013, 16, fig. 4; HUBER 2007, 53.

<sup>25</sup> PETRIE 1908, 11; EL-SAYED 2017, 54-55; EL-SAYED 2020, 38-39, figs 9 and 10, 46.

# Early Medieval tunics from Fag el-Gamus: a survey of types in context

Kristin South and Anne Kwaspen

The necropolis of Fag el-Gamus is located on the northeastern edge of Egypt's Fayyum, just south of the ancient city of Philadelphia and very close to an Old Kingdom pyramid built by Sneferu in the mid third millennium BC. Brigham Young University in Provo, Utah, USA, has excavated the site since 1981, focusing mostly on the portions of the necropolis where wrapped and buried human remains<sup>1</sup> were placed directly in the sand in close proximity to each other, as opposed to tombs cut into the cliffs or deep individual pits.

Over 1,200 burials have been unearthed over the course of sixteen seasons of excavation, most with at least some textile remains, and many with complete or nearly complete preservation. Radiocarbon testing prepared in 2011<sup>2</sup> set the likely temporal bounds of the cemetery's use at the 1st through the 7th centuries AD, but further unpublished testing<sup>3</sup> in 2017 and 2021 expanded those dates to show that the cemetery was in use in the Ptolemaic period and at least till the end of the 8th century AD.

Between the surface and one metre down, the burials often occur not singly but in clusters. Anecdotal observation over the years has suggested that topmost layers of burials exhibit more textile remains, a greater variety of ribbons, and more colourful wool, often because of the inclusion of tunics as burial equipment rather than relying solely on purpose-woven linen or repurposed linen sheets.

A previous report surveyed the full range of tunic types found in burials at Fag el-Gamus.<sup>4</sup> The current paper narrows the focus to tunics from the latest period in which this section of the necropolis was in use. The likely range of dates for these tunics was identified through observation of relative order of deposit and through stylistic comparisons to other tunics known to come from this period. Absolute burial depths were of less value than the observation that the burials from which these tunics came were always the most shallow burials in that space, indicating that they were the last ones deposited. In 2021, for instance, a tunic

that was found at a depth of 130 cm was sampled and radiocarbon-dated to the late 7th or 8th century AD.<sup>5</sup> In other sections of the necropolis, a burial of that depth would certainly have derived from several centuries earlier, but here it was the topmost burial and intruded on previous burials at that depth.

## FIND CONTEXTS

### FEG 1984-SW-13

One Early Medieval tunic was found in 1984. Unfortunately, there is little known about its find spot as the documentation for this season is almost entirely missing. It came from the south-west quadrant of the square bounded by the metre markers of 160-170 North and 30-40 East of the datum point, but otherwise no definitive information is available. Photographs show that this burial would have come from the first metre of excavation where the burials were in the shifting sands rather than in defined shafts. The 1984 season suffers from many of the same documentation lapses, as other early seasons, as described below. Although a newly acquired field book includes some data from 1984, it does not include details of the quadrant in which this burial was found.

### FEG 1987-160N-NW-6 AND FEG 1987-SW-7

A single season of excavation in 1987 uncovered over twenty coloured wool tunics, spread between four separate burials, making this season the single largest contributor to the corpus of tunics found at Fag el-Gamus.

The burials in which these tunics were found all varied in important ways from the usual pattern of burial at Fag el-Gamus: in a place and time where nearly every burial was deposited directly into the

<sup>1</sup> Hereafter referred to as "burials" for the sake of simplicity, but their humanity must always be kept in mind.

<sup>2</sup> EVANS/WHITCHURCH/MUHLESTEIN 2015.

<sup>3</sup> Completed at the University of Arizona Accelerator Mass Spectrometry Lab (Arizona, USA) and at Beta Analytic (Florida, USA). Results shared with the authors.

<sup>4</sup> SOUTH/KWASPEN 2020, 487-495.

<sup>5</sup> Tunic FeG 1987-160N-NW-6.1, dated AD 663-773 (probability 95.4%).

FIG. 1  
Two 1987 burials (1987-150N-NW-4 and 1987-150N-NW-5) *in situ*, showing their placement in a large brick enclosure.

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FIG. 2  
1987-SW-7. Note the great depth of the enclosure compared with the surrounding sand. Disarticulated bones and scraps of wood suggest other burials were displaced to create the brick structure.

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FIG. 1

sand, these individuals were all enclosed in rectangular brick structures and covered on top with palm logs and branches (FIG. 1). Despite being deposited at a significant depth (130-170 cm), each was the highest burial in that space (TABLE 1).

There is some evidence that earlier burials may have been displaced in order to accommodate these late burials: at the same depth as the nearby intact 160N-NW-6, several scatterings of bones were found. One set collectively labelled as FeG 160N-NW-31 included jumbled bones, at least two skulls, and no mandibles, at a depth of 130 cm. A child burial (FeG 160N-NW-37) showed a badly crushed skull at a depth of 155 cm (trampled, perhaps, as people dug out space for the new burials). A skull of a child with no accompanying body (FeG 160N-NW-40) was found at 170 cm, and an adult skeleton missing its skull (FeG 160N-NW-43) was located three metres away at the same depth (170 cm). It is plausible that these burials were removed to make room for the Early Medieval burial to be deposited. Additional support for this idea comes from the discovery of a burial above and adjacent to 160N-NW-6 that included parallels from the 4th century.<sup>6</sup>

The stratigraphy of another quadrant, FeG 160N-SW (i.e. the five-metre square directly south of the one previously discussed), also supports the supposition that earlier burials were destroyed to make room for Early Medieval burials. Directly above the fine mud-brick structure that enclosed FeG 1987-SW-7, two sets of disarticulated remains were found (FIG. 2). The field book notes that “a badly disturbed burial – just a skull, part of a pelvic structure...feet bones and two finger bones” were found at the north-west corner of the SW-7

structure. Another set of remains found the next day included a “very disturbed” set of “bones and wood” found near the feet (north-east edge) of the mud-brick structure.<sup>7</sup> The structures, it appears, took precedence over whatever may have previously occupied that space.

For this study, the tunics of two burials from the 1987 season were analysed in detail, one with six tunics worn by the deceased and the other with five tunics, also worn rather than used as wrappings. Two other burials that included multiple tunics (FeG 1987-150N-NW-4 and FeG 1987-150N-NW-5) could not be analysed for this paper because the fragments were too small to make accurate conclusions about stylistic details.

This early season of excavations suffered from serious documentation lapses as described below. However, the order of the layers of tunics could be deduced based on study of the photographs of the season, notes from textile analysis done at the time, and residual colour from surrounding cloth. The two inner layers of the tunics of NW 6 were worn in a traditional fashion with the arms through the sleeves, while the four outer layers

FIG. 2



<sup>6</sup> FeG 1987-160N-NW-29 was 40 cm above and adjacent to the Early Medieval tomb. It contained a nālbinding sock, one of only two in the necropolis. The second one (1992-SW-39), found a mere 20 m away, has been radiocarbon-dated to the early 4th century.  
<sup>7</sup> Unpublished BYU Egypt Excavation Team Field Book 1987A, pp. 90-91, 94-95.

had the arms pushed through the larger underarm openings. The sequence for SW-7 was less well documented. It was possible to ascertain the sequence in which the tunics were worn but not the placement of the arms in them.

#### FEG 2002-NW-12 AND FEG 2002-NW-17

The team opened two quadrants in 2002, completing one in 2002 and finishing the other in 2003. The north-east quadrant of the square 180-190N and 40-50E had been plundered to a depth of about half a metre, with at least 11 separate individuals identified among the disarticulated remains. An additional 27 burials were recorded in that quadrant. The team then moved to the north-west quadrant and excavated 22 burials. The remaining 23 burials in this second quadrant were uncovered in 2003.

From the outset, quadrant 2002-NW showed signs of wealth, with a line of subterranean stone markers of dressed limestone found near the top of the area, followed by a well-wrapped infant burial with coloured wool, and a fine red slip bowl. The next burials continued the pattern with an unusually rich assortment of objects: a leather sandal, a wooden box containing ivory or bone dice, a leather band strung with beads and shells, metal bracelets, rings, and more were found in the burials above FeG 2002-NW-12 and FeG 2002-NW-17.

NW-12 was a non-adult (likely a child of 5-6 years based on the length of 98 cm) buried 77 cm below the surface. Two bracelets on the right arm, earrings, and a hairstyle common to women identified her gender as female. She had several layers of well-preserved wrappings and, unusual but not unknown at this site, two Christian crosses made of copper as part of a necklace. Nearby burial NW-11 also had crosses, in this instance woven into a partly preserved tunic as small roundels at the shoulders and near the hem. NW-12 was found wearing an intermediate-type tunic (FIG. 3).

NW-17 was also buried with an intermediate-type tunic, either worn or wrapped. An unusual aspect of NW-17, noted as it emerged from the ground at a depth of 96 cm, was a reed stick placed vertically where the head would have lain, although the head itself was missing. Burial FeG 2002-NW-16 at a nearby depth also had its head missing, and one disarticulated head was found near both of them but not directly associated with either. Although this indicates post-burial disturbance at the site, the remainder of both burials were intact but were also devoid of the extra goods found in so many of the other burials. NW-17 had a length of 144 cm from the feet to the shoulders, so an additional 20-25 cm should be added to the total length, yielding an adult size for this burial.

Find Spots of Early Medieval Tunics	Depth
2013-NW-92	.52 m
2009-NE-56	.7 m
2002-NW-12	.77 m
2002-NW-17	.96 m
1987-160N-SW-7	1.7 m
1987-160N-NW-6	1.3 m
1987-150N-NW-4	1.55 m
1987-150N-NW-13	1.7 m
1984-SW-13	unknown

NW	30W		20W		10W		0		10E	
200N										
190N										
180N										
170N										
					NW 1987				NW 1992	
160N					SW 1987				SW 1992	SE 1992
						NE 1987	NW 1987			
150N									SE 1994	
						NE 1981				

TABLE 1  
Depths of the burials containing Early Medieval tunics.

FIG. 3  
Intermediate-type tunic  
2002-NW-12 as it was worn  
on the body.  
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FIG. 3

#### FEG 2009-NE-56

Excavations in 2009 focused on the north-east (NE) quadrant of the square 190-200 North and 30-40 East. Sixty-seven burials emerged from this five-by-five metre square. Burial FeG 2009-NE-56 was the topmost of five burials clustered together in the soft sand at depths ranging from 70 to 113 cm below the surface.

NE-56 was a small child, based on a length of 80 cm, not counting the head, which was missing. The other four burials in this cluster included an adult (170 cm) at the bottom, a non-adult (113 cm) directly above, and this burial, NE-56, directly on top of that one. The other two very small children (lengths 61 cm and 55 cm) were placed to their sides. According to the field book, NE-56 was wrapped with yellow wool and tied with vegetable fibre rope in a mostly horizontal pattern of bands. The vertical-warp tunic discussed below was the only one of its kind in this cluster, but other woven-to-shape burials did include at least one tunic and purple tapestry decorations.

#### FEG 2013-NW-92.5

The north-west quadrant of 130-140 North and 20-30 West, excavated in 2013, was one of the most remote sections of the necropolis relative to other excavations. FeG 2013-NW-92 was the burial of a child, aged 18-24 months based on dental eruption. It was found at a

depth of 53 cm. As is common among the later burials on site, this child was found as part of a cluster, in this case composed of one adult and three children.

The burial was well preserved and held together by vegetable-fibre rope. It included a face bundle made from a folded tunic but no foot bundle, and two palm ribs laid along the sides of the spinal column. The sex of a child of that age cannot be determined by osteology, but the presence of a necklace and two bracelets indicate a likely assigned gender as female. Good preservation of skin, brain, nails, and tongue, along with particulate matter like bitumen suggests that there was some amount of mummification.

An intermediate-type tunic formed part of the wrappings. The face bundle from this burial was preserved in its original condition until the 2021 season. When opened, it was found to be composed of a second tunic, as expected, but it also included a separate decorative hood with embroidery similar to the face-bundle tunic and the one on the body. The tunic in the face bundle, although better preserved today, endured significantly more wear and repairs in ancient times than the other.

## CHALLENGES

Studying the finds from the early seasons is hampered by a lack of complete and accurate records. There are a number of reasons for this, ranging from less modern and consistent methods of excavation and documentation in the early days of the excavation to problems with personnel, including untimely deaths and sudden job changes. The early inconsistency and the loss of some records has created significant problems for piecing together a full picture of these seasons.

Although a solid attempt was made to record the finds photographically, many of the pre-digital pictures suffered from serious overexposure or from problems during the process of development, making it difficult and at times impossible to make out the location data. Additionally, numbers were written in narrow ballpoint ink, so even slight overexposure washed out essential information. Scanned copies of those photos do not show the original dates on which they were taken, making it even harder to know which photo to associate with which burial. In such situations, researchers have had to rely on context gleaned from other photos and from descriptions in the field books.

Burial Number	Tunics	Depth (m)	Brick structure	Palms, branches over?	Darning?	Gender Sex
1987-150N-NW-4	7	1.55	yes	yes	none	female / unknown
1987-150N-NW-5	2+	-1.55	yes	yes	none	unknown
1987-150N-NW-13**	1+?	1.7	yes	yes	none	unknown
1987-160N-NW-6	6	1.3	yes	yes	none	female / unknown
1987-SW-7	5	1.7	yes	yes	small	female / unknown

\*Depth not recorded but found directly next to NW-4 \*\*Same context as the other four but no tunics found

FIG. 4  
The six wool tunics of 1987-  
NW-6.  
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TABLE 2  
Context for the unusually rich 1987 burials.

FIG. 4



## THE EARLY MEDIEVAL TUNICS

Three types of tunics from the Early Medieval period have been found at Fag el-Gamus: tunics with horizontal warp in the made-up tunic, often published as woven-to-shape tunics and already in use since the Roman period in Egypt; tunics with vertical warp in the made-up tunics, a new type of tunic mainly dating from after the Arab conquest; and an exceptional intermediate type of tunic with a mixture of features from both aforementioned types.

### TUNICS WITH HORIZONTAL WARP IN THE MADE-UP TUNIC

The majority of the tunics excavated at Fag el-Gamus are wool tunics of the woven-to-shape type with sleeves. This article describes the coloured-wool tunics found in two 1987 burials, FeG 1987-NW-6 and FeG 1987-SW-7. These two burials were chosen because the fragments of these tunics are kept in the storerooms of Brigham Young University in Provo. This allowed radiocarbon dating of one of the fragments, which made it possible to establish with certainty that these tunics date from after the Arab conquest,<sup>8</sup> rather than dating the tunics from features only. In addition, as the deceased in both burials wore several similar wool tunics, and no linen tunics, it was possible to study these tunics as a group. All the tunics have been preserved in fragments, so the overall appearance and exact measurements are lost, but for most of them, the fragments give a good idea of the style of the tunic.

In burial FeG 1987-NW-6, the deceased was buried dressed in six wool tunics with a coloured ground weave (FIG. 4) and in burial FeG 1987-SW-7 the deceased also wore multiple coloured tunics, four of which were of the woven-to-shape type (FIG. 5) and one of the vertical-warp type described in paragraph 4.2.

Although all these wool tunics are fragmentary and not all features of every tunic are preserved, two styles of tunics can be distinguished with a high degree of probability: first, those with woven-in purple *clavi* and sleeve bands, with or without white stripes between the side edge and *clavus*, and second, a simpler style of coloured tunic, with only white stripes near the side edges. Both styles of tunic are known from similar tunics in the collections of The Whitworth Art Gallery,<sup>9</sup> the Victoria and Albert Museum (V&A)<sup>10</sup> and the British Museum.<sup>11</sup> A provenance of Lahun is known for The Whitworth and V&A tunics. The cemetery of Lahun is also located in the Fayyum, and the dating of one tunic from The Whitworth<sup>12</sup> closely matches that of the tunic from Fag el-Gamus. This may indicate that these styles of coloured tunics may be regionally specific.

The ground weave of the tunics from Fag el-Gamus is woven with both warp and weft dyed in the same

colour. Interestingly, all these tunics have (where they have survived) a starting border that is made in the same way for all the tunics, i.e. first a countered-weft twining, followed by a single-weft twining (FIG. 6A). The same is the case for the finishing border, which is also the same for all the tunics from both burials. The weaving ends with four rows of single weft twining, after which the warp ends are incorporated into this border on the reverse side of the weave (FIG. 6B). As this specific finishing border differs from the most common finishing border where the warp ends are worked into a twined cord, and also slightly differ from the tunics from Lahun, it can be concluded that all these tunics were most likely made in the same workshop.

Most of the tunics have white wool stripes woven in between the side edges and the *clavi*, and one tunic has a fragment of a sleeve with white stripes near the hem. However, there is a clear difference in the formation of the white stripes in each burial. In the case of NW-6, the tunics have five white stripes, the first of which is woven immediately at the starting border with the stripes close together. The first white stripe ends at the sleeve insert, while the other stripes run from hem to hem across the shoulders. The tunics of SW-7 have only three stripes, the first of which is woven 5-6 cm from the starting border, with the third woven almost directly against the *clavus*. These white stripes are thus woven further apart, each time from hem to hem.

The outer tunic of NW-6 and three tunics of SW-7 have woven-in *clavi* and sleeve bands with purple wool as the background colour and a delicate abstracted plant motif woven in linen in tapestry technique, complemented by *soumak* and flying thread brocading. The yellow outer tunic of NW-6 is exceptional at the sleeves. At the wrist, where trimmings are often sewn on to finish the hem, this tunic has a second tapestry band woven in with a red wool background. On the inside of the sleeve is a green facing sewn of the same width as the tapestry band (FIGS 6C-D).

The tunics from NW-6 with a preserved tuck all have a tuck at the same height, 32-33 cm from the shoulder line. Even though the full length of these tunics is not known, it is clear that the distance from the tuck to the hem of the tunic must have been longer, probably indicating that the deceased was a woman.

The neck area of the tunics from NW-6 is not well preserved; only a small fragment of the neck opening of the outermost tunic remains. This shows a semi-circular shape and a slit. In the case of the tunics from SW-7, the neck openings have been well preserved and show a circular opening with slits on both shoulders. Again, this is the same type of neck opening as seen in the Lahun tunics. There are two ways in which these cutouts are finished: either the edge is folded outwards and the opening is finished with a trimming, or the edges are folded inwards and the opening is finished

<sup>8</sup> Radiocarbon dating of tunic FeG 1987-NW-6.1: AD 663-773 (95.4% probability).

<sup>9</sup> The Whitworth, green tunic inv. T 8359 and blue tunic inv. T 8360 with purple *clavi*; and red tunic inv. T 8361 with only fine woven-in white stripes instead of *clavi*, see PRITCHARD 2006, 83-91.

<sup>10</sup> V&A, green tunic inv. 409-1890 with purple *clavi*, see KENDRICK 1921, 23.

<sup>11</sup> British Museum, tunic inv. EA 72493, see KWASPEN/VERHECKEN-LAMMENS 2015, 155-156.

<sup>12</sup> The Whitworth, tunic inv. T 8359: AD 650-770 (95.4% probability).



FIG. 5



with a wool facing woven in a contrasting colour to the ground weave (FIG. 6E). These facings are sewn at the edges with overcast stitches, with several rows of running stitches in between, creating a kind of decoration on the right side of the tunic. On some tunics, the edge of the neck opening is also finished with Egyptian reinforcement stitches<sup>13</sup> (FIG. 7) or sewn-on cords.

The hem of the tunic was finished in one of three ways. First, with a supplementary weft brocaded band applied at the selvedge. A second variation is that the hem of the tunic is folded outwards for a few centimetres and the supplementary weft brocaded band is sewn over this. With the third finish, a facing is sewn inside, again using a plain woven tabby or twill band

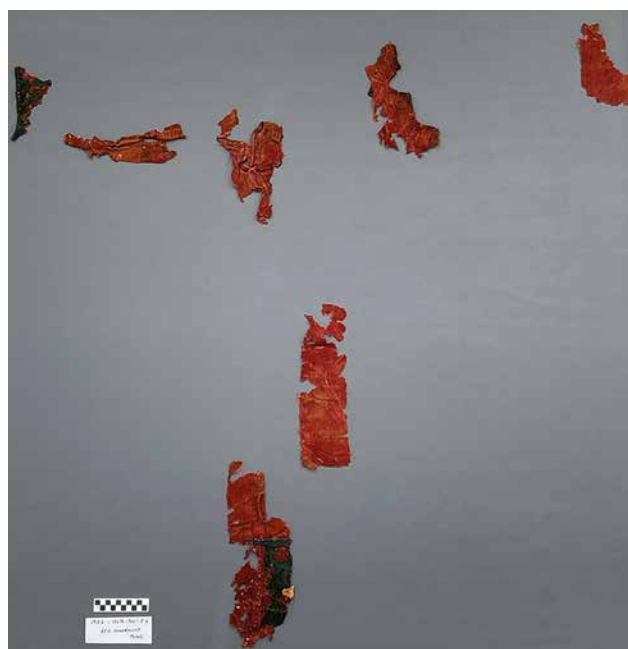


FIG. 5  
Woven-to-shape tunics of  
1987-SW-7.

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FIG. 6  
Details of coloured-wool  
tunics.

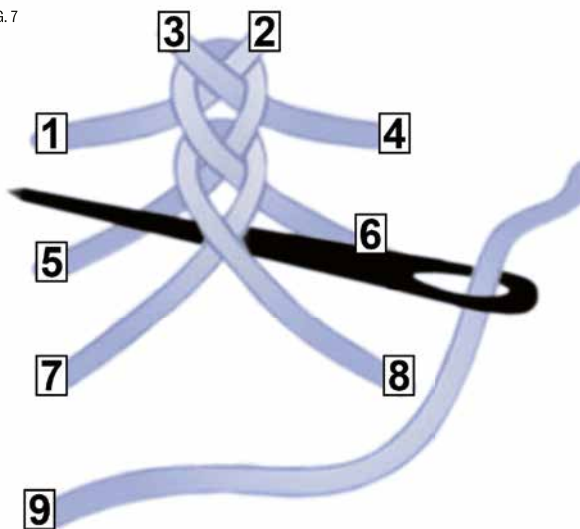
A. Starting border of tunic  
1987-NW-6.1.  
B. Reverse side of finishing  
border of tunic 1987-NW-6.1.  
C. Tapestry border near the  
hem of the sleeve of tunic  
1987-NW-6.1.  
D. Green facing inside the  
sleeve of tunic 1987-NW-6.1.  
E. Neck opening of tunic 1987-  
SW-7.4 finished with blue  
wool facing.  
F. Facing to finish the  
underarm opening of tunic  
1987-NW-6.5.

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FIG. 7  
Egyptian Vandyke stitch.

© Drawing Anne Kwaspen.

FIG. 7



<sup>13</sup> This stitch is based on the principle of the embroidery stitch known as the Van Dyke stitch, after the 17th century painter Antony Van Dijck. Because of its anachronism, and because in tunics the stitch is applied to the edge of the cloth rather than to the woven structure, the authors introduce a new term to describe this very typical stitch on both the neck openings and the vents of Early Medieval Egyptian tunics. (<https://rsnstitchbank.org/stitch/vandyke-stitch>.)

FIG. 6



A



B



C



D



E



F

in a contrasting colour to the ground weave. The rows of running stitches, together with the facing, make the hem stiffer and heavier. Remarkably, there is no correlation between tunics with facing as a neck opening finishing and facing as a hem finishing.

Finally, all tunics have a facing sewn to the inside of the underarm opening. The wool bands used for this are clearly leftovers or reused fabrics, as can be seen from the direction of the warp threads. This thread direction is sometimes in the long direction of the band and sometimes in the short direction (FIG. 6F).

### TUNICS WITH VERTICAL WARP IN THE MADE-UP TUNIC

So far, only three tunics with vertical warp have been excavated from the cemetery of Fag el-Gamus (FIG. 8). They are all wool tunics, two of which, exceptionally, belong to adults. Adult tunics with vertical warp are very rare in museum collections. The Musée du Louvre has two sleeveless linen tunics of the so-called Thaias mummy,<sup>14</sup> the Allard Pierson Museum has a sleeveless red wool tunic<sup>15</sup> and the Penn Museum has a similar blue tunic.<sup>16</sup> The three tunics of Fag el-Gamus are also sleeveless, although each is of a different style.

FeG 1987-SW-7.3 is a tunic found as the third layer worn by the deceased, of which the other four woven tunics are described in the paragraph before, page 25 ff. Only three small fragments are preserved, two from the neck opening and one from the arm opening. The ground fabric of this tunic was made of blue wool. The neck opening is cut in the same shape as the openings of the other four tunics in this burial: circular with slits on either side. The opening is finished with an applied supplementary weft brocaded band on a red wool ground. The arm opening is also finished with the same trimming, with the selvedge of the cloth folded outwards first. From the trimming of the arm opening onwards, the same band of supplementary weft brocading runs across the shoulder. Nothing has been preserved of the side seams, making it impossible to determine whether the sides were straight or cut to shape. The hem is also missing.

The second adult tunic, FeG 1984-SW-13, is monochrome, made of undyed wool. With the height of this tunic at 108 cm and the shoulder width at 85 cm, these measurements are similar to the size of one of the linen tunics from the Thaias mummy.<sup>17</sup> This wool tunic with vertical warp is one of the many tunics found at Fag el-Gamus with a huge amount of darning. The neck opening is a cut slit and the edges are rolled towards the inside, resulting in an oval-shaped opening. Over the edge of the opening, the typical Egyptian reinforcement stitch (FIG. 7) is used to finish the corners.

<sup>14</sup> Musée du Louvre, tunics inv. E 31975 and E31976, BÉNAZETH 2006, 69-83; CORTOPASSI 2006, 67-80.

<sup>15</sup> Allard Pierson Museum, tunic inv. 16388, KWASPEN 2019, 234-245.

<sup>16</sup> Penn Museum, tunic inv. E16804, PRITCHARD 2006, 47.

<sup>17</sup> Musée du Louvre, tunic inv. E 31975: Length of tunic: 113 cm; shoulder width of tunic: 87 cm, KWASPEN 2024, unpublished PhD dissertation.



FIG. 8  
Vertical-warp tunics.  
A. Tunic 1987-SW-7.3.  
B. Tunic 1984-SW-13.  
C. Tunic 2009-NE-56.5.  
© BYU Egypt Excavation Project.

FIG. 9  
Detail of tunic 2009-NE-56.5  
with fake side gore.  
© BYU Egypt Excavation Project.



FIG. 8

B



C

The side seam is cut to shape, creating a kind of short sleeves, and the sides flare downwards. This is enhanced by the additional sewn-on side gores.

The small children's tunic FeG 2009-NE-56.5 is also woven with undyed wool. The selvages of the fabric are visible at the arm openings and at the side vent. The sides are also cut to shape. The neck opening is not preserved except for a small detail where the Egyptian reinforcement stitch appears, here in blue wool. This tunic appears on first observation to have sewn-on side gores, but on closer observation, this triangular form is created by a pleat in the fabric, which is held and finished with embroidery stitches in red and blue wool (FIG. 9). Fake gores can be found in other tunics in several museum collections.<sup>18</sup>

<sup>18</sup> Other wool tunics with fake side gores: Vienna, Museum für Angewandte Kunst, tunic inv. T 9761 and Paris, Musée du Louvre, tunic inv. E 26215; linen tunics with fake side gores: Berlin, Skulpturensammlung und Museum für Byzantinische Kunst, tunics inv. 188/2016, 4/2010 and 4/2013. KWASPEN 2024, unpublished PhD dissertation.



FIG. 9

### INTERMEDIATE-TYPE TUNIC

The term “intermediate type” is introduced here to describe tunics that include features of both woven-to-shape sleeveless horizontal-warp tunics and vertical-warp sleeveless tunics. In order for the nature of the intermediate type to be clear, it is first necessary to establish the main features of both types.

Typically a woven-to-shape sleeveless tunic with horizontal warp has starting and/or finishing borders at the sides, with the sides closed straight by lapped seams. The neck opening is a woven-in slit with reinforced selvages and weft twining near the corners. The tunics are embellished with full length *clavi*.

Sleeveless tunics with vertical warp have their selvages at the sides of the tunic, which is often visible on the arm openings and side vents. The sides can be closed straight or can be cut to shape and are generally

closed with run-and-fell seams. The neck opening is always cut. Most of the tunics with vertical warp have no other embellishments than the coloured embroidery stitches used to close the seams and hems and trimmings to finish the neck and arm openings.

Three tunics from Fag el-Gamus, FeG 2002-NW-12 (FIG. 10A), FeG 2002-NW-17 (FIG. 10B), and FeG 2013-NW-92.5 (FIG. 11A), combine aspects of both of these styles, having weaving features from the horizontal-warp woven-to-shape tunic but the shape and seam finishing of tunics with vertical warp. The intermediate-type tunics are woven in the tradition of sleeveless tunics with horizontal warp in the made-up tunic. This means that the hems of the tunics are the selvages of the cloth. In two tunics, NW-92.5 and NW-12, these selvages are preserved. Together with the fact that these tunics have a woven-in neck slit, this is a strong indication that these tunics were piece-woven like the woven-to-shape tunics. However, the authors argue that these tunics were not first created as woven-to-shape tunics and then reworked into a new type, but that these tunics were woven specifically to be shaped as an intermediate type. The main arguments for this are the lack of full-length *clavi*, the absence of starting and/or finishing borders, and the lack of markings from a previous waist tuck.

The three tunics are woven of undyed wool, the surface of NW-12 being brushed on both sides. All the tunics have a fairly dense weave of 33 to 40 cm. The neckline of the tunics is woven in with reinforced selvages. Two tunics, NW-12 and NW-92.5, have an unusual brown-purple wool border woven around the neck slit. The transition to the undyed wool of the ground weave was made in dovetailing, so there was no slit between the two colours. The corners of the neck slit in these two tunics are reinforced with counter-weft twining in the same brown-purple colour. These twinings thus form part of the decoration of the tunic. NW-17 was also woven in counter-weft twining to reinforce the corners of the neck slit, but these are woven in undyed wool and are, therefore, not part of the decoration. A first typical feature of vertical-warp tunics is that the corners of the neck slits are also finished with the Egyptian reinforcement stitches (FIG. 7). It is mainly the finish of the side seams that gives these tunics the distinctive shape of vertical-warp tunics. The arm openings are in a vertical line and from there the sides are cut to shape, with a slight curve at the top and then a slanted line towards the bottom of the tunic, giving the tunic the typical flared shape. The sides are closed with the run-and-fell seam, again typical of vertical warp tunics. Both tunics excavated in 2002 have a vent at the bottom of the side seams, whereas this part of the tunic is missing from NW-92.5. As with the arm openings, the vents are finished with a rolled hem and also have the Egyptian reinforcement stitches in the corners.

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### DESIGNER

Marcel Lennartz

### PRINTER

die Keure, Bruges, Belgium

### BINDER

Sepeli, Evergem, Belgium

ISBN 978 94 6466 673 1

D/2023/11922/56

NUR 452/640

© Hannibal Books, 2023

[www.hannibalbooks.be](http://www.hannibalbooks.be)



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