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CRYPTS 1 AND 2 IN THE NORTHWEST ANNEX OF THE MONASTERY ON KOM H IN DONGOLA: REPORT ON THE EXPLORATION IN 2009

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Abstract: The article presents the exploration of crypts discovered in the mid 1990s in the Northwest Annex of the monastery on Kom H in Dongola but not fully excavated. The present work combined the expertise of archaeologists, anthropologists and textile specialists to examine the preserved burials. Part one, prepared by Włodzimierz Godlewski, concerns the architecture of the crypts. Part two, prepared by archaeologist and anthropologist Robert Mahler, describes the conditions in which the exploration of the two crypts took place. It contains a description of the burials and a reconstruction of the burial sequence. Part three, prepared by textile restorer and specialist Barbara Czaja-Szewczak, concentrates on textiles and clothing accessories that were found in the two burials.

Keywords: Dongola, monastery (HDONG), crypts, archbishop Georgios, burials, textiles, dress accessories, cross, anthropology

MONASTERY ON KOM H: NORTHWEST ANNEX

The Northwest Annex of the monastery on Kom H was extensively explored over a number of years by a Polish archaeological mission (PCMA UW) directed by Stefan Jakobielski. The three crypts found in this complex were opened, tentatively explored (without disturbing the integrity of the burials, there not being an

anthropologist present) and provisionally recorded (Jakobielski 2001; Żurawski 1999: 224–237) [*Fig. 1*]. Exploration and documentation work inside the three crypts situated in the Northwest Annex was resumed in 2009. The annex is generally interpreted as a commemorative chapel of the Dongolan bishops (Godlewski

2006). This season the so-called crypt of archbishop Georgios and the southern of the two crypts in the northern set were explored. The third of the crypts will be explored in subsequent seasons.

The present program called for an anthropological examination of the remains (by anthropologist/archaeologist Robert Mahler), coupled with an examination and lifting of textile remains from the robes and shrouds in which the burials were wrapped (by textile specialist and restorer Barbara Czaja-Szewczak). The investigations recovered a few clothing

accessories and personal objects, such as individual pectoral crosses.

Once Crypt 1, referred to as the burial place of the archbishop Georgios, had been cleared of the burials, restorer Cristobal Calaforra-Rzepka cleaned the plastered walls covered by texts and stabilized the bottom edges of the plaster damaged by humidity. A full documentation of the cleaned texts in Greek and Coptic was carried out subsequently by Adam Łajtar and Jacques van der Vliet (for their report see Łajtar, van der Vliet 2012, in this volume).

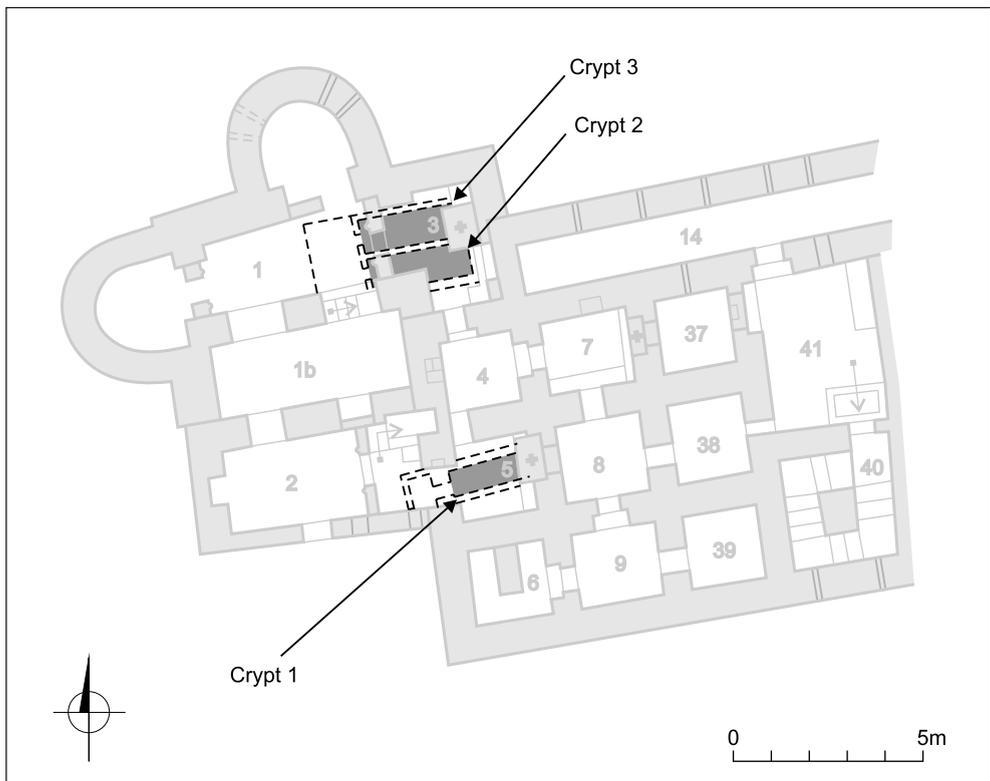


Fig. 1. Plan of the Northwest Annex in the monastery on Kom H with the location of the three crypts (Drawing W. Godlewski, M. Puszarski, updated S. Maślak; after Jakobielski, Scholz 2001)

PART I: CRYPT ARCHITECTURE

CRYPT 1

The southern crypt (designated T.28 in the original reports, Żurawski 1999) was built inside room 5 of Building NW.I (Tower) and in an entrance to it in the western facade of the tower after removing the foundation in this place [Fig. 2]. A deep trench (approximately 1.75 m below the walking level inside and outside the chamber) was cut in the bedrock on which the building is founded. A crypt, built in upper part of red brick, was installed on the rock inside the trench. The west wall of the crypt was 0.40 m wide and was of structural significance. Pierced in it was the rectangular entrance to the chamber, measuring H. 0.56 m and W. 0.35 m, topped by an undressed block of sandstone.

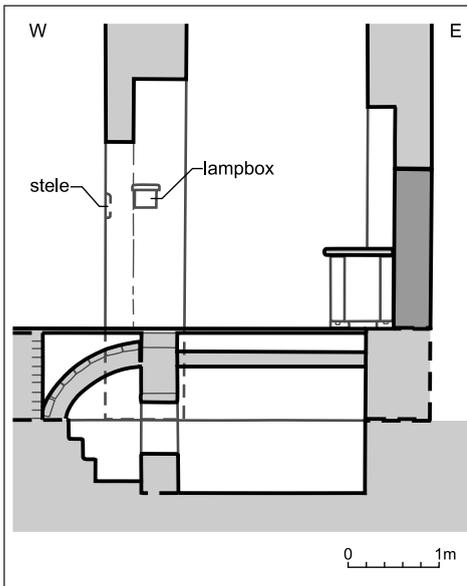


Fig. 2. Crypt 1 in the Northwest Annex of the monastery on Kom H, plan and section (Drawing W. Godlewski, S. Maślak)

The other walls cannot be easily described from the structural point of view because of the fine plaster coat obscuring the faces covered by inscriptions [Figs 4,5], but it is more than likely that they were cut in the rock. The high barrel vault was constructed of red bricks. The springing of the vault was placed most probably on a ledge cut in the rock, which is about 0.80 m above the bottom of the trench cut in the bedrock. The interior was given a fine mud and lime plaster coat, smoothed to a polish and covered with texts in Greek and Coptic. In the lower parts of the chamber the plaster was laid directly on the rock surface, something that can be observed wherever the plaster has been damaged. The chamber measured internally was 2.06 m long, 0.80 m wide and 1.40 m high.

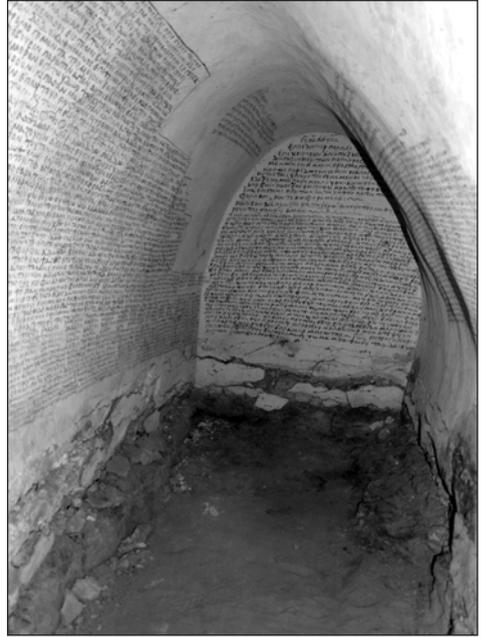
A rectangular shaft on the western side of the crypt, 0.70 m by 0.80 m, was cut in the bedrock [Fig. 3]. Three steps in the west wall of the shaft provided access to the crypt. The sides of the shaft were also plastered with lime plaster. A section of the barrel vault resting against the facade



Fig. 3. Shaft leading to Crypt 1, north wall (Photo W. Godlewski, PCMA archives)

of the crypt was founded on the level of bedrock on the western side of the shaft. The shaft was sealed most probably when it was decided that there would be no more burials in the crypt, most likely together with the last burial made in it. The entrance to the chamber was closed with red bricks bonded in mud mortar.

Exploration of the crypt and an anthropological assessment of the remains found that it contained seven burials, all of men well advanced in age (50 and older). This revised the original assumption of the excavators from the mid 1990s that there were five “mummies” interred in the chamber (Żurawski 1999). The present anthropological examination



*Fig. 4. Crypt 1, state after reopening in 2009
(Photo R. Mahler, PCMA archives)*



*Fig. 5. Crypt 1 after removal of the burials and fill
(Photo Ć. Calaforna-Rzepka, PCMA archives)*

(see below, Part II) has not been able to determine, which of the buried individuals should be identified as the archbishop Georgios. Finds inside the crypt included one bowl used as a lamp and five pectoral crosses (see list below).

CRYPT 2

In the northern set of crypts, work in 2009 was undertaken only in the southern of the two burial chambers (designated T.27 in the original reports, Żurawski 1999), leaving the other chamber for the next season. The architecture of the crypt was documented [Fig. 6] once the exploration

of the burials was completed and after the human remains were taken out for further studies and the textiles found with the burials had been removed for conservation treatment in the field laboratory [Figs 7, 8].

The two crypts (2 and 3) were constructed in the northwestern corner of Building NW.I (Tower) and were subsequently incorporated into the commemorative complex containing also the tomb of archbishop Georgios. The two chambers and shaft were installed in one extensive trench cut into the soft bedrock, measuring 2.43 m by 3.45 m. The shaft, separated from the chambers by a red brick

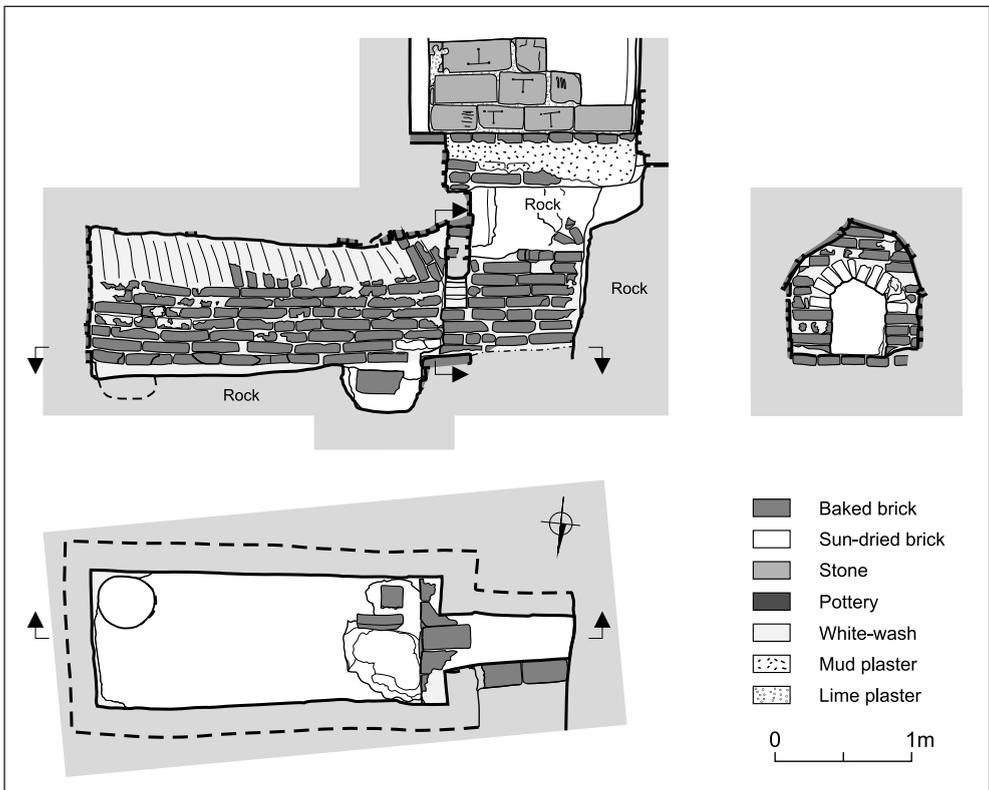
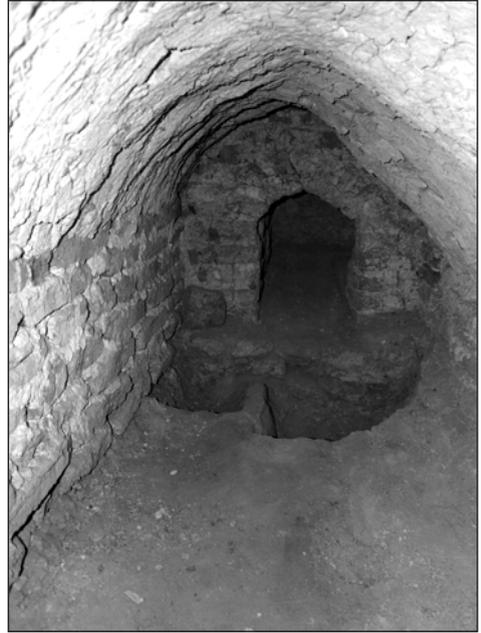


Fig. 6. Crypt 2 in the Northwest Annex of the monastery on Kom H, plan and section (Drawing S. Maślak, PCMA archives)

wall on the eastern side, was rectangular, 2.43 m by 1.28 m, 0.70–0.80 m wide in the lower part and attained a maximum depth of 1.60 m. The long axis was aligned north–south. On the west, in the upper part, there was an offset (step) 0.40 m high and approximately 0.60 m wide. The north and south walls of the shaft were faced with a wall of red brick. In the north wall the bottom course of bricks comprised bricks standing on end (36 cm high); the rest of the courses were horizontal. After the chambers had been constructed, the shaft was most probably divided in half, the two parts leading to the respective chambers. The partition, which was 0.80 m thick,



*Fig. 7. Crypt 2, view toward the entrance, after removal of the burials
(Photo W. Godlewski, PCMA archives)*



*Fig. 8. Crypt 2, state after opening of the crypt in 2009
(Photo W. Godlewski, PCMA archives)*

consisted of a core of rubble faced with walls of red brick on both sides, standing flush with the sides of the entrances to the chambers. Only the lower part of this construction has been preserved (the upper part may have been removed during the earlier exploration of the crypts in the mid 1990s). Consequently, the shaft leading to crypt 2 was 0.35 m wide and 0.70 m long. The shaft to the other crypt had the same length but was 0.76 m wide. The walls of the shaft were not plastered.

Crypt 2 measured: L. 2.56 m, W. 0.94–0.98 m, H. 0.94 m. All its walls were built of red brick and the vault of mud brick. The west wall was 0.30 m thick (on a broader foundation measuring 0.45 m). The entrance, which was located in the west wall, was 0.40 m wide and 0.53 m high, crowned with an arch. The interior was not plastered. In the western end of the crypt the vault was slightly higher and structurally quite carelessly finished. The entrance to the crypt was sealed with a sandstone slab.

The anthropological assessment established the presence of seven male burials (the original assessment without exploration set the number of burials at five). Six quillas were found inside the crypt and one in the shaft. There were also five lamps or bowls used as lamps with the burials, a pot with three compartments (two partly preserved), one late local amphora and several personal objects, such as pectoral crosses and a button (for the finds (except the textiles), see the list below).

List of objects found inside the crypts during the exploration in 1994–1995 and 2009

CRYPT 1 (T.28)

Personal objects

1. Cross, wood (HDd.09.002), H. 5.8 cm; W. 4.1 cm; Th. 1.1 cm
2. Cross, wood (HDd.09.003), H. 4.1 cm; W. 2.2 cm; Th. 0.8 cm
3. Cross, stone (HDd.09.004), H. 2.2 cm; W. 1.6 cm; Th. 0.6 cm
4. Cross, glass(?) (HDd.09.006), H. 1.7 cm; W. 1.0 cm; Th. 0.5 cm
5. Leather fragments (HDd.09.011), 3.0 x 2.0 cm and 2.0 x 1.6 cm

Offerings¹

6. Bowl used as a lamp, clay (D.94.100). HM; H. 5.0 cm; Dia. 16.5 cm; monogram inside MI (Żurawski 1999: 222, Fig. 17)
7. Bowl used as a lamp, clay (D.95.023); H. 6.0 cm; Dia. 15.3 cm
8. Lamp, clay (D.95.024); H. 4.9 cm; Dia. 17.3 cm
9. Lamp, clay (D.95.025); H. 3.6 cm; Dia. 8.9 cm, Dia. base 4.4 cm
10. Lamp, clay (D.95.026); H. 3.5 cm; Dia. 10.2 cm, Dia. base 6.8 cm

CRYPT 2 (T.27)

Personal objects

1. Cross, wood (HDd.09.001), H. 5.2 cm; W. 2.7 cm; Th. 0.9 cm
2. Cross, stone (HDd.09.005), H. 2.3 cm; W. 1.6 cm; Th. 0.6 cm
3. Part of an object with loop, iron, copper (HDd.09.008ab), L. +7.5 cm
4. Square button(?), bone (HDd.09.009), 2.3 x 2.0 cm Th. 0.4 cm
5. Cross, fragment, bone (HDd.09.061), H. +1.2 cm; W. +1.5 cm

¹ The authors would like to thank Dr. Bogdan Żurawski for making available his notes and documentation from the explorations in 1995.

Offerings

(see Żurawski 1999: 225, Figs 26–27 and 28)

6. *Qulla*, clay (D.94.019)

7. Bowl used as a lamp, clay (D.95.032)

8. Lamp, clay (D.95.036)

9. Bowl used as lamp, clay (D.95.037)

10. Pot, clay (D.95.038)

11. Bowl used as a lamp (D.95.040)

12. *Qulla*, clay (D.95.042)

13. Amphora, clay, H.48.5 cm (D.95.043)

14. *Qulla*, clay (D.95.044)

15. *Qulla*, clay (D.95.045)

16. *Qulla*, clay (D.95.046)

17. *Qulla*, clay (D.95.048)

[WG]

PART II: EXPLORATION OF THE BURIALS

CRYPT 1

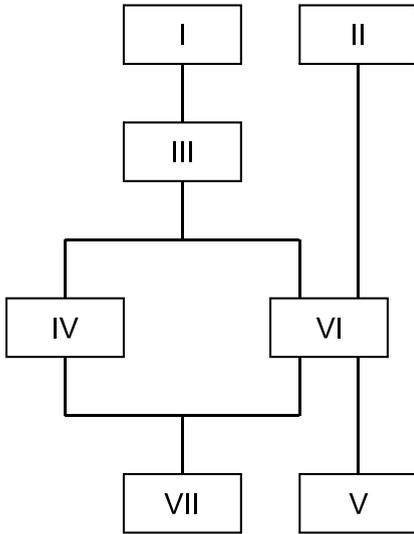
The initial assumption based on earlier documentation that the burials could be removed from the crypt one by one without unwrapping of the shrouds proved impossible owing to the poor state of preservation of the textiles, combined with the less extensive than presumed degree of natural mummification. Moreover, the limited space inside the crypt with only a narrow trench just inside the entrance made work by more than one person at a time impossible. The restricted space and the crowding of bodies excluded exploration of particular individuals one by one. The approach adopted was to explore all of the burials at once proceeding in stages, the first one delimited by the length of the explorer's arms. It was decided that burial V, presumed to be the first one made in the crypt, would be taken out last. This permitted this burial to be cleared in its entirety and documented before any part of it was removed [*Fig. 9*].

Prior to beginning the exploration the number of individuals in the crypt was estimated at five. They were numbered in reverse order to the hypothetical sequence of burial in the communal grave. This sequence had to be revised once a skull of another individual was discovered after

removing the heads and upper bodies of individuals I and III. It was assigned the number VI. Yet another previously unnoted individual was discovered after exploring the upper bodies of individuals II and IV. Its skull, found on the level of the sternum, under the back of individual IV, once the backbone and ribs had been removed, was given the number VII. The final disposition of burials in crypt 1 in terms of their stratigraphic interdependence is shown in the diagram on the next page.

With the exception of individuals II and IV, who were found lying prone, the bodies were all laid out supine, legs toward the east end of the crypt, heads in the direction of the entrance, arms alongside the body. The hands were laid on the pubis with the exception of the right hand of individual V and the left hand of individual VII, which were laid flat on the thigh. The right hand of individual III covered the left, while in the case of individual VI it was the left hand on top of the right. Individual VI was slightly bent at the hips, the upper body leaning away to the north from the grave axis. The bones of all the burials were found in anatomical arrangement with only the small bones of the hands and feet occasionally displaced and mixed across superimposed interments. The legs of

Diagram of burials in crypt 1



individual V were tied at the knees with the ankles crossed, right on top of the left. In all the other cases the legs were together, but not crossed. There were no traces amongst these of any tying of the legs.

Individual II, initially lying most probably over individual III, was pushed aside, which resulted in the body being turned over so that it was face down. Extensive decomposition of the ribcage of the individual III confirms this observation. There was also considerable evidence of later mechanical damages to the back and left side of the body of individual II (there is reason to believe that the state of decomposition when the damage occurred was not much different from the state observed in 2009).



Fig. 9. The chamber of crypt 1 before exploration; individual burials marked with Roman numerals (individuals VI and VII could not be marked in this view) (Photo R. Mahler, PCMA archives)

A large chunk of red brick was found under the head of individual I, resting against the north wall on side and the skull of individual IV below. It was laid there most probably to support the head of individual I, which would have otherwise fallen back into an unnatural position.

Much degraded matting was observed on top of the lowest layer of bodies. It is likely considering the extensive surface covered by the matting that the first layer of bodies was covered with mats to prepare the ground for new burials. No such matting was observed on top of the second layer, but this could be due to the disintegration of the palm fronds of which they were made (see below, part three). It is also possible that later little attention was paid to separating the new burials from bodies already deposited in the crypt.

Individuals VII, V and the facial part of individual IV were stuck in a compact layer that could be the residue of substances being washed out of the lower parts of the walls by water penetrating into the crypt (Żurawski 1999: 224). It could also be the outcome of analogous processes taking place with the decomposing bodies. Finally, it could be that this layer with a characteristic cracking of the dried surface was the result of substances, like sand and mud, being first mixed with water (or another liquid) which later evaporated. The mud and sand could have been introduced before the first inhumation or it could have been sprinkled on top of the first layer of burials in order to level the ground under subsequent burials. Like the matting described above, this action could have been as much for aesthetic as for other reasons. This interpretation is lent credence by the discovery of a layer of pure fine pale yellow sand, 1–2 cm thick,

observed below 5 cm of a dense compact layer.

The lowermost 15 cm of the north and south walls of the crypt had bulged enough due to the humidity to push in the burials resting against the walls. In this way the hips of individual VII, who appears to have been laid directly next to the wall, were dislocated by a dozen centimeters or so toward the center of the crypt. Individual V, lying nearer to the middle of the chamber, but on the south side, appears not to have been moved by this process. A small fragment of red brick was discovered under the pubis of this individual.

Anthropological examination of the bones identified all of the deceased buried in crypt 1 as males aged between 40 and 60 years at death. Further specialized analyses could demonstrate that the age at death may have been significantly underestimated as the skeletons all bear extensive and distinct evidence of chronic diseases of a degenerative nature.

Four crosses were found in the crypt. A small wooden cross (HDd.09.002), was found on the back, just below the neck of individual IV, its finely carved front facing up. It was initially attributed to individual IV, but is now believed to belong to inhumation I [Fig. 10]. The second, also wooden small cross (HDd.09.003) was discovered with body II, the third, of glass (HDd.09.006), came from a disturbed assemblage while the fourth (HDd.09.004), probably of stone, lay by skeleton VII [Fig. 11].

Pieces of leather identified as a pouch were found outside the shroud, in the general vicinity of the left hip on the front of individual VI. A thin leather strap, also in pieces was discovered running from the left hip to the right shoulder and back

to the left hip on the other side, forming apparently a loop with the pouch, to which it was fixed. A scrap of fabric impregnated on one side and bearing an apparent inscription, most probably in Greek, was also recorded in this burial while individual

II was buried together with a small sewn linen bundle with hair inside it.

The garb of the individuals buried inside crypt 1 was modest, comprising mainly linen dress. The bodies were dressed, including some accessories, wrapped in shrouds (for details on the dress textiles and accessories, see part three below, by B. Czaja-Szewczak), and then buried.

CRYPT 2

The inside of the second crypt was more spacious than the first and having no inscriptions on the plastered walls offered no threat of substantial damage by any incautious move on the part of the excavator. Just inside the entrance, crossing the crypt transversely, there was a trench about 0.20–0.30 m deep and 0.40–0.55 m wide, made by the discoverers in the 1990s (Żurawski 1996: 126–127). At about one third of the width of the chamber, counting from the south wall, the trench was crossed by a dividing wall made of a brick set up



Fig. 10. Small wooden pectoral cross (HDd.09.002) and a brick supporting the head of individual I in place (Photo R. Mahler, PCMA archives)



Fig. 11. Pectoral crosses from the crypts: stone (HDd.09.004) and wooden (HDd.09.002) from crypt 1, wooden (HDd.09.001) from crypt 2 (Photos W. Godlewski, PCMA archives)

on edge. This facilitated work by providing a convenient perch for the excavator to sit on, but the actual exploration proved much more difficult than in the case of the burials in 1 because of the secondary disturbance of the bodies.

Due to the poor state of preservation of the textiles, crowding of the bodies, and constrictions of space inside the crypt the same approach to the exploration was adopted as in the case of crypt 1, that is

to say, one excavator working stage by stage, with the presumed first burial in the crypt left to be explored last in its entirety. The remains of seven individuals were found, marked in reverse order to the hypothetical sequence of deposition in the grave [Fig. 12]. The stratigraphic interdependence of the burials, verified in the course of the exploration, is presented in the diagram.

Inspection of the deposit prior to the exploration revealed that the skulls of individuals I, II and IV had been separated from the skeletons and set aside most probably in order to clear the way for the said trench in the front part of the chamber. Moreover, the relative position of the upper body parts of individual II, originally the nearest to the entrance to the crypt, had also been disturbed, presumably by the same trench. The lower parts of the skeleton of individual IV (from the pelvis down) had been separated from the body

Diagram of burials in crypt 2

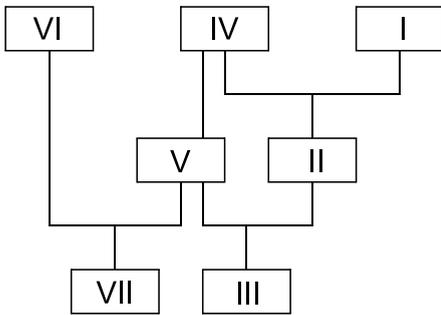


Fig. 12. Chamber of crypt 2 before exploration; individual burials marked with Roman numerals (Photo R. Mabler, PCMA archives)

and moved together with the bones of the forearms and the small bones of the hands toward the north wall of the chamber; they were found there, covered with a pile of clean yellow fine-grained sand, the presence of which inside the chamber is difficult to explain. Perhaps its presence there should be linked to a pottery vessel found standing in the southeastern corner of the chamber and the action of lifting it by the original excavators. Or it could be, with equal likelihood, sand pouring in through a crack in the roof, although no such damage of the chamber vault is detectable at present.

A mandible belonging most likely to individual IV lay by the north wall, to the west of the pile of sand, while the fourth lumbar vertebra of the same individual was found by the shoulders, resting against the south wall. It should be considered therefore that the upper body of individual IV could have also been moved. Despite the scattering of the leg bones, ribs broken *post mortem* and some dislocation of the front bones of the rib cage, the arrangement of the upper body appeared to be anatomically correct.

The bones of individual VI were also found disturbed. The upper body was moved to the side and crammed laterally against the north wall, the left shoulder blade was found in the sand covering the hip area and the small bones of the hands had been commingled with the bones of individual IV. Small bones of the feet of all of the individuals were also subjected to post-depositional movement and mixing, especially those which had been nearest to the pottery vessel originally deposited in the southeastern corner of the chamber. The impression of this vessel could still be seen there. Many small bones of the feet were found commingled inside the

hollow (measuring approximately 42 cm in diameter) and around its circumference. Moreover, a few bones most probably from this spot were discovered at a considerable distance, between the bodies of other individuals buried in the crypt.

All the burials in crypt 2 with the exception of those at the top, were covered by mats. The sole exception to this rule turned out to be individual II; there were no remains or even impressions of matting observed in the case of this burial [Fig. 13].

The bodies had been deposited in alignment with the long axis of the chamber, feet pointing to the east and heads toward the entrance. There had been a tendency for the feet to slide toward the

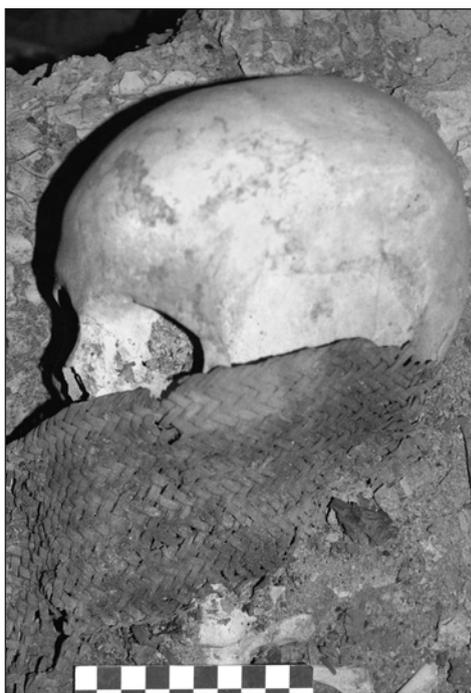


Fig. 13. Fragment of a mat covering the body of individual VII in crypt 2
(Photo R. Mahler, PCMA archives)

middle of the chamber. In the case of the individuals deposited by the south wall, this appears to be a logical consequence of the vessel placed in the southeastern corner of the chamber, but in the case of the burials by the north wall of the crypt there is no similar justification.

Skeleton I was found with the upper body (and thighs) lying supine, legs crossed at the ankles, knees flexed slightly and positioned sideways, resting against the south wall of the chamber. The arms lay alongside the body, the hands resting on the thighs. The body of individual II had been deposited most probably supine, legs straight and together, arms by the sides. It appears to have rolled off the burial under it and came to rest turned slightly to the right side. The other five skeletons lay supine, arms alongside the body, hands on the pubis, as in the case of both hands of individual III, the right hand of individuals V and VII, and the left hand of individual VI, or alongside the thigh, as the left hand of individuals V and VII. The position of the hands of individual IV and the right hand of individual VI could not be determined. The legs of individual III had been crossed at the ankles, left over right, while individuals V and VII had them extended and lying side by side. The leg bones of individual IV were scattered. In the case of individual VI pathological changes of the right femur made a credible evaluation of leg position impossible.

Individuals VII and III were embedded in what appeared to be either mud plaster washed down from the walls (Żurawski 1996: 127) or else a liquid (water?)-hardened bed of clay made for the first burials, as described above in the case of crypt 1. Penetrating into the bones the substance caused the vertebrae and ribs to

be extremely brittle, liable to disintegrate at the slightest touch. Unlike crypt 1, the compacted layer, about 0.10 m thick, seemed to be uniform without the underlying layer of sand.

Despite the utmost care being taken in the retrieval of the bones some intermixing could have occurred owing to the disturbance of the burials prior to the exploration. This concerns in particular the attribution of skulls to skeletons I, II and IV and the small bones of the feet in the case of all the individuals. While these problems were reduced to a minimum by a thorough anthropological analysis, they were not entirely eliminated.

All the individuals buried in crypt 2 proved to be male, aged between 40 and 60 years at death, although as emphasized with regard to the individuals in crypt 1, the age may turn out to be underestimated considering the extensive and distinct evidence of chronic diseases of a degenerative nature.

Two pieces of textiles (HDd.09.048) with decoration consisting partly of golden thread were found on the abdomen of individual I, in the neighborhood of the solar plexus, on top of the shroud wrapping the body. A third fragment of the same robe was discovered on the other side of the crypt, on a pile of sand at mid-length of individual VI. A likely assumption is that it belonged to the dress of the most disturbed burial, that is, most probably individual IV. Generally speaking, the textiles from crypt 2 were in a poorer state of preservation than in the case of those from the first crypt. Another textile found in this burial chamber, beside the fragments with golden thread, were relatively well preserved fragments of a silk shroud with a series of narrow vertical stripes dyed a variety of

bright colors (HDd.09.047). It was used to wrap the body of individual I.

An iron rod with a head made most probably of copper alloy joined by a shank with a U-shaped iron loop (HDd.09.008), was found by the side of the left knee of individual II. Directly next to it there were several dozen fragments of heavily corroded iron. They seem to be the product of corrosion of the rod, which has thus lost most of its substance. A flat wooden button (HDd.09.009) with two perforations was lying on top of the chest of skeleton III, higher than the breast next to the left shoulder. A bone cross (HDd.09.061), partly damaged, was located near the right

forearm of skeleton VI. Also found in the fill were a wooden cross (HDd.09.001) and in the lower level, a cross made of stone (HDd.09.005).

Small fragments, usually no more than 2–3 cm long, of leather belts were discovered on the bodies of the examined burials in both crypts. They are currently believed to be part of a leather strap of a shoulder bag of a type that the monks are known to have used. Remains of such a bag were discovered by the left side, on the abdomen below the ribs of individual VI in crypt 1 (for a detailed examination of the dress and accessories found with the bodies, see below, part three by B. Czaja-Szewczak).

* * *

Adequate protective measures against biological hazards were applied to the exploration carried out inside the crypts. The excavators wore disposable suits with hoods over their clothes to protect against dirt and abrasion. Disposable filtering masks of P2 type (with valves) were used to protect the respiratory tract from inhaling the potentially biologically active dust raised inside the chambers with each movement of the explorers. Elastic safety goggles with tiny ventilation holes were used to protect the eyes, the holes small enough not to allow access for dust in the air. Hands were protected with disposable

latex or vinyl gloves (depending on user preference).

Difficult working conditions: constrictions of space, no suitable access to the explored objects, artificial lighting, dust, poor state of preservation of body tissues, mats and textiles covering the buried individuals, and embedding of the lowermost in a dense layer of mud, made it easy to miss minor archaeological evidence during exploration. With this in mind, the explorers sieved material from the crypts applying a 2 mm mesh. Care was taken to separate when possible the remains associated with individual burials.

[RM]

PART III: TEXTILES AND DRESS ACCESSORIES

Not all of the bodies recovered (for the report, see part II, above) had the robes preserved. As stated earlier, both crypts had been opened already in the mid-1990s, but there was a significant difference in

the state of preservation of the remains. Crypt 1 looked to be undisturbed, except for climatic factors, which must have changed and therefore affected the state of preservation of the textiles, accelerating

processes of decay. In the other crypt (2), the scope of archaeological exploration in the mid-1990s had been much more extensive [see *Figs 3, 7*].

CLIMATIC CONDITIONS IN THE CRYPTS

Measurements of humidity and temperature are an important element of exploration in small spaces without ventilation and with only a small opening allowing very limited exchange of the air inside. Measurements in each of the crypts were taken everyday separately in each of the crypts, for the first time before the work began and then every full hour. Any rapid change of conditions, such as considerable increase in the humidity and temperature could result in spaces as small as the crypts in the immediate multiplication of hitherto inactive microorganisms. It can be exceptionally dangerous to human health as well as to the state of preservation of ancient textiles.

Diurnal fluctuations of humidity and temperature can be presented for example by the measurements taken on 9 February 2009: temperature before work 24°C, humidity 23.9%, respectively after one hour of work by one explorer inside the crypt, 24.6°C and 37%. Should the rise of more than 10% have continued to escalate, it would have made further work inside the crypt extremely difficult, but measurements taken one hour later demonstrated a stabilization of conditions with the temperature rising to 25.5°C, but the humidity falling to 36%. By the next measurement an hour later the temperature had risen to 27°C and the humidity fallen to 34%. This state remained stable in the next few hours. The relative stability of climatic conditions permitted systematic

exploration and documentation inside the crypts without the necessity of removing the textiles in haste.

FINDS FROM CRYPT 1

Textiles and clothing accessories in the first crypt were preserved in very poor condition, having all but disintegrated. Whatever still remained had changed color to dark brown going into black due to the accumulated humidity in a closed space caused by body decomposition as well as the direct effects of the products of decomposition; thread structure had also disintegrated to such an extent that the textiles disintegrated into powder on touch. The different layers of fabric on a body were stuck together and impossible to separate in many cases. The condition of the textiles did not permit any preservation or conservation treatment. After the textile material was documented (written description and photographic documentation), it was stored inside crypt 2, labeled with crypt and burial numbers.

The dress of individuals buried in Crypt 1 consisted of robes characterized by a fairly simple design. Linen predominated. Burial IV had no textiles and no accessories preserved. Burial V produced a small fragment of linen robe of indeterminate shape and function. Burial VII had a small linen bag preserved HDd.09.034, the fabric in plain weave, tied with linen string, found by the legs, a leather belt HDd.09.062 and a leather thong HDd.09.064 with a cross HDd.09.004 suspended on it, as well as a small fragment HDd.09.066 of plain-weave textile, which may have been from a shroud. A glass cross HDd.09.006 was found in part of the disturbed fill. More evident pieces of clothing were preserved in burials I, II, III and VI.

Burial I

1. Fragment of linen shroud (HDd.09.020), plain weave;
2. Fragment of linen shroud tape, HDd.09.022), plain weave;
3. Short linen tunic (HDd.09.043), plain weave, undecorated, small fragment insufficient for determining the shape;
4. Galabiyah type of tunic (HDd.09.021, HDd.09.018) with vertical slit in front, 10 cm down from the neck opening, three-quarter sleeves, triangular inserts under the arms; linen, plain weave; preserved neck opening and sleeves; tunic made of thickly woven linen, trimmed at the neck with ribbon 0.5 cm wide, made of silk, plain weave; stiffening around neck opening with thicker cloth on the underside; straight and running stitching on the tunic;
5. Linen trousers (HDd.09.041), plain weave; short linen tunic stuffed into the trousers; the trouser legs were at least knee-length, the rest has not been preserved; plied linen string in the waistband, which was 4 cm wide;
6. Leather belt (HDd.09.044), 1.2 cm wide; smooth, not decorated;

The burial also contained a wooden cross (HDd.09.002) [see *Fig. 11, 13*].

Burial II

1. Linen shroud (HDd.09.024), plain weave;
2. Linen shroud (HDd.09.060), plain weave, hem stitch;
3. Fragment of linen shroud tape (HDd.09.023), plain weave;
4. Linen tape (HDd.09.058), plain weave, tying the legs together at the knees;
5. Linen bundle (HDd.09.007), containing hair, most probably human, 7.6 cm by 6.5 cm by 4.3 cm, made up of

three layers of linen cloth, on one side the fabric folded like an envelope, the edges tucked under and fastened with buttonhole stitching [*Fig. 14*];

6. Linen trousers (HDd.09.057), plain weave, linen drawstring in waistband 5 cm wide;
7. Linen tape (HDd.09.042), 1.2 cm wide, plain weave, tying the legs together at the knees;

The burial also contained a wooden cross (HDd.09.003).

Burial III

1. Fragments of linen shroud (HDd.09.026), plain weave, sewn together from at least two pieces of fabric basted together with linen thread;
2. Linen shroud tape (HDd.09.025), plain weave;
3. Linen trousers (HDd.09.031), plain weave, braided linen drawstring, 0.7 cm wide, in waistband tunnel, 2 cm wide; trousers sown together with linen thread, buttonhole stitching;
4. Monk's hood (HDd.09.027, HDd.09.028), linen with woolen broché decoration in the form of crosses on the cloth surface, connected by continuous lines and the letters XM with a horizontal dash above them (inscription with the name of Archangel Raphael) [*Fig. 15*];
5. Leather thong from a cross (HDd.09.029), plus a metal element which could have been a clasp;
6. Leather belts (HDd.09.030), each comprising three layers sewn together with leather thong, 2.3 cm wide.

Burial VI

1. Two fragments of linen shroud (HDd.09.010, HDd.09.012,

HDd.09.037), plain weave, impregnated on one side, the impregnation serving as ground for a text written in ink; size impossible to determine from the small pieces;

2. Fragments of linen shroud (HDd.09.036), plain weave, without impregnation; fringed edge, fringes 1.5 cm long;
3. Fragment of linen shroud tape (HDd.09.036), plain weave;
4. Fragment of linen trousers (HDd.09.014), plain weave, linen drawstring in waistband tunnel 3.5 cm wide [Fig. 16];
5. Fragment of woolen robe (HDd.09.015), plain weave, most probably a sleeve;
6. Plaited linen string (HDd.09.038), 0.5 cm wide;

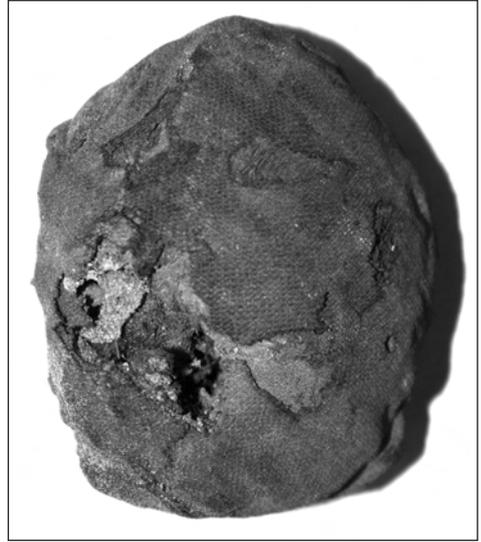


Fig. 14. Bundle containing hair, individual II from Crypt 1 (All photos in this section B. Czaja-Szewczak, PCMA archives)

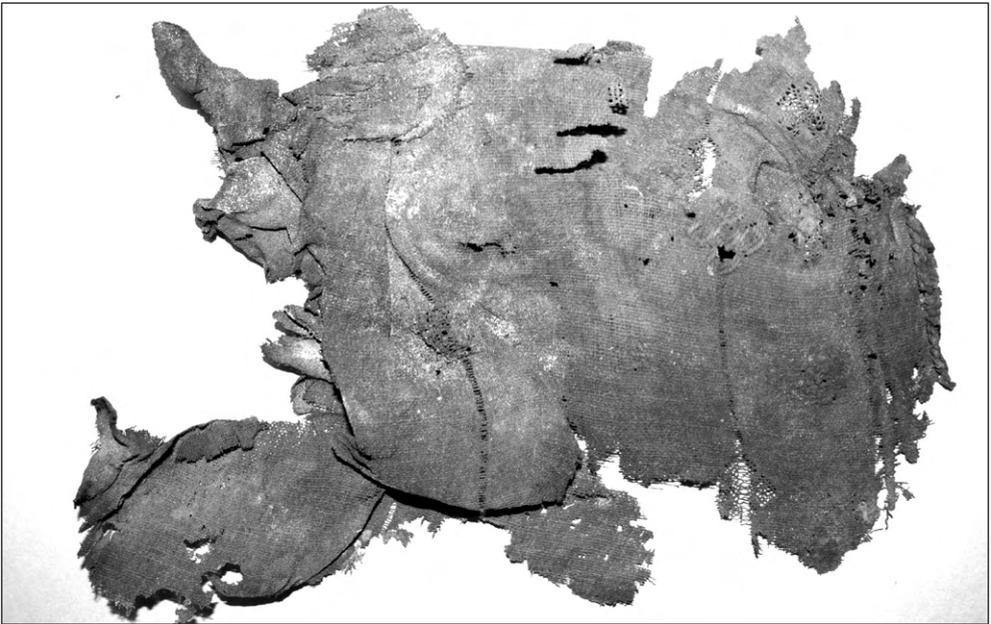


Fig. 15. Monk's hood with woolen broché decoration in the shape of crosses, individual III from Crypt 1

7. Leather belt (HDd.09.039), 3.0–3.5 cm wide;
8. Leather belt (HDd.09.040), 1.5 cm wide.

FINDS FROM CRYPT 2

Of the two textiles preserved in crypt 2 one was a silk shroud at least 2 m long, HDd.09.047, wrapped around the body in burial I and tied in a knot below the feet. The original colors of the textile are still distinct. It was of a dark wine-red color decorated with thin parallel stripes of dark blue, green, blue, cream, purple and brown. The condition of the textile was good enough for careful exploration and lifting of the preserved fragments, but further conservation treatment is needed to ensure that the fragile and brittle fibers are strengthened sufficiently to preserve the pieces.



Fig. 16. Fragment of linen trousers (HDd.09.514) from burial VI in Crypt 1

The other textile from the crypt was a silk piece preserved in three fragments (HDd.09.048), in tapestry weave, the decoration of which was executed partly with golden thread. The fragments were scattered around the crypt, obviously disturbed, two of them (measuring 10 cm by 13.5 cm and 7.5 cm by 7.5 cm) lying on top of the shroud of burial I in the central chest area (although there could be no connection with this burial in view of the fact that it had been preserved undisturbed, wrapped in a silk shroud, for details, see part II, above) and the third, 8 cm by 10.5 cm, on a pile of sand between individuals IV and VI. The textile is a dress fabric. The decoration, which became clear only after the dirt was cleaned from the fragments [Fig. 17], consisted of a vertical band running along the length of the robe from the shoulders down to the hem; either this one band was positioned centrally on the robe or there were two identical bands arranged symmetrically. A center ornament was made up of a row of gold medallions against a dark blue background, flanked by two bands of a red guilloche on a golden ground. This kind of guilloche ornament was typical of 12th-century tiraz fabrics produced in workshops in Egypt. The central ornament was flanked by two more bands filled with scrolling grapevine: golden leaves, stems and bunches of grapes bordered in red on dark blue ground [Fig. 18].

The golden thread used in this decoration was subjected to examination under a scanning electron microscope (SEM), the results confirming its chemical composition of the thread [Fig. 19].

The textile was very stiff and the fibers overdry, fragile and disposed to crumbling. The golden metal thread



Fig. 17. Fragments of dress fabrics from the burial clothes recovered from Crypt 2, after cleaning

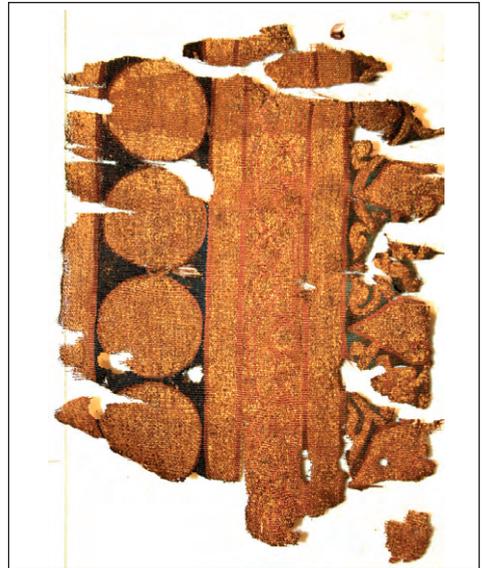


Fig. 18. Fragment of a 12th-century tiraz fabric, before (top) and after cleaning and preservation (right)

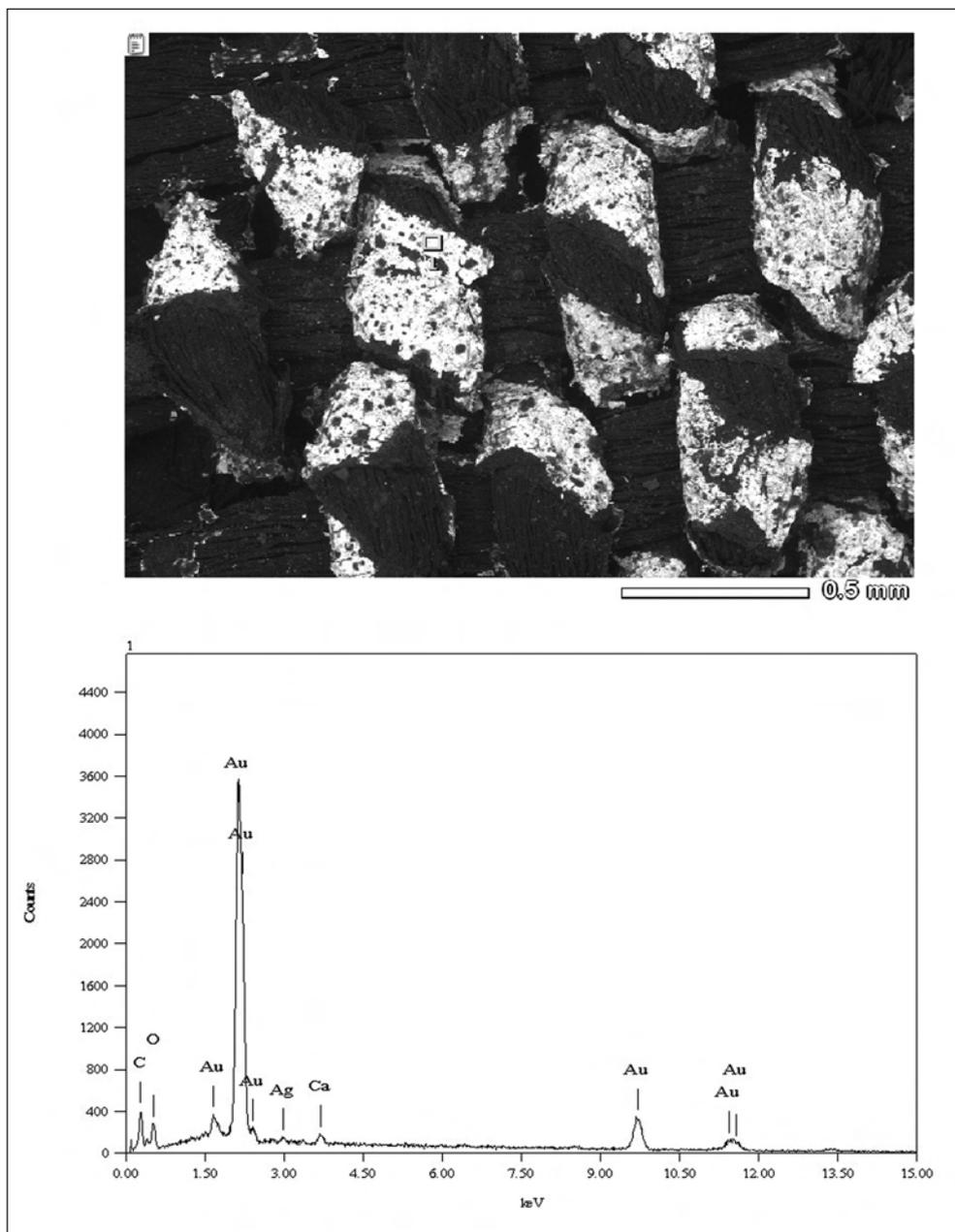


Fig. 19. Results of a chemical composition analysis of the thread from the dress fabric from Crypt 2 (Hdd.09.048), carried out with a scanning electron microscope at the laboratory of the Faculty of Geology of the University of Warsaw (Photo M. Wróbel)

wound around a silk core, being not liable to corrosion, kept the more sensitive silk thread consolidated and protected from damage. Nonetheless, field conditions did not permit the necessary cleaning and straightening of the fabric, which needs to be done in a specialist laboratory.

With permission from Sudan's National Council of Antiquities and Museums this fragment as well as the other silk shroud from Crypt 2 were transported to Poland where they underwent the required series of lab examinations, including microbiological analysis, followed by standard conservation treatment in such cases (disinfection, cleaning, protection from further damages). Considering the depositional conditions, the negative results of the microbiological test can be said to be surprising at the very least.

Dress accessories found in Crypt 2 included a wooden button HDd.09.009 most probably from the robes of individual III, three crosses: one of wood HDd.09.001 from the fill, another one of stone HDd.09.005 found in the lower level of burials, and an incomplete one of bone HDd.09.061 most probably from burial VI, and finally, a heavily corroded metal object with loop HDd.09.008 from burial II. There was also a leather belt, 1.9 cm wide, made of three layers of leather sewn together with leather thongs, found associated with burial III, and a similar belt approximately 1.6 cm wide from burial II.

MATS FROM THE CRYPTS

The layers of burials in the two crypts were separated by palm-leaf mats (see part II,

above). All were plaited in an identical herring-bone pattern [Fig. 20], the sole difference being in the width of plaits on particular mats, from 0.8 cm to 2 cm. The fragmentary nature of the preserved material excluded determination of its size. One of the mats in Crypt 1, HDd.09.053, covered the body in burial V, another lay under burial VI and above the said burial V. In the other crypt, one of the mats, HDd.09.049, covered the face of the individual designated as V and most likely also III. Another mat, HDd.09.051, was associated with burial III, but too little of it was preserved for anything more to be said about it. Yet another mat, HDd.09.052, was also connected with burial III, covering the feet and the right hip.

The mats were used not so much to wrap individual bodies, as to separate successive layers of burials. Laid on top of the previous burials they formed a convenient "ground" for new burials placed into the small chamber, where the small opening constituted an additional obstacle.

[BC-S]

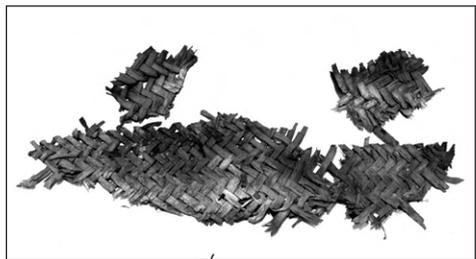


Fig. 20. Mat fragment from one of the burials in Crypt 2 (Photo B. Czaja-Szewczak, PCMA archives)

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