

SUDAN & NUBIA

The Sudan Archaeological Research Society



Bulletin No. 15 2011

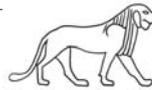




The map reflects the new territorial situation following the independence of South Sudan in July 2011.

SUDAN & NUBIA

The Sudan Archaeological Research Society



Bulletin No. 15

2011

Contents

The Sudan Archaeological Research Society – An Anniversary Tribute <i>William Y. Adams</i>	2	A Meroitic offering table from Maharraka - Found, recorded, lost or not? <i>Jochen Hallof</i>	105
<hr/>			
The Kirwan Memorial Lecture		Early Makuria Research Project. Excavations at ez-Zuma. The Third Season, Jan.-Feb. 2009 <i>Mahmoud el-Tayeb and Ewa Czyżewska</i>	108
Qasr Ibrim: The last 3000 years <i>Pamela J. Rose</i>	3	Report on burial architecture of tumuli T. 11 and T. 13 <i>Katarzyna Juszczyk</i>	119
<hr/>			
Reports		A preliminary report on mortuary practices and social hierarchy in Akad cemetery <i>Mohamed Faroug Abd el-Rahman</i>	124
Neolithic beakers from North-Eastern Africa <i>Anna Longa</i>	13	Palaces in the Mountains: An Introduction to the Archaeological Heritage of the Sultanate of Darfur <i>Andrew McGregor</i>	129
Pottery from Sites Surveyed in Sodari District, Kordofan Province. An Interim Report 2008-2009 <i>Howeida M. Adam and Abdelrahim M. Khabir</i>	18	The archaeological and cultural survey of the Dongola Reach, west bank from el-Khandaq to Hannek: Survey Analysis <i>Intisar Soghayroun Elzein</i>	142
The early New Kingdom at Sai Island: preliminary results based on the pottery analysis (4 th Season 2010) <i>Julia Budka</i>	23	<hr/>	
Sesebi 2011 <i>Kate Spence, Pamela J. Rose, Rebecca Bradsham, Pieter Collet, Amal Hassan, John MacGinnis, Aurélie Masson and Paul van Pelt</i>	34	Miscellaneous	
The 10 th -9 th century BC – New Evidence from the Cemetery C of Amara West <i>Michaela Binder</i>	39	Obituary John A. Alexander (1922-2010) <i>Pamela J. Rose</i>	146
Excavations at Kawa, 2009-10 <i>Derek A. Welsby</i>	54	Book reviews Elisabeth G. Crowfoot 2011. <i>Qasr Ibrim: The Textiles from the Cathedral Cemetery</i> <i>John P. Wild</i>	147
The Kushite Pottery Sequence at Kawa: Parallels at Home and Abroad <i>Isabella Welsby Sjöström and Ross Thomas</i>	64	Jane Roy 2011. <i>The politics of trade: Egypt and Lower Nubia in the 4th millennium BC</i> <i>Maria C. Gatto</i>	148
The Late Meroitic Cemetery at Sedeinga. Campaign 2010 <i>Claude Rilly and Vincent Francigny</i>	72	<hr/>	
Dangeil 2010: Meroitic Wall Paintings Unearthed and Conservation Strategies Considered <i>Julie R. Anderson and Salah eldin Mohamed Ahmed</i>	80	Front cover: Naga - Amun Temple, the Hypostyle Hall after reconstruction, 2008 (photo: © Naga Project).	
Rediscovery of the Kushite site - Naga, 15 years of excavation (1995-2010). Surprises and Innovations <i>Karla Kroeper</i>	90	<i>Sudan & Nubia</i> is a peer-reviewed journal	



Early Makuria Research Project. Excavations at ez-Zuma

The Third Season, Jan.-Feb. 2009

Mahmoud el-Tayeb and Ewa Czyżewska

The excavations in the tumuli field at ez-Zuma were resumed for the third time in the period from the 2nd January until the 15th February 2009.¹ Further verification of burial typology was the main goal of the season. Therefore, four tumuli were chosen for excavation, T. 11, T.13, T.17 and T.27. All are located in the northern part of the cemetery, extending approximately from west to east (Figure 1). According to the preliminary classification done in the first season, Tumuli 11 and 13 fall within burial Type II, of middle size and flat top, while the other two were classified as Type III, the smallest tumuli group (see Obluski 2004, 400-403).

Tumulus 11, about 27m in diameter, is built of a mixture of earth and gravel. At first glance it appeared to have a flat top, yet closer examination revealed that its preserved height from the south to north ranges from 1.5 to 2m, a feature not observed in the earlier excavated tumuli of the same group. A large central depression on top of the mound clearly indicates that the burial had been plundered. Therefore, a trench measuring 6 x 6m was dug on the top, to allow excavation of the burial's shaft. The task was not easy, because of the problems caused by the coarse geological formation in this part of the cemetery. The first 300mm from the natural surface consists of loose reddish earth with gravel, followed by 400mm of relatively compact yellow sandstone, a layer of yellow sand mixed with pebbles and gravel, a layer of whitish-grey soft sandstone, and finally the lower stratum, consisting of hard white sandstone. In consequence the upper part of the shaft had been much disturbed by the plunderers who created a pit of irregular shape. Unexpectedly, the original

shape of the shaft was revealed to be of a quite rare type, so far only known from two sites, Firka in northern Nubia and Abkur in the Dongola Reach (Kirwan 1939, 4, pl. V; Żurawski 2003, 222-224). The longer side of the “reversed” L-shaped shaft is aligned east-west, measuring at the top (S. 2.95 x E. 1.55m east-west by x N. 1.7m), and the short side is oriented north-south, measuring (W. 2.75 x N. 1.4 x E. 1.1m), with a maximum depth of about 4.95m (Figure 2). The shaft contains two side chambers. The main burial was hewn into its southern wall of the longer side, yet the offering chamber was cut into the west wall of the shaft's short side. The neighbouring chambers are interconnected with each other by a small hole, pierced in the dividing wall at floor level. Both chambers originally were blocked with solid walls built out of large mud bricks, in places mixed with some red bricks, even so, they were both plundered.²

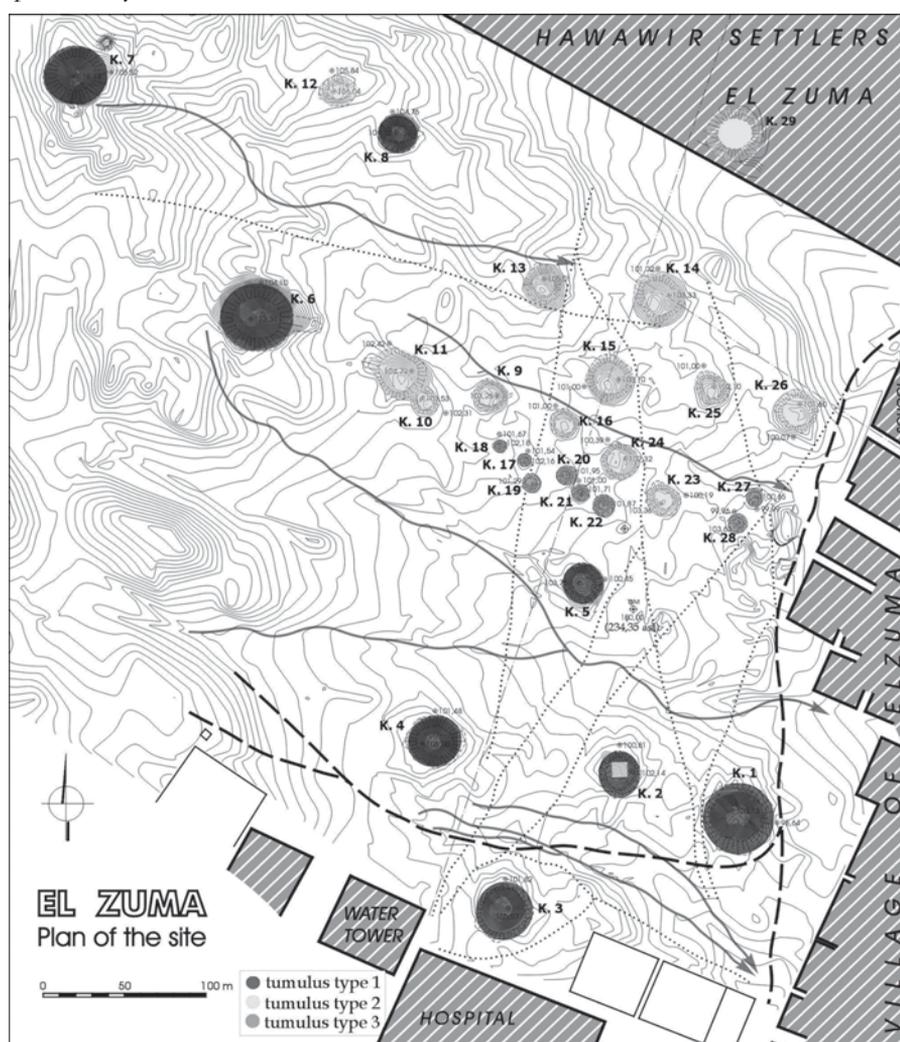


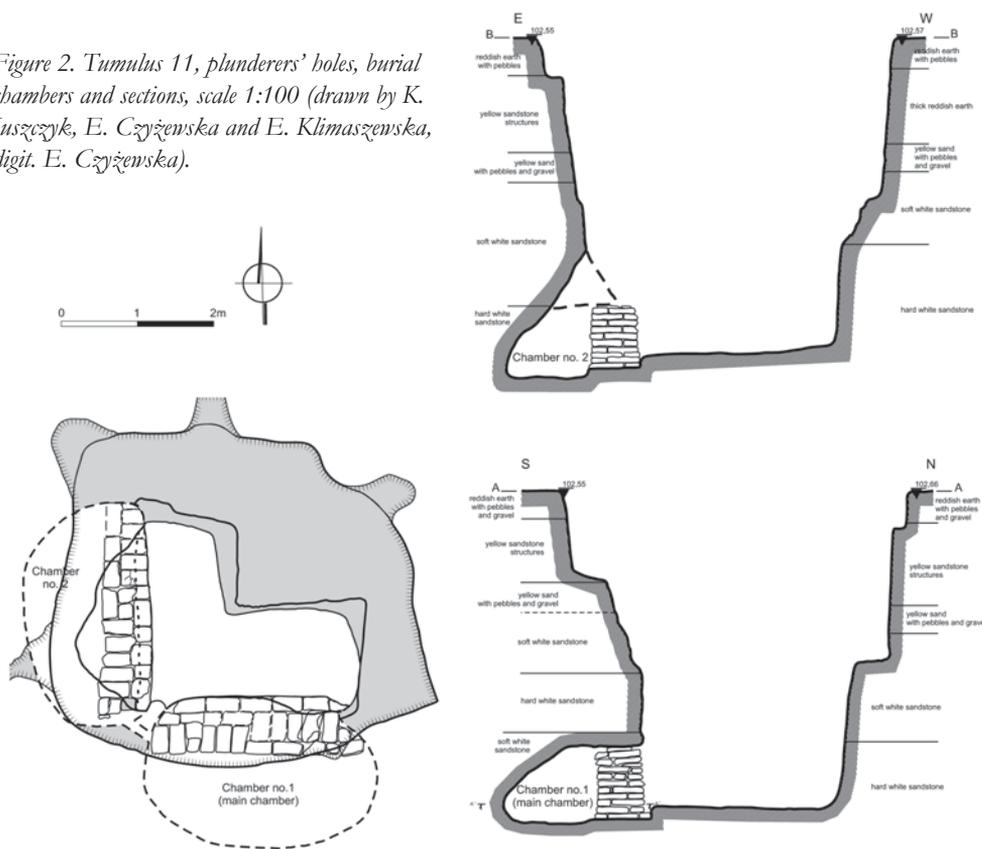
Figure 1. Plan of the cemetery, drawn by Yasin Mohamed Saeed, modified by W. Małkowski.

¹ The mission consisted of Edyta Klimaszewska-Drabot, Ewa Czyżewska, Olga Białostocka, Katarzyna Juszczyk, Mahmoud el-Tayeb (archaeologists); Neamat Mohamed el-Hassan (NCAM Inspector); Gamal el-Din Abu-Baker (Trainee student, Department of Archaeology, Karima); Miłosz Dorsz (volunteer). Photographs were taken by Olga Białostocka, the field documentation was made by Edyta Klimaszewska-Drabot, Ewa Czyżewska, Olga Białostocka, Katarzyna Juszczyk and the digital works by Ewa Czyżewska.

As aforementioned, the main chamber (Chamber 1) had been plundered through the dismantled eastern side of the

² For more details of the construction of Tumuli 11 and 13, see Juszczyk in this volume.

Figure 2. Tumulus 11, plunderers' holes, burial chambers and sections, scale 1:100 (drawn by K. Juszczyk, E. Czyżewska and E. Klimaszczenka, digit. E. Czyżewska).



blockage. A disarticulated human skeleton was found inside the chamber; however, due to the poor state of preservation, it was not easy to determine either the position or the orientation of the deceased. Apparently, this chamber contained a rich offering repertoire, attested to by 12 complete pottery vessels which were left behind by the grave robbers. These comprise four bowls and five cups all of wheel-made red ware, and one large handmade bowl (Plate 1). Apart from the pottery vessels, a concentration of animal bones was found located in the west side of the chamber, as well as some blue faience beads, plus an eroded iron fragment, probably from a blade of a knife which were found beside the human bones.

Chamber 2, on the west side of the shaft, was completely devoted to funerary offerings. It contained 17 complete vessels that comprise 10 bowls and four cups of wheel-made red ware and three handmade vessels, consisting of one black beer jar, one cooking pot and a very large basin containing animal bones. Animal bones of both large and small species—probably cattle, and sheep/goat—were found arranged in four groups located from south to north (Plate 2).

Tumulus 13 lies at a short distance due north east of T.11. It consists of a circular mound with a diameter of about 27.7m. The mound's shape resembles that of T.11; its preserved height ranges from 1.6m on the southern side to 5m in the north east. Obviously, T.13 is not an exception in this

cemetery, hence the same signs attesting robber activity were also clearly observed on the top central part of the mound. Unlike the previous tumulus, the shaft of T.13 was dug into a formation of hard white sandstone. The removal of the upper layer of the fill made possible the determination of the top limits of a shaft, U-shaped in plan. Further work revealed that only the southern—the longer and larger—side of the shaft had been disturbed and rifled, while the narrower and shorter northern side was found untouched. The general outlines of the shaft's plan represents a slightly deformed square, measuring 6 x 5.8m east-west by 4.5 x 5.6m north-south, with a maximum depth on the northern side of 4m, and 3.8m on the southern side of the shaft. Access to the bottom was

facilitated by four separate steps, cut in different parts of the shaft; three of them are on the walls of the southern side; these are located in its north-east corner, south-west corner, with the third cut in the west wall. The fourth step is located in the north-east corner of the north side of the shaft. All the steps were cut almost at the same level about 1m below the ground surface.

For the first time in this cemetery five side chambers were discovered at the bottom of the burial. Chamber 1 is hewn into the south wall of the shaft's southern side. The robbers broke into it in the same manner as the case in Chamber 1



Plate 1. View from Chamber 1 showing the offerings.



Plate 2. View of Chamber 2 showing the funerary offerings.

of T.11, i.e. through a hole opened in the east side of the blockage. The other four chambers were all found intact. Four out of the five chambers, nos 1, 3, 4, and 5, were closed by red bricks in different arrangements. Only Chamber 2, which is located into the south-west corner, was blocked by rough stone chunks (Figure 3).

Unfortunately, Chamber 1, which is the main burial chamber, has not been explored. As mentioned above, its solid red-brick wall had been destroyed on the east side leaving a hole about 700mm wide. Apparently, during their search for valuable offerings, the robbers devastated the burial, damaging the skeleton and throwing out some of the pottery vessels. Two handmade beer jars, one red wheel-made bowl and human thigh bone, were found in the shaft in front of the robbers' hole (Plate 3a). As a result of the first chamber's cleaning, the change of the burial environment caused a sudden collapse of the already cracked layers of the sandstone ceiling. Another attempt to investigate the west side of the chamber was also ended by further collapse of the roof. Therefore, for the safety of the team, the chamber's exploration regretfully had to be abandoned (Plate 3b).

Chamber 2 is located in the south-west corner of the shaft between Chambers 1 and 3. It is the only chamber to be closed by rough sandstone constructed on a red-brick foundation. The weak sandstone formation of the chamber and environmental factors caused the partial collapse of the crumbling roof, but resulted in no serious damage. In the centre and the north-west side of the chamber, a group of seven pottery vessels was deposited. These are three handmade beer jars, two small sized wheel-made red ware bowls, and two small wheel-made, red ware cups. Some fragments of animal bones were also found near these vessels (Plate 3c).

Chamber 3, is constructed into the west wall, and was completely sealed by untouched large red bricks. Yet, once again misfortune accompanied the exploration of this chamber, when a large portion of the ceiling collapsed after

the partial dismantling of the blockage. After taking some measures to secure the ceiling from further collapse, and remove the fallen debris, the chamber was carefully explored. Fragments of six pottery vessels, which had been crushed by the fallen roof, were collected from the central part of the chamber. In its northern side, faint traces of a brown organic material were noted. This might be remains of a very decayed wooden beam; however, the nature of the original object was hard to identify (Plate 3d).

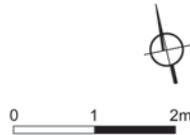
Two of the five burials were constructed in the northern side of the shaft. Chamber 4 was hewn into the north-west corner and Chamber 5 occupied the narrow northern side. Chamber 4 was provided with three wheel-made red bowls deposited in the centre. To the south west of them was a leather-case (hold-all) in a very bad state of preservation; however, it might have

been originally decorated by some beads which were found scattered around. Remains of an unidentified organic object, which seems to be a kind of vessel, was deposited east of the three bowls (Plate 3e). The last chamber, number 5, contained even fewer objects. Only two wheel-made red bowls and some animal bones were deposited as grave goods (Plate 3f). It is noteworthy that all five chambers in this burial are interconnected by holes dug into the dividing walls. This tradition is repeatedly practiced in T.2, T5, T23, T.25 at the same cemetery, as well as at other cemetery sites; at Hammur-Abbassyia tumuli 1 & 4 and Tanqasi T. 87 (Mahmoud el-Tayeb 2003, 130-134, figs 8, 13; Godlewski 2006, 469-476, fig. 8). So far the function of these holes is a matter of conjecture.

A question which remains obscure is why the north and west sides of the shaft were missed by the robbers? Was it because they already knew that it was not worth the effort, or they did not recognize the construction plan of the shaft?

Both tumuli, T.17 and 27, are related to the smallest group of burials designated Type III. T.17 has a very low mound with a preserved height of about 450mm and a maximum diameter of 10m. It is located between T.18 and T.19, in the central part of the cemetery. In this spot, which in fact is not far from the above described burials, the geological formation is totally different. The surface is covered with aeolian sand; then a mixture of small stones, in addition to gravel and reddish soil, forms a stratum 2.31m thick down to the bottom of the shaft. The floor at the bottom consists of a compact layer of black gravel and whitish-greyish sand. The body of the mound was built of a mixture of sand and gravel surrounded by a stone ring about 3.6m in diameter, which originally demarcated the limit of the mound. The robbers had dug a large hole, about 2m wide, on the top of the mound, but it seems that they missed the shaft's centre and the blockage. However, cutting part of the west wall of the shaft they were able to penetrate the chamber directly. The shaft is aligned north-south and has a trapezoid plan,

Figure 3. Tumulus 13, plunderers' holes, burial chambers and sections, scale 1:100 (drawn by K. Juszczyk, E. Czyżewska and E. Klimaszczyńska, digit. E. Czyżewska).



- - - - - probably lower border of the burial shaft
- — — — — upper border of the burial shaft
- - - - - border of the burial chambers
- reconstruction

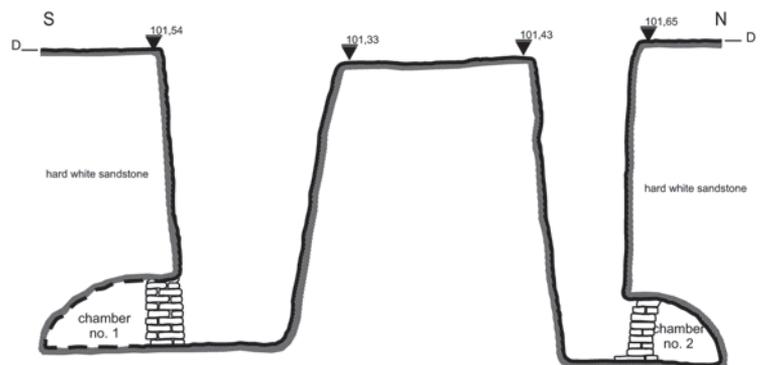
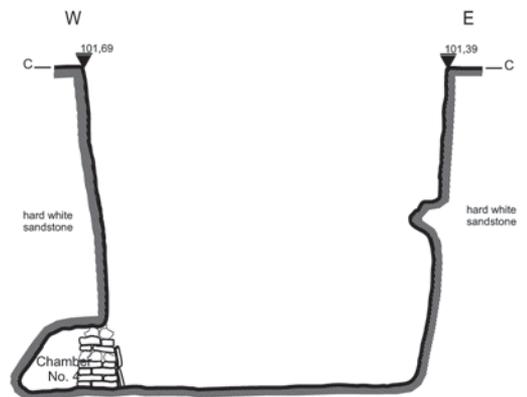
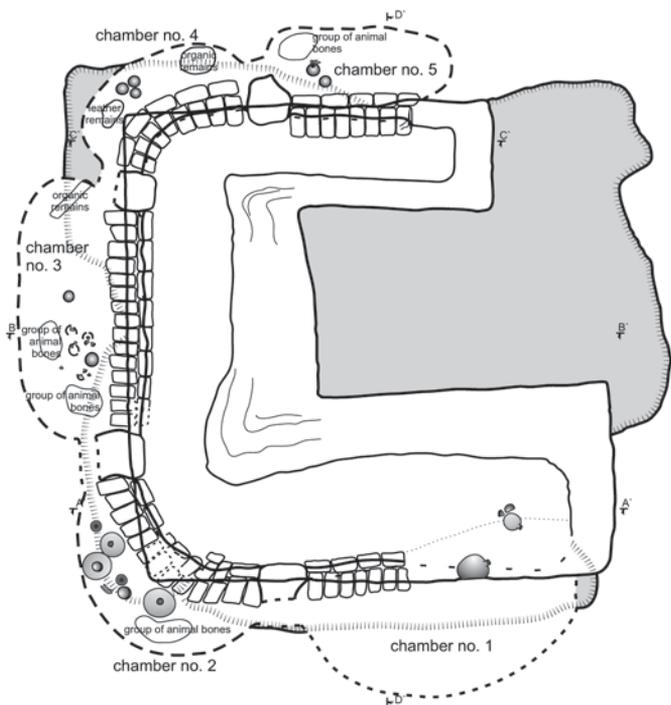
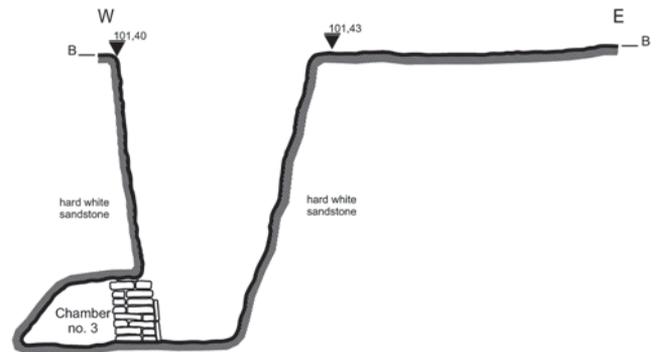
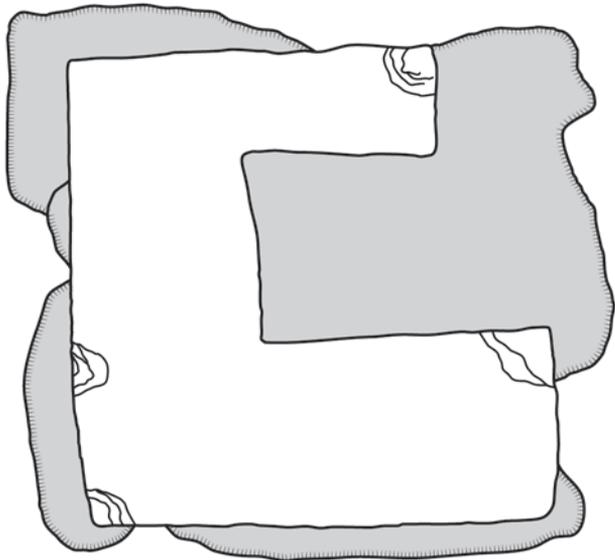
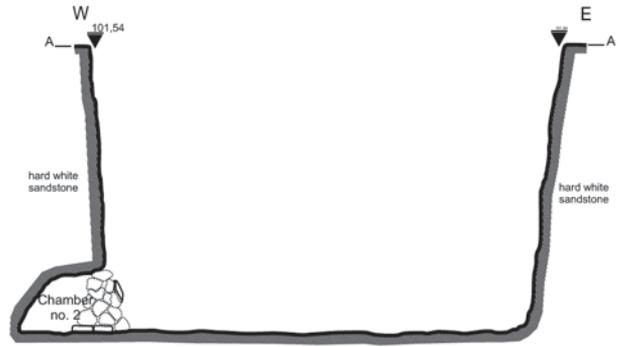




Plate 3a. View of objects in front of the robber hole, looking south.



Plate 3b. View of Chamber 1, facing south.



Plate 3c. View from Chamber 2, before cleaning, looking south west.



Plate 3d. View of the collapsed roof in Chamber 3, looking west.



Plate 3e. View of Chamber 4, looking north.



Plate 3f. View of Chamber 5, looking north.

measuring on the ground surface, 1.34 x 1.8m west-east by 980 x 860mm north-south, and at the bottom of the shaft, 1.45 x 1.24m west-east by 700 x 800mm north-south. A single burial chamber was cut into the west wall, measuring 2.4m long, 800mm wide and 520mm high. As noted above, the robbers cut down part of the west wall and removed some of the stones of the blockage from the south-west corner.

In this way they managed to break into the burial chamber and severely damaged the human skeleton. Although the skeleton was greatly disturbed, fragments of legs and feet bones might indicate that it was laid on its right side, in a contracted position, with head due north west, facing south.

The grave goods consisted of two complete handmade beer jars, a large brown one located in the northern side of

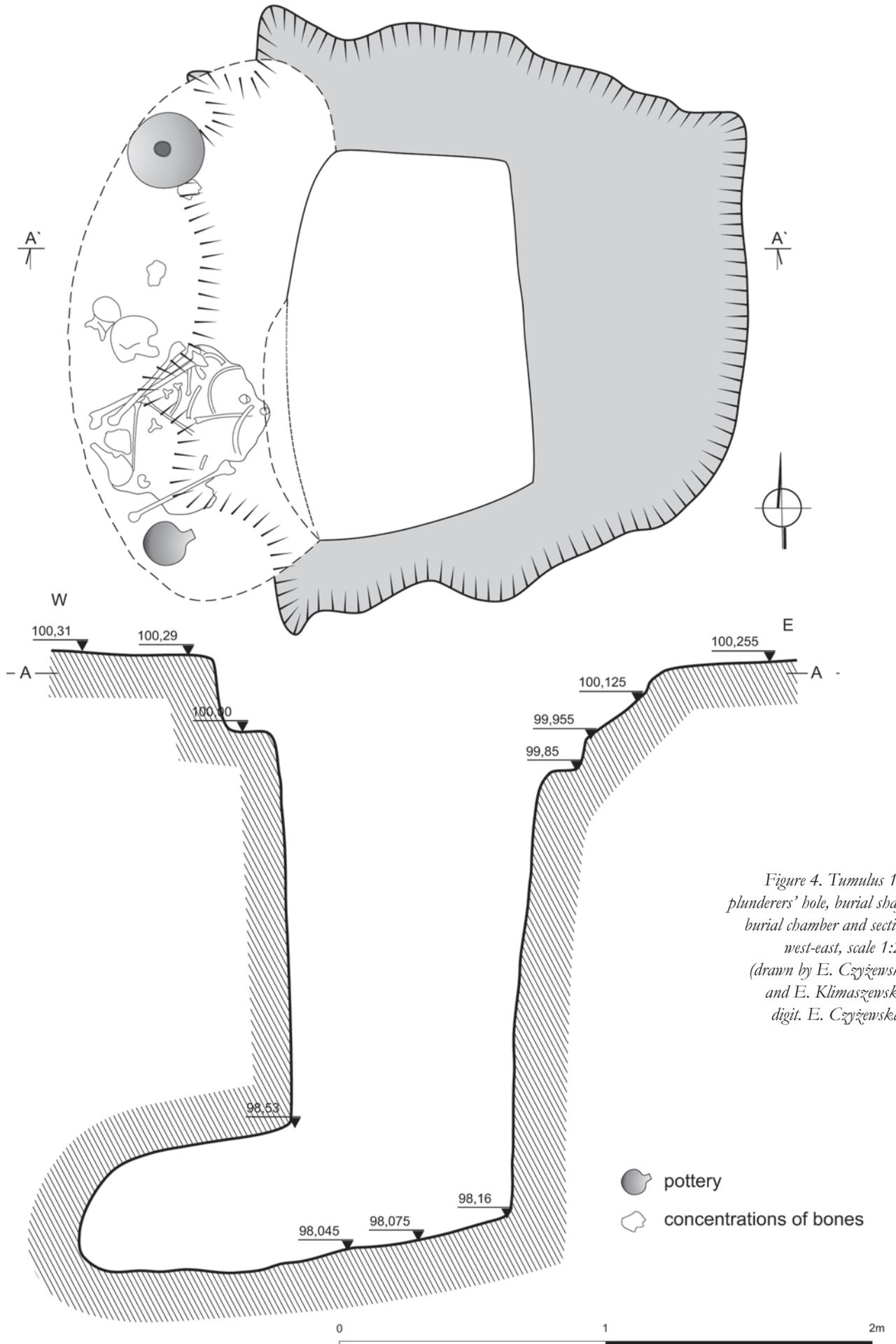


Figure 4. Tumulid 17, plunderers' hole, burial shaft, burial chamber and section west-east, scale 1:20 (drawn by E. Czyżewska and E. Klimaszevska, digit. E. Czyżewska).

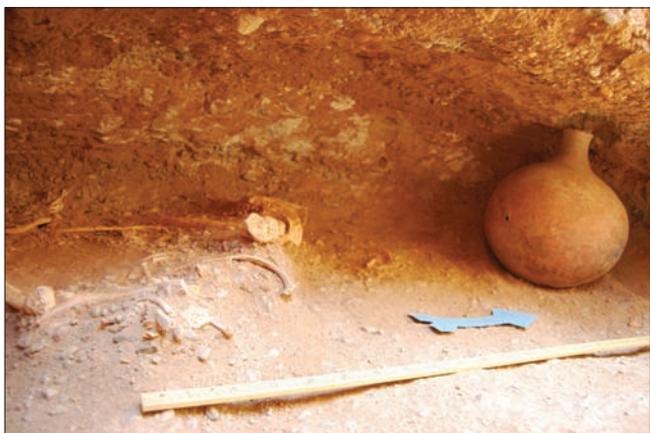


Plate 4. *View of the burial.*

the chamber, and a smaller one of black ware deposited in the opposite southern side. Moreover, one iron ring and a group of about nine badly eroded iron arrowheads were also found. Amongst the finds were also about 88 beads of different materials such as quartz, agate, faience and probably ivory or bone. Fragments of beer jars used by the robbers as scrapers were found in the shaft's fill as well as in the burial chamber itself (Figure 4, Plate 4).

Tumulus T.27 lies at the far eastern edge of the currently known limits of the cemetery. It has a diameter of about 10.5m and is preserved to a height of only 670mm. The mound was much disturbed by the plunderers, mainly its west and north parts, as a result of unsuccessful attempts to find the shaft. Here also the burial consists of a small trapezoid shaft and lateral niche hewn into its west side. Both were dug in the hard white sandstone which dominates this part of the cemetery. The upper plan of the shaft measures on the ground surface 1.2 x 0.95m west-east by 850 x 900mm north-south, getting narrower towards the bottom where it is about, 1.24 x 0.8 west-east by 400 x 400mm north-south. The maximum depth to the floor level does not exceed 900mm.

The burial chamber is also small measuring 1.9 x 0.75m and 440mm high. It was blocked by large pieces of yellow sandstone, which apparently were brought from another part of the cemetery. The robbers partially dismantled the south-west side of the blockage, throwing some of its stones out of the shaft (Figure 5). A single skeleton was found totally mixed up in the southern side of the chamber. Due to the considerable disturbance of the skeleton, it was not possible to determine its orientation. However, the small size of the chamber leads to an assumption that originally the deceased was laid in contracted position aligned south-north with the head towards the south (Plate 5).

The few objects found in the rifled burial chamber comprised pottery vessels, metal objects and beads. Two vessels were deposited in the chamber, one large handmade beer jar

located on the north side, and a small red wheel-made cup on the opposite southern side. Near the piled-up bones, a number of corroded iron arrowheads plus some fragments of unidentified iron objects and a stone archer's loose were scattered around. In the same area and particularly near the damaged skull 101 beads manufactured of different materials, as well as a faience scarab, were collected. Some pottery sherds and a scraper together with 14 fragments of arrowheads were probably dropped in the shaft by the grave looters.

Comments

Burial Typology

The burial typology which was formulated during the course of the first season requires after this season closer examination and verification. Some of the tumuli which were classified as flat-topped mounds, T. 11, 13 and 19 for instance, need to be re-evaluated. As a result of the recent excavations doubts having arisen as to their original form. Uncertainty concerns the higher side of the mound: was it accidentally formed by the grave robbers when they started to unearth the shaft, or was it an intentional construction? Such a form was intentionally constructed in other sites upstream in the Fourth Cataract region, among them the cemetery of el-Haraz near J. Kulgeili, excavated by the National Corporation for Antiquities and Museums, together with Department of Archaeology of Dongola University at Karima, and the one at Ab-Heregil excavated by the mission of Gdańsk Archaeological Museum.

The second point concerns the substructure of T.11 and its L-shaped shaft. Amongst the 11 excavated burials, T.11 is the only one with an L-shaped shaft, differing from the well-known U-shaped shafts found in tumuli types I and II. The nearest parallel to T.11's shaft comes from a burial located in a cemetery near the village of Abkur, about 100km downstream of ez-Zuma. Another variant of this shaft was found at Firka in northern Nubia (Żurawski 2003, 222, fig. 4; Kirwan 1939). The distinctive construction of the super/and substructure



Plate 5. *View of the burial from the shaft, looking west.*

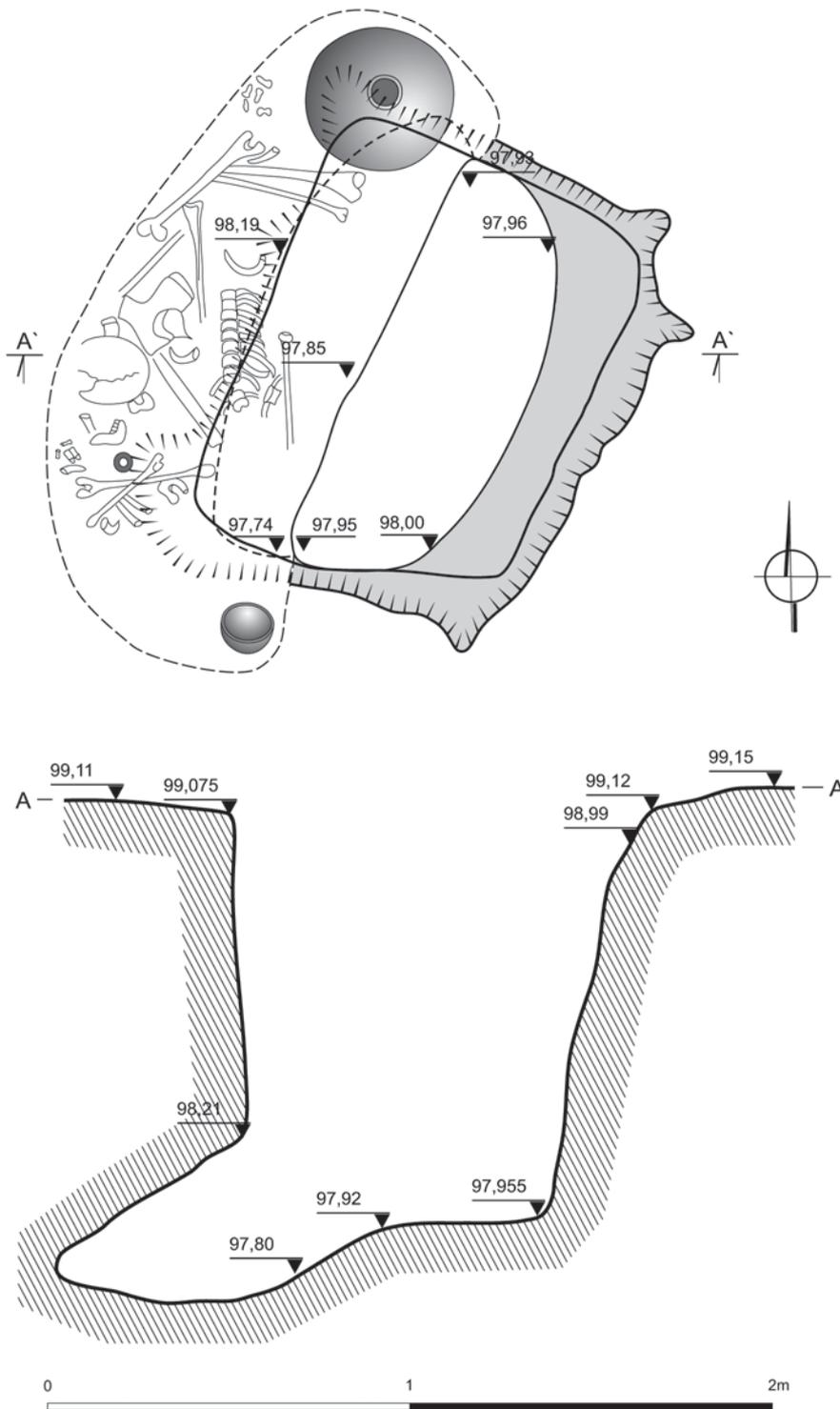


Figure 5. Tumulus 27, plunderers' hole, burial shaft, burial chamber and section, scale 1:20 (drawn by K. Juszczyk, E. Czyżewska and E. Klimaszewska, digit. E. Czyżewska).

which as yet has no parallel in the ez-Zuma cemetery can be classified as a sub-type of ez-Zuma mounds type II. Confirmation of this suggestion has to await further investigations on some other mounds with similar superstructures.

During the previous – second – season exploration of one of the small tumuli, T.19, designated type III, a shaft with a slightly different plan was noted. Instead of the

well-known rectangular shape, the shaft appeared to be of trapezoid plan with a side niche cut into the west wall (Mahmoud el-Tayeb 2010, 474-475, fig. 8 right). It is commonly accepted that the simplest type of Early Makuria burial has a rectangular vertical shaft, as was found in burial 22 Type III, and a number of other cemeteries in the region. A preliminary interpretation suggested an unintentional deformation of the burial's shaft. Yet, the discovery of three more burials with trapezoid shafts cannot be seen as accidental or just a deformation of a plan. Based on the two burials excavated in the second season of 2007, it was suggested in a previous article that such a plan might have been a shortened version of the well-known burials with east-west *dromos* terminating in a burial chamber usually hewn into the west end of the descending *dromos*. To date about five shafts of this type have been found at ez-Zuma. Graves with similar plans were also discovered in the same region in the area of Jebel el-Alim, during a rescue excavations conducted by a team from the National Corporation for Antiquities and Museums, lead by the Senior Antiquities Inspector el-Tahir el-Nur (el-Tahir 2010, pers. comm.). At this stage of research it is too early to give a definite statement on this subject.

Should these aforementioned points be classified as sub-types? Ez-Zuma cemetery was primarily thought to have a quite simple typology, but has turned out to be a complicated cemetery, despite its common chronological horizon. Undoubtedly, further detailed study of the cemetery and the excavated material is required for a better understanding of this important cemetery of a poorly studied period.

Grave Offerings

Burial offerings comprise various utensils, distinctive of the period. As usual, pottery constitutes the bulk of the offerings. Amongst the finds are some items of adornment, as well as iron arrowheads and one rare object of leather-work.

A separate article devoted to the ceramic material of the third season is in preparation; however, a number of vessels discovered this season deserve some brief comments. There is no doubt that T.11 must have been well provided with grave offerings that testify to the social standing of the burial's owner. A great pity is the loss of Chamber 1, the main

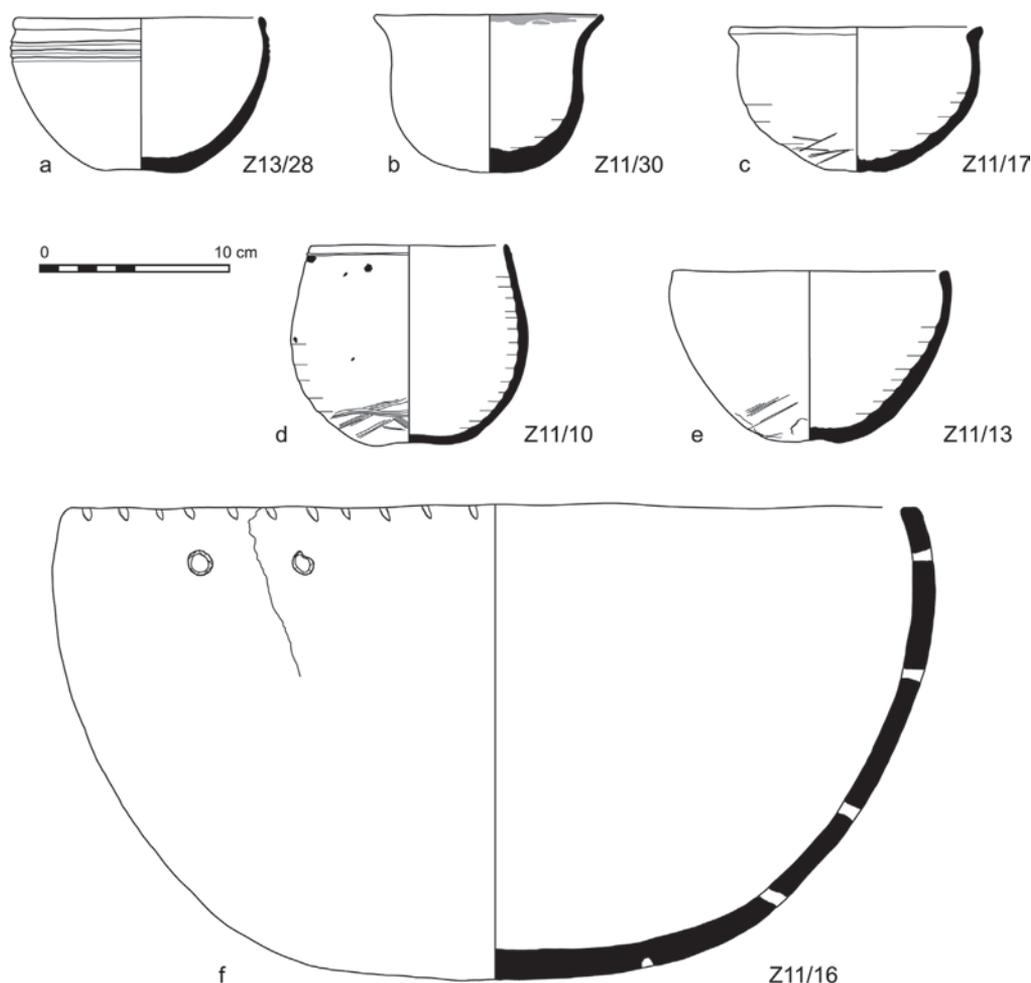


Figure 6. Pottery vessels from Tumuli 11 and 13, scale 1:4.

this form is an imitation of the short X-Group cups, usually decorated with two or three incised grooves on the lower part, just above the base, like the ones found in site ROM 32/1 (see Phillips 1987, 35-41; Grzymiski 1991, 18, 23 fig. 5, 6; Williams 1991).

A unique form of a large cup was found amongst the assemblage in T.11, Chamber 2. The cup Z11/30 (Figure 6b) measures about 84mm in height and 120mm in rim diameter. It has a rounded base and strongly flared rim. The external surface is red slipped and burnished, while the interior is covered with white paint. To the best of our knowledge, such a practice has never been noted so far, neither in this region nor elsewhere in Nubia.

Of special meaning and value is a type of distinctive large deep wheel-made bowl.

Five vessels of this type were found in T.11, Chamber 2, nos 17 (Figure 6c), 22, 29, 34, and 35. The average dimensions of these bowls are about 77mm in height and about 150mm in rim diameter. This type testifies to cultural continuity, originating in the Meroitic period and maintained with continuous evolution until the Second Phase of the Early Makuria period (late Post-Meroitic), and is recorded with some varieties all through Lower and Upper Nubia. The simplest form, found at el-Kadada in a Meroitic burial, is of a heavy hemi-spherical body of about 65mm in height and 150mm in rim diameter. Another variant is slightly larger, reaching up to 180mm in rim diameter and about 70mm in height, with sides out-flared, and a flattened base (Lenoble 1987, pl. IV c, 20). A more developed version of the same type was found in the Meroitic part of the cemetery at Gabati some 200km north of el-Kadada, with standard dimensions of 120mm in rim diameter and 90mm in height (Rose 1998, 158, fig. 6.12 bottom; 158, fig. 6.13). A parallel, but larger variant of the vessel of about 91mm in height and 146mm in rim diameter, was discovered in the West Cemetery at Meroe (Dunham 1963, 189, fig. 135c; see also p. 342, fig. F). In the Dongola Reach bowls of this type were found in a late Meroitic burial at Hagar Sail, and in the early Makuria (Post-Meroitic) cemetery of el-Kassinger Bahry in the Fourth Cataract region as well as at ez-Zuma T.10, and

burial chamber, for one would always expect some type of personal object to be included which can provide much more information about the grave owner, or the period in general, especially as all the main burial chambers hitherto excavated, were robbed. However, Chamber 2 contained a wide collection of pottery and food. Although the pottery collection in general falls within the types produced in the Dongola Reach during the Early Makuria period, four types of vessels are worthy of special attention. One bowl form was observed in this type of burial for the first time. The bowls, designated ZT11, 4, 7, 8, 9, 13 (Figure 6e), 21, are distinguished by a rounded base and flared sides with squared rims. In spite of the fact that they are classified in the same category as the well known undecorated small red-ware bowls, they are finely and perfectly fashioned and they are also slightly larger in size. Most probably these vessels were of local production; however they might have been produced by a more skilled potter or potters.

Two red-ware cups from Chamber 2, nos T.11, 6 and 10 (Figure 6d), have a form which was not known before in the local production, except for one example from Tanqasi T.87 (Klimaszewska-Drabot 2010, 220, fig. 3, last cup). They are characterized by a rounded profile, with simple applied rounded rim and slightly flattened base, with slipped and burnished external surface, but undecorated. Apparently,

Tanqasi, T.87 (Klimaszewska-Drabot 2010, 221, fig. 3). The first two resemble an el-Kadada bowl (Lenoble 1987, pl. IV c). Despite the larger size of the latter and to some extent their varying quality of manufacture, the general shape is similar. The vessel walls are either rounded or out-turned to form small ledges or bevelled rims. The bases are often of irregular rounded, flattened, conical shape, and in some versions have a low ring base. Surface treatment tends to be wet-smoothed and burnished, or coated with red slip inside and out, executed with different degrees of care.

A very large handmade vessel in a dark brown ware, so far only known from T.11 at ez-Zuma, is a basin of 250mm. in height and 400mm in rim diameter, and is characterised by a rounded profile, thick walls and flattened base. A number of small holes perforated on both sides of a long crack, proceeding from top to bottom, are signs of repair, leaving no doubt that the basin was used for a considerable span of time before being deposited in the burial. The basin Z11/16 (Figure 6f, Plate 6) was discovered in Chamber 2 which contained only grave offerings. Some animal bones were found *in situ* inside it. This can be taken as a direct indication for the function of the vessel. It could like the later large Funj black ware dishes or even the wooden *gadab* of the 19th century have been used for serving food.

Attention also should be drawn to a small red bowl no. 28 (Figure 6a), found in T13, Chamber 3. Although, the size and texture of this bowl bears a resemblance to the distinctive red bowls of the Dongola Reach, yet it has a unique execution represented by the slightly flattened base, turned-out profile, tapered in, applied rim and three wide grooves incised at about 10mm below the rim. To the best of our knowledge, this wonderful vessel has no parallel elsewhere in Nubia.

Some fragments from two different vessels require a brief comment. Both fragments are parts of well known forms, frequently found on Christian sites; the first is a handmade cooking pot distinguished by a re-carved rim and rounded body covered with mat-impressed pattern. The second is a wheel-made *qadus*. However, these fragments were found in the shaft fill of T.11. Their existence in the plundered shaft has raised doubts about their original location: were they thrown out from one of the two chambers by the robbers, or thrown down the shaft by whomever? Although the *qadus* was common in Nubia from the Meroitic period, in this cemetery only the one under discussion has so far been found; however, its presence in the shaft is not that surprising as it may have been part of the original grave goods. As for the cooking pot, different forms of cooking vessel were found in burial T11, as well as in other burials in the cemetery. However, only one incomplete fragment almost parallel to the one discussed here, with rounded body and re-carved rim, was found in the tunnel of ez-Zuma T.5 excavated in 2007. Its original placement is also uncertain, as it was found in the sediment that partially filled the tunnel; therefore it is hard to know if it was found there as part of the later fill, or it was part of the original grave offerings (Plate 6). If this

fragment was originally deposited in the burial, that could mean the first appearance of the characteristic re-carved cooking pot is earlier than the Christian period to which it is usually attributed.

One of the rare finds in the burials of the period is a leather-case found in T.11, Chamber 4. The object lay near three small red bowls and was found in a fragile fragmentary state. Between and around the leather fragments a number of beads were scattered. Prior to this, only three leather cases of this type have been found in the region. First in T.1 at the Southern Cemetery of Jebel Ghaddar, followed by another from T.1, Chamber 2 at Hammur-Abbassyia, and the third was in the main burial chamber at el-Kassinger cemetery 45/T.1 (Mahmoud el-Tayeb 1994, 66; Kolosowska and Mahmoud el-Tayeb 2007, 15-16, fig. 13). In the case of Jebel Ghaddar, the object was thrown out of the plundered burial chamber, the second one was found in the devastated and rifled, main burial chamber. Yet in el-Kassinger, the skin case was laid at the feet of the deceased in an un-plundered chamber. In each of the four cases there was no evidence that these leather cases contained anything; thus one might ask, what is the real function of such objects, and the reason for their presence in the grave. Today such leather bags are still in use, especially by nomadic communities. They are usually designed in accordance with the needed functions, where it can be used as a water-skin (*Arabic- girba - قربة*), a sack for carrying things (*jurab - جراب*), or a sack used for shaking milk (*sea'in - سعين*). The exact function of the hitherto discovered objects so far remains obscure. However, a regular row of holes pierced along the edges of these skin fragments is an indication that the leather case was sewed, either from one folded piece, or two pieces put together, and additionally decorated with some beads. If this reconstruction is correct, then the leather object must be a *jurab*. Still one might ask why it was deposited so far from the place where the grave owner lay.

Food was also present among the grave goods of T.11 and 13. Butchered fragments of bones were found scattered amongst the pottery vessels. In T.11 Chamber 1, a pile of large animal bones – probably cattle bones – were arranged

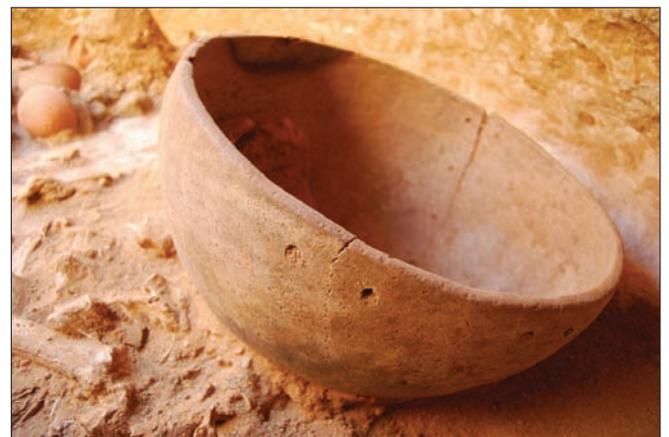


Plate 6. The large basin in Chamber 2.



in one place near a large cooking pot, located at the west end of the east-west aligned burial chamber. Cattle bones were also found in Chamber 2 of the same tumulus, as well as Chambers 3 and 5 in T.13. It is worth mentioning that cattle meat as grave offering is not so common as that of the small species, sheep or goat. Apparently cattle meat was offered by the elite individuals, testifying to their high status.

Adornment is mainly confined to beads made out of different materials and as usual in this period beads are a constant item in the grave offering inventory. Approximately 101 different beads of blue faience, quartz and agate, in addition to one small scarab of blue faience, were found in T.27 in the area around the disturbed skull, probably part of a necklace. One badly eroded iron ring and 88 small beads were found in T.17 (Plate 7).

Weapons frequently accompanied the deceased. Two types of iron arrowheads were found this season. The most common type is the single barbed arrowhead, the second type, which is less common, is barbless. Other unidentified iron fragments were found in the burials, and one stone archer loose was found in T.27.

To summarize, each season of excavations in the ez-Zuma cemetery brings to light some new elements of burial traditions, so far recorded in tumuli types II and III. In burial construction, there appeared for the first time a sub-type of tumulus Type II, represented by the superstructure and sub-structure of T.11, an element which needs further investigation in future seasons. Another construction modification is the trapezoid shaft noted in a number of burials of type III. To date four burials with trapezoid shafts were discovered in the cemetery, which in conjunction with its existence in other burial grounds in the same region clearly indicates strong elements of continuity between Meroitic and Early Makuria burial traditions. The appearance of some vessel forms that had not been noted in the previous seasons indicates the richness and expertise of the local pottery workshops. More exciting is the discovery of reused large red bricks of Meroitic origin. Most probably these were brought from a Meroitic temple or other official building located somewhere in the vicinity. According to the results of this season, future work on this site is needed beyond the limits of the present cemetery field.



Plate 7. Tumulus 17, bead collection.

Report on burial architecture of tumuli T. 11 and T. 13

Katarzyna Juszczyk

Research in the tumuli T. 11 and T. 13, excavated in ez-Zuma cemetery during the third season of fieldwork, provided much new information which can constitute the basis for developing the previously created tumulus typology. It mainly considers architectonic features such as the shape of the shaft ('L'- or 'U'-shaped), the construction of the pier on the eastern shaft wall, stairs and mud-brick or red-brick blocking walls. Here I focus on these features to show various aspects of the tumuli architecture in the Early Makurian period in the territory between the Third and Fourth Cataracts.

These two tumuli are characterized by architectural features such as the 'L'-shaped shaft and red-brick blockage, which have not been found elsewhere in the cemetery so far. Tumulus T.11, situated in the central part of the cemetery, had an 'L'-shaped shaft (Figure 2), with almost straight walls. This kind of shape was hitherto not registered in the cemetery at ez-Zuma, but it is possible to find analogies on other archaeological sites. At Firka (Kirwan 1939), on the east bank of Nile at the southern end of the desolate Batn-el-Hagar region, there were some tumuli (Cemetery A), in which the shaft with the *dromos* which led to it created together the 'L'-shape. However, the Firka tumuli were earlier than these built at ez-Zuma. The other site which may have a similar chronology is Abkur, located some kilometres downstream from ez-Zuma, where there is a cemetery (consisting of 180 tumuli), which is dated to the Post-Meroitic period. In 1999 one of the tumuli – T.1 (Figure 7), was excavated by Mahmoud el-Tayeb. It was smaller than T.11. The diameter of the mound measured at its base was 17m and today the mound rises to a height of 1.5m. The 'L'-shaped shaft was 2m deep and there were two chambers. The larger was cut in the south wall of the shaft, the smaller in its south-western corner (Żurawski 2003, 222-224).

In the upper part of the shaft of T.11, at a depth of 400mm, was found a row of black ferruginous sandstones which had formed one course in the north-west corner of the shaft. Their layout is difficult to interpret, but they could originally have covered the whole surface of the shaft.

Opening off the 'L'-shaped shaft were two chambers. The main chamber (no. 1) was hewn into the longest, south side of the shaft. Its maximum length was about 3.1m and it was 1.98m wide and up to 1m high. The western chamber (no. 2) was smaller and appeared to be devoted to holding offerings. It was hewn into the western side of the shaft and it was 2.95m long, 1.65m wide and 950mm high. The main chamber was indirectly connected with the western chamber by a hole cut in the wall (Plate 8). It could have served as a passage which facilitated access for the soul of the deceased

to the offerings placed in the lateral chamber. However, this is only one of a number of hypotheses. The hole in T.11 was 100mm in diameter and was 350mm long. This kind of passage was seen in other tumuli at ez-Zuma - T.5, T.2, T.23 and T.25 (Mahmoud el-Tayeb 2004, 389-400). Three forms of this passage were distinguished. The chamber could be connected via an external niche, step or hole. Moreover, there could be several holes, as in T.13 where each of the five chambers was connected by this kind of small passage.

Two chambers in Tumulus T.11 were blocked by two walls constructed of mud brick. The blockage of the main chamber (south side) was 2.9m long (Plate 9), while the blockage

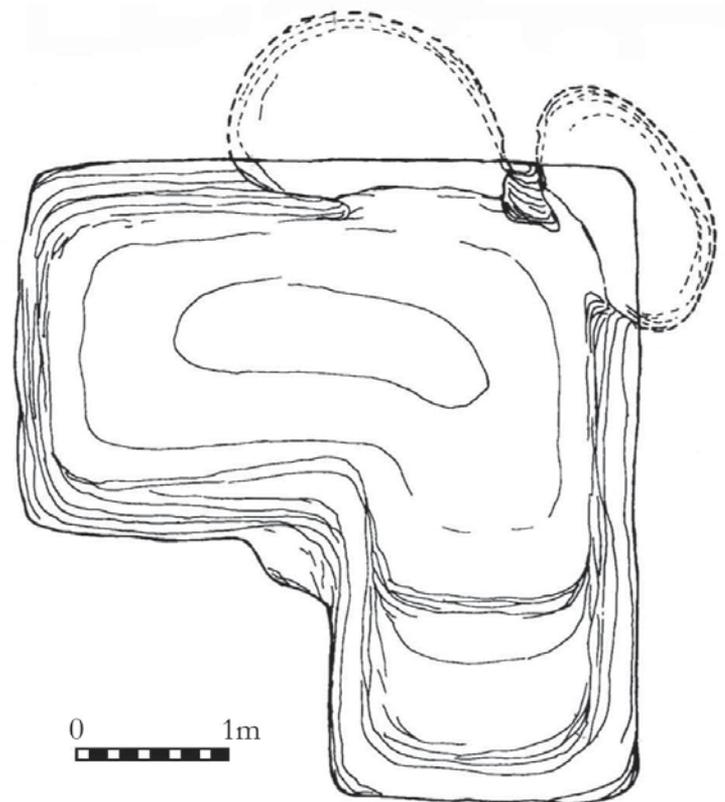


Figure 7. Plan of the subterranean part of Tumulus No. 1 in Abkur, scale 1:50 (after Żurawski 2003, fig. 3).

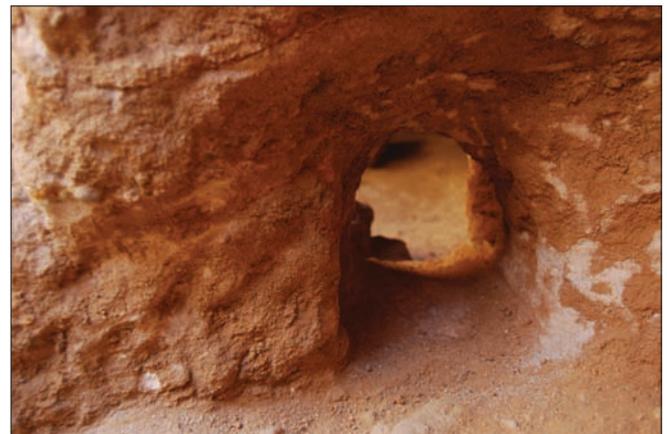


Plate 8. Tumulus 11. The "soul passage" cut between the chambers (photo O. Białostocka).



Plate 9. Tumulus 11. Mud-brick blockage of the main chamber (photo O. Białostocka).

of the western chamber was just 2.4m (Plate 10). Both of the structures were made of mud bricks (or of their halves) with dimensions of 400 x 200 x 80mm. Perhaps they were bonded together with a bright yellowish, sandy mortar. In the main chamber's blockage there were red bricks (330 x 170 x 60mm), which appeared irregularly in the upper and sometimes in the lower layer.

The maximum height of the main chamber's blockage was 900mm, while the side blockage was 880mm high. The main chamber blockage was about 600mm thick; however, the lowest course of bricks was 150mm wider. The method of brick construction was consistent. Regularly alternating courses of headers and stretchers are the norm; only the lowest layer was built in a different way: two rows of stretchers outside and one row of headers running between them. The blockage of the side chamber was 600-650mm thick and the method of its construction was the same as in the main chamber. The mud-brick blockages were an architectural feature which, alongside the stone blockages, were used in tumuli in ez-Zuma. So far they have been noted in tumuli T.2, T.13, T.23 and T.25. Their dimensions were comparable with the ones used in T.11; however, none of them attained such a height – 900mm. The bricks used in the blocking walls can



Plate 10. Tumulus 11. Mud-brick blockage of the western chamber (photo O. Białostocka).

be divided by size into three groups: 270 x 170 x 75mm; 380 - 400 x 180 x 75mm and 400 x 120 x 75mm (Obluski 2004, 402). The bricks used in T. 11 fall into Group 2.

Another site, where mud-brick blockages were also found is a cemetery in Hammur - Abbasiya. In Tumulus 4 the mud-brick blockage ran across the eastern part of the south-east side of the shaft. It was 2.2m long, 0.7m wide and 1m high. It closed the chambers 1 and 2 (Mahmoud el-Tayeb 2003, 132 - 133). Yet further tumuli with mud-brick blockages were found in Bukibul and excavated in 1986 by B. Żurawski and Mahmoud el-Tayeb (Grzyski 1989, 71-72) and tumuli Tnq. 87 in Tanqasi excavated in 2006 by W. Godlewski within the framework of the Early Makuria Research Project (Godlewski 2006).

The existence of single red bricks in T.11 both in the rubble on the bottom of the shaft and in blockages is a new recognized feature of sepulchral architecture in the Early Makurian period. Only in one other archaeological site, el-Akad, located in central Sudan and dated to the Post-Meroitic period, were graves found with red-brick blocking walls (Faroug and Tsakos 2007, 98-107). The bricks used in T.11 most probably came from a destroyed building (or buildings) standing nearby. According to the kind of material, it must have been a building of great importance to the local population. Some of the bricks had remains of white plaster (Plate 11) with tracks of blue colour. More bricks of this type were discovered in Tumulus T.13, which was also excavated in season 2009.



Plate 11. Tumulus 11. The mud brick (330 x 170 x 60mm) with white plaster, from the destroyed blockage of Chamber 1 (photo O. Białostocka).

Tumulus T.13 located in the north-east part of the cemetery had a 'U'-shaped shaft, with almost straight walls and a rectangular rock pier by the eastern wall (Figure 3). In the eastern part of the shaft a single step was cut into the south-east corner of the pier (at a depth of about 1.22m); the next one was in the south-west corner of the shaft (970mm), a little further from it in the west wall was located a third (860mm). The fourth step adjoined the north-east corner of the shaft (at a depth of about 1.25m). The shaft was cut in the hard white sandstone. 'U'-shaped shafts were already noted in tumuli excavated in cemeteries at ez-Zuma, Hammur (Figure 8) and Tanqasi. This shaft shape enabled the construction of a large number of chambers, and thus in T.13 there were five offering chambers. They were cut in the

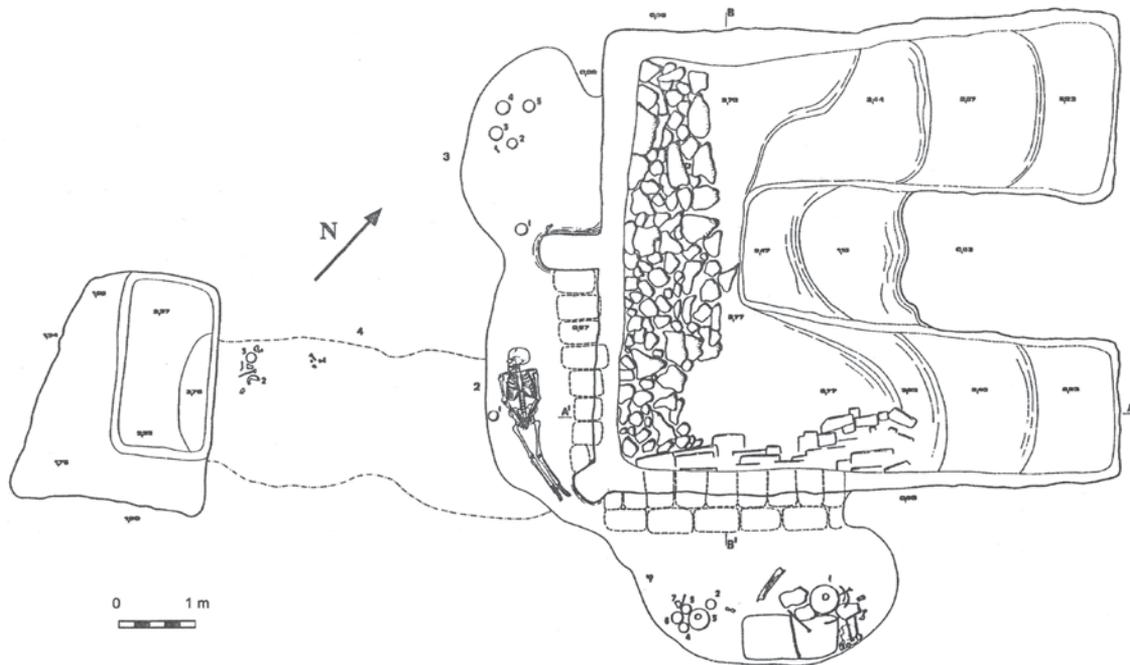


Figure 8. Ground plan of Tumulus 4 in Hammur-Abbasiya, scale 1:100 (after Mahmoud el-Tayeb 2003, fig. 12).

shaft on the north, west and south sides. Each of them was connected by passages cut in the walls. The main chamber (1) was hewn into the south side of the shaft. Its maximum length was about 3.3m, it was 1.7m wide and up to 800mm high. The dimensions of the other offerings chambers were:

- chamber 2 – 2.6 x 1.3 x 0.7m
- chamber 3 – 3.2 x 1.6 x 0.7m
- chamber 4 – 2.2 x 0.9 x 0.65m
- chamber 5 – 2.3 x 1.2 x 0.8m

The 'U'-shaped shafts and symbolic passages were noticed earlier in tumuli at ez-Zuma, belonging to the types I (T.2 and T.5) and II (T.23 and T.25).

All five chambers in T.13 were closed as in T. 11 with walls constructed of different materials. The blockage of the main chamber (1) was 3.3m long (Plate 12). It was constructed throughout of red bricks which were arranged in 10 courses



Plate 12. Tumulus 13. Mud-brick blockage of the main chamber's entrance (no. 1) (photo O. Bialostocka).

each of one row of headers and one of stretchers (1½ brick). Between the bricks (especially in the upper part of the blockage, near the ceiling of the chamber) was noticed a layer of mud which may be a mud mortar. The eastern part of blockage (what was mentioned above) was destroyed by the tomb's robbers.

The blockage of offering chamber 2, located in the south-west corner of the shaft was 2.5m long (Plate 13). It ran



Plate 13. Tumulus 13. Stone blockage of the entrance to Chamber 2 (photo O. Bialostocka).

along in the corner and it was built of many layers of white sandstone of various sizes. The lowest layer constituted red bricks arranged in a 1½ brick course, sometimes alternating with stones. It was 500mm thick and extended to the bottom of the shaft. On the outer face, between the stones, were single, red bricks.

The blockage of the offering chamber (3), which was cut in the west side of the shaft (Plate 14), was 2.9m long and constructed of red bricks arranged in courses of 1½ bricks.



Plate 14. *Tumulus 13. Red-brick blockage of the entrance to Chamber 3 (photo O. Bialostocka).*

It was 700mm high (eight courses) and 530mm thick. From the outside, the main blockage was additionally covered with two rows of red bricks placed vertically.

The blockage of the offering chamber (4) cut in the north-west corner of the shaft was 1.35m long and 750-800mm high (Plate 15). It was constructed of 1½ brick courses of red bricks with fragments of white sandstone forming the fifth course from the bottom of the shaft and the upper course. Similar to chamber 3, the blockage in chamber 4 from the outside was covered with a layer of vertically placed bricks (it was 900mm high).



Plate 15. *Tumulus 13. Mixed blockage of the entrance to Chamber 4 (photo O. Bialostocka).*

Finally, the blockage of offering chamber 5 (cut in the north wall of the shaft) was built of red bricks arranged in eight courses of a single brick each, 350mm thick, apart from the lowest course of 1½ brick construction. The bricks were bonded with mud mortar (Plate 16).

The blockages built of fragments of white sandstone were characteristic particularly of tumuli belonging to type III (according to the classification in ez-Zuma). They were noticed in tumuli T.22, T.17, T.27, T.10, T.18 and T.19. However, in the larger tumuli this kind of blocking wall was also used (T.5 or T.13). The combination of stone and bricks is an interesting architectural feature used in T.13; the builders



Plate 16. *Tumulus 13. Red-brick blockage of the entrance to Chamber 5 (photo O. Bialostocka).*

created in this way five blockages, each constructed in a different way. In T. 13 as in T. 11 re-used red bricks were also coated in some cases with remains of white plaster, on which in places were traces of blue paint. It certainly indicates that this material was re-used from the same building. Moreover, in T. 13 it is possible to distinguish two kinds of red brick: one (Plate 11) that corresponds to those used in T. 11 (330 x 180 x 80mm), the other type (Plate 17) with bricks larger and thinner, with clear finger impressions (their dimensions are 350 x 210 x 60mm). The flat bricks were usually used in the Meroitic period to construct floors. Among the first type of brick, apart from the typical rectangular brick, there were also found bricks with cut (Plate 18) or with round corners (Plate 19) which could indicate that they came from a destroyed building where they had formed part of the corner or jamb. It is very difficult to interpret what was the function of this building. Red bricks were rarely used in other tumuli of the Early Makurian period. The earliest example is grave Q.3 at Qustul, which uniquely was constructed of red brick on a socle of roughly-cut stone (Welsby 2002, 42-47). In the history of Nubian architecture, red bricks were more often used in the Meroitic period. Meroitic architects developed the practice of constructing exterior walls of red brick or giving them a red-brick facing. These walls were often covered by a hard white gypsum plaster. This technique was employed in the temples (Amon and Isis Temples at Meroe), baths (Royal Baths at Meroe) and palaces; that is in buildings of great importance and of monumental character (Adams 1984, 275-276). Red brick was still used in the Christian Period. Red brick was much more expensive to produce but red-brick buildings require much less maintenance, so that this kind of material was sometimes used in the Christian Period to construct churches and graves (Welsby 2002, 172-178). The red bricks found in tumuli T. 11 and T. 13 presumably came from a Meroitic building located probably within this same area.

The cemetery in ez-Zuma is dated to the period from mid 5th until the beginning of the 6th century AD. It can be compared with other cemeteries with similar burials and horizons: at Ballana and Qustul in Lower Nubia (Emery and



Plate 17.
Tumulus 13.
The red brick
(350 x 210
x 60mm)
(photo E.
Czyżewska).



Plate 18. Tumulus
13. The mud-brick
with a cut-out
from the destroyed
blockages (photo
E. Czyżewska).

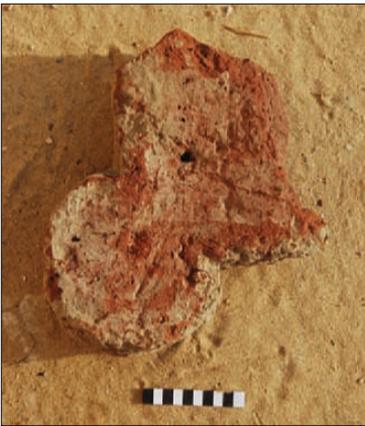


Plate 19. Tumulus 13.
The mud-brick with
round corner (photo E.
Czyżewska).

Kirwan 1938), el-Hobagi in Central Sudan (Lenoble 1989), Bukibul (Grzymski 1989), Abkur (Żurawski 2003), Hammur-Abbasiya (Mahmoud el-Tayeb 2003), Tanqasi (Shinnie 1954), Tabo (Bonnet and Jaquet 1969), Firka (Kirwan 1939), Jebel Ghaddar (Mahmoud el-Tayeb and Żurawski 1994), Kassinger Bahri (Paner 1998) and others. When we consider the sepulchral architecture of the tumuli at ez-Zuma, especially T. 11 and T. 13, we can observe that such architectural features as the form of shaft (L²-shaped), number of chambers, height of the blocking walls and material used for its construction are something new on the site and it is only possible to find analogies at the cemeteries in Abkur and Hammur – Abbasiya. Perhaps, new research conducted as part of the Early Makuria Research Project, or other projects, will help to gain a better understanding of burial architecture of Early Makuria in the Post-Meroitic Period.

Bibliography

Adams, W. Y. 1984. 'Meroitic Architecture. An Analytical Survey and Bibliography', *Meroitica* 7, 255-279.

Bonnet, C. and H. Jaquet 1969. 'Pnubs and the Temple of Tabo on

- Argo Island', *Journal of Egyptian Archaeology* 55, 103-111.
- Dunham, D. 1963. *The Royal Cemeteries of Kush Vol. V. The West and South Cemeteries at Meroe*. Boston: Museum of Fine Arts.
- Emery W. B. and L. P. Kirwan 1938. *The Royal Tombs of Ballana and Qustul*. London.
- Faroug M., Y. M. Saeed and A. Tsakos 2007. 'Akad Excavation Project. Preliminary report on the 2005 and 2006 Seasons', *Sudan & Nubia* 11, 98-107.
- Godlewski, W. 2006. 'Early Makuria Research Project: Season 2006', *Polish Archaeology in the Mediterranean XVIII*, 463-476.
- Grzymski, K. 1989. 'Trial excavations at Hambukol and Bukibul', *Archéologie du Nil Moyen* 3, 71-92.
- Grzymski, K. 1991. 'Ceramic Material from the Letti Basin area', in W. Godlewski (ed.), *Coptic and Nubian Pottery, Part II*. Occasional Paper, National Museum in Warsaw No. 2. Warsaw, 18-23.
- Kirwan, L. P. 1939. *The Oxford University Excavations at Firka*. Oxford.
- Klimaszewska-Drabot, E. 2010. 'Pottery Assemblage from the Tanqasi cemetery. Early Makuria Research Project (PCMA)', in Godlewski and Lajtar (eds), *Between the Cataracts. Part two, fasc.1. Session Papers*. Warsaw, 219-226.
- Kolosowska, E. and Mahmoud el-Tayeb 2007. 'Excavations at the Kassinger Bahri Cemetery Sites HP.47', *Gdańskie Archaeological Museum African Reports* 5, 9-36.
- Lenoble, P. 1987. 'Trois tombes de la region de Meroe, La cloture de fouilles historique d'el Kadada en 1985 et 1986', *Archéologie du Nil Moyen* 2, 89-119; 207-247.
- Lenoble, P. 1989. 'A New Type of Mound-Grave (continued): Le tumulus á enceinte d'Umm Makharoqa, pres d'el Hobagi', *Archéologie du Nil Moyen* 3, 93-120.
- Mahmoud el-Tayeb 1994. 'Excavation at El-Ghaddar – Old Dongola', in C. Bonnet (ed.). *Études Nubiennes*, vol. 2, Genève, 65-82.
- Mahmoud el-Tayeb 2003. 'Excavations at Hammur-Abbasiya', in Żurawski 2003, 130-39.
- Mahmoud el-Tayeb 2004. 'Early Makuria Research Project. Excavations at El-Zuma. Preliminary Report', *Polish Archaeology in the Mediterranean XVI*, 389-399.
- Mahmoud el-Tayeb 2007. 'Early Makuria Research Project. Test Excavation in El-Zuma Cemetery', *Mélanges offerts à Francis Geus, Cahiers de Recherches de l'Institut de Papyrologie et d'Égyptologie de Lille* 26, 71-86.
- Mahmoud el-Tayeb 2010. 'Early Makuria Research Project. El-Zuma Excavations. Preliminary Report on the Second Season, 2007', *Polish Archaeology in the Mediterranean XIX*, 467-479.
- Mahmoud el-Tayeb and B. Żurawski 1994. 'The Christian Cemetery of Jebel Ghaddar North', *Nubica* III/1, 297-317.
- Obluski, A. 2004. 'Appendix 1: Remarks on a Survey of The Tumuli Field at El-Zuma', *Polish Archaeology in the Mediterranean XVI*, 400-403.
- Paner, H. 1998. 'The Hamdab Dam Project. Preliminary Report of Results from Work in the Fourth Cataract Region 1996-1997', *Gdańskie Archaeological Museum African Reports* 1, 115-132.
- Phillips, J. 1987. 'Test Excavation at El-Ghaddar', in Grzymski 1987, 35-41.
- Rose, P. J. 1998. 'Meroitic Pottery', in D. N. Edwards 1998. *Gabati* vol. 1. Sudan Archaeological Research Society Publication 3. London, 138-141.
- Shinnie, P. L. 1954. 'Excavations at Tanqasi 1953', *Kush* 2, 66-85.
- Welsby, D. A. 2002. *Medieval Kingdoms of Nubia*. London.
- Williams, B. B. 1991. *Excavations Between Abu Simbel and The Sudan Frontier. Vol. IX, part 9. Nubadian X-Group Remains from Royal Complexes in Cemeteries Q and 219 and from Private Cemeteries Q, R, V, W, B, J, and M at Qustul and Ballana*. Chicago.
- Żurawski, B. 2003. *Nubia II. Southern Dongola Reach Survey 1. Survey and Excavations between Old Dongola and Ez-Zuma*. Warszawa.