

ANIMALS FROM THE TUMULI IN EL-DETTI IN SUDAN: FROM BONE REMAINS TO STUDYING RITUAL

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Abstract: Excavation of seven tumuli during the 2015 season in a cemetery of Early Makurian date located in the village of el-Detti yielded an extensive animal bone assemblage, altogether 590 bone fragments, accompanying the other finds. Poor preservation resulted in some 10% of the bones not being identified to species. Bone remains were located likewise in chambers, shafts, tunnels and looters' trenches. They represented the following species: cattle, ovicaprines and dog. Marks recorded on the bones confirmed that the cuts of meat from cattle and ovicaprines were served as food offerings for the dead. The dog bones were probably connected to some form of ritual performed during the funeral.

Keywords: animal bones, Early Makuria, el-Detti, offering deposits

The tumuli field at el-Detti dates from phase II of the Early Makurian period, just like the large complex of tumuli in el-Zuma village, from which it is only about 7 km distant upriver. Mahmoud El-Tayeb, who headed a season of excavation at the site in 2015 within the frame of the Early Makuria Research Project of the Polish Centre of Mediterranean Archaeology University of Warsaw, dates phase II to AD 450–550 (El-Tayeb 2012: 61). His excavation covered seven different tumuli (for the plan of the site and a report on the current excavation, see El-Tayeb et al. 2016, in this volume), finding them to be different in size and substructure. Six of the tombs represented a form identified in el-Zuma as type III (El-Tayeb 2005: 390–391), comprising only one chamber

to the side of the burial shaft. The one tomb that was different was Tumulus 1. It had a slightly bigger superstructure and a shaft with three chambers, identified as el-Zuma tomb type II. The graves had all been looted from the top, as evidenced by characteristic depressions left by looters' holes in the tops of mounds or, as in the case of Tumulus 6, seen in the trench wall. In most cases there was serious damage to the rock ceilings of the chambers with the collapsing rock disturbing the burials. The blockages of the chambers were also damaged. Pottery 'scrapers' found in the fill of the shaft may also be proof of looting (Kołosowska and El-Tayeb 2007: 19, 22, 25). Even so, an abundance of archaeological material was recovered from the graves, including animal bones, which are discussed in this paper.

MATERIAL AND METHODS

The animal bones found in situ during the excavation were intact, but once exposed, they quickly began to crack. In the end, mostly fragmented bones were brought to the field lab for analysis. Poor preservation of the bones in general caused 58 fragments, out of 531, to go unidentified: seven from Tumulus 1, 40 from Tumulus 2, two from Tumulus 4 and nine from Tumulus 7. Only a few bones were preserved well enough for measurements to be taken. Some bones were evidently weathered and most of them were dry and brittle.

The bones were identified to a zoological taxon and anatomical element. Wherever possible, ovicaprine bones were distinguished following established meth-

odologies (Schramm 1967; Zeder and Lapham 2010; Zeder and Pilaar 2010). However, the bones are likely sheep, as no goat bones were discovered in any of the graves at el-Detti. Animal age was established on the basis of diaphysis and epiphysis fusion (Kolda 1936). There were no features to indicate the sex of animals. Some sheep bones were measured according to von den Driesch's method (1976). Height at the withers was determined for one sheep only, using Teichert's coefficients (von den Driesch and Boessneck 1974). The number of individuals (MNI) was calculated, taking also into consideration the size of the bones and the age of the individuals.

RESULTS

TUMULUS 1

Tumulus 1 was located in the southernmost part of the graveyard. It was the biggest of the el-Detti tumuli in terms of height of the superstructure above ground level, about 1.70 m, and its maximum diameter, that is, 25.00–28.50 m. The grave was unlike the other tumuli excavated during the season in that it had three chambers opening off the sides of the L-shaped shaft, which was 3.50 m deep (see above in this volume, El-Tayeb et al. 2016: Figs 3, 4). The oval-shaped main chamber (No. 1) in the southern part of the tumulus contained a human skeleton and grave goods: pottery, beads and fragments of burned wood. Two smaller oval-shaped chambers in the eastern (No. 2) and northern parts (No. 3) contained only grave goods: pottery and beads. It seems that only chamber 1 was looted (a concentration of stone slabs from

the blocking of the chamber was found in the northern part of the shaft) and its contents moved.

Animal bones were found among the grave goods in all the chambers except for chamber 3. In the main chamber, bones were discovered in two clusters in the central and eastern parts. Animal bones were mixed with human ones. The assemblage consisted of sheep and cattle remains. In chamber 2, bones were accumulated in its southern part. Mostly cattle remains were present in that unit. Bones discovered in the shaft belonged to the same cattle and sheep individuals that were found in the chamber, so they must have been brought out from the main chamber. In general, the bones represented the more valued parts of the carcass, that is, the proximal parts of the limbs. In the case of cattle, bones from the fore and hind limbs were present. Ribs

were also discovered in all of the units. As far as the sheep remains are concerned, the assemblage was similar to that of cattle, containing additionally one lumbar and one caudal vertebrae and the sacrum [Table 1]. All the bones were dry and fragile. Only the cattle pelvis bore anthro-

pogenic marks; it was chopped on the edge of the wing of the ilium.

The bones represented two incomplete skeletons of cattle and sheep. Cattle bones came from an adult animal aged 3.5–4 years. The animal had a newly broken trochanter of the left humerus, which

Table 1. Identification of animal bones from Tumulus 1

Species	Localization	Bone	Number of fragments	Number of bones			Remarks	Description
				R	L	R/L		
Cattle	Chamber 1	Costae	3			1		
		Humerus	1		1 (part)			
		Ossa carpi	1				1	
		Tibia	3	1 (part)	1			
	Chamber 2	Costae	21				2	
		Humerus	6		1 (part)			1 individual, ~ 3.5–4 years old
		Radius	1			1		
		Pelvis	6	1				
		Tibia	2	1 (part)				
	Shaft	Costae	5				1	
Scapula		4		1				
Tibia		8				1		
Sheep	Chamber 1	Caudal vertebrae	1			1		
		Sacrum	2				1	
		Humerus	1	1 (part)				
		Radius	1	1				
		Femur	3	1 (part)	1 (part)			
		Patella	1		1			
	Chamber 2	Tibia	1				1	
Shaft	Lumbar vertebrae	1				1	1 individual, under 3–3.5 years old	
	Costae	1				1		
	Scapula	4		1				
	Humerus	1	1 (part)	1				
	Ulna	1	1					
	Femur	33	1 (part)	1 (part)				
	Tibia	2		1				
	Calcaneus	2		1	1			
Talus	1			1				

had not healed entirely. Sheep remains belonged to an individual under 3–3.5 years of age, as indicated by the diaphysis and epiphysis fusion (Kolda 1936). However, taking into consideration the size of the bones in comparison with other cattle bones from the el-Detti site and the bone structure, the animal must have been much younger, perhaps even under one.

TUMULUS 2

The tumulus was a rather small mound in the central part of the site. It was 9.30 m in diameter and about 0.70 m high. The grave substructure contained a 2.50-meter-deep shaft and an oval chamber on the north-western side (see above in this volume, El-Tayeb et al. 2016: Fig. 5). Fragments of pottery, beads and organic elements along with human and animal bones were excavated from the fill of the shaft. Remains of an incomplete skeleton of an adult dog,

partly articulated, but without the head and extremities [Fig. 1] were found by the northeastern wall of the shaft. The dog was deposited on its left side under the stone slabs, which had probably come from the blockage. One of the thoracic vertebrae spinous processes must have been broken during its life, causing significant growth of the periosteum at the breakage spot. The fracture was only partly healed, which might suggest that the animal was killed shortly after the injury.

Sheep remains were found together with the dog bones. There were also a few bones that belonged to at least two micromammals of different sizes [Table 2]. Sheep bones came mostly from the thorax and proximal parts of the limbs (from both sides of the forelimbs and the right side of the hind limb). Three ribs and eight caudal vertebrae were found in a bowl (vessel D2/3) covered with a cup (vessel



Fig. 1. Part of a dog skeleton in anatomical arrangement, lying on the left side (shaft of Tumulus 2) (Photo A. Kamrowski)

D2/4), situated in the southeastern part of the shaft (El-Tayeb et al. 2016, in this volume) [Fig. 2].

In the small fill, about 1.30 m from the top of the shaft, two bones (a sheep humerus and a dog metacarpal) were found. Those remains, however, must have come from modern animals, as the dog metacarpal bore marks of gnawing which were recent.

The blockage between the shaft and the burial chamber was partly damaged and the chamber had been looted; only pottery, beads, two iron objects, a few human remains and slightly more animal bones were still inside. In the fill of the chamber, sheep bones from the proximal parts of the limbs and both sides of the carcass were discovered together with a dog mandible.

The sheep bones deposited in the grave (both in the chamber and the shaft) came from a very young individual, about 5 months old. The carcass was divided into smaller pieces, which was indicated by deep knife marks left close to the acetabulum of the pelvis, and it seems that at least five meat cuts were deposited as grave goods: the right hind limb without the extremities, the right and left proximal

parts of the forelimb, and two cuts placed in a bowl (ribs and a fragment of the tail) [see Table 2].

TUMULUS 3

This tumulus was also located in the central part of the cemetery. Its dimensions are similar to those of Tumulus 2; the diameter of the superstructure was about 10.30 m and its height 0.65 m. The substructure consisted of a shaft 2.50-m-deep and an irregular, kidney-shaped chamber located on the southeastern side (see above in this volume, El-Tayeb et al. 2016: Fig. 6). The ceiling of the chamber had collapsed inside, together with the eastern part of the shaft wall. This was caused by looting of the tomb. Only a few stones were left from the original blockage of the chamber. There were a few human bones and pottery in the shaft filling. The chamber was also poorly equipped: pottery, human and animal bones, and organic elements were the only remains left after the robbery.

Two clusters of bones, mostly human, mixed together with pottery, were found near the entrance to the chamber, on the northern and southern sides of the pottery aggregation. Only four sheep bones, from



Fig. 2. Vessels from tumuli 2 and 4 containing animal bones; from left: D2/3, D2/4, D4/11
Photo A. Kamrowski

Table 2. Identification of animal bones from Tumulus 2

Species	Localization	Bone	Number of fragments	Number of bones			Remarks	Description
				R	L	R/L		
Sheep	Chamber	Caudal vertebrae	1			1		
		Sacrum	5			1		
		Costae	14	3	1			
		Sternum	1			1		
		Scapula	10	1	1			
		Ulna	1	1				
		Pelvis	3	1 (part)				
		Femur	2	1				
		Calcaneus	1			1		
		Ossa tarsi	2			1		
	Shaft	Caudal vertebrae	24			8	vessel D2/3 covered by D2/4	1 individual, ~5 months old
		Costae	5			3	vessel D2/3 covered by D2/4	
		Lumbar vertebrae	2			2		
		Costae	12	2				
		Humerus	4	1	1			
		Radius	5		1			
		Ulna	3		1			
		Pelvis	5	1 (part)				
		Tibia	3	1				
		Dog	Chamber	Mandible	1			
Shaft	Hyoid		1	1	1			
	Clavicle		2	1	1			
	Atlas		1			1		
	Axis		1			1		
	Cervical vertebrae		5			5		
	Thoracic vertebrae		10			6		
	Lumbar vertebrae		6			6		

the hind limb, were discovered in the central part [Table 3]. Two tibiae (left and right) and one calcaneus came from one individual about 15–20 months old. The bones were very dry and fragile. Another left tibia, belonging to another animal of a similar age, was also found. The bone was

dry and weathered, not like the rest of the bones.

TUMULUS 4

The grave was located in the central part of the cemetery. The tumulus was only 0.40 m high. The diameter of the super-

Table 2. Continued

Species	Localization	Bone	Number of fragments	Number of bones			Remarks	Description
				R	L	R/L		
Dog	Shaft	Lumbar vertebrae	7			3		
		Caudal vertebrae	4			4		
		Costae	38	6	4			
		Sternum	3			3		1 individual, adult
		Scapula	28	1	1			
		Patella	1			1		
		Ossa carpi	3			2		
		Metacarpals	1			1		present-day adult animal
Micromammal	Shaft	Long bones	2			2		1 individual, mouse size
		Cervical vertebrae	1			1		1 individual, mouse size
		Lumbar vertebrae	1			1		

Table 3. Identification of animal bones from Tumulus 3

Species	Localization	Bone	Number of fragments	Number of bones			Remarks	Description
				R	L	R/L		
Sheep	Chamber	Tibia	5	1	1			1 individual, ~15–20 months old
		Calcaneus	1		1			
		Tibia	1		1		1 individual, under 3.5 years old (similar age to the first individual)	

structure was 11.70–12.30 m. Despite evidence of looting, visible on the surface as a depression in the central part of the superstructure, the shaft and the

oval chamber were found to be in good condition. The substructure consisted of a shaft 2.30 m deep and an oval chamber on the western side of the grave.

Table 4. Identification of animal bones from Tumulus 4

Species	Localization	Bone	Number of fragments	Number of bones			Remarks	Description
				R	L	R/L		
Sheep	Chamber	Costae	17	3	2			
		Scapula	8	1	1			
		Humerus	3	1	1			
		Radius	3	1	1			
		Ulna	2	1	1			1 individual, ~3.5 years old
		Ossa carpi	3			3		
		Metacarpals	1		1			
	Pelvis	5	1	1				
	Costae	8	2					
	Scapula	2	1	1				
	Humerus	3	1	1				
	Radius	3		1			1 individual, under 5 months old	
	Pelvis	1	1					
	Ossa tarsi	3			3			
Ulna	3		1		from vessel D4/11			
Dog	Chamber	Axis	1			1		
		Metatarsals	1			1		
		Ph II	1			1		
	Mandible	1	1					
	Costae	2			2		1 individual, small adult	
	Atlas	1			1			
	Shaft	Cervical vertebrae	1			1		
		Metacarpals	1			1		
		Tibia	8	1	1			
		Calcaneus	1		1			
Atlas	1			1		1 individual, adult		

Stone slabs, probably from the blockage of the chamber, were gathered along the north wall of the shaft. It was evident that the chamber had been looted: human and animal bones, arrowheads, and beads were all mixed together. Nevertheless, some fairly valuable objects had been left in the chamber by the robbers: an anthropomorphic pendant, a type of padlock or lock, a copper plate with a fragment of fabric and two iron tools (see above in this volume, El-Tayeb et al. 2016: Figs 7, 16–18). It seems that some of the chamber equipment had been thrown into the shaft, in which human and dog bones, pottery, beads and fragments of fabric were found. There were also some human and dog remains by the west wall connecting the shaft with the chamber.

Most of the human and animal bones were collected in one pile in the middle of the chamber and in another one by the west wall of the shaft. Animal remains came from two sheep and one dog. All the bones were dry and brittle. Additionally, most of the dog bones were also weathered. Sheep bones were found only in the chamber. One individual was under 5 months old, the other was much older, that is, about 3.5 years old. All the bones of the adult animal came from the proximal parts of the limbs, from both the right and left parts of the carcass, and from the thorax. There were marks of disarticulation on two humeri and a mark, left by a knife, on the shaft of the radius of one individual. It seems that at least seven meat cuts from this carcass were put into the grave: ribs and prime cuts (four of them from the proximal parts of the forelimbs with the addition of three pieces of the proximal part of the hind limbs) from each side of the carcass of both animals. Bones of the young individual have no anthropo-

genic marks, which might suggest that the whole forelimbs were put into the grave with the addition of the proximal part of the right hind limb, tarsal bones and ribs. Three fragments of one left ulna were also found in a small bowl (D4/11) [see *Fig. 2*] in the northern part of the chamber, suggesting that the bone had been used to cook a dish [*Table 4*].

The dog bones belonged to a small adult individual. The skeleton was incomplete: only fragments of the head, neck, thorax, distal hind limb and extremities were found. There was also an atlas of another, much bigger adult individual in the fill of the shaft. It might have fallen inside when desert sands filled the looters' trench. The bone featured marks of a mild inflammation on the surfaces of the joints on the caudal side.

The withers height was calculated only for the adult sheep [see *Table 8*]; the measurements suggest that the animal was between 63 and 70.8 cm tall, the average being about 67 cm.

TUMULUS 5

This grave was located in the central part of the graveyard. The superstructure was 0.50 m high and its diameter was 10.20–10.50 m. An oval chamber was located at the bottom of a shaft, which was 2.50 m deep, opening to the west. Stone slabs blockage the chamber lay along the east wall of the chamber. A number of objects were excavated from the fill of the shaft: human bones, pottery, two arrowheads and a fragment of a javelin head. In the central part of the chamber there was an accumulation of pottery, beads, iron arrowheads, as well as human and sheep bones mixed together (see above in this volume, El-Tayeb et al. 2016: *Fig. 8*).

Animal bones were dry and fragile. It seems that two cuts of meat had been taken from one sheep carcass. One of them included ribs from the left and right part of the carcass, the sternum and proximal part of the right hind limb, the other the left tibia and calcaneus [Table 5]. Two right ribs bore marks of chopping. The first portion contained much more meat than the second. All the sheep bones came from one adult individual older than 3.5 years.

TUMULUS 6

This tumulus and Tumulus 7 lie in the northern part of the cemetery. The superstructure was of a small size, just 0.35–0.40 m high with a diameter of 9.40–9.55 m. The substructure consisted of a shaft that was 2.10 m deep and an oval chamber in the eastern part of the grave. The northern part of the east wall of the chamber collapsed, probably as a result of looting. The blockage was removed from its original place, the fill of stone slabs of different sizes stacked along the west wall of the chamber. The only remains found in the fill of the shaft were stones from the blockage, pottery, some human and animal bones. The bones were located in the north-western corner of the shaft. Beads were also discovered in the chamber. Animal bones were mixed together with human remains

in the northern part of the chamber (see above in this volume, El-Tayeb et al. 2016: Fig. 9). All the animal bones came from one sheep under 3–4 months old. It seems that they represented three meat portions: from the thorax, the proximal part of a forelimb and the hind limb (fragment of the proximal and distal parts without extremities) [Table 6]. No marks were noted on the bones.

TUMULUS 7

The grave was located in the northeastern section of the cemetery. The superstructure was comparable in size with that of Tumulus 4: 0.85 m high and 12.15–12.30 m in diameter. The substructure consisted of a shaft 2.10 m deep and an irregular, kidney-shaped chamber in the southwestern part of the grave. There were a few looting holes that had damaged the ceiling and the southwestern wall of the chamber. Few objects remained: human and animal bones, pottery, beads and an iron knife were found in both the shaft and the chamber. Only a few stones from the blockage were excavated at the entrance to the chamber. Animal bones were collected in two clusters, in the eastern and central parts of the chamber, while two bones were also discovered in the shaft (see above in this volume, El-Tayeb et al. 2016: Fig. 10).

Table 5. Identification of animal bones from Tumulus 5

Species	Localization	Bone	Number of fragments	Number of bones			Remarks	Description
				R	L	R/L		
Sheep	Chamber	Costae	23	2	3		1 individual, adult, more than 3.5 years old	
		Sternum	1			1		
		Pelvis	1	1				
		Tibia	2			1		
		Calcaneus	1			1		

SUDAN

The eastern cluster contained human remains on the top and cattle bones underneath. The bones in the center were sheep remains located under human bones. Cattle bones belonged to one individual under 7–10 months old. It seems that three cattle cuts were deposited in the grave: ribs

and two proximal parts of the hind limb, one with a fragment of the distal part. Six ovicaprine ribs were found in the central part of the chamber [see *Table 8*]. They all came from one adult or one young but large individual. One rib bore marks of filleting.

Table 6. Identification of animal bones from Tumulus 6

Species	Localization	Bone	Number of fragments	Number of bones			Remarks	Description
				R	L	R/L		
Sheep	Chamber	Costae	8	1	1		1 individual, under 3–4 months old	
		Humerus	3	1 (part)				
		Radius	1	1				
		Tibia	8	1	1			
		Calcaneus	3	1	1			
		Talus	2	1	1			
		Ossa tarsi	1			1		
	Shaft	Humerus	1	1 (part)			fragment from the humerus in the chamber	
		Scapula	3	1				
		Tibia	2	1			1 individual, under 3.5 years (similar age to the first individual)	

Table 7. Identification of animal bones from Tumulus 7

Species	Localization	Bone	Number of fragments	Number of bones			Remarks	Description
				R	L	R/L		
Cattle	Chamber	Costae	12	2			1 individual, under 7–10 months old	
		Pelvis	7	1				
		Tibia	2	1				
		Talus	1	1				
	Shaft	Tibia	3	1				
Sheep	Chamber	Costae	14	1	1	3	1 individual, adult or young grown up	
	Shaft	Costae	4			1		

DISCUSSION

It is impossible to reconstruct the funeral ritual associated with animals and meat on the grounds of the evidence from the el-Detti tumuli. Animal remains were found *in situ* only in chamber 2 of Tumulus 1. In chamber 1 of that grave, the deposits were disturbed, whereas in all the chambers from the rest of the graves, in almost all the cases, looters had dragged the bones into the shaft. It was difficult, therefore, to reconstruct the anatomical arrangement of the sheep and cattle meat cuts or the position of the dog skeletons. However, some features may be considered as characteristic. For instance, the only tumuli of the el-Zuma type III containing dog remains (Tumuli 2 and 4) had burial chambers located on the western sides of the graves. In both cases, the tombs belonged to men about 45–55 years old, while other tumuli also contained female skeletons (R. Mahler, personal communication). A similar case is known only from grave HP47/3 in Kassinger Bahri, but anthropological analysis indicated only the age of the dead as adult, while establishing the sex was impossible (Kolosowska and El-Tayeb 2007: 26).

The tumuli in el-Detti were varied regarding size, type and substructure construction and as such they might have represented a different social status of the people buried in them. All the graves were looted, probably not long after the funeral, considering how well the looters knew what they were doing. In fact, Tumulus 7 was the only one in which looters made several desperate attempts to enter the grave; in all the other cases there was only one looters' trench hitting directly on the mark, into the shaft (Tumuli 1, 2,

4, 5) or the burial chambers (Tumuli 3 and 6). Looting was fairly easy even using only scrapers; the graves were only 2–3 m deep, except for the bigger Tumulus 1. The excavated tumuli were equipped with grave goods, some of which escaped the attention of the robbers.

Animal remains were deposited in all the graves, which is an interesting observation in view of the fact that some tumuli located in Early Makurian cemeteries were devoid of animal bones; for example, only three out of almost 20 graves contained such remains at the cemetery of Saffi 56 (Osypińska 2011: 543). Although animal bones were found in all parts of the graves, their presence in the shafts must have been the effect of looting; in most cases, their original places of deposition would have been the chambers.

The role of animal carcasses in the graves differed depending on the species. Fragmentation of sheep and cattle meat cuts and marks of filleting and chopping on the bones attest to the post-consumption character of the remains or to the fact that certain dishes were prepared for consumption and put untouched into the graves as grave goods. The dog remains, however, are a sign of some unusual ritual that probably took place during the funeral or after the body had been deposited in the grave.

It seems that lamb was the most popular animal sacrifice and the cheapest one perhaps. Lamb dishes were prepared before depositing them as grave offerings. Such treatment is suggested by ribs and caudal vertebra found in a small bowl in the shaft of Tumulus 2, three fragments of the ulna put into a bowl and deposited in the chamber of Tumulus 4, and by filleting marks on

a few bones from Tumuli 4, 5 and 7. In two cases (Tumuli 2 and 4), almost the whole sheep hind limbs without extremities were also deposited, probably without further processing except for disarticulation at the hip joint (Tumulus 2) or at the shoulder joint (Tumulus 4). There was no evidence

Table 8. *Measurements of selected sheep bones from Tumuli 1 and 4 in el-Detti*

TUMULUS 1					
Cattle					
		Bp	Bd		
Radius		–	652		
Tibia		82.2	53.3		
		–	53.3		
TUMULUS 4					
Sheep					
	GL	Bp	Bd	SD	
Humerus		147.1	34.9	28.2	14.1
		–	34.8	–	–
Radius	GL	Bp	Bd	SD	
		176.1	32	28.6	15.1
		–	30.8	–	–
Meta-carpus	GL	Bp	Bd	SD	DD
		136.1	21.3	23.1	12.1
Scapula		GLP	BG	SLC	
			29.9	20	17.4
			30.7	19.8	17.8
			31.1	18.2	18.5
Dog					
Metatarsus	GL	Bp	Bd	SD	
		65.1	7.2	7.4	63
Ph 2	GL	Bp	Bd	SD	
		16.5	7.2	6.8	4.9
Tibia		Bd			
			19.6		

for roasting the meat on the bones; some of the lamb dishes were boiled probably, especially the portions from Tumuli 2 and 4. The meat was usually of good quality; it came from young individuals under two years of age, mostly under one year. Only the sheep remains from Tumuli 4 and 5 came from adult animals of about 3.5 years of age, which is not old for such animals, thus the meat should still have been palatable, especially in the case of females. It was not possible, however, to establish the sex on the basis of the bones.

Withers height of one sheep was about 67 cm. That indicates a similarity to the modern Dongola type according to Epstein (1971: 90), which is woolly sheep bred in the riverine area. Desert type individuals are slightly bigger, usually between 70 cm and 90 cm.

Beef was very rare among the grave goods. Fragments of cattle carcasses were found only in two graves: one of type II (Tumulus 1) and one of type III (Tumulus 7) according to Mahmoud El-Tayeb (2005: 390–391). The latter case was very unusual in the light of the well-explored el-Zuma cemetery, where almost all the tumuli have been excavated and where only tumuli of types I and II were found to contain cattle remains (author's own research). The suggestion is that only rich or powerful people were equipped with beef as food for the afterlife. Cattle butchered as an offering was young or relatively young: beef deposited in Tumulus 1 came from a 3.5–4-year-old individual, while the remains in Tumulus 7 came from the carcass of a 7–10-month-old animal. In both cases only meaty cuts of good quality were represented. Using young cattle and ovicaprine meat as an offering may be treated as a rule in the light of recent

research (Osypińska 2011). The young age of slaughtered animals, usually under two, was noted in tumuli in Hammur Abbasiya, Saffi 56 (Osypińska 2011: 542–544), Tanqasi (Osypińska 2008), el-Sadda (Osypińska 2007; 2010b), and el-Zuma (Osypińska 2005; 2010a; Iwaszczuk 2015). Marta Osypińska (2011: 542–544) also confirmed using only meaty cuts from the proximal parts of the limbs and the thorax of both cattle and ovicaprines at all the cemeteries she has explored.

It is interesting that the cattle individual from Tumulus 1 was lame. It had a broken trochanter of the left humerus, not entirely healed, which must have made it painful to walk. This might not be relevant for the funeral ritual as such, but it might have been the reason why the animal was chosen to be slaughtered.

Dog remains were discovered in two tumuli of type III. In Tumulus 2, the proximal part of the skeleton without the head and limb bones was articulated, the animal lay on its left side under the stone slabs which probably came from the blockage in the shaft. In Tumulus 4, most of the dog bones were found in the shaft mixed with human bones, among other objects thrown out from the chamber. Additionally, some dog remains were located in the chamber. It is therefore by no means certain that dogs were originally deposited in the shafts as guardians of the dead. Moreover, the dog remains in Tumulus 4 were in a different state of preservation from the rest of the bone material, which might suggest different treatment of these remains (open-air conditions). Similar cases of dogs being buried in human graves were rare in the Early Makurian period. A dog skeleton was found between the blockage stones at el-Sadda (Osypińska 2011: 544).

Another case is known from grave HP47/3 at El-Kassinger Bahri, where an incomplete skeleton was discovered in situ in the shaft by the north wall (Kołosowska and El-Tayeb 2007: 25–26; Makowiecki 2007). It is not known what kind of beliefs this may have represented, but making a connection between dog burials and “a worship of Anubis as part of a mortuary cult”, as Marta Osypińska claims in her analysis of the offerings in post-Meroitic burials (Osypińska 2011: 547), is unfounded. There are still too many questions, among others, about the ethnicity, culture, and religion of the people who built the tumuli of Early Makurian times. Were they descendants of the Meroites? Animal sacrifices had almost disappeared in Nubia during the New Kingdom and Napatan periods (Kołosowska and El-Tayeb 2007: 34). Why had then this tradition reappeared in the Early Makurian period? Perhaps the builders of the tumuli arrived as nomads, either Nobu or others? In the light of the present knowledge, the latter instance is less likely; pottery from the Early Makurian sites differed from that of the Nobu (M. El-Tayeb, personal communication). The presence of the remains of the smaller type of sheep as grave goods in el-Detti also suggests an agricultural lifestyle as opposed to the nomadic large desert-type sheep and goat pastoralism broadly discussed in the context of Africa (among others, Badenhorst 2006; Epstein 1971; Linseele 2010; Pereira et al. 2009). Taking that into consideration, it is difficult to discuss the beliefs of a people, if we do not even know who they were. A simple transfer of Egyptian beliefs must be regarded with suspicion, especially considering the evidence for Christianity being present in the region of the Fourth

Cataract (some artifacts from the el-Zuma tumuli suggesting a Christian provenance, M. El-Tayeb, personal communication). Perhaps some beliefs survived the fall of the Meroe kingdom (after all, dog burials are not in the Christian tradition), but such claims are unfounded when vital issues still go unanswered. We should also keep in mind that although animal

sacrifices have a long tradition in Nubian history, similar material manifestations of the ritual might refer to different forms of beliefs.

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