

Fig. 1 Destroyed superstructure of tomb AS 91 with opening of Shaft 3 and the destruction of the southern wall in the foreground, viewed from the south. The mastaba of Kaaper (AS 1) is in the background (photo M. Bárta)

A preliminary report on the excavations of tomb AS 91 at Abusir South (autumn season 2016)

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In the autumn season of 2016, a structure designated as AS 91 was excavated at Abusir South.¹ It is located to the south of the tomb of the official, Kaaper (AS 1; Bárta 2001: 143–191) and by now is the southernmost mastaba explored in this part of the necropolis. However, at the time of its uncovering, tomb AS 91 was almost completely destroyed (fig. 1). Only several rows of smaller limestone blocks forming an eastern wall were detected, including its supposed north-eastern and south-eastern corners. A southern wall was recorded as being collapsed, and no remnants of a western wall and south-western and north-western corners of the mastaba survived. Thus, it is impossible to designate precisely the overall measurements of the mastaba. Even though the tomb's state of preservation is very poor, several interesting finds were uncovered there. Nonetheless, no evidence was found that can provide us with a name and titles of its owner.

Although the original mastaba type tomb AS 91 was considerably damaged, with the help of detailed observations we can at least try to reconstruct its original appearance. However, we have to be careful since the remains are scarce, and that is why a number of deductions are only speculations. This article presents a report on tomb AS 91, describing the superstructure and substructure, and summarising some preliminary conclusions. Two

specialized studies, one on archaeozoological remains, and the other on a single destroyed human burial, are added to the archaeological report.

Superstructure

Tomb AS 91 was built on a slightly southward sloping mound, located to the south of the mastaba of the official,

Kaaper (AS 1; Bárta 2001: 143–191), by the so-called Wadi Abusiri. The orientation of the excavated tomb is north-south, following thus the general direction of Old Kingdom mastabas. Other tombs in this part of the Abusir necropolis likewise respect this orientation, for instance AS 54 (Bárta 2011), Kaaper (AS 1; Bárta 2001: 143), Ity (AS 10; Bárta 2001: 1), Hetepi (AS 20; Bárta – Coppens – Vymazalová *et al.* 2010: 6), anonymous tomb AS 33 (Bárta – Coppens – Vymazalová *et al.* 2010: 57), Iymery (AS 34; Bárta – Coppens – Vymazalová *et al.* 2010: 189), and also Kaisebi (AS 76), Ptahwer (AS 76b) and other anonymous tombs in its surroundings (*e.g.* AS 77, AS 78) (Dulíková – Jirásková – Arias Kytarová 2016; Dulíková *et al.* in this issue).

The only wall preserved more or less in its entire length (24.55 m) was the eastern one, built of smaller nowadays eroded limestone blocks which were originally covered with mud plaster, as other tombs at Abusir South (such as *e.g.* a yet unpublished tomb of Kaaper Jr. [AS 61]). In front of the wall, a mud floor was recognised. No traces of niches were detected in the façade, which might be a result of the fact that only the lowermost part of the wall was preserved. In the southern part, this wall was stepped back to the west, creating thus a ground plan reminiscent of a reversed “letter L” (see figs. 1 and 2). There are two possible explanations for this architectonic feature: firstly, it was intended in the original plan of the mastaba from the beginning, or secondly, it may be a later annexe. However, the state of preservation of the tomb does not allow us to determine which suggestion is correct. Nevertheless, a certain parallel to this architectonic feature may be found nearby at the same site, in the Fourth Dynasty tomb of Ity (AS 10), located to the east of the mastaba of Kaaper (AS 1) (see Bárta 2001: 15 and Fig. 1.2). In the case of Ity’s tomb, this southern and to the west shifted part was surrounded by mud bricks on the east, south and west (Bárta 2001: Pl. IIIa). Whether a mud brick structure also

existed in mastaba AS 91 is unclear because no traces of it were found. It is worth mentioning that Ity’s tomb is within view of mastaba AS 91. Given the overall shape of the tomb, one might speculate that the owner of mastaba AS 91 may have decided to build his tomb in the same form as that of Ity, perhaps in order to express some sort of connection to him.

The eastern wall of tomb AS 91 was interrupted by an entrance to a supposed chapel, in 3.30 m to the north of the beginning of the shifted southern part. This room was virtually destroyed: its walls had completely disappeared and no traces of a false door were found. It was not even possible to determine a shape of the cultic place. However, the chapel had a mud floor that was partly preserved *in situ* (see fig. 2). The remains of the floor were fairly extensive, *ca.* 2.80 × 5.25 m, indicating that the chapel may have been quite large. This room, as well as the rest of the mastaba, was covered with wind-blown sand. Concerning the finds, several ceramic sherds (see below) and only two tubular faience beads (4/AS91/2016; 17/AS91/2016) of indeterminate date were discovered there.

It was possible to detect traces of the southern wall of the mastaba, located on the sloping part of the hill. Wind erosion might have caused this wall to slip down the hill, and scattered limestone blocks were found in the area to the south of the tomb. Among the collapsed blocks, part of a bovine skull (1/AS91/2016) was uncovered (see below).

The core of the superstructure seems to have consisted of a sand layer mixed with limestone chips and pottery which included mainly complete beer jars. They were especially numerous in the western part of the tomb, oriented north-south, with their rims to the south (fig. 3). The stratigraphy shows four depositional layers (see fig. 4). The surface layer (L 1) consisted of sand mixed with pebbles and compact pieces that were maybe created from *tafla*. The layer underneath (L 2) consisted of sand

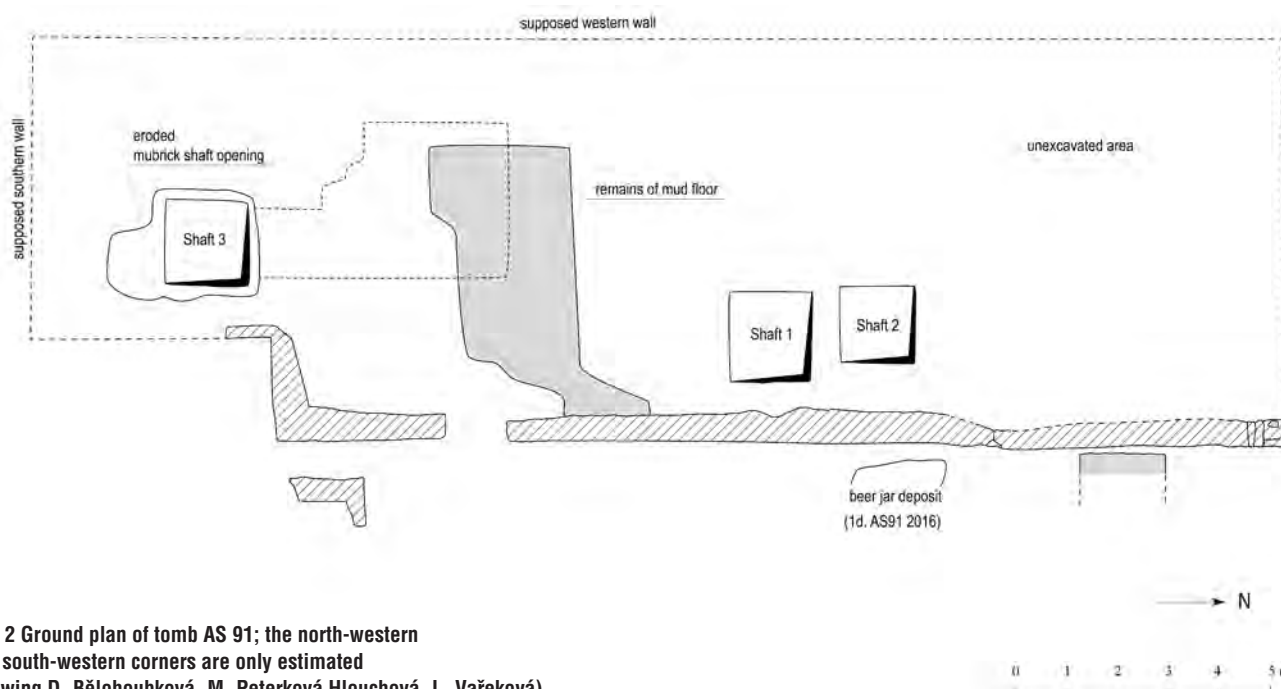


Fig. 2 Ground plan of tomb AS 91; the north-western and south-western corners are only estimated (drawing D. Bělohoubková, M. Peterková Hloučková, L. Vařeková)



Fig. 3 Beer jar deposit in the western part of the mastaba core (photo M. Peterková Hloučová)

mixed with small pebbles, which seems to have been created by southern wind. The following layer (L 3) was composed of wind-blown sand, and here it can also be observed that the main direction of the wind was from the south. The destruction layer (L 4) was made from sand mixed with limestone chips and fragments of pottery. This layer is probably the remains of the original core of the mastaba and is similar to the core of Iymery's mastaba (AS 34; Bárta – Coppens – Vymazalová *et al.* 2010: 190).

As was mentioned above, both corners in the western part of the tomb were not detected. That is why the dimensions of the structure are only approximate: the tomb might have measured 24.55 × 8.50 m in its ground plan, at the least. The length of the eastern wall before its shift to the west is 19.75 m.

Substructure

Three shafts were uncovered in the core of the tomb.² Shafts 1 and 2 were built in the northern part, ca. 0.6 m to the west of the eastern wall, and they were perhaps out of the axis of the tomb. They were closely adjacent: the space between the northern wall of Shaft 1 and the southern wall of the second one was only 0.66 m (fig. 5). To the contrary, Shaft 3 was located at the far southern end of the tomb in its shifted part, ca. 0.75 m to the west of its eastern wall and 2.55 m to the north of the supposed southern wall. It was probably built nearer to the central axis of the tomb. The openings of all three shafts have similar dimensions (see below). However, two of them (Shafts 1 and 2) were rather shallow without any burial niche or chamber, whereas Shaft 3 was 10.50 m deep with a burial chamber at its bottom.

Shaft 1

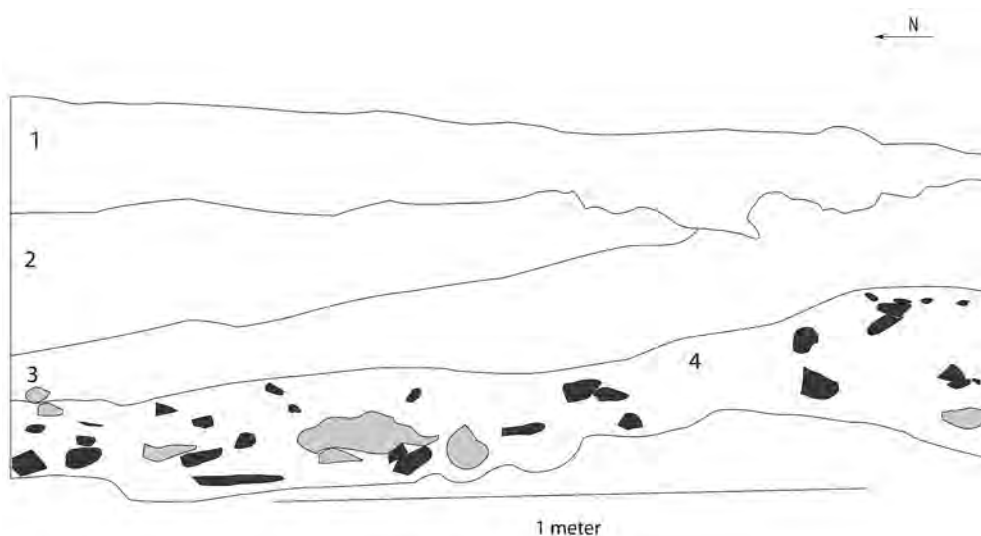
Shaft 1 measured 1.60 × 1.66 m in its opening, with a depth of 0.66 m. Its walls were built from irregular, but well-worked limestone blocks, connected with mud mortar, and remains of mud plaster with straw were detected on the

inner western wall. An uneven floor was cut in *tafla* bedrock. The fill was compact, consisting of darker sand mixed with *tafla*, limestone chips, and fragments of pottery. The shaft's bottom was almost at the same level as the mud floor in front of the eastern wall of the tomb: the floor was ca. 10 cm lower.

An irregular block *in situ*, measuring 29 cm in its length and 10–20 cm in its width, bore a hieratic inscription (Gr1/AS91/2016) in red paint (fig. 6). The piece of limestone was situated in the south-eastern corner of the shaft, at its bottom, and the inscription was on an outer side of the block. Only two hieratic uniliteral signs were written: *d* and *r*.³ No determinative was preserved, even though there was enough space for another sign on the block. However, the surface is considerably eroded. It can be suggested that it is the Egyptian word *dr* (𓄳), which with a determinative of an arm holding a stick (𓄳 = D40)⁴ means “to finish, accomplish” (Erman – Grapow 1931: 473–474). When written with two crossed sticks (X = Z9) and the arm, it bore the meaning “to cover” (Erman – Grapow 1931: 475). Since the inscription is on the outer side, it can be speculated that it should have been covered with a layer of other material. This may lead to another possibility that the signs were a designation for the limestone to be used as a lining block, thus identifying its purpose.

If so, it would be an unusual hieratic inscription in Abusir, where usually names, titles, and builders' marks appear in such epigraphic records (Vymazalová, *forthcoming*). And hence, even these options have to be considered. Taking into account the Old Kingdom titles, there does not seem to appear any with the *dr* element (see Jones 2000). Nevertheless, there are several male Old Kingdom personal names that include this group of vocals: *Dr-ḥw^c-jb*, *Dr-ḥsf*, *Dr-sm3.t*, *Dr-snd*, *Dr-tw3* (see Scheele-Schweitzer 2014: 747, [3802]–[3806], with further references). With the exception of *Dr-ḥsf*, every one of these names is attested in the Memphite region (Scheele-Schweitzer 2014: 747,

Fig. 4 Four layers of the profile of the north-south section in the centre of tomb AS 91 (photo M. Peterková Hloučová, drawing D. Bělohoubková)



Light gray = pottery
Dark gray = limestone

[3802]–[3806]) and moreover, *Dr-ḫw3* appears in records of the papyrus archive of King Neferirkare at Abusir (Posener-Kriéger – Cenival 1968: pl. XCII A, XCIII A). It can be speculated that we have at least part of the owner's name. Nonetheless, all the above-mentioned names are composed of more signs than the two preserved on the block. Also, the piece was oriented so that the rest of the name should have been inscribed on a lump below, but no traces of such graffiti were found there.

A third option must be taken into consideration as well. The inscription might not relate to the shaft and tomb at all, as it might have come from a larger block that was originally located elsewhere.

Another hieratic inscription (Gr2/AS91/2016) in red paint, consisting of two convergent lines, a dot to the right of them, and a semicircle, was drawn on a block, measuring 32 cm in its length and 8 cm in its width (fig. 7). The surface on which the signs were drawn is only 28 cm long. It is located in the fifth row (from the bottom) of limestone blocks in the inner western wall of the shaft. It is

evident that the inscription was damaged, which makes reading more difficult.

Almost nothing was found in the fill of the shaft, and the amount of ceramic sherds was small, too. A tiny circular fragment of copper (8/AS91/2016) was found near the western side of the shaft, at a depth of ca. 20 cm below the preserved crown of the wall. Several small fragments of animal bones (9/AS91/2016) were also collected there, at a depth of 0.45 m from the wall's crown. They were of rather yellow colour.

Shaft 2

Shaft 2 is adjacent to Shaft 1 from the north (see figs. 2 and 5). Its opening is, however, a bit smaller: 1.44 × 1.46 m, and it has a depth of 2.20 m. The shaft has no niche and it yielded no finds. The fill consisted of yellow sand mixed with limestone chips. Similarly, the walls of the shaft were built from irregular limestone blocks, connected with mud mortar, and coated with mud plaster, containing scanty remains of straw to a height of ca. 0.9 m.⁵ An irregular and

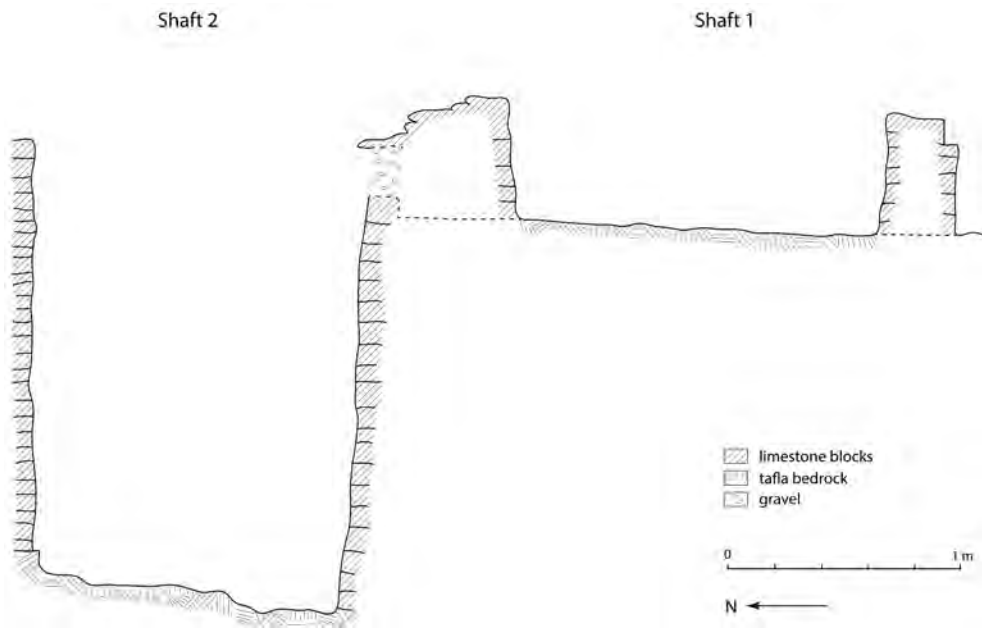


Fig. 5 North-south section of Shafts 1 and 2 (drawing M. Peterková Hloučová)

uneven floor was cut into *tafla* bedrock, with the southern part cut deeper than the northern one, forming a kind of mound. Possibly the bedrock in this area was too soft and that is why there was an effort to reinforce the shaft by means of limestone casing. Only five sherds of coarse pottery were collected from the fill.

Shaft 3

Shaft 3, measuring 1.65 × 1.60 m in its opening and reaching a depth of 10.50 m in its north-western corner, is situated in the southernmost part of the mastaba. Its depth makes it considerably different from the other two. Two layers were detected in the fill: to a depth of ca. 9.5 m, the fill consisted of yellow sand with scanty fragments of coarse pottery and smaller limestone blocks. Thereon, it changed to darker sand mixed with *tafla*, ceramic sherds and limestone chips. At a depth of ca. 5 m, five bird egg shells (Eco7/AS91/2016) were found. This indicates that the shaft must have been open for a certain period of time.

The shaft opening was built of mud bricks (dark Nile mud, 28 × 12 × 10 cm) to a depth of 1.40 m, and at the time of its excavation it was noted that the upper 30 cm were considerably eroded. The mud brick casing on the northern wall was built 24 cm deeper than on the other sides.

Below the casing, the remaining 9.10 m of the shaft were cut into limestone bedrock: the top part (1.22 m) was smooth, another 3.44 m left unsmoothed, with clearly visible layers of grey and yellow limestone.⁶ The lowermost 4.44 m were even again (fig. 8).

It is also worth noting that four shallow rectangular cuts, at fairly regular distances and one above the other, were observed in the smooth part of the western wall. Their dimensions were similar, ca. 11 × 7 cm. Another deeper and bigger, fairly square cut (ca. 24 × 27 cm) was observed in the northern wall of the shaft. It is difficult to establish the purpose of these holes. They might have been used for fixing scaffolding or a ladder construction, perhaps for temporary use. Similar cuts were recorded by the Polish mission at Saqqara and they have been

interpreted as “footholds or supports for scaffolding” (Kuraszkiewicz 2011: 535).

The floor of the shaft was uneven. At a height of ca. 20 cm above the bottom, on the eastern, southern, and western walls, other thin, rectangular depressions were



Fig. 6 A hieratic inscription (Gr1/AS91/2016) with two signs (*d* and *r*) in the south-eastern corner of Shaft 1 (photo V. Dulíková)

Fig. 7 An inscription (Gr2/AS91/2016) on a block of the western wall of Shaft 1 (photo V. Dulíková)



detected. It is questionable if the ancient builders planned to extend the shaft, or if they used them for supportive technical needs.

At the bottom of the shaft, an entrance, 1.40 m high, to a burial chamber was cut into the northern wall, giving access to the burial apartment. Remains of a blocking wall were preserved to a height of 0.82 m; the rest must have been removed by robbers. The passage leading to the burial chamber was 1.60 m long. The blocking wall was in the southern part of it, 1.10 m thick and built in limestone chips and sand. The northern part of the passage sloped down (18 cm).

The rectangular burial chamber, measuring 3.70 × 3.26 × 1.60 m, was oriented north-south (fig. 9). With its measurements, it is comparable *e.g.* to a burial apartment in Shaft 1 of the rock-cut tomb of Princess Sheretnebt and her spouse (AS 68c): 3.60 × 3.00 × 1.56 m (Vymazalová 2015: 52). The room of AS 91 was cut in limestone bedrock, interlaced with salt veins, and left unfinished, hence construction details on its both sides can be observed. On the ceiling and walls, there are traces of chisels. The chamber was funnel-shaped (top to bottom), so it can be deduced that the ancient Egyptians cut such spaces from the top. By the eastern wall, there was a regular step, 0.82 m wide and 0.46 m high, with a smaller hollow. In the western part of the chamber, there were several steps whose lower part was diagonal, running from south-east to north-west. The northern part of the chamber was hollowed more than the southern one. Approximately in the middle of the chamber, a burial pit was prepared.

The burial pit was also oriented north-south, and measured 1.78 × 0.49 × 0.38 m. It was partly cut into the floor and then built up with small limestone blocks in the deepest part of the funnel-shaped chamber (see fig. 9). The spaces between the walls of the pit and the western and eastern steps in the burial chamber were filled with crushed stones. The pit seems to be in the middle of the chamber in the east-west direction: it lies 1.38 m from the

western wall and 1.46 m from the eastern wall. It was constructed near to the northern wall, only 30 cm from it.

The dimensions of the chamber allow us to take into consideration the possibility that a sarcophagus might have been intended to be placed in the burial chamber. A parallel can be found *e.g.* in the above-mentioned Shaft 1 of Sheretnebt's tomb (see Vymazalová 2015: 51–53 and figs. 11–12). It can be deduced that the pit in AS 91 was a stopgap measure because the owner of this shaft probably died before the chamber was finished. There are many indications that the steps by the eastern and western walls were originally intended to be removed, but there was not enough time to cut them out. The final works in the chamber took place very swiftly since the ancient builders had no time even to entirely cut a burial pit. They only finished it with limestone chips, which was the fastest solution.

The place had been robbed, perhaps already in antiquity. Only very small remnants of a human burial were found: the bones were collected in tiny fragments in several layers (see below). Animal bones (21/AS91/2016_a,b) and fragmentary human bones (21/AS91/2016_c) were scattered all over the burial chamber. In the whole burial chamber, only two ceramic sherds were collected.

Several more finds were gathered inside the pit: fragmentary human bones, including a bigger piece of human skull (20/AS91/2016_a), small rodent bones (20/AS91/2016_c), beetles (Eco12/AS91/2016_a,b) and egg shells (Eco13/AS91/2016). Moreover, two bird skeletons rested in the southern part of the burial pit (20/AS91/2016_b; see below and fig. 9). They laid with their heads to the west and their bones were coloured brown. These finds rested on a layer of limestone chips. After removal of the above-mentioned finds and stones in the burial pit, other fragmentary human bones (22/AS91/2016_a) with small animal bones (22/AS91/2016_b) were collected.

Tiny remnants of the original burial equipment were detected in this layer. These consisted of faience beads (22/AS91/2016_c) and small fragments of goldfoil

(22/AS91/2016_d). The beads were of different colours (darker or lighter green-blue, white, pinkish or reddish), and of three basic shapes (tubular, circular, and a semicircle terminal). Some of them were still preserved in a pattern (2 × 2 cm) of a roughly rhombic shape threaded on a green string. They can be dated to the Old Kingdom.

Some of these objects were stuck in a piece of solidified mud since the bottom of the burial pit was covered with a layer of mud. At this stage of the research, it is not evident whether the mud was a part of the original burial, or whether it was the result of torrential rains that entered the tomb after its initial robbery. In ancient Egypt, mud held important symbolic meaning: it was connected to rebirth and resurrection. There are also several examples of burials intentionally covered with mud from the Abusir necropolis, for instance from the tombs of Neferherptah (AS 65; Dulíková – Odler – Havelková 2011: 12 and obr. 5), Nefermin (Shaft 2 in tomb AS 68a; Vymazalová 2015: 50), Neferinpu (AS 37; Bárta *et al.* 2014: 36, Fig. 3.35).

The burial had been looted and the body was so damaged that we were able to collect only very small pieces of bones. However, on the basis of the orientation of the pit, it can be expected that the body was buried there with its head to the north in an outstretched or slightly bent position.

Pottery⁷

In general, the majority of the finds from tomb AS 91 consisted of ceramic sherds and complete vessels (bread moulds, beer jars), being of three main proveniences: in front of the eastern wall, in the fill of the superstructure, and scanty amounts in the shafts.

In front of the eastern wall, two bread moulds (1a.AS91.2016, 1b.AS91.2016) were collected. Furthermore, 50 cm to the east of the eastern wall, ca. 6.65 m from its supposed north-eastern corner, a deposit of beer jars (1d.AS91.2016) was also uncovered (see fig. 2). In this area behind the eastern wall, the preserved mouth of Shaft 2 is immediately there. It seems that the deposit might be related to cultic activities. However, we were not able to examine it completely in the field. It may also be supposed that at least some of the jars were tied together with a rope (23/AS91/2016) found there.

As was already mentioned above, there were several other beer jar deposits (2a.AS91.2016, 2b.AS91.2016,

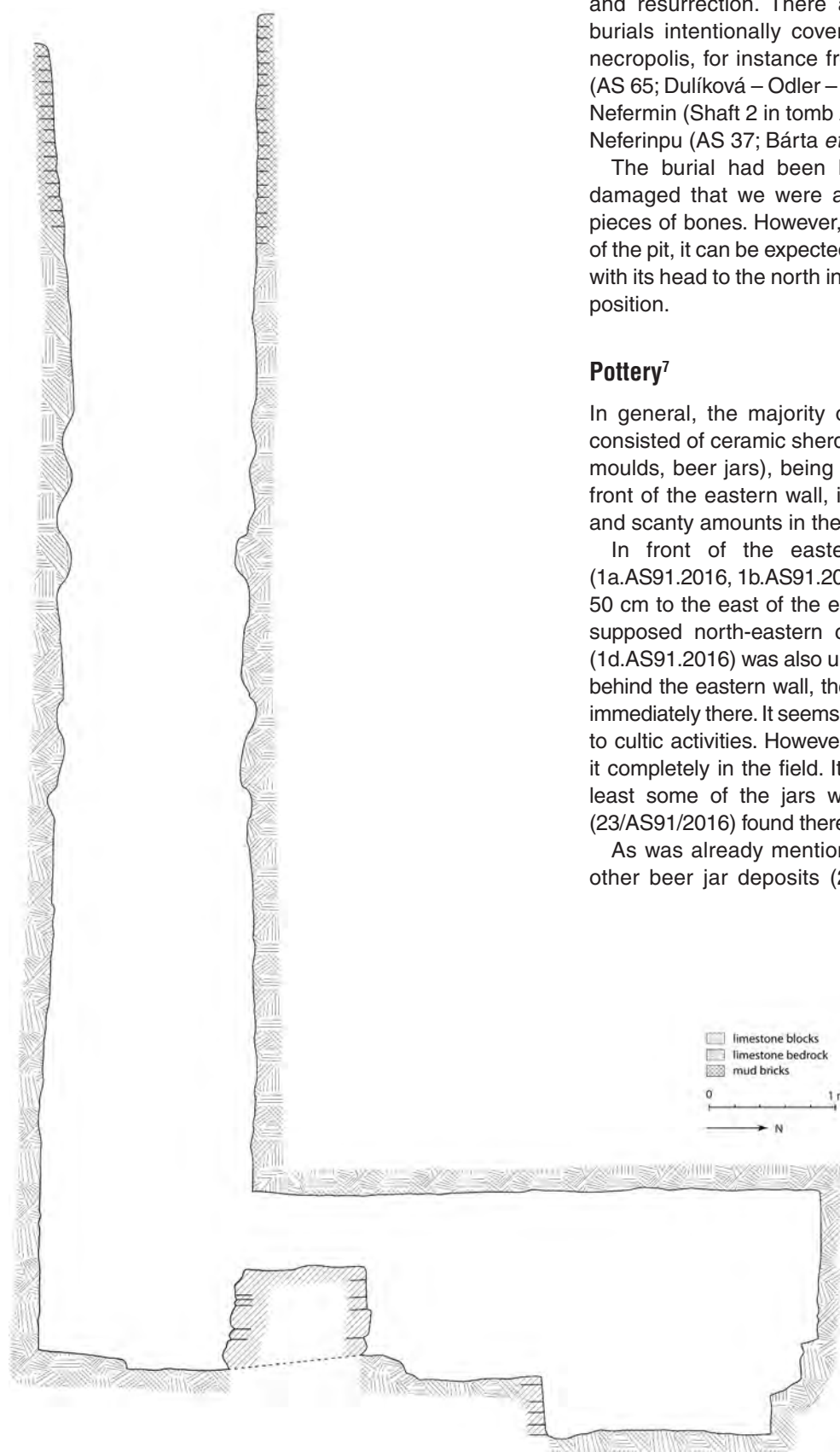


Fig. 8 Section of Shaft 3
(drawing D. Bělohoubková,
M. Peterková Hloučková)

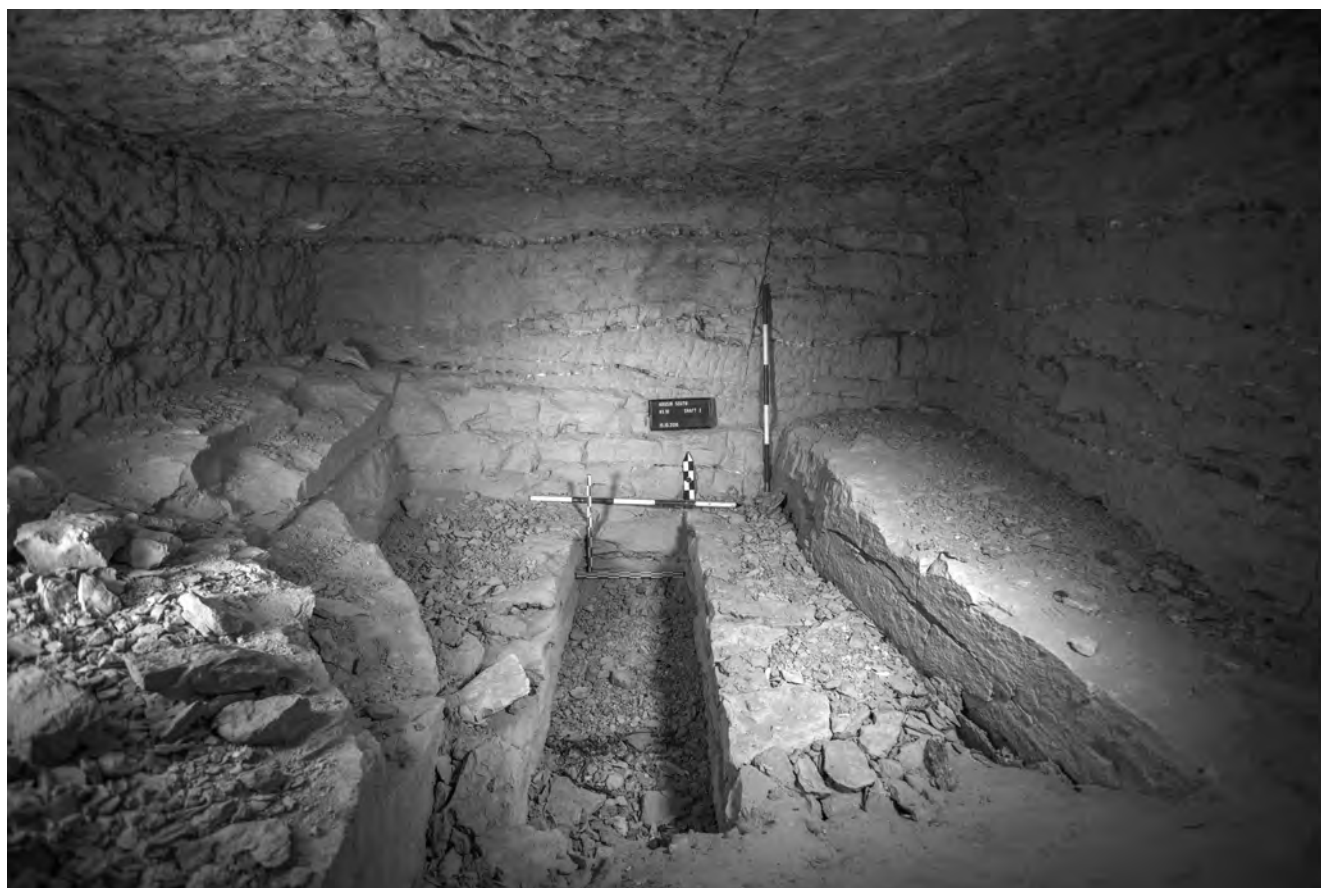


Fig. 9a, b Burial chamber at the bottom of Shaft 3 before cleaning, with a detail of two bird skeletons (20/AS91/2016_b) visible in the southern part of the burial pit (photo V. Dulíková)

2c.AS91.2016), which were probably somehow related to the core of the tomb. They were oriented in the north-south direction.

Archaeozoological analysis of vertebrate remains

During the excavations, zoological material of different origins was recorded: 1. an archaeozoological assemblage connected with human activities found in the superstructure of the tomb; 2. bird egg shells in the fill of Shaft 3; 3. remains of microfauna originated in the owl's pellets excavated in the burial chamber, 4. and skeletons of birds placed in the burial pit in Shaft 3. Moreover, fragments of beetles and other invertebrates were collected, but these finds will be separately studied later.

For the analysis, standard archaeozoological methods (e.g. Reitz – Wing 2008) were applied. The zoological assemblage was examined in Abusir, using osteological publications (Cohen – Serjeanston 1996; Osborn – Helmy 1980; Schmid 1972). For the quantification of the assemblage, three methods were used: number of fragments, weight of fragments, and minimum number of individuals (hereinafter MNI).

Animal bones from the superstructure

The assemblage of animal bones that was connected to a human activity, was excavated mainly in the area of the destroyed superstructure (except for one extremely weathered find from the fill of Shaft 3). However, the number of finds was low, probably reflecting the damaged state of the building. Altogether, 26 finds of animal bones



weighing 800.6 g (30.8 g per fragment) were analysed; these remains belonged to at least five specimens from four animal species.

Domestic cattle (*Bos taurus*) was represented by four finds: part of a skull (*frontale* with the basis of *processus cornualis*, fallen apart into many fragments; 1/AS91/2016), a molar fragment (18/AS91/2016), a distal part of humerus (2/AS91/2016), and a calcaneus bearing cutting marks (18/AS91/2016). While the last example belonged to a sub-adult specimen, the others probably came from an adult specimen. The remains of the skull indicated that the cattle were of longhorn origin.

Moreover, four fragments of large ungulate ribs were recorded, probably belonging to cattle, too. One of these fragments (7/AS91/2016) bore a series of transverse cutting (fig. 10). As the field experiments indicate, the cutting marks were probably made with a non-metal instrument, for instance with a flint knife (?) as we know from iconographic sources (so-called butchering scenes, e.g. in the tomb of Vizier Ptahshepses at Abusir; see Verner 1977: 197, no. 26),⁸ and the find can be related to a funeral feast.

One fragment of an adult sheep/goat (*Ovis/Capra*) ulna with cutting marks (11/AS91/2016), one piece of medium-sized mammalian rib and three bone fragments of undetermined mammals were recorded as well. Furthermore, other vertebrates were found, too: one piece of an undetermined bird, one of a goose (*Anser* sp., 5/AS91/2016), and 11 finds of fish bones, probably belonging to a sharp-nosed fish (*Mormyrus* sp., 9/AS91/2016). Geese were favourite birds for victual offerings (e.g. Ikram 2006), while the so-called elephant fish was connected to religious beliefs, mainly the Osirian myth (e.g. in Oxyrhynchus; Parsons 2007).

No marks of burning or gnawing were recorded, whereas decalcification of the material was rather high. Salt crystals were found on several bones; however, it is not clear whether it originated in salt preservation of the meat or from the surrounding soils (more likely).

Shaft 3

Fill of the shaft

At a depth of approximately 5 m, five bird egg shells (Eco7/AS91/2016) were found in good condition of preservation (fig. 11). The eggs most probably belong to a Barn Owl (*Tyto alba*), a frequent occupant of deserted tombs and other buildings (Obuch – Benda 2009). It is possible that the owls were temporarily nesting in a niche when the shaft was open, after it had been robbed in antiquity. As the eggs hatch in 2–3 day intervals, they can be thrown out from the nest by older siblings, but other options cannot be excluded either. The clutch size is two to nine, so it is possible that the eggs came from one clutch (for the nesting behaviour of the Barn Owl, see e.g. Sawyer 1994).

Assemblage of vertebrate microfauna from the burial chamber

The burial chamber was situated at the bottom of Shaft 3, at a depth of 10.50 m. The archaeozoological finds were scattered around the burial chamber, with most of them



Fig. 10a, b A find of a large ungulate rib with cutting marks can be connected to a ritual feast (photo Z. Sůvová)

recorded in the burial pit (see above). The fragments of microfauna probably originated from the decomposed owl's pellets, which are usually regurgitated before the evening hunt.

In the case of such small finds, only MNI was used for the quantification. The assemblage of the small vertebrates contained hundreds of post-cranial elements of rodents and shrews, which are difficult to determine. Due to this, mainly the cranial parts of the mammals were analysed only.

Finds of rodents constituted the dominant part of the assemblage (tab. 1) with the remains of House Rat (*Rattus rattus*, 40.7% of MNI) more abundant than the remnants of House Mouse (*Mus musculus*, 27.1%). The number of white-toothed shrews (11.8% altogether for both large and small species, *Crocidura* sp.) was quite low. Moreover, one specimen of small bat species (cf. *Pipistrellus*) was recorded, too.

Apart from mammalian fauna, bird bones (16.9%) were collected as well. Remains of singing birds (Passeriformes) show the variety of species: two specimens of small-sized birds (Sylviidae), one of sparrow size, and one of blackbird size were recognised. Other bird fauna contained three specimens of small-sized rails (Rallidae), two of smaller gallids (partridge?), and one of smaller duck (teal?). Other finds were recorded too: beetle fragments (Tenebrionidae probably) from the owl's diet, egg fragments (from the same species as detected in the fill of Shaft 3), and a small fossil tooth of a shark (probably originating from the local marine sediment of Tertiary origin).



Fig. 11 Eggs found in the fill of Shaft 3 gave us evidence of the nesting of owls in a niche of the shaft (photo Z. Šůvová)

The species composition of microfauna reflects the surrounding environment in which the owl was hunting. In this case, the high percentage of commensal species indicates that the landscape was strongly influenced by human presence, with a smaller impact of species connected with riverbank vegetation, grassland, desert, as well as water birds. It is possible that the owl hunted near irrigation canals, or/and the Lake of Abusir.

Bird skeletons from the burial chamber

The find of bird skeletons (20/AS91/2016_b) in the burial pit (fig. 9a, b) is quite peculiar. Altogether, 88 fragments belong to two specimens of Barn Owl (*Tyto alba*, fig. 12). One furcula, one synsacrum, and some small bone elements are missing, whereas the rest of the skeletons are recorded in the assemblage.

Both individuals were of adult age; and according to the measurements of the long bones, it is obvious that both specimens were of smaller size and corresponded to the range of males (females are bigger, cf. Taylor 2004).

Both birds were found lying in an anatomically articulated position in the southern part of the burial pit. The owls were placed one on top of the other, oriented with the heads to the west. On some bones, the remains of soft tissues were preserved. No stains of embalming resins

were detected, but a kind of intentional mummification cannot be excluded because it can be presumed that the birds might have been intentionally placed into the burial pit (see below). The bones were, unlike the remains of microfauna from the burial chamber, coloured both with violet stains connected with fungal activity and with dark stains, which could have been caused by the layer of mud found in the burial pit.

The Barn Owl species was obviously present at the site, so it is possible that the skeletons came from birds that perished naturally in the burial chamber. On the other hand, given the circumstances of the find, the position in the burial pit, the placement of the birds one on top of the other and the orientation of both birds to the west, the possible presence of two males of these territorial birds, the colouring of the finds, etc., the hypothesis that the owls were deliberately placed in the burial pit should also be taken into consideration.⁹

However, considering the find circumstances, the option that they were not placed there intentionally cannot be excluded. The animal bones and tiny remains of human bones were scattered all around the chamber. The owls could have entered the pit after the burial had been looted. At this stage of the research, however, we are not able to verify any of the possibilities.

Tab. 1 Finds of microfauna from the burial chamber in Shaft 3 (MNI = minimum number of individuals)

taxon	taxon	MNI
Tenebrionidae	tenebrionids	+
Chondrichthyes	chondrichthyans	1
Anseriformes	geese and ducks	1
Galliformes	gallids	2
Rallidae	rails	3
Passeriformes	singing birds	4
Crocidura olivieri	Olivier's Shrew	5
Crocidura religiosa/floweri	Eg. Pygmy/Flower's Shrew	2
Chiroptera	bats	1
Mus musculus	House Mouse	16
Rattus rattus	House Rat	24
summa	total	59



Fig. 12 Barn Owl skeletons (20/AS91/2016_b) from the burial pit in the burial chamber of Shaft 3 (photo Z. Sůvová)

Anthropological analysis of the human bones

The human bones found in tomb AS 91 come from three contexts (20/AS91/2016_a, 21/AS91/2016_c, 22/AS91/2016_a), but they very probably belong to one individual.¹⁰ Fragments of parietal bones, frontal bone, occipital bone and maxilla were the only ones preserved from a skull. The postcranial skeleton yielded portions of the left humerus, parts of distal femur, a fragment of radius, left scapula, ribs, vertebrae and several small foot and hand bones. Unfortunately, a basic anthropological estimation of sex and age-at-death was not possible. The fragments of joints and vertebrae had manifested no degenerative changes; however, the structure of the spongiosa had become thin. It is possible to conclude that the individual buried in AS 91 was adult, probably older than 35 years.

The state of the bones suggests that the deceased's body was broken by looters, or the majority of the bones might have been taken out of the shaft, maybe with some effort, to obtain jewellery and body decoration. It can also be presumed that the person buried in Shaft 3 was a male and the owner of the tomb, considering the position and depth of the shaft (see Bárta 2002). Nonetheless, it also must be taken into consideration that the only shaft with evidence of a burial was situated in the narrowed part of the tomb (see above).

Preliminary conclusions

The excavations did not reveal any information that could provide us with a name and titles of the mastaba owner. Only the hieratic inscription Gr1/AS91/2016 might, or might not, reveal at least part of an anthroponym. Taking into consideration the size of the tomb, its owner must have been an affluent person, a member of the elite of the day. With its presumed dimensions (ca. 24.55 × 8.50 m, 209 m²), it is counted among the middle-sized tombs at Abusir South (see Bárta 2015: 17). It can roughly be compared to tombs e.g. of the sun priest Neferinpu (AS 37): 19.00 × 8.90 m, 170 m²; or of the chief physician Shepseskafankh (AS 39): 21.90 × 11.50 m, 252 m² (Bárta 2015: 17). Moreover, the depth of the shafts is also an indicator of elevated social status (Bárta 2002: 296), as is the intended size of the burial chamber. It can be supposed that the tomb owner might have been buried in the southernmost and deepest shaft.

To determine a date of the tomb's construction is very difficult. The ceramic finds have not been analysed yet and thus dating is very preliminary, based on architectural parallels, such as the tomb of Ity (AS 10). On the other hand, there is a possibility that it was constructed after the tomb of Kaaper (AS 1), which AS 91 respects.

A date of the destruction of the superstructure and looting of Shaft 3 is not easy to establish. It can be assumed that it was robbed in antiquity, but no evidence to prove or support this idea has yet been found. However, it seems that the mastaba might have been damaged gradually. Such a statement may be testified by several layers of sand in the substructure of the tomb, different layers in Shaft 3, and egg shells at a depth 5 m in Shaft 3; or at least it can show that the tomb and shafts were open for a period of time.

Aside from pottery, animal bones were the most common find collected in tomb AS 91. The assemblage of archaeozoological finds contained material of different origins. The remains of cattle, sheep/goat, goose and fish from the superstructure of the tomb can relate to the human activity in the necropolis, e.g. to the funeral feast and offerings. The finds of egg shells in the fill of Shaft 3 and the assemblage of the microfauna prey in the burial chamber can relate to the activity of Barn Owls. The composition of the microfaunal remains (House Rat, House Mouse, white-toothed shrews, smaller-sized birds, etc.) reflects an environment strongly influenced by human presence, with a smaller admixture of species of the riverbank vegetation, grassland, desert and water habitats. Finally, two almost complete skeletons of Barn Owl were found lying in the burial pit. The orientation of these finds and the presence of two males suggest that the birds might have been placed there intentionally, but the reason for this is uncertain.

Even though the tomb was extremely damaged, it can provide us with interesting insights into the mortuary architecture of the Old Kingdom, mainly concerning its construction, destruction, and post-depositional processes.

Notes:

- ¹ Tomb AS 91 was explored at the beginning of the autumn season, from 8th to 18th October 2016. Members of the team excavating this tomb were: Miroslav Bárta (director of the Czech mission in Abusir), Veronika Dulíková (archaeologist, Egyptologist), Dana Bělohoubková (archaeologist, Egyptologist), Marie Peterková Hloučová (archaeologist, Egyptologist), and Vladimír Brůna (surveyor). Anthropological material was studied by Petra Havelková (anthropologist) and finds of animal remnants were analysed by Zdeňka Sůvová (archaeozoologist). The excavations were supervised by the inspector of antiquities, Mohamed Shaaban, and *reis* Assam Fawzy. The authors are indebted to Veronika Dulíková and Hana Vymazalová for their inspiring remarks and comments.
- ² However, it must be emphasised that it is not necessarily the final number of shafts because the northern part of the mastaba core was not entirely cleared. Hopefully, it will be explored in the future.
- ³ It might be supposed that the second sign could be *t*. However, the sign itself on the block is as big as *d*. For the Old Kingdom hieratic palaeography, see Dobrev – Verner – Vymazalová (2011).
- ⁴ The codes refer to the Sign-list created by Alan H. Gardiner (1927).
- ⁵ Samples of the organic material (Eco4/AS91/2016) were collected from the mud and they will be further analysed.
- ⁶ For geology at Abusir, see e.g. Reader (2009).
- ⁷ This is only a brief summary of the ceramic finds. However, they must be further analysed by a specialist in ceramics.
- ⁸ For stone knives, see e.g. Aston – Harrell – Shaw (2000: 28–29); Svoboda (2006).

⁹ For symbolism of owls in ancient Egypt, see Vernus (2005).

¹⁰ Three excavation numbers were given to the fragments in different contexts. However, because it was one individual, the numbers were unified as 22/AS91/2016_a.

Bibliography:

- Aston, Barbara G. – Harrell, James A. – Shaw, Ian
2000 “Stone”, in: Nicholson, Paul T. – Shaw, Ian (eds.). *Ancient Egyptian Materials and Technology*, Cambridge: Cambridge University Press, pp. 5–77.
- Bárta, Miroslav
2001 *The Cemeteries at Abusir South I*, Praha: Set Out [Abusir V].
2002 “Sociology of the Minor Cemeteries during the Old Kingdom. A View from Abusir”, *Archiv orientální* 70/3, pp. 291–300.
2015 “Tomb of the chief physician Shepseskafankh”, *Prague Egyptological Studies* XV, pp. 15–27.
2011 “An Abusir Mastaba from the Reign of Huni”, in: Callender, Vivienne Gae – Bareš, Ladislav – Bárta, Miroslav – Janák, Jiří – Krejčí, Jaromír (eds.). *Times, Signs and Pyramids. Studies in Honour of Miroslav Verner on the Occasion of His Seventieth Birthday*, Prague: Faculty of Arts, Charles University in Prague, pp. 41–50.
- Bárta, Miroslav – Coppens, Filip – Vymazalová, Hana *et al.*
2010 *The tomb of Hetepi (AS 20), Tombs AS 33–35 and 50–53*, Prague: Charles University in Prague, Czech Institute of Egyptology [Abusir XIX].
- Bárta, Miroslav *et al.*
2014 *The tomb of the sun priest Neferinpu (AS 37)*, Prague: Charles University in Prague, Faculty of Arts [Abusir XXIII].
- Cohen, Alan – Serjeantson, Dale
1996 *A manual for the identification of bird bones from archaeological sites*, London: Archetype Publications.
- Dobrev, Vassil – Verner, Miroslav – Vymazalová, Hana
2011 *Old Hieratic Palaeography I. Builders' Inscriptions and Masons' Marks from Saqqara and Abusir*, Prague: Faculty of Arts, Charles University in Prague.
- Dulíková, Veronika – Jirásková, Lucie – Arias Kytmarová, Katarína
2016 “Jižní Abúsír – předběžná zpráva o výzkumu v roce 2015. Kaisebiho hrobka a okolí (AS 76–78)” (Abusir South – a preliminary report on the excavations in the year 2015. The tomb of Kaisebi and its surroundings (AS 76–78)), *Pražské Egyptologické Studie* XVI, pp. 25–36.
- Dulíková, Veronika – Odler, Martin – Havelková, Petra
2011 “Archeologický výzkum hrobky lékaře Neferherptaha” (Excavation of the physician Neferherptah's tomb), *Pražské egyptologické studie* VIII, pp. 9–16.
- Erman, Adolf – Grapow, Hermann
1931 *Wörterbuch der ägyptischen Sprache. Bd. V*, Leipzig: J.C. Hinrichs'sche Buchhandlung.
- Gardiner, Allen H.
1927 *Egyptian Grammar: Being an Introduction to the Study of Hieroglyphs*, Oxford: Clarendon Press.
- Ikram, Salima
2006 “Portions of an Old Kingdom offering list reified”, in: Bárta, Miroslav (ed.). *The Old Kingdom Art and Archaeology. Proceedings of the Conference Held in Prague, May 31 – June 4 2014*, Prague: Czech Institute of Egyptology, Faculty of Arts, Charles University in Prague – Academia, pp. 167–173.
- Kuraszkiewicz, Kamil O.
2011 “The practical behind the ritual. Observations on the Sixth Dynasty funerary architecture”, in: Bárta, Miroslav – Coppens, Filip – Krejčí, Jaromír (eds.). *Abusir and Saqqara in the Year 2010/2*,

- Prague: Czech Institute of Egyptology, Faculty of Arts, Charles University in Prague, pp. 530–536.
- Obuch, Ján – Benda, Petr
2009 “Food of the Barn Owl (*Tyto alba*) in the Eastern Mediterranean”, *Slovak Raptor Journal* 3, pp. 41–50.
- Osborn, Dale J. – Helmy, Ibrahim
1980 *The contemporary land mammals of Egypt (including Sinai)*, Chicago: Field Museum of Natural History [Fieldiana, Zoology, New Series 5].
- Parsons, Peter
2007 *City of the Sharp-nosed Fish. Greek Lives in Roman Egypt*, London: Weidenfeld & Nicolson.
- Posener-Krieger, Paule – Cénival, Jean-Louis de
1968 *Hieratic Papyri in the British Museum. The Abu Sir Papyri*, London: Trustees of the British Museum [Hieratic Papyri in the British Museum, 5th series].
- Reader, Colin
2009 “The geology of Abusir”, in: Bárta, Miroslav *et al.* *Tomb Complex of the Vizier Qar, his Sons Qar Junior, and Senedjemib, and Iycai*, Prague: Czech Institute of Egyptology, Faculty of Arts, Charles University in Prague [Abusir XIII. Abusir South 2], pp. 12–16.
- Reitz, Elisabeth J. – Wing, Elisabeth S.
2008 *Zooarchaeology*, Cambridge: Cambridge University Press.
- Scheele-Schweitzer, Katrin
2014 *Die Personennamen des Alten Reiches. Altägyptische Onomastik unter lexikographischen und sozio-kulturellen Aspekten*, Wiesbaden: Harrassowitz Verlag [PHILIPPIKA. Marburger altertumskundliche Abhandlungen 28].
- Schmid, Elisabeth
1972 *Atlas of Animal Bones for Prehistorians, Archaeologists and Quaternary Geologists*, Amsterdam: Elsevier.
- Shawyer, Colin R.
1994 *The Barn Owl. Hamlyn Species Guides*, London: Hamlyn.
- Svoboda, Jiří A.
2006 “The King’s Knives: Chipped Lithics from the Raneferef’s Mortuary Complex”, in: Verner, Miroslav *et al.* *The Pyramid Complex of Raneferef. The Archaeology*, Prague: Czech Institute of Egyptology, Faculty of Arts, Charles University in Prague [Abusir IX], pp. 502–510.
- Taylor, Iain
2004 *Barn Owls: Predator-prey Relationships and Conservation*, Cambridge: Cambridge University Press.
- Verner, Miroslav
1986 *The Mastaba of Ptahshepses. Reliefs I/1*, Prague: Charles University [Abusir I].
- Vernus, Pascal
2005 “Chouette hibou”, in: Vernus, Pascal – Yoyotte, Jean. *Bestiaire des pharaons*, Paris: Agnès Viénot édition, pp. 361–363.
- Vymazalová, Hana
2015 “Exploration of the burial apartments in tomb complex AS 68. Preliminary report of the 2013 fall season”, *Prague Egyptological Studies* XV, pp. 43–58.
- forthcoming “Old Hieratic Inscriptions from the Old Kingdom Tombs at Abusir”, in: *Ägyptologische „Binsen“-Weisheiten III. Mainz, August 22, 2016*.

Abstract:

This article summarises the excavations of tomb AS 91, uncovered during the autumn season of 2016 at Abusir South. The mastaba was highly damaged and its superstructure had almost completely disappeared. Three shafts were detected in the mastaba core. Shafts 1 and 2 were rather shallow, but to the contrary, Shaft 3 was considerably deeper, and at its bottom, an unfinished burial chamber was hewn. The burial had been looted, but a few fragmentarily preserved human bones, a fairly high number of animal remains, and even two Barn Owl skeletons were collected there. The archaeological report is supported by an archaeozoological analysis of the animal remains and by an anthropological study of the fragmentary human bones.

Abusir South – mastaba – superstructure – substructure – Old Kingdom – archaeozoology – anthropology

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