

A new tomb of transitional type from Abusir South: mastaba of Nyankhseshat (AS 104)

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ABSTRACT

Mastaba AS 104 is located above the Wadi Abusiri, to the south-east of the tomb of Kaaper (AS 1). It was preserved almost to the height of the former roofing, hence almost completely. The whole structure was built on a platform with a trapezoid section and, looking from the south, it must have appeared as a two-stepped structure. The core of the upper step was built of rather small undressed blocks of local limestone and contained a rectangular room (Serdab 2) and three deep shafts. It was covered with a layer of large and heavy mud bricks. The superstructure contained the main focal point of the funerary cult (cruciform chapel and Serdab 1). Contrary to other similar structures of roughly the same date, niching decorated only the eastern wall. The tomb was built for a custodian of the king's property, Nyankhseshat, whose other titles reflect his position in the organization of work, the overseeing of gold procurement and a religious connection to metallurgy. This tomb represents, at least in the Abusir area, currently the last known tomb of transitional type.

Apparently, in the Fourth or Fifth Dynasty, the main chapel fell into disuse and the mastaba was used by new owners (scribe of the treasury and royal *wꜥb*-priest Sekhemka and his spouse, king's acquaintance Henutsen), which is demonstrated by a limestone stela inserted into the eastern outer wall. Altogether five limestone basins were uncovered, four of them *in situ*. A number of interesting finds were collected in the shafts (wooden coffin fragments, copper and travertine models, a clay sealing, human bones, animal bones).

This article presents an architectural and archaeological description of tomb AS 104 and offers some preliminary analyses of the finds, supplemented also by concise information on human and animal bones found. Last but not least, it describes documentation and methods used in the field.

KEYWORDS

Old Kingdom – Fourth Dynasty – Fifth Dynasty – transitional type of tomb – limestone stela – human burials – archaeozoology – documentation

مقبرة جديدة من النوع الانتقالي من جنوب أبوصير: مصطبة ني عنخ سيشات (AS 104)

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ملخص

تقع المصطبة AS 104 فوق وادي أبوصير، إلى الجنوب الشرقي من مقبرة كاعبر. حيث عثر عليها تقريباً محتفظة بارتفاع جدرانها بالقرب من سقفها السابق، ومن ثم بارتفاعها الكامل تقريباً. تم بناء الهيكل بأكمله على منصة مع مقطع شبه منحرف، وعند النظر إليها من الجنوب ربما تظهر وكأنها مبنى ذو درجتين. تم بناء قلب الدرجة العلوية من كتل صغيرة غير مكشوفة من الحجر الجيري المحلي، وتحتوي تلك الدرجة على حجرة مستطيلة الشكل (سرداب 2) وثلاثة آبار عميقة. وغطيت المصطبة بطبقة من الطوب اللبن ذي الحجم الكبير والثقيل على حدٍ سواء. احتوى البناء العلوي على الجزء الرئيسي والمحوري لإقامة الشعائر الجنائزية (المقصورة والسرداب 1). خلافاً لغيرها من المصاطب المماثلة والتي تعود لنفس الفترة من التاريخ المصري القديم، عثر على النيشات بالجدار الشرقي فقط من المصطبة. تم تشييد المقبرة لصاحبها "حارس ممتلكات الملك" ني عنخ سيشات، والتي تعكس ألقابه الأخرى مكانته في تنظيم العمل، والإشراف على الذهب، والاتصال الديني بالمعادن، حيث يمثل على الأقل، في منطقة أبوصير، آخر مقبرة معروفة حتى الآن من ذلك النوع الانتقالي من المقابر.

¹ The first two authors of the paper contributed to the text equally and, if shortened, the article should be referenced: Odler – Peterková Hlouchová *et al.*

وعلى ما يبدو، خلال عصر الأسرة الرابعة أو الخامسة، هجرت المقصورة الرئيسية واستخدمت المصطبة من قبل مالك جديد "كاتب الخزانة والكاهن المطهر الملكي سخم كا وزوجته، المعروفة لدى الملك حنوت سن"، وهو ما تم نقشه على لوحة من الحجر الجيري عثر عليها في الجدار الخارجى الشرقى للمصطبة. كما تم الكشف عن خمسة أحواض للقرايين صُنعت جميعها من الحجر الجيري، حيث عثر على أربعة منهم بموقعهم الأصلي. هذا وقد تم تسجيل العديد من اللقى الأثرية المهمة التي عثر عليها بالأبار (بقايا تابوت خشبي، نماذج صغيرة صنعت من النحاس الألباستر، وختم من الطين، ومجموعة من العظام البشرية والحيوانية).

ويقدم هذا المقال وصفاً معمارياً وأثرياً للمقبرة AS 104، كما يقدم بعض التحليلات المبدئية لللقى الأثرية، بالإضافة إلى معلومات أولية عن العظام البشرية والحيوانية التي تم العثور عليها. أخيراً وليس آخراً، يصف المقال التحديات أثناء توثيق المصطبة وكذلك الأساليب المستخدمة في هذا المجال.

الكلمات الدالة

الدولة القديمة – الأسرة الرابعة – الأسرة الخامسة – النوع الانتقالي للمقابر – لوحة من الحجر الجيري – دفنات آدمية – علم آثار الحيوان – التوثيق



Fig. 1 Nyankhseshat's tomb (AS 104) and structure AS 108 in the foreground, view from the south-west (photo P. Košárek)

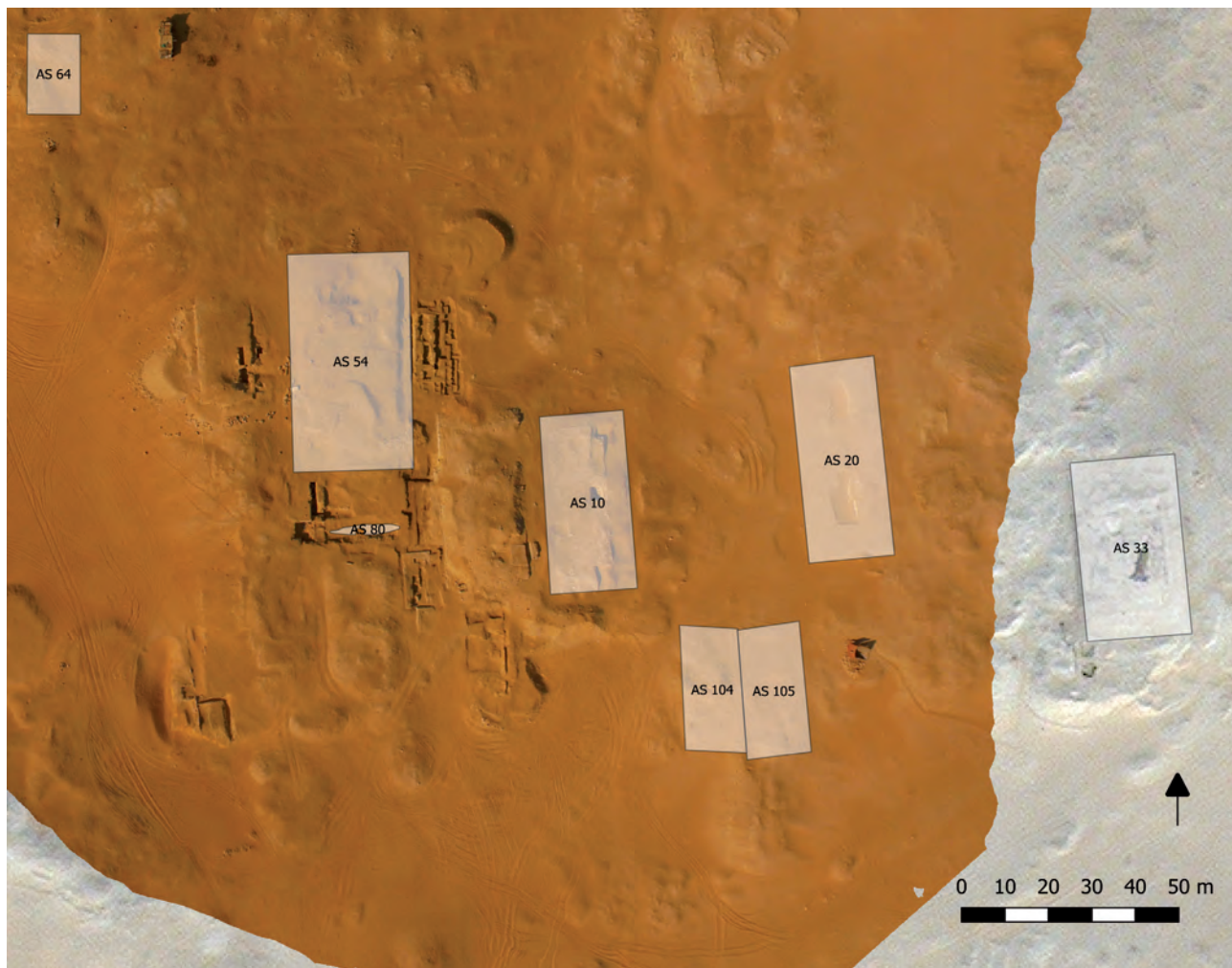


Fig. 2 Plan of Abusir South with other tombs of transitional type (background V. Brůna, updated by M. Odler)

The works of the spring season of 2018, conducted by the Czech Institute of Egyptology, Faculty of Arts, Charles University, concentrated on a structure in the far south of Abusir South, a mastaba designated as AS 104 (29.60×13.20 m; figs. 1 and 3).² It is located near the already explored, late Third/early Fourth Dynasty tomb of the dignitary Ity (AS 10; Bárta 2001), on the southern border of the Czech concession, on the edge of Wadi Abusiri, dividing Abusir from Saqqara (fig. 2). AS 104 represents a new example of the so-called transitional tombs, combining features of earlier (Early Dynastic Period) with later (Old Kingdom) mortuary architecture (*cf.* Bárta 2005). Very likely it was built at the beginning of the Fourth Dynasty, during the reign of King Snofru. The name of the tomb owner was established on the basis of the inscription on an offering basin found in the main chapel: high official, property custodian of the king, Nyankhseshat. However, the structure was re-used

in the first half of the Fifth Dynasty. At that time, at least one new burial was interred in a shaft and a limestone stela, belonging to Sekhemka and his spouse Henutsen, decorated the eastern façade of the tomb. Moreover, to the north and to the south of Nyankhseshat's mastaba, smaller adjacent structures (AS 105, AS 107, AS 108) were discovered, but only partially excavated.

SUPERSTRUCTURE

Nyankhseshat's tomb was built on a platform of a trapezoid section, hewn from bedrock. On the north and south, the base was completed with stone masonry and black mud mortar, and then covered with brown mud plaster. This formed the foundation step of the whole mastaba.³ Therefore, looking from the south, from the wadi, the tomb must have appeared as a two-stepped structure.

² Members of the team were: Martin Odler, Marie Peterková Hloučová, Lucie Jirásková and Miroslav Bárta (archaeologists, Egyptologists), Vladimír Brůna (geoinformatician), Katarína Arias Kytarová (ceramologist), Petr Košárek (photographer), Petra Havelková and Šárka Bejdová (anthropologists), Zdeňka Šůvová (archaeozoologist). The excavation was carried out from 18th March to 25th April 2018 under the supervision of the inspectors of the Ministry of Antiquities, Mahmoud Allam and Ashraf Abdelaziz Abdelhamid Mabruk. The workmen were overseen by foremen Mohamed Antar, Hussein Marzouk Abu Ghazal and Sayyid Fathi Ankili. We are very grateful to them for their kind cooperation.

³ The platform is well visible in fig. 1, at the foot of the southern wall of AS 104.

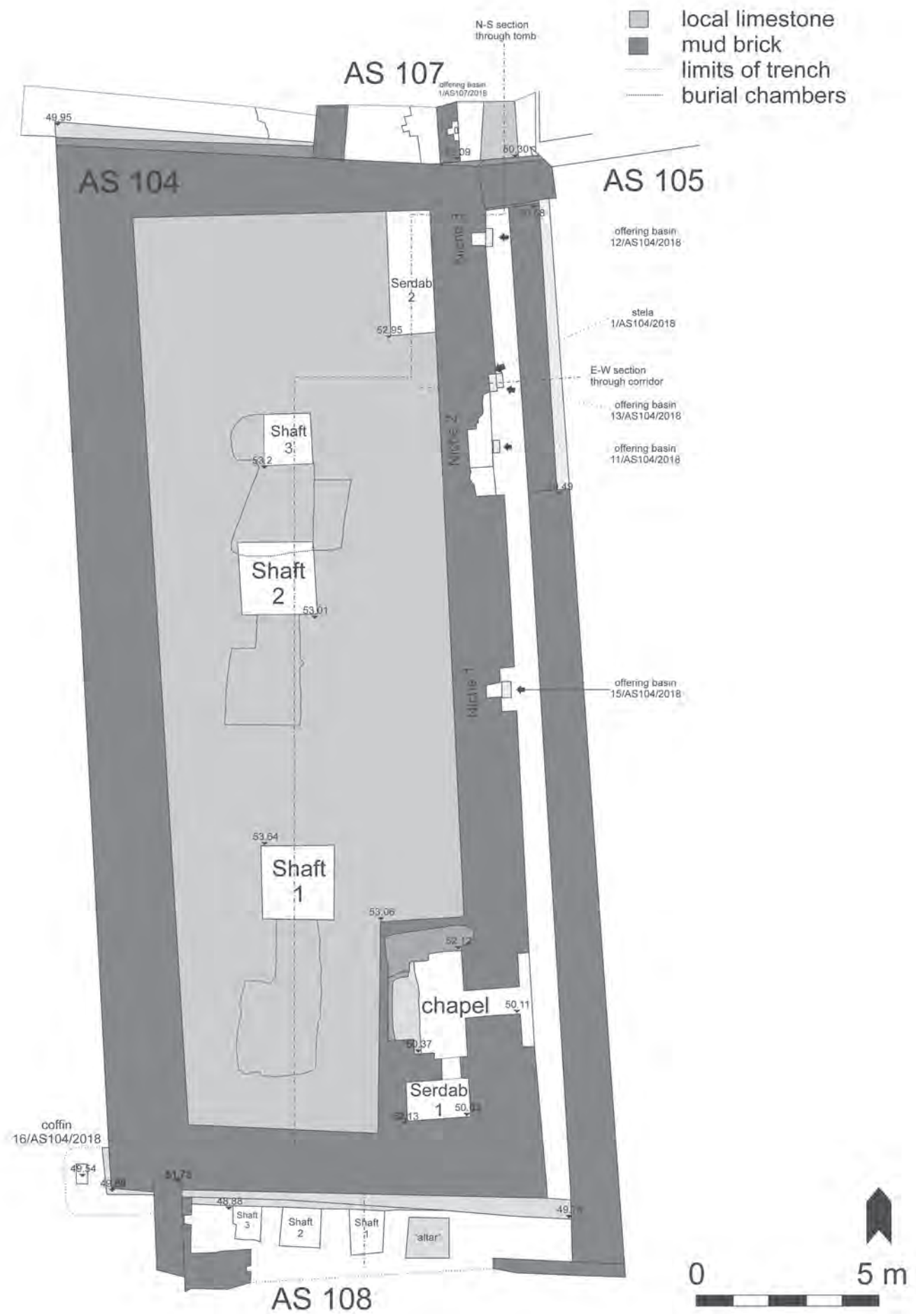


Fig. 3 Plan of Nyankhseshat's mastaba (drawing M. Odler, M. Peterková Hloučová, measurements V. Brúna)

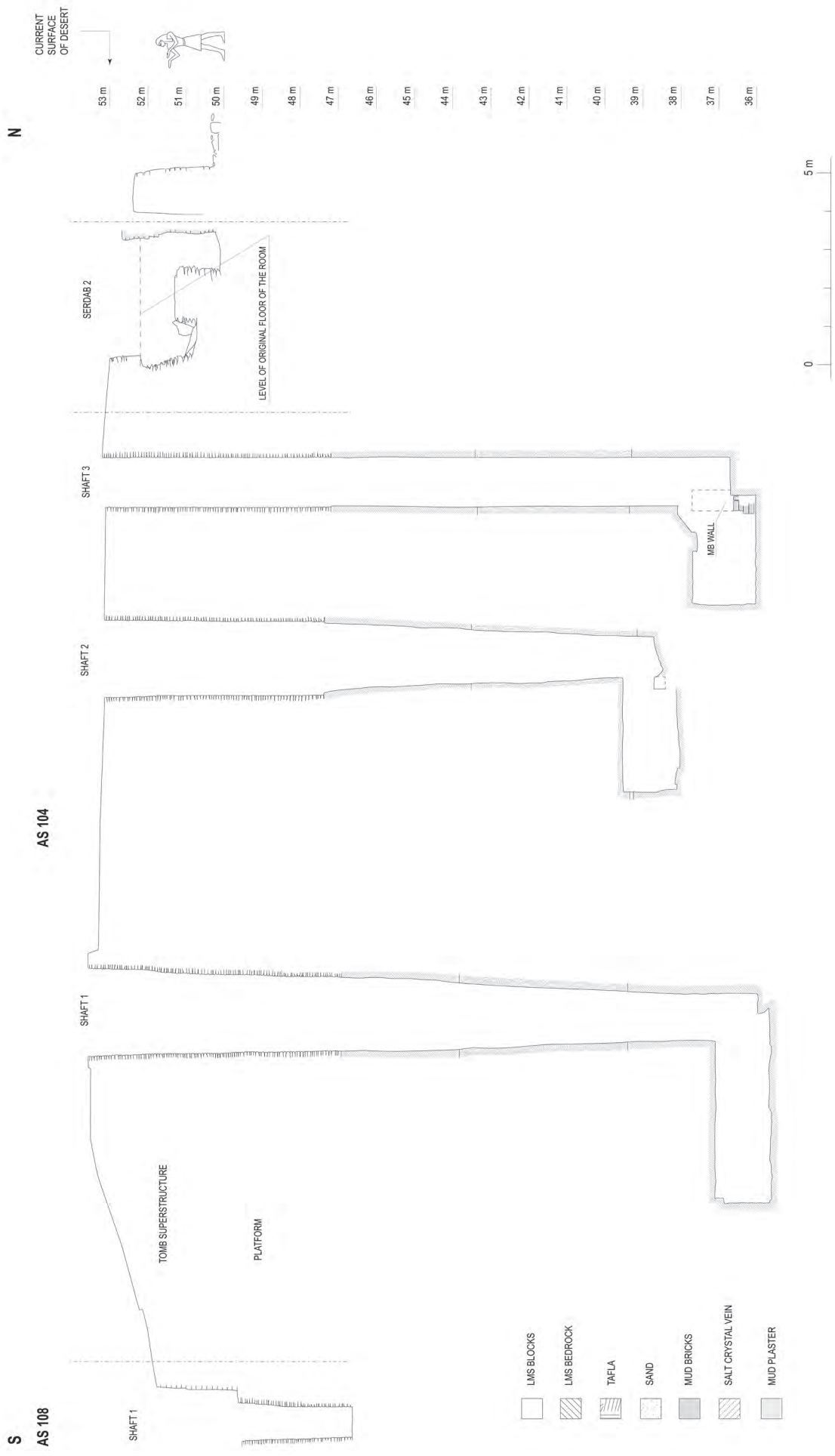


Fig. 4 North-south section through mastaba AS 104 and AS 108, m a.s.l. on the right side (drawing M. Odler, M. Peterková Hloučková, L. Jirásková, L. Vařeková, measurements V. Brůna)



Fig. 5 Cruciform chapel and Serdab 1 in the south-eastern corner of the tomb; the opening of Shaft 1 is also visible to the right (photo P. Košárek)

The mastaba core of irregular limestone blocks was constructed solely on this platform, and had a rectangular ground plan. Its outer walls were slightly inclined. In the south-eastern sector, a space was left for the chapel and serdab (no. 1). This limestone core included three shafts and a rectangular room (figs. 3 and 4).

The whole perimeter of the nucleus was covered with a mud brick casing (average dimensions of the bricks: 40–38 × 18 × 14 cm) with a gentle inclination of the outer walls.⁴ Of this casing, 24 horizontal layers of bricks were preserved, joined with mud mortar and covered with mud plaster. The north and south walls were not decorated with any other features and on the west, only the destroyed crown of the wall was uncovered.

CHAPEL AND SERDAB 1

The chapel of Nyankseshat's tomb had a cruciform ground plan (3.00 × 1.97 m, preserved height of walls: 2.7 m; figs. 5 and 22). The floor and walls were built of mud bricks and covered with yellowish-brown plaster. It was filled with sand mixed with fragments of bricks, limestone, charcoal (Eco29/AS104/2018), animal bones (Eco5/AS104/2018) and small fragments of a wooden

statue (or statues) of the tomb owner (3/AS104/2018). The fill was much harder and more difficult to excavate in the southern half of the chapel.

In front of the western wall, a low step was located, composed of irregular limestone blocks (*cf.* Odler – Peterková Hloučová *et al.* 2019: obr. 4). This wall of the chapel was severely damaged and in the place where an image of the tomb owner with funerary formulae and a list of titles might have once been inserted, the mud brick wall was effaced and the stone core exposed.

However, in the narrow southern wing of the western wall, a wooden panel with a series of carved hieroglyphs was uncovered facing east *in situ*, reading *(j)r(j)-(j)h.t nswt Jš.t*, “custodian of the king's property, Ishet” (4/AS104/2018_a; dimensions 48.5 × 7.4 cm; figs. 6 and 20). Mud plaster encapsulated the panel from above and thus the panel is preserved completely. After its clearing, two openings (dimensions 2.4 × 1.3 cm and 3.1 × 0.7 cm) were apparent in the lower part of the object. The purpose of these openings is unclear; they probably facilitated attachment to the mud brick wall and plaster. The genus or species of wood has not yet been determined. Besides that, other wooden fragments were found in the northern part of the chapel. One of them bore the remains of a hieroglyphic inscription

⁴ On average, the bricks were heavier than the stones used for the building of the tomb.

Find number	Associated with	Length (cm)	Width (cm)	Thickness (cm)	Compartments	Type	Inscription	Figure
5/AS104/2018	chapel	35.7	20.4	7.8	6	B2 (Hölzl 2002: 17–19)	see pp. 69–71	6, 21
12/AS104/2018	Niche 1	50.5	16.0	9.5	2	B+C (Hölzl 2002: 23)	–	9
11/AS104/2018	Niche 2	31.2	15.4	6.6	3	B2 (Hölzl 2002: 17–19)	–	9
15/AS104/2018	Niche 3	35	20	9	1	B1 (Hölzl 2002: 17)	–	9
13/AS104/2018	stela 1/AS104/2018	29.4	15.9	8.3	1	B2 (Hölzl 2002: 17)	–	9
1/AS107/2018	AS 107 niche	21	17	11	1	B1 (Hölzl 2002: 17)	–	–

Tab. 1 Measurements of offering basins found in tombs AS 104 and AS 107

(2/AS104/2018_a, dimensions 18.1 × 2.3 × 0.8 cm): a circular sign (perhaps *h*: ☉, Aa 1, Gardiner 1927: 523).

What can be inferred from the excavated situation is the fact that only the western wall of the chapel was decorated. However, it is unclear what the original width of the decorated part of the western wall was. The preserved mud floor between the limestone step and stone core also did not bear any trace of niching.

East of the stone-built step (*i.e.* in front of it), a white limestone offering basin was found, fairly damaged (5/AS104/2018; figs. 6 and 21, tab. 1) and bearing an inscription with the name and titles of the tomb owner. It had a rectangular shape, with two larger and four smaller depressions. The inscription on the edges mentioned: *zš pr-md3.(w)t (j)r(j)-(j)h.t nswt*

N(j)-nh-Sš3.t, “scribe of the House of documents, property custodian of the king, Nyankhsheshat”⁵

Apparently the basin was removed from its original location. However, an oval depression was identified in the floor (50 × 40 × 10–12 cm), with traces of six or seven thin layers of white plaster. It was slightly larger than the basin, thus the object could have been embedded here originally.

What is a fairly unique circumstance, in comparison to the other, much eroded, cruciform chapels at Abusir (see below), is the fact that the walls of the chapel were preserved to a height of 2.7 m, thus almost completely. It is evident that the chapel of Nyankhsheshat’s tomb was destroyed by erosion only at the uppermost level. The absolute height difference between the chapel’s floor



Fig. 6 Wooden panel with the name Ishet (4/AS104/2018_a) *in situ* and limestone offering basin (5/AS104/2018) at the moment of their uncovering (photo M. Peterková Hloučková)

⁵ For the title *zš pr-md3.(w)t*, see Jones (2000: 327, no. 1206). For *(j)r(j)-(j)h.t nswt*, see Bárta (1999); Jones (2000: 848, no. 3099).



Fig. 7 Narrow corridor to the east of Nyankhseshat's tomb, representing the final stage of its excavation, where the deepest floor level is from the Fourth Dynasty. To the left, *i.e.* east of it, a mud brick wall on the western wall of tomb AS 105 can be observed. View from the north (photo M. Odler)

and the opening of Shaft 1 was *ca.* 3.5 m, thus indicating that several decimetres of the course of the wall were missing to the roofing. Furthermore, only in this case among Abusir South tombs, can the monumentality and sternness of these early cultic spaces be perceived.

An entrance into Serdab 1 was situated in the south-eastern corner of the chapel (1.70 × 1.10 m, preserved height of walls 2.42 m; fig. 5). Its walls were plastered with yellowish-brown plaster. The passage between the chapel and Serdab 1 was overarched with simple vaulting. In addition, it was almost completely closed off by a mud brick wall during the time when the chapel was in use for the funerary cult. The sole void space was found directly under the vault (dimensions 50 × 45 × 90 cm). It is impossible to ascertain whether the gap was created or only widened by robbers. Of the serdab's original furnishing, some much eroded remains of a statue or statues (3/AS104/2018) were uncovered. It was evident that the statue or statues were partially damaged by the robbers, who pulled at least one statue through the void to the chapel. Many tiny


fragments were discovered in the fill of the chapel: wood and thin flakes of stucco with red and black colour. The best preserved fragment was a thumb with traces of red colour (3/AS104/2018_c; dimensions 10.8 × 3.5 cm), which comes from a statue of a man, originally stored in the serdab. Whether the wood is from a single source and maybe a single statue, or more of them, will be shown by further analyses.

Another rectangular space with a longer axis in an east-west direction was detected behind the northern wall of the chapel at a height of 1.7 m (see fig. 3; *cf.* also Odler – Peterková Hlouchová *et al.* 2019: obr. 4). Apart from pottery, no other finds were uncovered in this room and the purpose of the cavity remains unclear. However, its position close to the chapel allows us to assume that another serdab might have been located here.

EASTERN CORRIDOR

The original entrance from the north enabled access to this long narrow corridor leading to the chapel (figs. 3 and 7). At the time when the tomb of Nyankhseshat was being built, another tomb (AS 105) already existed to the east of it. Regarding AS 105, it was not excavated, but its western wall was exposed. As was shown, the wall was built of irregular local limestone boulders, covered with mud plaster. The available space between AS 105 and AS 104 was lessened in half by the builders of the latter structure since a new mud brick wall was constructed on AS 105. The resulting corridor was narrow, *ca.* 60–70 cm in width, enabling only one person to move forward at a time. In the first phase, the wall presumably stopped at the southern border of the chapel, where an interstice in the mud brick masonry is observable. In the south-eastern part of the limestone platform of AS 104, a red-painted grafitto (Gr2/AS104/2018) was observed, running under the mud brick wall adjacent to AS 105. The inscription must have existed in the first phase and was most probably damaged afterwards, thus proving the later dating of the mud brick wall which narrowed down the corridor.

In the eastern casing, three niches were constructed: Niche 3, immediately behind the entry, Niche 2 to the south of it and Niche 1 roughly in the middle of the corridor. Offering basins were found *in situ* in front of every niche, bearing thus witness for a mortuary cult (tab. 1). These basins were void of inscriptions making it thus difficult to determine a person to whom the offerings were dedicated.

In front of Niche 3, there was a rectangular basin (12/AS104/2018; fig. 9) with two depressions and a simplified *h*tp-sign:  (R4, *cf.* Gardiner 1927: 489) in the part which was oriented to the south. The edges were partially destroyed.

Niche 2 did not reach the level of the original floor but it may have represented the tomb's second most important cultic place during the Fourth Dynasty.⁶

⁶ A niche with a similar disposition (*i.e.* not reaching the floor level) was detected, for instance, in the tomb of chief physician Shepeskafankh (AS 39; Bárta 2015: fig. 5).



Fig. 8 The original entrance to tomb AS 104, closed off in the second phase by added mud brick wall. View from the east, at the western side AS 107, at the eastern side AS 105 (photo M. Odler)

It also evinced similarities to the niche in the main chapel: it did not reach the floor level (see above), and both cultic spaces were constructed at roughly the same height above sea level of 50.3–50.4 m a.s.l. These findings may support the suggested dating. Moreover, both were destroyed in the same way, exposing the limestone wall of the core. In front of Niche 2, an offering basin (11/AS104/2018; fig. 9) was detected, made of white limestone and fairly eroded.

Inside Niche 1, object 15/AS104/2018 (fig. 9) was uncovered, representing a rectangular offering basin with one depression but with a kind of step (see also below). It was not precisely oriented north-south; instead it had a more northeast-southwest orientation.⁷ A dating to the first phase is not proven beyond doubt, but it can be suggested on the basis of similarities (form, quality of material) with the basin found in the chapel (5/AS104/2018). In addition, it is worth mentioning that a basin of similar type (albeit inscribed) was found nearby, in the tomb of Ity (Bárta 2001: 6 and Pl. Va).⁸ However, the archaeological situation challenges this statement a little bit. It is apparent that the Fourth

Dynasty floor was much deeper than the floor of the second phase (see below). The basin was found at higher levels, though. There is the possibility that basin 15/AS104/2018 could have been re-embedded at a higher level in the later phase of tomb use.

In the Fourth Dynasty, a funerary cult of the entombed Nyankhseshat and also probably other persons, buried in Shafts 2 and 3, existed there for a certain amount of time. Before the middle of the Fifth Dynasty, the corridor of the tomb, at least, was cleared, and the structure underwent significant changes.

REUSE OF TOMB AS 104 IN THE FIFTH DYNASTY

The second phase of the tomb's usage can be observed in several features. First, on the original floor level of the corridor there was debris with deposited brick fragments and pottery, thus creating a new floor level. The difference between both floors was maximally 70 cm. Evidently, the cruciform chapel fell into disuse and likewise Serdab 1 might have been looted. The northern entrance was

⁷ An orientation which did not respect the wall course was observed in Corridor Chapel 4 of complex AS 103, in front of Niche 27 (Odler *et al.* 2018: 89, fig. 17).

⁸ Two basins of similar typology were found in the Early Dynastic tombs at Saqqara (Quibell 1923: 10–11, Pl. XXVIII: 3, 4). One of them bore a cartouche of Userkaf and can be thus dated to the Fifth Dynasty. However, it is intriguing that also at Saqqara, an Early Dynastic cemetery was “reclaimed” in the Fifth Dynasty.



Fig. 9 Reconstruction of the eastern wall with the limestone stela (1/AS104/2018) and offering basins (11/AS104/2018, 12/AS104/2018, 13/AS104/2018, 15/AS104/2018) (photo P. Košárek; elaborated by M. Odler)

completely closed off by a mud brick wall, with an apparent interstice in the wall, and a new entrance was located in the south (see figs. 1 and 8). Furthermore, the platform on which the tomb towered ceased to be visible, and the terrain was raised in this part by dump deposition, or it was raised intentionally.

The boldest change to the original structure seems to have been made to the north of Niche 2, where a white limestone stela of scribe of the treasury and *w^cb*-priest Sekhemka and king's acquaintance Henutsen, was installed. The stela (1/AS104/2018, dimensions 109.0 × 46.0 × 18.5 cm; figs. 9, 10, figure on the cover and pl. IV) is particularly interesting, combining features of a false door (offering scene) and a naos with engaged statues (for more details, see below).

The limits of the cultic space were also delineated on the borders of the mud floor adjoining the walls by stripes of white colour, renewed in several phases. Analogical stripes of white were regularly identified at Abusir on the floor levels of Fifth Dynasty tombs.⁹

A basin (13/AS104/2018; dimensions: 29.4 × 15.9 × 8.3 cm) was located in front of the limestone stela (1/AS104/2018) and this is the only basin clearly datable to the second phase of the tomb's use (fig. 9; tab. 1). It had a rectangular shape and one depression. Interestingly enough, the depression did not cover the whole surface.

Concerning the dating of the basins, 5/AS104/2018 from the chapel can be clearly dated to the first phase (Fourth Dynasty) and 13/AS104/2018 found in front of the stela comes clearly from the second phase (Fifth Dynasty). Based on the typology of 15/AS104/2018, it is possible that this piece was also from the earlier phase of the tomb. However, the lowest level of the mud floor in Niche 1 showed no traces of an inserted basin at that level of floor. Thus, the sole argument for the earlier dating is its form. Three basins: 11/AS104/2018, 12/AS104/2018 and 13/AS104/2018 represent the new furnishing of the tomb in its second phase.

During both phases of the tomb's use, the main spot of the funerary cult was located at the most distant end from the tomb's entrance. Thus, the entrance moved from north to south, whereas the focus of the funerary cult from south to north.

LIMESTONE CORE AND SUBSTRUCTURE

The limestone core of the mastaba contained three deep shafts (figs. 3 and 4). On the basis of their construction, size and location (but not the size of the openings), it is likely that each of them belonged to the original plan (see below). This statement can also be supported by

⁹ Most recently in tomb AS 98, of royal hairdresser Ankhires (Dulíková *et al.* 2018: 6–7 and fig. 6).

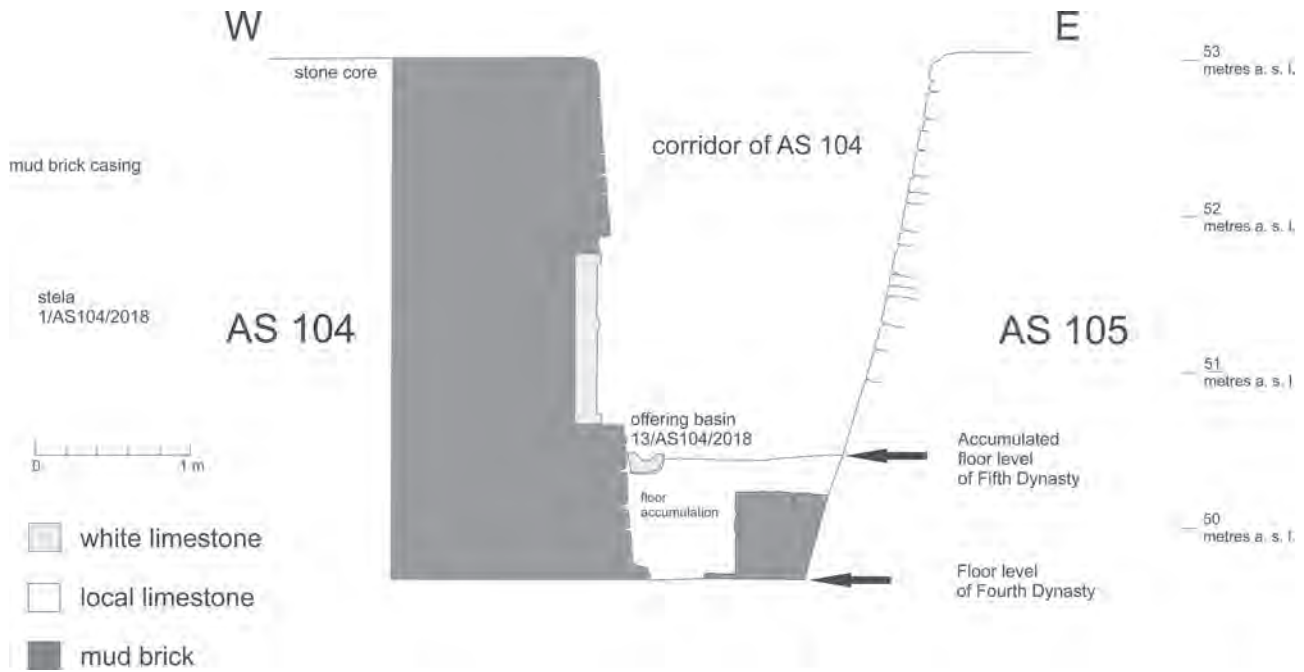


Fig. 10 East-west section through the location of the limestone stela (1/AS104/2018) and adjacent architectural parts, location marked on fig. 3 (drawing M. Odler)

the fact that one respected the existence of the other, which can be observed in the case of Shaft 2 where the floor was not even but slightly inclining, as the builders likely knew that north of it was the smallest burial chamber of Shaft 3, in almost the immediate vicinity. It is supposed that Shaft 1 belonged to the tomb owner, Nyankhseshat. In Shaft 2, the remains of a female body were collected (see below). It can be assumed that it might have belonged either to Nyankhseshat's spouse or to Henutsen, but the dating has not been properly established.¹⁰ Shaft 3 belonged most probably to Sekhemka from the second phase and thus was reused, although no traces of earlier burial were identified there (see below).

Besides the shafts, a rectangular room (3.15 × 1.15 m) was detected in the north-eastern corner of the limestone core. It was supposed that an entrance into a subterranean chamber would be uncovered there, as was common in the transitional types of tombs (e.g. Bárta 2005: 71). However, a horizontal projection of plaster on the walls indicated the position of the floor level and the room was thus only 0.80 m deep. It can be speculated that a staircase might have been intended there, but its construction was not finished. There is another possibility, though: it might be another serdab since the room is located behind the northernmost niche (3), in front of which the offering basin (12/AS104/2018) was installed.

The fill of the room consisted of yellow wind-blown sand without finds. Interestingly, the dried body of a frog was found there. The creature must have died there and was naturally mummified (see below).

On the surface of the core, limestone debris (thickness of ca. 1 m) with a great concentration of beer jars

(3.AS104.2018) and animal bones (Eco1/AS104/2018) was preserved. It was located to the south of Serdab 2. Very likely it comes from the fill of the shafts.

SHAFT 1

To the north-west of the main chapel, Shaft 1, the southernmost one, was located. Its fill consisted of wind-blown sand with fragments of pottery (16.AS104.2018), wood (Eco30/AS104/2018) and animal bones (Eco35/AS104/2018). At depths of ca. 5 m and 12 m, two concentrations of owl's pellets (Eco31/AS104/2018) were identified. From a depth of 12 m, the fill changed into brownish sand mixed with limestone chips, fragments of pottery (33.AS104.2018), animal bones (Eco36/AS104/2018) and human bones (28/AS104/2018). As expected, the amount of ceramic sherds was not large, with only one basket from each layer. On the whole, the nature of the fill indicated that the shaft must have been looted and it must have stayed open for a certain period of time.

The total depth of the shaft was 17.5 m and the opening measured 2.10 × 1.95 m (see also tab. 2). Concerning the architecture of the shaft, it was partly cut into the limestone bedrock, where also a layer of tafla appeared, and partly was built from irregular limestone blocks.

At the bottom of the shaft, the northern wall was flanked with a limestone step, 30 cm high. In the southern wall, an entrance into a burial chamber was located, which was filled with a mud brick wall. Behind it, there was a fairly long and narrow passage (1.66 m long) leading to the burial chamber (2.57 × 2.08 × 1.44 m; fig. 11). Approximately in the middle

¹⁰ A wooden plank (as a remnant of a coffin) from this shaft was sent for 14C analysis and still awaits processing.



Fig. 11 Burial chamber at the bottom of Shaft 1 with remains of a human burial and wooden fragments; chisel cuts can also be observed on the walls (photo M. Peterková Hloučová)

Tomb	Shaft	Opening length (m)	Opening width (m)	Depth (m)	Burial chamber length (m)	Burial chamber width (m)	Burial chamber height (m)	Burial	Figure
AS 104	1	2.10	1.95	17.50	2.57	2.08	1.44	28/AS104/2018	11
AS 104	2	2.00	1.70	14.50	2.10	2.06	1.48	18/AS104/2018	15
AS 104	3	1.45	1.40	16.50	3.02	2.48	1.72	23/AS104/2018	
AS 108	1	1.26	0.93	3.00	-	-	-	-	
AS 108	2	1.12	1.08	4.80	0.90	0.47	0.56	5/AS108/2018	
AS 108	3	0.80	0.96	3.70	1.12	0.64	0.68	2/AS108/2018	

Tab. 2 Measurements of shafts found in tombs AS 104 and AS 108

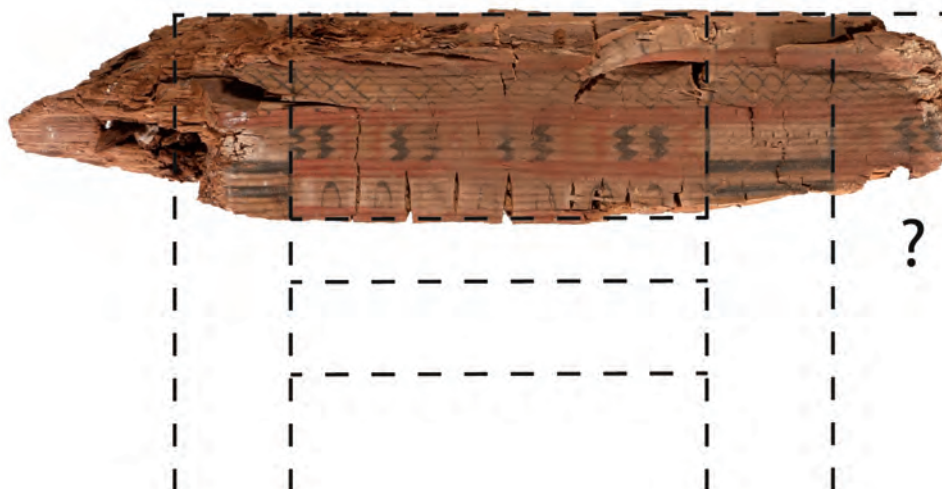


Fig. 12 Fragment of a decorated wooden coffin with indication of the false door panel (photo P. Košárek; elaborated by M. Peterková Hloučová)

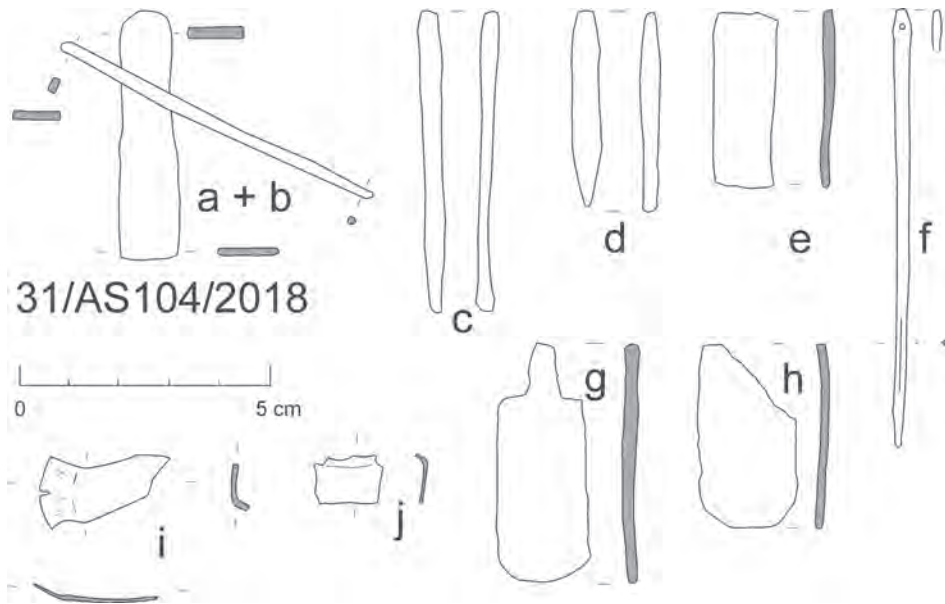


Fig. 13 Copper model tools and fragments of vessels: a: adze blade, b: shaft of chisel, c–d: chisel blades, e: adze or razor blade, f: needle, g–h: razor blades with tangs, i–j: fragments of model spouted jar (drawing M. Odler)

of the burial apartment, a concentration (1.80 × 1.20 m) of disarticulated human bones (28/AS104/2018) and wooden fragments (29/AS104/2018) was located. Evidently, it represented the remains of a looted burial. The bones in the chamber were disturbed in that the skull was found in the northern part, whereas the long bones were present in the southern one. On the basis of this distribution, it can be assumed that originally the deceased might have been buried with the head to the north. Another concentration of wooden planks was collected in the south-eastern corner and one of the planks (29/AS104/2018_a, dimensions: 51.3 × 12.6 × 7.8 cm; fig. 12 and pl. III: 4) was leaning on the eastern wall in the northern part (see fig. 11, to the left). This fragment is intriguing, bearing the remains of painted decoration in red and black with white surface colour. The preserved decoration is divided into four registers with geometric motifs (zig zag lines, semi-oval depictions). After a detailed examination, it becomes apparent that even the opposite side bears the remains of white colour. Since it was found in the eastern part of the apartment, it can be supposed that it might be a part of the eastern side of the original coffin. Presumably, the remains of a false door are preserved on 29/AS104/2018_a. This suggestion can be supported by a study of Old Kingdom decorated wooden coffins. For instance, the wooden coffin of Idu II from Giza (dated to the Sixth Dynasty), shows similar patterning in the depiction of a false door on the eastern inner side of the coffin (see Junker 1947: 96–102; Donadoni Roveri 1969: 157–158 and Tav. XXXIX).

One more wooden piece with remains of colours was identified among the fragments, albeit undiagnostic (29/AS104/2018_b, dimensions: 8.6 × 2.7 × 1.6 cm). On the basis of the size of the preserved planks, it is assumed that the coffin may have been fairly massive.

However, the process of studying all the wooden fragments from Shaft 1 is a work in progress.

Besides these, scattered copper model tools (31/AS104/2018; fig. 13), a carnelian bead (32/AS104/2018), the remains of pottery vessels (34.AS104.2018) and animal bones (Eco37/AS104/2018) were found.

Regarding the copper finds, the model tool blades (31/AS104/2018) were produced from copper and arsenical copper. The set contained a blade of an adze, three chisels, a needle, a razor blade and one or two more fragments of razor blades. There were also three tiny fragments of a miniature vessel, most probably a spout of a ewer (two depicted in fig. 13: i, j). Parallels of the complete tool shapes appeared in the first half of the Fourth Dynasty, predominantly at Giza (Odler 2016: 65–71, Fig. 35), although altogether the sets from this period are scarce.

The carnelian bead (32/AS104/2018, diameter: 0.8 cm) of circular/ring shape was orange-red in colour. The presence of a single object of this kind is particularly thought-provoking. It might have been part of the original burial equipment, being a piece of jewellery stolen by the robbers, who might have lost one single piece in the burial chamber. On the other hand, it can be supposed that it is an intrusive object which might have been brought (unintentionally) into the chamber by the robbers. In the Old Kingdom, carnelian beads were not as common as their faience counterparts, and in that case they often appear together with faience pieces. For instance, at Giza, in pit G 2416 D III, faience and carnelian examples were found in a wooden coffin.¹¹ In addition, it was in the pyramid complex of King Raneferef where more than 2,000 circular carnelian beads, carefully arranged along the boats, were excavated together with an assemblage of faience pieces (Bianchi 1997; Verner 2006: 41; Callender 2006: 447–448). Robert Steven Bianchi (1997: 30)

¹¹ <http://www.gizapyramids.org/view/objects/asitem/search@/102/title-asc?t:state:flow=ea833843-5937-404a-b9b0-903cc61b02df>. (Accessed on 19th February 2019.)

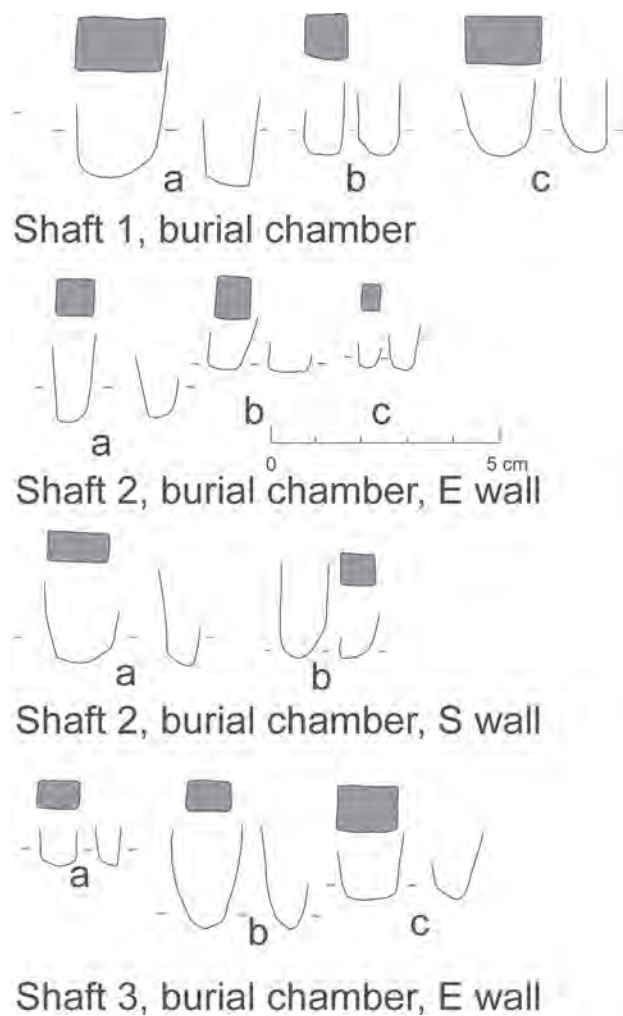


Fig. 14 Imprints/negatives of chisels from the burial chambers of AS 104 (data collected by M. Odler and M. Peterková Hloučová, drawing by M. Odler)

postulated a connection of these pieces to the sun and to the main solar god Re. In addition, he perceived them in terms of violence and destruction. On the other hand, for Vivienne Gae Callender (2006: 448), they represented the life-giving force.

The ceramic finds from the shaft have not been analysed fully yet; however, some preliminary remarks can be stated. Context 33.AS104.2018 that came from the fill of the lowest part of the shaft (from a depth of 12 m and below) contained predominantly fragments of rough pottery. Among the types, three should be mentioned specifically, namely a beer jar with a collar rim, a so-called carinated bowl with its greatest diameter at the shoulder and a bowl with an inner ledge. All three are representative of the transition from the late Third to early Fourth Dynasty.

The bowl with an inner ledge (33-1.AS104.2018) was found broken into sharp, well-defined fragments without any trace of erosion and thus was able to be

reconstructed to full shape. It had a shallow body with a height of 4.7 cm and maximum diameter of 19 cm. One of the most characteristic features is scraping with a sharp tool on the lower outer body. It was made of rather rough Nile silt B2 and in it even contained large pieces of molluscs. This particular type can be found in diverse sites during the early part of the Old Kingdom (see Arias 2017: 247). From the reign of Snofru, it is attested *e.g.* from the area of the Red Pyramid at Dahshur (Faltings 1989: Abb. 10a, A28; Köpp 2009: Abb. 4, Z 244), as well as in the burial shaft of Snofru's son, Prince Netjeraperef in Dahshur (Alexanian 1999: Abb. 59). From Giza, such bowls are attested even in slightly later contexts, dating to the reigns of King Khufu and Khafre (*e.g.* several examples from tomb G 4341, Reisner – Smith 1955: Fig. 121, esp. 14-1–100).

Beer jars with a collar rim (Abusir type J-1h, Arias 2017: 225–226) are most commonly attested in the early part of the Old Kingdom up to the early Fourth Dynasty. From the reign of King Snofru, noteworthy are several jars from the tomb of Netjeraperef in Dahshur (Alexanian 1999: pp. 132–134, Abb. 54, M28–39), as well as other vessels from the area of Snofru's Red Pyramid in Dahshur (Faltings 1989: Abb. 5e and Abb. 8e; Köpp 2009: 68, Abb. 6, Z 501) and Meidum (Petrie, Mackay and Wainwright 1910: pl. XXVI, no. 63). Some examples are also attested in the early cemetery and settlement in Giza (Reisner 1942: fig. 285, 13–10–38; Kromer 1972: Taf. 3.6, 5.4, 15.1–2; Kromer 1978: Taf. 20.3).

The carinated bowl is one of the few examples of fine pottery found in this tomb.¹² This particular shape, with maximum diameter situated at the shoulder, is again characteristic for the early Old Kingdom, with latest examples coming from the middle of the Fourth Dynasty. It is found in monuments connected with the reign of Snofru, such as the mastaba of Netjeraperef (Alexanian 1999, Abb. 60, M 111–112) and later in the settlements at Giza (Kromer 1972, Taf. XVII, 1–9; Kromer 1978, Taf. 21.5 and 8).

The burial chamber itself seems not to be properly finished since its walls were not smooth:¹³ they bore sometimes rather deep (4–6 cm) chisel cuts (see fig. 14). Inspired by the approach of Fabian Welc (2010), a small corpus of chisel imprints was gathered from the burial chambers of all three shafts with the help of modelling clay. Chisels used in the Fourth Dynasty to dig out chambers were sturdy, but none of the chisels left a trace wider than 3 cm.

It can be supposed, mainly on the basis of the position of the shaft close to the main chapel, that this shaft belonged to the original tomb owner, Nyankhseshat. This statement can be supported by the dating of the copper model tools and the preliminary dating of the ceramic finds from the lower part of the shaft. The precise dating will be a matter of upcoming studies,

¹² For their development, see Arias (2017: 238–240).

¹³ For the phenomenon of finished and unfinished burial chambers, see, for instance, Kanawati (2005).



Fig. 15 Remains of a wooden coffin in the burial chamber of Shaft 2 (photo M. Odler)

the full documentation of the pottery from the shaft and the chamber, and especially the 14C analysis, all of which may provide us with more precise dates.

SHAFT 2

Shaft 2 was located to the north of the first one. Similarly, the fill consisted of yellow wind-blown sand, but with remarkable zoological finds: the naturally mummified head and corpse of a reptile, bird eggshells, bird skulls, owl's pellets, *etc.* (Eco14–21/AS104/2018; see below). An upper part of a faience shabti statuette (14/AS104/2018; dimensions 4.2 × 3.0 × 1.0 cm) was found in the fill as well, at a depth of *ca.* 10 m. The character of the shaft fill and the finds in it pointed to the fact that even this shaft was visited by robbers, and it must have stayed open for a certain period of time, which attracted the attention of a number of animals.

Shaft 2 was 14.5 m deep, with an opening of 2.0 × 1.7 m, which is comparable to the mouth of Shaft 1 (tab. 2). However, it was the shallowest shaft of the three. Its construction was the same as in the previous case (*i.e.* limestone bedrock with tafla veins, artificial walls built from irregular limestone fragments), with an unsmoothed bottom. Its southern wall, with the remains of an original mud brick blocking wall, contained

an entrance into a passage (length 0.90 m) that led to a rectangular burial chamber (dimensions 2.10 × 2.06 × 1.48 m; fig. 15). The floor of the passage and the apartment was deeper (0.59 cm) than the bottom of the shaft.

Even though the burial was robbed, the chamber contained a number of wooden fragments (17/AS104/2018, 19/AS104/2018), fragile and of different dimensions. It is very difficult to determine how many wooden objects the burial equipment contained. The fragments were scattered all around the floor. What is clear is the fact that there must have been a fairly massive coffin. Some of the fragments bear the remains of decoration in ochre (19/AS104/2018_h, 19/AS104/2018_x) or red colour (19/AS104/2018_k). Not only did the piece 19/AS104/2018_k bear the remains of red colour, it also provided us with interesting construction details: it was the edge of the lid which was attached to the case (type d in Donadoni Roveri 1969: Fig. 12). Moreover, in its bottom part a rounded carved line was observed, leading thus to the assumption that a vaulted wooden piece was attached to this piece. Several pieces of that shape were actually identified (for instance 19/AS104/2018_t). On the basis of that, it can be assumed that it was a coffin with a vaulted lid (the so-called *ḳrs.w* type).¹⁴

¹⁴ The author would like to express her gratitude to her colleagues Věra Nováková and Katarína Arias Kytarová for their suggestions, discussions and patience when studying the fragments.

Additionally, several fragments of human bones (18/AS104/2018) were collected among the planks. In the eastern part of the chamber, a concentration of bones of small rodents (Eco26/AS104/2018) and part of a beetle body (Eco27/AS104/2018) were found. The floor of the burial chamber was not smoothed. What is interesting is the fact that a downward sloping (from south to north) platform was noticed in the western part. Its edge, however, was not regular. On the other hand, in the northern part of the chamber, a regular, square cut was detected. Furthermore, the floor contained two cut lines, oriented east-west (for an analogy from Abusir, see below).

SHAFT 3


The third shaft was located in the north. It was 16.5 m deep, but its opening was smaller in comparison to the two previous shafts: 1.45 × 1.40 m (tab. 2). Its construction was the same as the other shafts. Similarly, the fill consisted of yellow wind-blown sand. Limestone chips, tiny animal bones (Eco33/AS104/2018) and charcoal (Eco34/AS104/2018) appeared at a depth of 14 m and deeper. At the bottom of the shaft, in its southern wall, an entrance into a trapezoid burial chamber (with the western wall oriented northeast-southwest; dimensions: 2.48 × 3.02 × 1.72 m) was located, with a damaged mud brick blocking wall still preserved. The floor of the burial chamber was deeper than the bottom of the shaft (by a difference of 0.66 m).

In the eastern wall of the burial chamber, a recess was located (dimensions: 3.80 × 1.00 × 0.64 m). It is not clear what its purpose was, but on the basis of some analogies it can be speculated that there might have been stored bags (?) with organs of the deceased. For instance, in the tombs of Rahotep and Ranefer at Meidum, in a recess in the south wall of their burial chambers, supposedly bandaged/mummified viscera were found (cf. Bárta 2005: 78–79).

The burial chamber was definitely visited by looters, but perhaps it happened in antiquity. It seems that modern robbers stopped their digging activity *ca.* 1.5 m from the top of the entrance to the burial chamber. Therefore, the remains of the burial equipment left after the first looting remained covered under the cone of the secondary fill of the shaft until modern excavations.

Even though robbers broke into the burial chamber, interesting finds were preserved in the north-eastern part: incomplete sets of travertine model vessels (27/AS104/2018), model copper tools and vessels (25/AS104/2018), ceramic vessels (32.AS104.2018), a clay sealing (35/AS104/2018), also fragments of human bones (23/AS104/2018), a piece of wood (24/AS104/2018) and solely one faience bead (26/AS104/2018). These finds represent the burial equipment, and on the basis of the sealing, the date of the burial can be determined

(see below). All the pieces were spread on the floor in the north-eastern part of the burial chamber, close to its entrance. This position for model stone vessels was quite common in the Old Kingdom, since it corresponded with the face of the deceased, whose head was usually oriented to the north.

The upper side of the ovoid clay sealing (35/AS104/2018; dimensions: 3.9 × 3.2 × 2.0 cm; fig. 16) bears an inscription in hieroglyphs mentioning the Horus name of King Neferirkare: *Wsr-h3.w*, “Strong of appearances” (Beckerath 1984: 54 and 181; Leprohon 2013: 39) in a serekh surmounted by a figure of a falcon. The name in the serekh is mentioned four times on the sealing: in two instances with the falcon, and two times the Horus falcon with a Red Crown stands on a figure of the uraeus, accompanied by an *ḥnḥ*-sign. Two deities are referred to: Hathor as a female figure holding a *w3s*-scepter, with horns and a sun disk, and Anubis *zh ntr*,¹⁵ followed by the title *ḥr(y)-s[š3]*, “privy to the secret”. It can be supposed that the title could be connected to the mention of Anubis. Dilwyn Jones (2000: 641, no. 2349) referred to the title *ḥry-sšt3 zh-ntr*, although his writing of this title is represented only by three signs: . Moreover, there might be part

of a title or an epithet: *ḥnty*, “foremost”. In verso, which is flat, the imprints of a string are preserved, thus indicating that the sealing was attached to a flat surface bound with a string. It may have been a sealed wooden chest coming from the treasury. Therefore, the burial in Shaft 3 must have been interred in the reign of King Neferirkare (2415–2405⁺²⁵ BC; Hornung – Krauss – Warburton 2006: 491). Other objects from the burial equipment do not appear to be mixed from different contexts.

Two clay sealings were discovered in the burial chamber of the sun priest Neferinpu (AS 37, Bárta 2014: 96–99). They were interpreted as sealing a wooden canopic box. However, relief decoration of the Old Kingdom mastabas brings evidence of boxes with various items of mortuary equipment being sealed with a sealing and brought from the treasury (Desplancques 2006: 206–208), not only canopic boxes.

Numerous ceramic vessels and their fragments were collected from the thin layer of debris of the burial chamber. These included at least one large storage jar, four small bowls, one ring stand and 14 different miniature vessels (see fig. 17 and pl. III: 1), although the original number might have been even larger, considering that the chamber was disturbed. It was not possible to determine the spatial distribution of the individual vessels in relation to the body of the deceased, as the sherds came from the whole floor layer of the chamber without any particular concentrations. The ceramic corpus is typical for the early/middle Fifth Dynasty, especially due to the typological sequence and the morphometric properties of the assemblage.

¹⁵ For *Jnpw zh ntr*, see, for instance, a Fifth-Dynasty sealing from the museum in Leipzig (http://www.giza-projekt.org/Funde/UL_3774/UL_3774.html. Accessed on 27th February 2019).



Fig. 16 Clay sealing (recto and verso) from the burial chamber of Shaft 3, mentioning the Horus name of King Neferirkare: *Wsr-h3w* (photo P. Košárek)

Large ovoid storage jars were a common part of the burial equipment, especially in the case of higher officials; and from Abusir South we have large fine jars from the chamber of the presumed husband of Princess Sheretnebtj (AS 68c, see Arias 2017: 113–114, Figs. 3.170 and 3.174), in both chambers in the tomb of Wesernefer (Arias 2017: 165–166, Fig. 4.5) and in the chamber of the anonymous tomb AS 47 (Arias Kytarová 2011: fig. 11). The storage jar from Shaft 3 (32-17.AS104.2018) was made of Nile silt. It was quite large, with a full height of 36 cm and maximum diameter of 18 cm. Despite being partially broken, the lower body and base of the jar still contained a large part of the original Nile mud filling at the time of discovery. It is possible that the robbers broke the jar in order to determine if it held anything valuable – or it was simply broken unintentionally during their rampage in the chamber. The jar had a low neck with flattened rim and a rounded base (see fig. 17). In Giza, similar jars in various forms were discovered in numerous burial chambers, often in more than one example per context. Morphometrically closest examples were uncovered in tombs dating to the span of the late Fourth and early Fifth Dynasty, such as tombs G 4440 or G 4240 (Reisner – Smith 1955: fig. 81, 13-11-120, 13-11-87, etc.). Such jars were meant to symbolize perpetual drink for the afterlife of the deceased, with the Nile mud serving in this particular case as a symbolic substitution of wine. Originally, this jar was sealed with a mud stopper. It is noteworthy that in the burial chamber, we found two mud stoppers of the same type and similar sizes (32-21.AS104.2018 and 32-22.AS104.2018), with a tall conical body and truncated top (Abusir type D-4, see also Arias 2017: 305). These would point to the fact that there were originally at least two large storage jars in the assemblage.

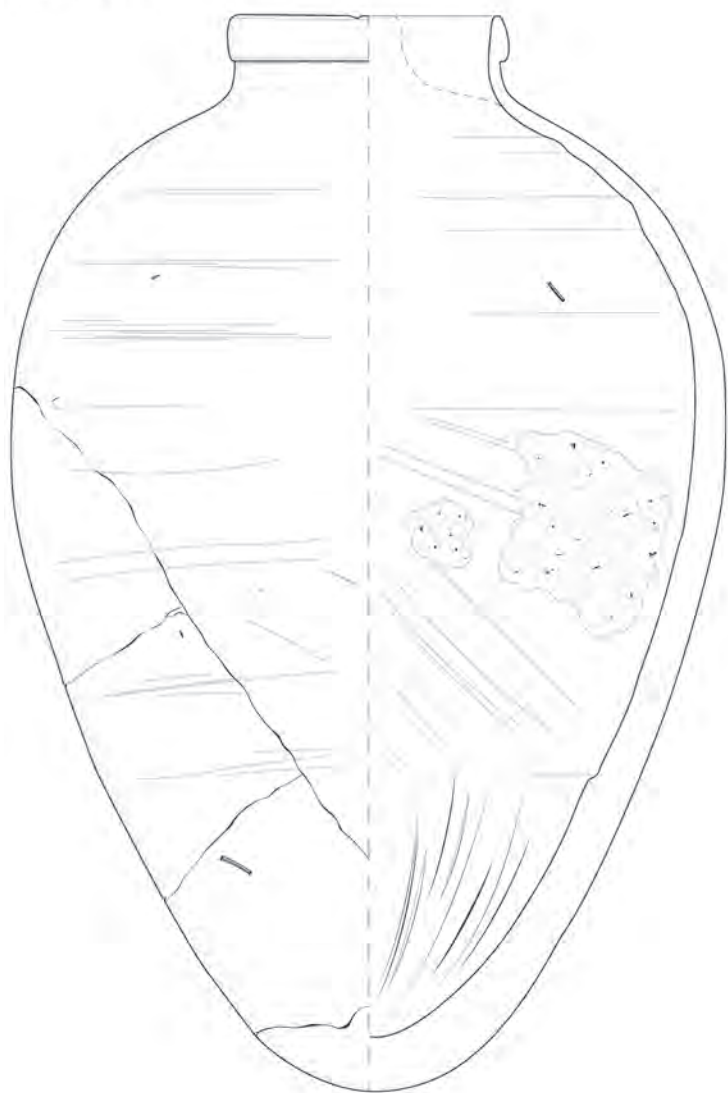
Similar jars were usually placed on low ring stands, as is often attested in iconographic representations. In this burial chamber, one such stand was discovered in fragments and reconstructed to full profile

(32-15.AS104.2018, see fig. 17). It was rather small, with a height of only 10.5 cm and maximum diameter of 13 cm. As in other examples of the Fifth Dynasty, it was made rather carelessly on a wheel, with the visible marks of the original coiling and subsequent smoothing of the coils. There are numerous parallels for such stands both at Abusir South and e.g. in the cemetery of Giza.

There were altogether four shallow bowls in the debris of the chamber. All of them were rather small and roughly made, with relatively thick walls and coarse surface treatment consisting of scraping with a sharp (probably ceramic) tool on the outer lower walls (see fig. 17). Three bowls were very similar, with bent-sided walls and a slightly flaring rim (32-16.AS104.2018, 32-18.AS104.2018 and 32-11.AS104.2018), with maximum diameters of 15 cm and heights between 4.5–5 cm. The last bowl differed in the shape of the body and especially in its slightly ledged inner rim (32-19.AS104.2018). It was smaller and shallower, having a maximum diameter of 12 cm and height of only 2.8 cm, with a slightly oval shape. With its inner ledging on the rim, it represents an older ceramic tradition from the early part of the Old Kingdom. Interestingly, none of the bowls were red-slipped.

The largest part of the ceramic assemblage was made up of different miniature vessels. Altogether, there were 12 bowls and 3 cups (see fig. 17 and pl. III: 1), and their original number was probably even higher. The presence of miniature vessels in the burial chambers is quite characteristic for this period, as they often substituted large-sized vessels, sometimes meant as a replacement of specific vessels or their combination (e.g. the cups represented bowls on tall stands, etc.). They were all made of Nile silt B1 and smoothed on the outer walls. No traces of red slip or other surface treatment were discovered and the vessels are as a rule small, irregular and relatively roughly made. The miniature bowls fall into two main types – ones with concave walls (MB-2) and ones with an articulated base (MB-3). Each of the miniature cups is slightly different. Most parallels from funerary contexts

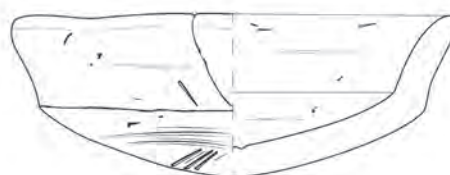
32-17.AS104.2018



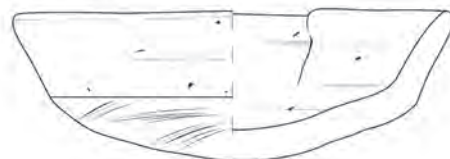
32-11.AS104.2018



32-16.AS104.2018

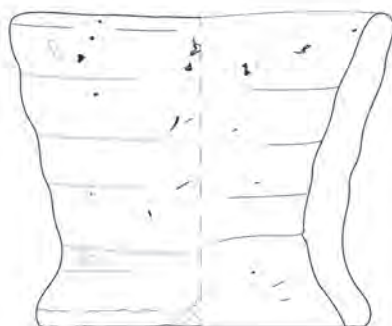


32-18.AS104.2018



0 5 10 cm

32-15.AS104.2018



32-13.AS104.2018



32-14.AS104.2018



32-20.AS104.2018



32-1.AS104.2018



32-2.AS104.2018



32-7.AS104.2018



32-12.AS104.2018



 MUD COATING

Fig. 17 Selected vessels from the burial chamber of Shaft 3 (drawing K. Arias Kytarová, L. Vařeková)

come from the burial chambers of high officials in Giza from various parts of the Fifth Dynasty (e.g. Reisner – Smith 1955: figs. 100, 101 and 127).

Significant is also another set of copper objects (25/AS104/2018), because its date can be almost safely set (pls. III: 2 and 3). Again, the first half of the Fifth Dynasty is underrepresented in the known material. Besides the large amount of only preliminarily determined fragments, the set comprised 16 chisels, nine adze blades, eight axe blades and two saw blades, four razor blades and miniature vessels: three rectangular basins, three bowls, a ewer with a wash basin, and a censer *ḥj*. The shapes of the models are similar to Fifth Dynasty assemblages (e.g. from Abusir and Giza; Odler 2016: 55–61, 65–72, Figs. 30, 39–41). Only from the Fifth Dynasty is a censer *ḥj* with an oval receptacle in the middle known to be made of copper. A pair of similar vessels was found at Giza, in Shaft 559, where an adolescent with rich burial equipment was interred (Radwan 1983: 54, Taf. 24: 129J, 129K). A copper censer of similar shape with an oval receptacle was mentioned in the early Fourth Dynasty offering list of Prince Rahotep from Meidum (now on display in the British Museum, EA1277).¹⁶ Until now, an archaeological piece of evidence of their production in copper is known only from the Fifth Dynasty. Also other vessels, a ewer with a spout and rectangular basins, are similar in this assemblage (Hassan 1941: 240–244, Fig. 217).

In addition, as aforementioned, a set of travertine model vessels (27/AS104/2018) was preserved in the burial chamber. Considering the fact that the burial chamber was visited by robbers, the assemblage of the travertine models cannot be interpreted as a complete set, although there were no broken pieces found, and it rather seems that it was disregarded by the ancient robbers.

There were 39 bowls with a rounded bottom, 29 beakers with a flat bottom, five beer jars, three shouldered jars, two wine jars, a table top with a stand (with no remains of “glue”) and a ewer with a basin found altogether. Except for the two wine jars, which were rather roughly shaped, all of the pieces were perfectly crafted in all details. Even the bowls and beakers were of regular shapes and similar sizes, and all were well smoothed. Only the usual remains of circular drilling marks at the bottom of the depressions were noticed.

It is a matter of question how many pieces might have been lost. Complete assemblages of model stone vessels come only from the latter part of the Fifth Dynasty. Even in these examples, the numbers are never the same, especially in the case of numerous bowls, reaching between 59 and 87 (Jirásková 2017: 149). Interesting is the presence of both, finely made beakers and bowls. Taller beakers are to be found in the Fourth Dynasty (e.g. G 4340 A, G 7210 B or G 7350 A); from the late Fifth Dynasty bowls either with a flat or

rounded bottom prevail. However, the most striking feature of the assemblage of AS 104 is the absence of a jug and cylindrical jars. These were usually present in the number of seven to provide the deceased with seven sacred oils, and are regularly found in the tombs from the middle of the Fifth Dynasty onwards, as well as the seven sacred oil tablets. Also, the presence of a model table is worth noting, since they were (so far) not found earlier than the Fifth Dynasty (Jirásková, *in preparation*).

Considering the number of types and their production styles, it seems probable that the set could be dated to the first half of the Fifth Dynasty, not later than the reign of Neferirkare. At this time, a specific standardisation was applied to this sort of material (Jirásková 2017: 151–153). The assemblages of model stone vessels were a kind of goods which was produced on purpose at the time of its immediate usage (*i.e.* placement in the burial chamber). In this respect, the burial in Shaft 3 should be dated to the same time. Still, such an estimation of the dating must be considered with caution due to the fact of the looting in the chamber, which might have caused the disappearance of some pieces. On the other hand, the presence of a sealing with the Horus name of Neferirkare (35/AS104/2018) supports and further specifies the proposed dating.

ADJACENT STRUCTURES (AS 105, AS 107 AND AS 108)

For the purpose of the clarification of the AS 104 ground plan, adjacent structures were uncovered to the north and south. East of Nyankhseshat’s mastaba, there was a tomb built of irregular local limestone blocks: AS 105. Its western wall is longer than AS 104 and the mastaba is bigger. Based on the arguments presented above, it can be inferred that AS 105 is earlier than AS 104. It will be excavated in one of the upcoming seasons.

To the north of the supposed original access to AS 104, on the level of the foundation platform, a narrow north-south stone wall was excavated, turning its direction to the west. It might have been part of the AS 104 first phase, but its western wing was covered by another tomb, built of light, sandy bricks, of which only the southernmost niche was excavated (fig. 8). The structure was numbered AS 107 (4.0 × 1.8 m). In front of the niche, an undecorated and fairly eroded white limestone basin (1/AS107/2018; tab. 1) was excavated. It was a trapezoidal, roughly hewn object with one depression. A shaft was located to the west of the niche. In its mouth, another niche was constructed and probably also another burial entombed at a later stage. However, there was no time to excavate this shaft.

The largest part of the northern wall of AS 104 remained in its original appearance, with the exception of the lowest course of bricks, uncovered by erosion.

¹⁶ For the bibliography of the relief and its documentation, see the British Museum Collection Online (https://www.britishmuseum.org/research/collection_online/collection_object_details/collection_image_gallery.aspx?assetId=189350001&objectId=123151&partId=1). Accessed on 20th February 2019).

Fig. 18 Human burial in Shaft 2 of AS 108 (photo M. Peterková Hloučová)



On the northern wall, erosion channels, damaging also almost the whole course of the eastern wall, are absent.

Structure AS 108 (7.00 × 1.45 m; fig. 1) was built at the interface of the southern limit of the AS 104 platform. Besides a rich assemblage of pottery, including miniature vessels, it offered intriguing anthropological material, most probably of the persons somehow connected to the second phase of the tomb. The only uncovered part of the superstructure was a small limestone rectangle covered with white plaster, which was also present around the structure. It might have been used as an altar.

Three shafts were partially built of mud bricks (28 × 14 × 9 cm) and partially cut into the bedrock. Two of them contained undisturbed burials. In Shaft 2 (depth 4.8 m), there was a body deposited in a burial niche (0.47 × 0.90 × 0.56 m; fig. 18) in the south. The buried person was in a fetal position, with the hands presumably under the head, turned to the east and face to the south. The body was poured over with mud (see also below). The second burial, in Shaft 3 (depth: 3.7 m), was interred in a burial niche (1.12 × 0.64 × 0.68 m) in the western wall of the shaft, with the head to the north and face to the west. It was interred in a crouched position and it seems that the body was deposited on a layer of mud (see below). If this was intentional, is the matter of question. The burial niche was closed by a small wall of loose bricks, filling every void space of the opening. Shaft 1 was without any indication of burial and it was most probably intended to be for an uncovered ceramic deposit. Most probably it was the so-called ritual shaft.¹⁷

Besides these individuals, another body was found in the opening of Shaft 2, wrapped in textile, with the skull

detached, lying out of the shaft. This burial must have been disturbed by robbers and most probably it comes from a shaft located further south, not yet excavated.

AFTERLIFE OF THE TOMB – THIRD PHASE OF EXISTENCE

The eastern wall of tomb AS 104 was affected by deep erosion channels, which are impossible to date more precisely, although one wet phase is known from the late Old Kingdom (Welc – Marks 2014). More precise dating will be possible only after a full processing of the pottery, providing a *terminus post quem* for the filling of the corridor with debris. A heavy storm during the night just before the end of the excavation (at night from 24th to 25th April 2018) demonstrated the effects of heavy rain on the mud brick wall, and the traces of mud caused by ancient and modern rain running through the channels were identical. The north wall of the mastaba was most probably already covered before these events, as the mud plaster was found in almost pristine condition in the upper part of the wall (fig. 19).

Through all layers at the south-western corner of AS 104, a pit was cut for the deposition of a simple small coffin with a child burial, which may have been wrapped in linen, based on textile fragments found inside (16/AS104/2018). The container bore the remains of white plaster. No material was found within the burial, except for the bones. Unfortunately, also the amount of wood is too little for the currently available radiocarbon dating in Egypt. Hope for a narrower dating rests again with the processing of the pottery. The coffin is undoubtedly from a period of time when no funerary cult took place in tomb AS 104 itself.

¹⁷ On ritual shafts, see e.g. Arias (2017: 188–193).



Fig. 19 Northern wall and north-western corner of AS 104, standing on the platform, view from the north (photo M. Peterková Hloučová)

An indication of the later funerary activity and/or tomb robbers' activities in the area might be represented by the shabti fragment from Shaft 2 (14/AS104/2018) and a handle of an amphora of fine clay from the First Millennium BC, found on the floor of the burial chamber in the same shaft. The shafts must have been opened for a certain period of time and there is clear evidence of nesting owls in Shafts 1 and 2. Moreover, Shaft 2 included an intriguing collection of different, naturally mummified body parts of animals. All three shafts were most probably already looted in antiquity.

TOMB OWNER OF THE FIRST PHASE AND ASSOCIATED SOURCES

The proper name *N(j)-ḥ-Sš3.t*, "Life belongs to Seshat", is not attested often in the Old Kingdom. Katrin Scheele-Schweitzer listed the sole occurrence in the Gebelein papyri (Scheele-Schweitzer 2014: 425 [1572]; see also Posener-Kriéger 2004: tav. 36), it being a female anthroponym.¹⁸

The name from the wooden panel (4/AS104/2018_a; fig. 20), *Jš.t*, is most probably a hypocoristic, a shortened version of the main name of the tomb owner, since most consonants are preserved. This theory is also supported by the fact that the main title from the basin is repeated on the panel: *(j)r(j)-(j)ḥ.t-nswt*. Similar hypocoristica are preserved from the Old Kingdom, although not of the exactly same form (see Scheele-Schweitzer 2014: 268–269, [516]: *Jš.j*, [517]: *Jš.t(=j)-m3(.t)*, [518]: *Jš.t=f*). Both forms of the name from AS 104, the longer and the shorter, follow the then Old Egyptian rules of creating



Fig. 20 Wooden panel with the title and name *(j)r(j)-(j)ḥ.t nswt Jš.t* (4/AS104/2018_a) (photo P. Košárek)

¹⁸ For the goddess Seshat, see e.g. Bonnet (1952: 699–701); Helck (1984); Schneider (1997); Leitz (2002: 608–611); Magdolen (2005a, 2005b and 2006).



Fig. 21 Offering basin of Nyankhseshat (5/AS104/2018) (photo P. Košárek; transcription by M. Odler, M. Peterková Hlouchová)

shortened anthroponyms. More precisely, in this case, the shortened version is created from the two (last) consonants of the original name (Scheele-Schweitzer 2014: 76).

Nyankhseshat's position in the administration can be explained on the basis of the offering basin found in the main chapel (5/AS104/2018; fig. 21) that bears hieroglyphic inscriptions:

- Right side:

zš pr-md3.t (j)r(j)-(j)h.t nswt N(j)-nh-Sš3.t pr:t-hr.w hf(t) hb nb: “scribe of the archives, custodian of the king's property, Nyankhseshat, funerary repast during every festival”;

- Upper side:

... *wj3 zš pr.w s? ... d pr.wy mdh s3b.wt*: “...of (procession) barque, scribe of crews ... both workshops/houses, overseer of speckled snakes”;

- Left side:

hrp m33.w nbw.w hrp ... hnw: “director of levies of gold, director of ... residence”;

- Lower side:

Jnpw hnty zh ntr krs.t(=f) m smjt jmnt.t m nb jm3h.w hr ntr (3) ...: “... Anubis who presides over the divine booth, may he be buried in the western desert (necropolis) as the possessor of the reverence before the great god ...”¹⁹

TITLES

j)r(j)-(j)h.t nswt – custodian of the king's property/property custodian of the king.

The bearers of the title supervised the personal property of the king and were important high officials of the court in the Third Dynasty (Bárta 1999). Throughout the Old Kingdom, the title was diminishing in importance and denoted persons involved in the personal matters of the king, but in lower position of the administration.

... *wj3*

Unfortunately, the initial sign(s) of the title are missing. The (processional) barque can be part of the title connected either with expeditions or a religious function. *mdh s3b.wt* – overseer of the speckled snakes (Jones 2000: 468, no. 17410).

Only three other holders of the title from the Old Kingdom are attested: two in the Fifth Dynasty: Semenkhuptah (Itush) and Mereruka (Metet), and Ankhi (Intji) in the Sixth Dynasty. Since these three persons were highly positioned metalworkers, this professional connection or affinity might be supposed also for Nyankhseshat. Speckled snakes appeared as enemies of the king in the Pyramid Texts (Spell PT 519) (Allen 2015: 165).²⁰ Nyankhseshat might have been engaged in the production or ritual handling of the

¹⁹ For the translation of the formulae, see comparative material from the Fourth Dynasty in Bárta (1968: 8–9) and Lapp (1986: 39–49).

²⁰ The topic was touched on by the authors of this text elsewhere (Odler – Peterková Hlouchová 2017: 197–200).

speckled snakes, but with a lack of detailed Old Kingdom evidence, this is solely a speculation.

pr.wy

The rest of the title might signify duties in the organisation of crafts, but this sole mention is insufficient to determine the whole title.

zš ꜥpr.w – scribe of the crews (Jones 2000: 843, no. 3076). The collocation with the *wj3* barque sign (read as *zš ꜥpr wj3*) appears on the false door of Pernerdu (Borchardt 1964: 137, CG 1690). Although Pierre-Marie Chevereau (1989: 33–34) supposed an exclusively military connection of the title, the assumption is not always accepted and organization of other work might be involved (cf. Eyre 1987: 12; Roth 1991: 43; Verner 1991: 72–73).

zš pr-md3.t – scribe of the archives (Jones 2000: 848, no. 3099).

This title represents Nyanksheshat's position in the scribal administration and his other category of scribal duties. A bearer of the same title from Abusir was Kaaper, buried in a nearby tomb (AS 1), and dated to the early Fifth Dynasty (Bárta 2001: 179). A collocation of both titles “scribe of crews” and “scribe of archive” occurs also on a statue of rather crude workmanship of an official, Imhotep, from Giza, dated to the Fifth or Sixth Dynasty (Hassan 1944: 299, Pl. LX).

hrp m3ꜥ.w nbw.w – director of the levies of gold.

This is the first attestation of this title in the Egyptian sources, even though its existence complies with other preserved Old Kingdom sources. The orthography of the plural word *m3ꜥ.w*, “tribute, product, levy, levies”, is different in the later Old Kingdom sources (Hannig 2003: 503). However, the plural form of the first word would corroborate with the additional plural ending (*w*) of the gold. Levies of gold were mentioned in Coptos Decree C as one of the requirements of the overseer of Upper Egypt in the late Sixth Dynasty (Goedicke 1967: 127, Abb. 9).

hrp ... hnw – director of ... of residence.

The interpretation of the sign in the middle is unclear. It might be a depiction of a bow and two arrows, meaning “armoury”, but this is only a hypothesis. Preserved Old Kingdom writings of the word “armoury” either list bow and arrow, or bow, arrow and mace head alternating with an axe head (Chevereau 1987: 40–43).

The titulary of Nyanksheshat indicates his executive functions in the administration, as a scribe of the archives and crews, in control of the materials, especially gold, and in metallurgy and its religious connotation. The most important title was the custodian of the king's property, repeated twice in the chapel, on the basin (5/AS104/2018) and on the wooden panel (1/AS104/2018). What is interesting is the fact that Hetepi, the owner of a tomb at Abusir South (AS 20), held the same position in the late Third Dynasty. However, from the lesser size of his tomb, it can be assumed that Nyanksheshat was one of the title bearers with rather restricted functions, which were executive in nature.

TOMB OWNER OF THE SECOND PHASE AND ASSOCIATED SOURCES

The limestone polychrome stela (1/AS104/2018, dimensions 109.0 × 46.0 × 18.5 cm; fig. 9, figure on the cover and pl. IV) was found immediately to the north of Niche 2, and it is the main evidence of the persons reusing the tomb in the Fifth Dynasty. In the upper part of the stela, an offering scene was carved depicting a male (red) and a female (yellow) figure seated at an offering table with twelve loaves of bread.

The scene is accompanied by a hieroglyphic inscription: *z3t mw h3 sš h3 mnḥ.t*, “pouring water/libation, 1000 (pieces of) alabaster and 1000 (pieces of) linen”. The phrase *z3t mw* is repeated at the beginning and at the end of the formula. Under the offering table, beside its stand, there are hieroglyphs for: *h3 t, h3 ḥnk.t*, “1000 (loaves of) bread, 1000 (jars of) beer”. Around the scene, lines creating thus a kind of a frame can be observed. One more register (height: 7.2 cm) is above the scene, but it is empty now. Only the tiny remains of the sign *n* (N35) in black colour point to the fact that even here an inscription was originally painted.

Another zone with an inscription (height: 7 cm) follows under the offering scene. In this case, it contains a list of sacred oils: *sty ḥb, ḥkn.w, sft, ny-ḥnm, tw3.wt, ḥꜥt.t ꜥš, ḥꜥt.t thn.w, s3m sntr, wnh.w*.²¹ As a standard, a palette of seven sacred oils sometimes appears among burial equipment.²² On the stela, however, nine oils are listed. Remains of green-blue colour are preserved in the hieroglyphic signs.

The lower part of the stela bears two engaged statues of a standing female and a male figure (in reversed order than in the offering scene). On the edges, the statues are lined with a column of an inscription. Interestingly enough, the signs in the upper part are cut deeper than those in the lower part. The inscription must have been painted, but the remains of colour were preserved only in one single sign *t* (X1) in the word *wrt* (see below). The inscription mentioned *rh.t-nswt Ḥnw.t=sn*, “king's acquaintance Henutsen”, and *wꜥb nswt sš pr-ḥd Shm-k3(=j)*, “wab-priest of the king, scribe of the treasury, Sekhemka”.

Regarding the personal names, *Ḥnw.t=sn*, “their Lady”, is attested in the Memphite area (Giza, Saqqara, Dahshur) but also in Dendera, solely as a female name (Ranke 1935: 244, no. 1; Scheele-Schweitzer 2014: 546 [2451]). To the contrary, *Shm-k3(=j)*, “powerful is my (?) ka”, appeared only in the Memphite necropolis (Giza, Saqqara, Abusir), and merely as a male appellation (Ranke 1935: 319, no. 16; Scheele-Schweitzer 2014: 661 [3210]). The anthroponym does not have a determinative on the stela. However, the statues adopted the function of this category of signs.

Although it is not explicitly stated that the couple are a wife and a husband, this suggestion can be estimated

²¹ For the sacred oils, see Koura (1999).

²² For the finds from Abusir, see e.g. Vachala (1981 a 1982) and Verner – Callender (2002: 33–34).

on the basis of the depicted physical closeness of both figures.

The lower edge of the stela does not seem to contain any inscription, but the remains of patches can be recognised.²³ If the function of the stela is taken into account, it can be suggested that it may have substituted for a real false door. Most probably, the stela belongs to the second phase (see below).

TITLES OF SEKHEMKA AND HENUTSEN

w^cb nswt – royal *wab*-priest (Jones 2000: 373, no. 1382). This title refers to the religious duties of Sekhemka. Such designations occur both in the Memphite area and in provinces. What is interesting is the fact that three holders of the title scribe of the treasury were likewise *hm-k3*-priests or their inspectors, but this is the first occurrence of the *wab*-priest title together with the scribe of the treasury.

sš pr-ḥd – scribe of the treasury (Jones 2000: 851, no. 3109).

This title indicates that Sekhemka was an official of an executive part of the treasury with a rather lower status, an “agent of the institution”. In the following text, the assumptions are based on the analysis of the topic by Sophie Desplancques (2006: 175–191). Sixteen bearers of this title and its variant *sš n pr-ḥd* are known from the Old Kingdom. Three of them built their own tombs. Four more possessed a tomb as well, but they acceded higher in their careers in the treasury. Two of the title bearers had similar names to Sekhemka: Sekhemkahor, depicted as a son of Djefau in Djefau’s tomb at Saqqara (Mariette 1889: 253), and scribe of the treasury, Sekhem, depicted in the tomb of Nyankhkhnum and Khnumhotep (Moussa – Altenmüller 1977: 36, eight occurrences in the tomb). Both persons can be dated to the middle of the Fifth Dynasty. In both cases, most probably these were different persons than the newly found Sekhemka. This title was rather intended for the early career officials in the treasury; three of them were even sons of other treasury officials, including Sekhemkahor.

rh.t-nswt

A female counterpart of the title *(j)r(j)-(j)h.t nswt* is most frequently translated as king’s acquaintance, and it is assumed that it reflects some connection of the person to the royal court, which is thus also the case for Henutsen (Jones 2000: 327–328, no. 1207).

As the Old Kingdom officials tended to group their tombs on the basis of either family or professional ties, it is worth mentioning that Kaaper, the owner of a nearby tomb (AS 1), also bore the title *hrp pr-ḥd* (Bárta 2001: 182). The connection through the treasury might have played a role in the location of the burial place of Sekhemka.

From the interpretation of the evidence on the scribes of the treasury, as gathered by Desplancques (2006),

it can be concluded that Sekhemka was a young official who would obtain more titles during the course of his career. Since only these two are on the stela, Sekhemka could have died prematurely, which was, in fact, confirmed by the anthropological analysis (see below). The individual buried in the burial chamber of Shaft 3 might be Sekhemka himself.

DOCUMENTATION OF THE TOMB

The spatial documentation of tomb AS 104 was performed using a classic surveying method of measuring points in the coordinate system WGS84 (UTM36N). For the measuring, a surveying total station Leica TCR805 was used. The measurement of the points was done either by a method of free station and orientation to at least three known points, or from a known point to two other known points.

The measurement was performed in successive days, as soon as new archaeological situations were uncovered and needed to be documented. The measured points have their unique IDs and their locations are also noted down in a field sketch with the description of the point. The measured data (coordinates X, Y, Z and connected measurements – angles, distances) were imported to the software, Leica Geosystems – Data Exchange Manager.

The measured data were downloaded in DXF, ASCII and GSI formats. Then, after necessary editing, a text file with a described structure was created: CB (point ID), X, Y, Z. Thus, the edited file was imported into the software, ArcMap (GIS) and Carlson (CAD). In the software, the points were visualized and connected on the basis of the field sketches. As a consequence of this, the drawing of AS 104’s ground plan has been created in GIS and CAD. A result of the survey is a 2D plan of the tomb with the basic lines of the ground plan, including the chapel, shaft openings and other features of the buildings (see fig. 3). This plan is then further processed for publication.

3D MODEL OF THE TOMB – METHOD AND OUTPUTS

Specific conditions of the archaeological work in Egyptian archaeology also require specific approaches in the process of documentation. Besides the standard documentation methods (drawing and description), new methods are used, being faster and more precise in the spatial data collection at the same time. These are e.g. 3D laser scanning, kite aerial photography and the use of photographs for the creation of the 3D models of uncovered features. These methods are not isolated; on the contrary, they are interconnected and they bring new insights into the archaeological excavation, its interpretation, analysis and synthesis. In the documenting of AS 104, the last referred to method

²³ On the patches on stone vessels, see Jirásková (2015).



Fig. 22 3D elaboration of the cruciform chapel and the vaulted entrance into Serdab 1 (author V. Brůna)

was used, creating a 3D model of the archaeological structure from a number of photographs.

METHOD OF DATA COLLECTION

The process of data collection was guided by the software manual from the company Agisoft. A Canon EOS M6 camera with an EF-M 22 mm f/2 STM lens was used. From a total number of 1,128 photographs, altogether 1,116 images were selected for processing in the software Agisoft Photoscan Professional. The process was set for medium quality and the result is a model composed of *ca.* 250,000 faces. The spatial model was, after counting, edited by the deletion of marginal areas and the result was exported to 3D PDF (fig. 22).

ANTHROPOLOGICAL FINDS

Human remains of seven individuals, in different states of preservation, were unearthed in the shafts of tombs AS 104 and AS 108. Regarding the methods used for the anthropological analysis, especially the estimation of the age-at-death and sex estimation, these are summarized in previous publications (*e.g.* Havelková 2014).

AS 104

The burial chamber of Shaft 1 probably contained the skeletal remains of the mastaba owner Nyankhseshat

(28/AS104/2018). The assumed male sex was confirmed on the basis of the metric analysis and morphological features of the pelvic bones. Nyankhseshat was of average height, measuring approximately 172 cm and died between 40 and 60 years old. Degenerative changes of the mandibular joint were registered on both parts – mandibular condyle and in front of the mandibular fossa. This kind of degeneration very likely reflects a repetitive jaw dislocation which was also recorded among his other contemporaries, *e.g.* Shepesuptah (see Vymazalová – Havelková 2016). Considering his advanced age, the degenerative changes also affected other bone structures, especially the area of the sacroiliac joint and the tarsal bones of the left foot (navicular and cuneiform bones). Here, however, an inflammatory cause cannot be ruled out; this as well in the case of the coccyx, which was also deformed. Taking into account the periostitic reaction, registered at the ventral part of the sacrum (S2–S5; fig. 23c), the observed changes on the coccyx may be related to more extensive inflammation in this area, although it could also be a consequence of a traumatic experience.

The secondarily disturbed and fragmented skeletal remains of an adult individual were found in Shaft 2 (18/AS104/2018). Very likely they belonged to a female who died between the ages of 35 and 50 years. Because of the poor preservation of the long bones, it was impossible to assume the living stature of the individual. No pathological changes were observed on the preserved bone fragments.

Shaft 3 contained an incompletely preserved robust skeleton of an adult individual (23/AS104/2018) in the burial chamber. The preservation of the pelvic bones did not allow an accurate sex estimation; however, the individual was a male rather than a female, who was deceased at a very young age of 20–30 years. Based on the length of the tibia, the estimated living stature was 170–173 cm. The bones in the area of both elbows and pelvis were coloured green, most probably by contact with the copper tools (25/AS104/2018). Osteolytic lesions and macroporotic changes were recorded on the fragments of the temporal bone just below the supramastoid crest. The surface of the mastoid process was also disrupted and its internal structure changed. The mandibular joint showed marked bilateral osteoarthritis. All of these indicators could be a sign of middle ear inflammation; however, these changes could also occur independently with no relationship to such. The healed fracture of the left fibula accompanied by posttraumatic changes is evidence of a traumatic injury. However, no changes were registered on the surface of the adjacent tibia.

AS 108

Concerning structure AS 108, the remains of another adult individual (5/108/2018) were collected in Shaft 2 (fig. 18). The skeleton was completely covered with mud, which probably prevented the burial from being externally disturbed, resulting in the excellent preservation of the skeletal remains. The metric analysis and morphological features on the pelvic bones prove the male sex, which corresponds to the robust construction of the skeleton. He probably died in middle age between 35 and 50 years. This individual was rather short; the estimated stature ranged between 163 and 164 cm. Despite the relatively young age, the skeletal remains manifested many traumatic changes. The right zygomatic process was considerably deformed, probably as a consequence of fracture or bruising. Other fractures were registered in the chest area of the second to sixth rib, accompanied by additional separate calcification, and on the eleventh thoracic and second lumbar vertebra, where compressive fractures were recorded. The left radius was broken in the distal part, which corresponds to the so-called Colles' fracture, usually caused by a fall onto a hard surface with outstretched arms (Mays 2006). This injury is probably related to the infraction of the articular surface of the left I. proximal hand phalanx. Another fracture was recorded on the head of the left IV. metatarsal bone. Serious degenerative changes occurred in two localized areas, which more likely corresponds to some kind of specific physical activity or atypical position of the bone structures, which was extremely burdensome to the given area. The acromial parts of the clavicles were heavily deformed on both sides, but without the acromions of the scapula communicating with them being affected. At the same time, serious bilateral gonarthrosis, a degenerative deformation of the knee

joint, was registered. However, the appearance of the gonarthrosis was very atypical. While the most severe degenerative changes commonly appear in the middle of the surface of the medial and lateral condyles of the femur together with a similar manifestation on the condyles of the tibia, in the case of this individual, the degenerative changes including the eburnation also occurred in the area between the femoral condyles (fig. 23a). The intercondyloid eminence at the upper extremity of the tibia was also affected at the same time. In these areas, however, there is usually no direct contact between the bones of the knee joint, as cruciate ligaments and menisci are attached here, the cartilage layer is thick and soft tissue occurs. The overall aspect of the knee joint deformation was added to by an atypical degeneration of both patellas, which saw significant bony proliferation between the medial and lateral articular facet at the distal part of the posterior surface. These atypical kinds of degeneration correspond more likely to improper position or development of the knee joint, which finally resulted in the serious deformation of the whole area.

The human remains in Shaft 3 (2/AS108/2018) were also partially covered with mud on the right side, which even left colouring on the bones. The skeleton probably belonged to a female older than 50 years, who was about 157 cm tall. A number of pathological changes were recorded on her skeleton. In certain areas of the cranium (around the foramen magnum, on the great wings of the sphenoid bone, and on the temporal and parietal bones), porotic lesions with spongy tissue of unknown aetiology were observed. A similar appearance of the tissue was registered in the area around the left hip joint. A differential diagnosis would require an X-ray examination. This female suffered from health complications especially in her spine. The second to fifth cervical vertebra was fused into a bony block, intervertebral spaces were only slightly preserved. The ventral parts of the vertebral bodies were completely fused (fig. 23b). The posterior parts were characterized by a complete fusion of the articular facets, a partial fusion of the vertebral arches and bony bridges appearing where the arches were left separated. The presence of this isolated single conjoined block vertebra allowed us to presume a congenital origin, which is usually not pathological as the joined vertebral segments maintain integrity with the same dimensional separation expected for the disk space between separated vertebral segments (Barnes 2012). This type of isolated single block vertebra is not uncommon, appearing as a familial trait, mostly within the cervical spine. Numerous compression fractures of the vertebral bodies were recorded in the thoracic and lumbar spine, or at least there was a significant reduction in the vertebral bodies' height. Fractures occurred in two main locations – the upper thoracic spine (Th2, Th3) and between the thoracic and lumbar spine (Th11 – L3; fig. 23d). The sacrum was extremely curved, and the vertebrae S4 and S5 were almost at right angles. It cannot be ruled out that numerous vertebral fractures occurred as a result of osteoporosis, which is common

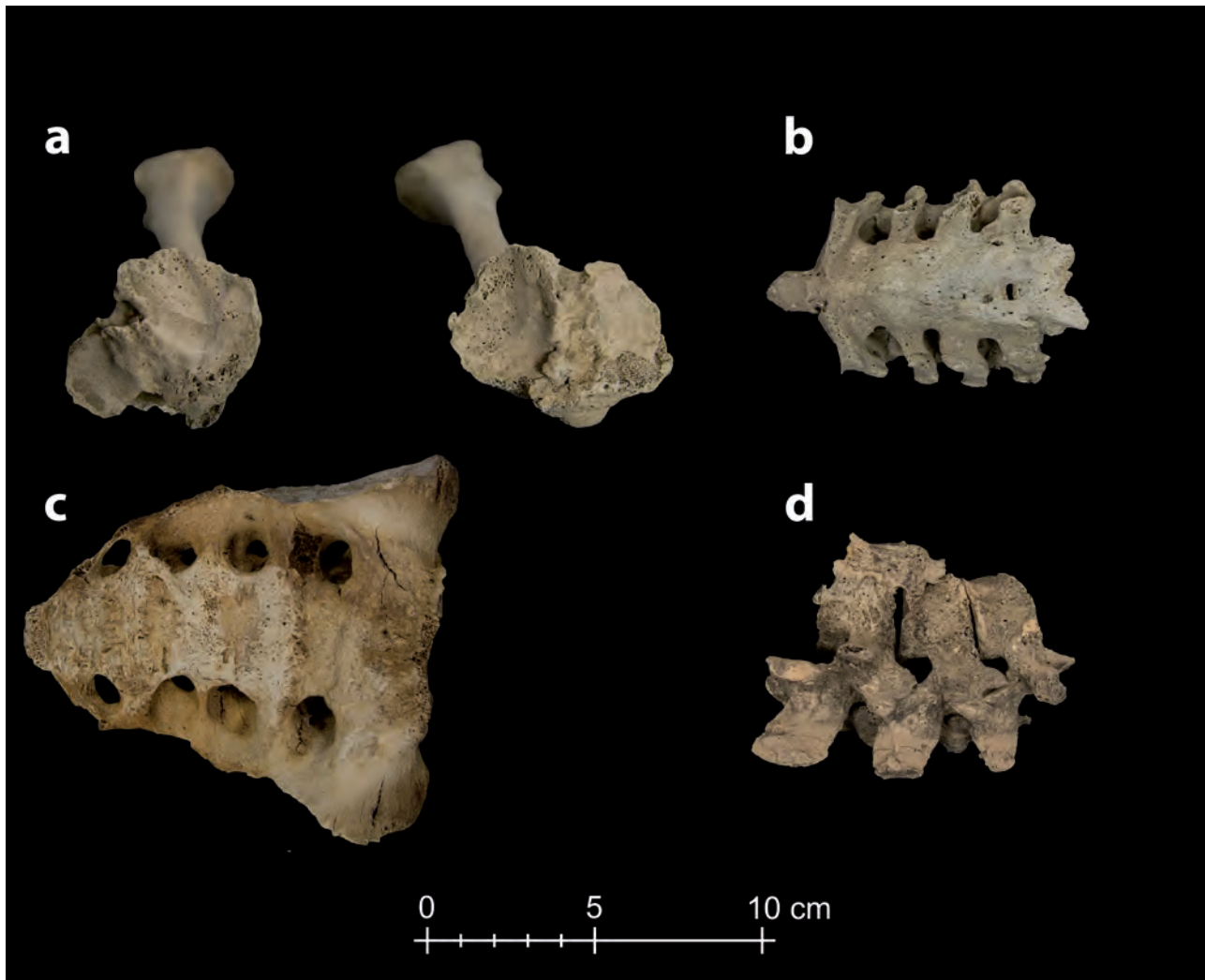


Fig. 23 (a) Serious bilateral osteoarthritis of the knee joint – tibial condyles and intercondyloid eminence with eburation. Superior aspect, (b) Congenital single block vertebra of C2–C5. Ventral aspect (photo Š. Bejdová), (c) Periosteal reaction on the ventral part of the sacral bone, (d) Compressive fracture of the both superior and inferior terminal plates of the first lumbar vertebra with strong degenerative changes. Left side (photo Š. Bejdová)

in the case of postmenopausal women. However, with respect to other traumas that have been recorded on the skeleton – especially multiple healed fractures of the right calcaneus, which was broken at the longitudinal axis – it is likely that besides the weakened internal structure of the bones, the major cause of these fractures could also have been a fall on a hard surface in an upright position.

An interesting case from the viewpoint of archaeological context interpretation was the find of the skeletal remains scattered in the fill above Shaft 2 (3/AS108/2018). The unearthed bones were probably part of a skeleton buried in another shaft adjoining AS 108, apparently relocated from its original position. The yellowish skeletal remains with brown stains caused by textiles and soft tissues were relatively well-preserved. However, the absence of the pelvic bones and the fragmentation of the skull did not allow a more accurate anthropological estimation of sex and age-at-death. Only on the basis of the width dimensions of the long bones, was it possible to presume the individual was male rather than female. The presence

of degenerative changes recorded on the preserved fragments of the skeleton corresponds to an age over 35 years. The long bones of the individual appeared to be relatively short and robust. This would correspond to the estimated stature based on the dimensions of the femur, which would be only 154 cm in the case of male sex. No significant pathological changes were registered.

ARCHAEOZOOLOGICAL FINDS

Animal bones and other archaeozoological material were found during the excavation of the tomb and neighbouring structures and analysed in field conditions using standard methods (see Reitz – Wing 2008). The archaeozoological finds come from different parts of the structures.

The first assemblage contained the remains of vertebrates, which can be related to human activities – probable waste from the feasts and remnants of offerings.

Fig. 24 Bone tool – a cattle scapula was used as shovel (Eco3/AS104/2018) (photo P. Košárek)



Altogether, 70 finds with a total weight of 2206.2 g and an average weight of 31.5 g were analysed. The remains of at least 12 individuals belonging to seven animal species were recorded in this assemblage.

The most abundant were the bones of cattle (*Bos taurus*) with 20 finds, which belonged minimally to five animals of different ages (two adults, one sub-adult and two juveniles), coming from various parts of the skeleton, including small limb bones. In the case of pig bones (*Sus domesticus*), two fragments were determined – parts of a juvenile femur and of a sub-adult humerus. One bone of a dog (*Canis familiaris*) was found too, a femur that belonged to an adult individual with a shoulder-height of 49 cm. In the surface layer, one (+ 1 cf.) fragment of a horse (*Equus caballus*) was also excavated, dated probably to later periods. Other finds of mammals were not determined: 16 fragments of large ungulates (cattle-sized) and 26 fragments of undetermined mammals. Three remains of bird bones were recorded in the assemblage: the carpometacarpus of a smaller goose (*Anseriformes*), the humerus of a teal (*Anas cf. crecca*), and the femur of a small cormorant (*Phalacrocorax/Microcarbo* sp.). All three birds seemed to be adult.

Concerning taphonomic features, no traces of burning or gnawing were recorded on the bones. Cutting was observed in four cases (two costae of the large ungulates, a radius of a bovid, and a femur of a pig) in the form of various incisions related probably to the removal of flesh and tendon from the bones. Evidence of bone tool-making (fig. 24) was found in the fill of the south-west corner of the main chapel (Eco3/AS104/2018). This artefact was an adult cattle scapula; two parts of the find were preserved. At the distal end, it was probably damaged during the post-depositional processes, whereas at the proximal end, it was chipped off, ground and smoothed. Both the lateral

and medial sides were original, but also smoothed. The spina scapularis was chipped off and smoothed. Smoothing was found on the whole preserved bone surface. The surface was furrowed with cracks related to the weathering of the bone, but also with scratches and incisions related to the using of a tool. The artefact might have been used for digging in the sand. The maximum measurements of the left fragment are $145.29 \times 37.00 \times 15.11$ mm; the maximum measurements of the right one are $149.62 \times 49.16 \times 16.15$ mm; while the total weight of the fragments is 78.1 g.

Another component of the archaeozoological remains was made up of autochthonic finds – this means animals naturally deceased at the site. Part of a naturally mummified frog (*Ptychadena* sp.) and various remains of desert monitor (*Varanus griseus*; fig. 25) were recorded during the excavation. The monitor finds were represented by 23 bones and three mummified body parts that belonged to at least two animals (medium and larger-sized). Part of a rat-sized rodent skin can probably also be included into this category of remains.

Various finds of barn owls (*Tyto alba*), nesting in the temporarily open burial shaft, were quite numerous: six bones of adult animals (two individuals), 18 bones of juveniles (three individuals), a remex, and seven eggs. As can be said, monitors, frogs and rats dwell underground during midday heat or midnight cold, or during estivation. Moreover, they can be trapped underground in the situation where robbers disturbed the fill of the tomb and the animals could not find their way out. In the case of the juvenile owls, it can be expected to find the remains of individuals thrown by their older siblings from the nest; while again, the adult owls and eggs might be buried in the shafts by the robber's activities.

Owl's pellets were recorded in Shafts 1 and 2, including thousands of microfauna bones and other non-digested



Fig. 25 Parts of the naturally mummified body of a monitor (37/AS104/2018) (photo P. Košárek)

remains. In both cases, only part of the assemblage was analysed owing to the limited time provided. For the vertebrate microfauna, solely a minimum number of individuals (MNI) were used for quantification. The assemblage from Shaft 1 included at least 62 individuals belonging to 11 animal species: 24 individuals of African giant shrew (*Crocidura olivieri*), 21 of black rat (*Rattus rattus*), seven of house mouse (*Mus musculus*), two of desert long-eared bat (*Otonycteris hemprichii*), two of common quail (*Coturnix coturnix*), one probably of sand partridge (*Ammoperdix heyi*), another one of short-tailed bandicoot rat (*Nesokia indica*), smaller singing-bird (*Passeriformes*), kestrel (*Falco* sp.), frog/toad (*Anura*), and perhaps dove (cf. *Streptopelia*). In the assemblage of Shaft 2, 70 individuals of 11 animal species were analysed: 43 individuals of house mouse, 10 of Egyptian pygmy/Flower's shrew (*Crocidura religiosa/floweri*), eight of African giant shrew, two of black rat, and one of frog/toad, large tenebrionid (*Tenebrionidae*), common quail, smaller-sized bat (*Chiroptera*), dove, smaller singing-bird and tiny singing-bird (*Sylviidae*). Moreover, some jerboa (*Jaculus* sp.) remains were also present inside the unprocessed pellets. As can be seen, the species composition of both assemblages differs. The differences probably not only reflected the diet preferences of the individual owls, but also differences in environmental conditions. This means that each assemblage might have originated in a different time period. However, in both cases the microfauna was deposited in the environment influenced by human presence, with the occurrence of vegetated river/canal banks, grassland and desert areas.

The archaeozoological assemblage thus consisted of material of different origin: animal bones connected to human activity (feast and other waste or remains of offerings dominated by cattle finds), the autochthonic remains of animals that died at the site (monitors, barn

owls, a frog) and vertebrate microfauna (esp. rodents, shrews and small birds) originating in owl's pellets.

COMPARISON OF AS 104 WITH OTHER TOMBS OF TRANSITIONAL TYPE AND ITS DATING

The Nyankhseshat's mastaba can be counted among the so-called tombs of transitional type, combining earlier and later features of the ancient Egyptian tomb architecture: large dimensions, cruciform chapels, niching, substructure accessible via a staircase and/or shaft (see Bárta 2005). At Abusir, mastabas of this type were found in the close vicinity of AS 104: the already mentioned tomb of Ity (AS 10, Bárta 2001) and further away Hetepi (AS 20, Bárta – Arias Kytarová – Dvořák 2010), anonymous structures AS 33 (Bárta *et al.* 2010) and AS 54 (Bárta 2011). However, it is Ity's mastaba which lies closest to Nyankhseshat's tomb (see fig. 2). These two are the most similar but several differences can be observed, too. The new tomb is significantly smaller than the one of Ity: Ity = 941.40 m²; Nyankhseshat = 390.72 m². Both have a stone core and a mud brick casing (Ity's brick dimensions: 30 × 15 × 8 cm). On the other hand, Nyankhseshat's tomb did not have niching of all its outer walls, as is the case of Ity. The three niches in the eastern wall of AS 104 had the rather practical funerary function of being cult places. In both instances, the stone core housed the burial apartments. There were three shafts in AS 104. Ity had two subterranean spaces, the northern one accessible via a staircase and the southern burial chamber accessible through a vertical shaft. In Ity's tomb, the burial chamber was closed by a limestone block (Bárta 2005: 78), whereas in the case of Nyankhseshat, all chambers were closed by a mud brick wall. A common trait is also represented by the fact that the cruciform chapels are located in the mud

brick casing in the south-eastern sector (see figs. 1, 2 and 3).²⁴ Moreover, the rectangular ground plan and usual north-south orientation of longer axis can be mentioned.

There are likewise similarities with the tomb of Hetepi (AS 20) which lies to the north-east of AS 104 (fig. 2): the main title of their owners, in both cases custodian of the king's property (Bárta 1999). The tomb of Hetepi covered a much larger area (1,154 m²), although Hetepi's cruciform chapel is smaller (1.54 × 0.84 m; Bárta – Arias Kytarová – Dvořák 2010: 8) and it was cased with finely dressed limestone blocks. The architecture of both tombs is similar: the stone core and mud brick casing; nevertheless, niching was present only on the outer northern wall in the case of Hetepi. The substructure of this tomb was entered by two rectangular areas with a combination of staircase and shaft, leading to a burial chamber. In addition, in the so-called southern substructure, a destroyed human burial was found together with fragments of a wooden coffin (1/AS20/1999; see Bárta – Arias Kytarová – Dvořák 2010: 16, fig. 2.17). As was observed in the photographic documentation in the archive of the Czech Institute of Egyptology, it seems that at least some of the pieces bear remains of white colour. Thus, it may provide comparative material for the coffins from AS 104, which will be verified by future research.

The names of the tomb owners of two other Abusir tombs with cruciform chapels, AS 33 (Bárta *et al.* 2010) and AS 54 (Bárta 2011), remain unknown. The monumental AS 54 must once have covered an area of more than 1,800 m², if we also include wooden boat AS 80 into the presumed area. The occurrence of an inscription of late Third Dynasty King Huni provides a dating for the burial equipment. The burial chamber was entered by a vertical shaft, analogically to AS 104.

AS 33 is the second largest in the group, with an area of 1,331.64 m². Its architecture was severely damaged in later times and the cruciform chapel was levelled almost to the ground. The burial chamber was approached by a combination of staircase and shaft. Regarding the substructure, it is comprised of several interconnecting chambers. In one of them, Room IX, three channels were cut to the ground (Bárta *et al.* 2010: 70, Fig. 3.33–3.35), similar to newly discovered channels in Shaft 2 of AS 104.

The mastabas of Hetepi, AS 33 and AS 54 were dated to the Third Dynasty; Ity's tomb is from the late Third/early Fourth Dynasty.²⁵ From the listed architectural comparison of features, it can be inferred that AS 104 was planned and built somewhat later than other similar tombs, representing currently the latest known tomb of transitional type at Abusir. Likewise, it can be assumed that AS 105 will be similar to the earlier tombs in the area.

CONCLUSION AND OPEN QUESTIONS

The excavation of the tomb of Nyankhseshat (AS 104) brought to light intriguing knowledge on the architecture and archaeology of the structure. Valuable information is also provided by the analyses of human and animal bones, and will be provided by further detailed processing of the finds. Due to other priorities of the mission, processing of the pottery is postponed. The work in March and April 2018 demonstrated how a detailed excavation can reconstruct a complex and dynamic story of a large tomb building and adjacent structures, bringing evidence of at least two phases of the tomb's use. The third phase was the tomb's afterlife and further activities of humans and animals in the area.

Tomb of transitional type AS 104 was built originally for a high official, custodian of the king's property, Nyankhseshat, and for two other members of his family. Based on the architecture, the mastaba is set to the early Fourth Dynasty, thus most probably to the reign of King Snofru. After several decades, in the middle of the Fifth Dynasty, the tomb was reused for a new funerary cult, designated for a scribe of the treasury, Sekhemka and his spouse Henutsen. The occurrence of five limestone basins indicates a cult for at least three persons, buried in the shafts of AS 104 and also AS 108. The persons interred at the south of AS 104 might not have been of blood relation to Sekhemka and Henutsen. Instead they might have been members of their household.

Many questions are still unanswered. For a single tomb, an unusually high number of owners is evidenced (from the times of the Fifth and Sixth Dynasties, a similar case is known from Abusir for tomb AS 67; see Arias Kytarová *et al.* 2013). In a small number of Old Kingdom written sources, it can be observed that for the building of a large tomb, a certain kind of "building permission" was needed and the king or royal administration might have been involved in this process (see *e.g.* Alexanian 2006). The original building is a clear statement of the status of Nyankhseshat in the society of the Fourth Dynasty. Under usual circumstances, an official such as Sekhemka, one of the owners of stela 1/AS104/2018, would have tried to climb the ladder of the higher offices in the treasury and eventually built his own tomb. The individual from Shaft 3 most probably was Sekhemka and it seems that he died prematurely, from the point of view of the career of an Old Kingdom official. The situation as uncovered in AS 104 seems to have been an *ad hoc* solution of a rather hasty burial in an old structure.

One of the major questions is the relationship between Sekhemka and Nyankhseshat. Was Sekhemka

²⁴ Plan of Ity's tomb for comparison in Bárta (2001: 3, Fig. 1.2).

²⁵ The precise dating of the tomb of Ity is problematic as it combines several features of differing chronological significance. As main points of discussion, it can be highlighted that one of the fully preserved vessels found in Ity's burial chamber is a very archaic form that disappears completely by the end of the Third Dynasty and that the decorative niching on all four sides of the mastaba constitutes another antiquated feature. The original excavator also attributed the tomb to the late Third Dynasty (see Verner 1995: 84). For further discussion, see Bárta (2001: 14–15).

Nyankhseshat's distant (several generations) relative?²⁶ Had he thus the right to the use of an older tomb for a new burial and other changes to the tomb? Or were they not related, and after several decades, was the funerary cult and legal claim for the tomb from the descendants of Nyankhseshat forgotten, offering thus a chance to Sekhemka and his wife to use an existing tomb, but without a functional funerary cult at Abusir South? At least some indications will hopefully be provided by further anthropological processing of the skeletons.

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²⁶ Reign of Snofru is datable to 2543–2510⁺²⁵ BC and reign of Neferirkare to 2415–2405⁺²⁵ BC (Hornung – Krauss – Warburton 2006: 490–491).

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The Giza Archives (<http://www.gizapyramids.org/>)

Projekt-Giza (<http://www.giza-projekt.org>)

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