Djedkare’s pyramid complex: Preliminary report of the 2017 season

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The project of documentation and exploration of the pyramid complex of King Djedkare at South Saqqara started in 2010 (Megahed 2011b and 2016), and continued in the 2017 season between 12th September and 9th November. One of the major tasks of the mission was the consolidation of the pyramid substructure where the pyramid’s core had been gradually crumbling during the past years due to the long missing casing of the side walls (Megahed – Jánosi – Vymazalová 2017a and 2017b). Another aim of the field season was to explore the so far insufficiently documented parts of Djedkare’s pyramid temple (fig. 1), and thus continue the task of completing the archaeological plan of the eastern part of the precinct. In the 2017 season, the area Th was documented, which is located between the cult pyramid and the so-called south massif.

Consolidation of the pyramid substructure

The substructure of Djedkare’s pyramid was heavily damaged and many of the wall blocks of the subterranean chambers as well as the wall dividing the antechamber from the burial chamber were missing. As a result, large parts of the pyramid’s core were exposed and crumbling and the roofing blocks were largely unsupported (Megahed 2016: 74–75).

In the previous 2016 season, reconstruction work was pursued to consolidate the east and a small part of the south walls of the antechamber (Megahed – Jánosi – Vymazalová 2017a: 48–50). In the 2017 season, the consolidation work concentrated on the north wall of the antechamber and burial chamber of Djedkare’s pyramid. Most of the casing of the north walls of both the antechamber and the burial chamber was missing; only a few white limestone casing blocks were preserved in
the north-west corner of the burial chamber and north-east corner of the antechamber. The whole dividing wall between the two chambers was missing as well. This damage exposed the core of the pyramid, putting the stability of the pyramid at risk. The core of the north wall of the burial chamber was built of larger blocks of local limestone, while the core of the antechamber was even worse preserved, and small blocks and limestone chips were exposed in the area of the missing dividing wall and above the entrance to the antechamber. In addition, a large part of the floor blocks and foundation blocks of the burial chamber and antechamber were missing as well, exposing some of the sub-foundations under the pyramid substructure.

Before the start of the consolidation works, masons’ marks and hieratic builders’ inscriptions were carefully documented on the exposed masonry of the foundation and behind the north walls. Some of them mention work gangs and phyles, such as wr-phyle and wADt-phyle (fig. 2), with names of officials also attested in them.
The consolidation work included filling of the missing parts of the core above the entrance to the antechamber with limestone blocks and chips. At the same time, the missing part of the casing was reconstructed of smoothed white limestone blocks and mortar, which consisted of a mixture of kaolin and lime. The reconstructed parts of the antechamber and burial chamber walls are clearly distinguishable from the original parts of the wall (fig. 3).

The area in the southern part of the pyramid temple

Following the previous 2016 season work in the area south of the entrance hall (pr-wrw) and around the south massif (Megahed – Jánosi – Vymazalová 2017a and 2017b), the 2017 season focused on the area to the west of the massif and along its south side (see fig. 4). The so far available documentation of the pyramid temple published by Vito Maragioglio and Celeste Rinaldi in their L’architettura delle piramidi menfite VIII (Maragioglio – Rinaldi 1977: tav. 16, fig. 1) does not provide clear answers concerning the layout of these areas. The debris covering these places showed, however, that they had been cleared by one of the earlier missions, as it contained only yellow sand with no particular finds; in contrast, the southern edge of the area had never been explored in the past and contained thick deposits of brown sand with rubble, limestone chips and smaller blocks, broken mud bricks, pebbles, pottery and other small finds. Many large blocks covering the T.h area evidently originated from the temple’s architecture. Some of these blocks showed interesting architectural features like huge cornices, column bases, parts of water drains, etc. The exact origin of these blocks is not known, but it seems clear that they come from different parts of the pyramid temple (fig. 5).

The documentation of the position of the scattered blocks was followed by clearing of the entire T.h area of debris, which revealed the foundation structure of a large building made of limestone. None of the building’s walls were preserved and nowhere could the original floor be traced any more. What remained at the site were large limestone blocks of irregular shapes and sizes (ca. 1 × 1 m to 2.3 × 1 m, the depth of the blocks varying between 40 and 60 cm) forming the rectangular foundation structure of the building. None of the blocks were dressed or their sides/surfaces smoothed. This foundation rests on a densely built sub-foundation structure made of larger slabs running diagonally below the foundation structure (at the moment, the exact size of these larger slabs could
not be measured at any place). These blocks formed a kind of “frame”, in which smaller blocks of local limestone (none exceeding 40 cm in length) rested; it was only partly uncovered and documented in the south-east corner of the area. The space between the sub-foundation and foundation blocks was filled with small stones, chips and dark mouna. The outlines of the preserved foundations indicate that the building must have had a size of
approximately 21.8 m in the north-south direction, and 19.85 m in the east-west direction. The layout of the walls suggests a structure with five long rectangular “empty spaces” or rooms oriented north-south. These five rooms are clearly discernible in the layout of the building, as the preserved foundation blocks ran only under the walls of the rooms (fig. 6). The floors of the rooms, on the other hand, show no blocks but a dense fill of small crushed limestone chips. It is not clear from the surviving evidence whether this layer originally supported the floor blocks of the rooms (fig. 7). Considering the size of the building and that of the rooms, it is feasible to assume that the rooms were of significance and thus had a stone floor, which was later entirely removed by stone robbers. It is, however, not clear whether the floor consisted of limestone or calcite slabs. The latter was the case in other parts of the pyramid temple where the floor is missing today (e.g. the entrance hall, the open courtyard as well as other parts of the temple, see Megahed – Jánosi 2017: 243), but crushed limestone rather than calcite filled the rooms. It thus seems highly likely that the floors of the rooms were once made of limestone slabs of better quality, of which only the stone crush layer remained after the stone robbers’ activity.

Based on the available measurements of the distances between the foundation blocks, the rooms have a size of approximately 14.3 × 2.15 m, which roughly corresponds to 27 × 4 cubits. At the moment, nothing can be said about the original height of these rooms or the entire building. This is especially intriguing, since the structure stood immediately to the west of (i.e. “behind”) the south massif, which originally must have been at least 6 m high (the present height of the massif is 4.5 m, see Maragiolio – Rinaldi 1977: 76), thus probably “hiding” the building from view from the east.

No traces of doors or connecting passages were detected in the foundation stones and the surrounding area. It therefore remains entirely unclear from which side this building was accessed in ancient times. It is unlikely that the T.h area was accessed from the west, i.e. from the courtyard of the cult pyramid (T.f.), since the east enclosure wall of this installation is preserved in its entire length. A connecting door or passage could have existed from the corridor T.f.2, which runs east-west along the north side of the T.h area (see fig. 4). In that case, the T.h structure was directly accessible from the central part of the pyramid temple.

A second possible way to enter the T.h building could have been from its south-east corner. Coming from the causeway through the southern exit and around the south massif, one could have approached the building from the south. In addition, we cannot entirely exclude the possibility that the T.h building may have been accessed from the south side through an entrance which may have existed in the royal enclosure wall of the pyramid temple. Since no traces of the enclosure wall remained along the excavated area and the foundation blocks still in place are too few, this possibility remains a poor and rather unlikely hypothesis at the moment, moreover uncorroborated by parallels from any other pyramid complex of that period.
The exploration confirmed, however, that a passageway of ca. 2.3 m (4.5 cubits) existed between the south side of the T.h building and the royal enclosure wall, running in the east-west direction from the south-west corner of the massif (T.i) to the enclosure wall of the cult pyramid (T.f), and then probably turning to the north towards the T.f:2 corridor (see figs. 6 and 7). A similar passageway might have run along the building’s east side (see below). We may therefore presume that this huge stone structure stood separate from the neighbouring buildings of the pyramid precinct, surrounded by a corridor-like passageway on three or even four sides.

Setting the question of the building’s accessibility aside for the moment, it must be stated that nothing is known about the possible function of this building or of its five large rooms, within the compound of the royal precinct. The poor state of preservation of the T.h structure offers only very limited evidence for interpretation. The building’s position to the south of the main temple, “sandwiched” between the south massif to the east and the cult pyramid in the west, is entirely unique. No such foundation structure has been detected thus far on the other (north) side of the temple. Traces of such a structure have not been found in any of the succeeding pyramid temples of the late Old Kingdom, either. It seems far-fetched at the moment to suggest any connection with the so-called “South Temple” in Senwosret III’s pyramid complex at Dashur (Arnold 2002: 97–202) or even the palaces in the New Kingdom temples at Thebes (Stadelmann 1973: 221–242; Stadelmann 1994: 309–316). This assumption is solely based on the building’s position south of the pyramid temple. The five elongated rooms found in Khafre’s pyramid temple clearly differ in size (each room measures 10.5 × 2.6 (3.3) m), orientation (east-west) and position (to the west of the pillared court) (Hölscher 1912: 28, 57, Bl. VI, XVIII; Maragioglio – Rinaldi 1966: 70, tav. 11, fig. 1).

The elongated size of the rooms and the careful building of the foundation clearly indicate that they were not simply magazines or storerooms. These rooms were much longer in comparison to the storerooms situated north and south of the entrance hall (areas T.d and T.f). These magazines were of a standard size of 6.5 × 2.6 m. The missing floors of the longer rooms might also indicate a rather specific character of the building (unknown today), as it means that they probably had large floor slabs that were worth being removed by stone robbers. As for the possible use of the five elongated rooms, no direct information that might possibly offer any clues as to their identification has surfaced during the clearing of this area. It is to be regretted that this site had been cleared by former missions, which obviously removed any still existing remains or finds (such as relief fragments, pottery, etc.) entirely without proper documentation.

The only certain fact concerning the rooms is their north-south orientation. The building does not seem to have been directly connected to any part of the temple; it was obviously free-standing and surrounded by a pathway. The walls were probably adorned with a torus moulding and a cavetto cornice.

No doors, door sockets or door imprints have been found in the extant foundation masonry of the T.h building; they are usually found in the floor blocks, which are missing in this area. Thus, it also remains unclear how the five rooms were connected to each other (if at all). The symmetry of these long narrow rooms may indicate that each of them was accessed separately from a connecting passage or corridor, like in the pyramid temple of Khafre (Hölscher 1912: 28, 57, Bl. VI, XVIII; Maragioglio – Rinaldi 1966: 70, tav. 11, fig. 1).

Many of the preserved foundation blocks in the T.h area bore on their sides masons’ marks and builders’ inscriptions, which were originally entirely hidden within the masonry of the temple. The masons’ marks included a grid, a cross and a star, well known from other royal monuments of the Old Kingdom (see e.g. Verner 1992; Andrássy 2009: 22–25; Vymazalová, forthcoming). Among the builders’ inscriptions, we can find dates consisting of a month, a season and a day. All the dates attested in the T.h area refer to months 3 and 4 of the Smw-season (fig. 8). It is not clear, however, to which stage of the construction these dates refer – the quarrying of the material in a local quarry, to which the above-mentioned masons’ marks are usually attributed, its transportation to the construction site, or its placing in the temple by the builders (Verner 1992; Andrássy 2009). In an efficiently organised royal project, all these construction stages may have taken place in a quick succession. In any case, the foundations of this building were quarried/transported/placed at the site within a short time. Besides the dates, other inscriptions also occur on the blocks, referring to the officials, construction phyles and crews.

Fig. 8 Hieratic inscription in black paint and a mark in red paint on a foundation block in the T.h area, showing the date of month 4 of the Smw-season, day 9 (photo H. Vymazalová)
Two later burials were uncovered in the T.h area, one in a small oval pottery coffin with a fragmented flat lid with a raised rim (for comparison, see Cotelle-Michel 2004: 270), placed roughly in east-west orientation between large loose stones, the other without a coffin placed in a pit hewn in the north-south direction in the fill in the east side of room 4 (DJ-F30-2017 and DJ-F37-2017). In addition, several parts of the area show the remains of mud bricks, which seem to have come from later installations. Both the burials and the mud brick installations date to the period after the destruction of the temple.

Eight foundation blocks preserved in the south-east part of the T.h area form an east-west oriented outline of the enclosure wall of the funerary temple, namely its inner face, which adjoined the east-west passageway. A small part of the outline is visible also on a few blocks preserved further to the west, in the south-west part of the area. The floor blocks of the passageway itself did not survive, however, and no traces of the north wall outline have been detected. Therefore, the precise width and length of the passageway cannot be determined today. It was probably entered from the east from the passage along the south wall of the south massif, and reached to the west to the enclosure wall of the cult pyramid.

Except for the few foundation blocks mentioned above, nothing is preserved from the enclosure wall situated south of the T.h area; it seems to have been entirely removed by stone robbers. The debris above the missing enclosure wall showed no clear stratigraphy and consisted of yellow sand mixed with rubble, limestone fragments and blocks, pebbles, mud brick fragments, and some bone and pottery fragments. Some blocks with reliefs were found in the debris, including pieces of New Kingdom decoration, and some of the pottery fragments date to the same period. Presumably, this part of the enclosure wall was demolished during (or even before) the New Kingdom period in order to give stone robbers an easy access and enable them to entirely dismantle the building in the T.h area.

A mud brick structure of an indistinct form partly survived in the south-east part of the area, south of the passageway. It had an irregular shape, was at least 5.15 m long (east-west) and 2.50 m wide (north-south), and survived to the height of 1.0 m. It was built of dark grey mud bricks (35 × 16 × 10 cm), but the internal structure was so dilapidated that almost no part showed the original laying of the bricks. This structure might once have been part of a tomb built secondarily in the already destroyed funerary temple. Since it is resting on the foundation blocks of T.h, the mud brick structure dates to a period after the dismantling of the stone building (after the New Kingdom?). A burial in a pottery anthropomorphic coffin was found in the south-west corner of the structure, roughly east-west oriented with the head to the east; it was partly covered with an oval flat pottery lid with a raised edge, which was composed of two separated parts; the third, central part was missing (for comparison, see Cotelle-Michel 2004: 270, 294–296). The coffin contained the remains of a disturbed burial (DJ-F28-2017; fig. 9).
South massif (T.i) – the south and west sides

The south and west walls of the south massif (area T.i of the funerary temple) were also exposed during the 2017 season. Unfortunately, no floor blocks were preserved along these sides of the massif, and the casing was also entirely missing. The south side of the massif was constructed almost entirely of large blocks of local limestone (up to 0.65 m high and 2.4 m long), while mostly smaller blocks and only a few large blocks were used in the construction of the west side. Moreover, the latter wall seems to be more damaged than the former, but this might only be an impression based on the different size of the material used in the masonry.

Along the south side, foundation blocks were revealed between the massif and the enclosure wall of the pyramid complex (fig. 10). The foundation was slightly higher in the north part along the massif’s wall than in the south part, possibly indicating the position of the casing blocks. Some of the foundation blocks were not set horizontally but slightly slanted towards the centre of the passageway. This may be a strong indication that a surface drain had once existed in the floor of this passageway. The debris consisting of yellow sand with limestone chips that covered this part of the funerary temple shows that this area had been previously uncovered (see also the remarks by Maragioglio – Rinaldi 1977: 76, observation no. 10).

The southern edge of the explored area showed, as already indicated, a different kind of debris, consisting of brown sand mixed with a large quantity of limestone chips and larger stone blocks, mud brick fragments, pottery fragments (dating to all periods) and various organic finds. This debris, left untouched by previous excavators, covered the remaining parts of the foundation of the south enclosure wall. Nothing of this wall remained in place, but only the northern half of it has been cleared and documented by this mission (the excavation of the entire width of the enclosure wall is planned for one of the following seasons). This foundation consists of small irregular blocks of local limestone tightly set and bound with mud and white mortar. The corridor between the south wall of the massif and the south enclosure wall was 3.75 m wide, but it must have been originally narrower when the casing of the enclosure wall and of the massif was in place. Thus, the original passage probably only measured ca. 5 cubits (2.75 m).

Two hieratic builders’ inscriptions in black paint were documented along the south side of the massif. A small block at the bottom of its south wall mentioned a ḫnty-šmr-wty Mr, “count and sole companion Mer”, while another inscription on a foundation block of the corridor read tḥd 3 swnw sw 8, “month 3 of the swnw-season, day 8”.

Very little was preserved along the west side of the south massif. In this area, hardly any blocks of the pyramid temple foundations remained, except for dense debris layers of sand mixed with limestone chips. Since the eastern part of the foundation structure of the huge stone T.h building did not survive in its entirety, either, the relationship between this building and the massif remains enigmatic. It is however very likely that an unroofed passageway...
or corridor existed there, separating the two structures. The distance between the foundation blocks and the west side of the massif is ca. 3 m; it thus seems feasible that a 3–4 cubits wide corridor/passageway originally ran between the two large structures. This passageway was in all likelihood connected to the passage in the south and continued further north up to the façade of the pyramid temple (see above).

Fragments of relief decoration and finds

Many fragments of relief decoration and architectural features of different sizes, forms and functions (cornices, torus mouldings, water drains, parts of floor slabs, etc.) were uncovered in the T.h area during the 2017 season, despite its previous exploration in the past. The smallest fragments were a few centimetres square, while the largest architectural blocks were more than 1.5 m long. A large portion of the relief fragments showed stars of different sizes, a pattern typical of ceiling blocks; other fragments bore parts of the ḫkw-frieze that once decorated the top of the inner walls of the funerary temple. Some other fragments belonged to different types of scenes, however. Among others, a fragment of low relief with the king’s Nebty name ḫtḥh⁻², “Djedkhau” carefully carved in large hieroglyphs, was uncovered in the T.h area (DJ 255, fig. 11). It is regrettably impossible to confirm whether the discovered relief fragments originally belonged to the decoration of the T.h area or whether they came from a different part of the funerary temple.

Unlike the T.h area, the area of the external enclosure wall of the funerary temple was previously unexplored, and the debris contained a number of sherds, pieces of mud bricks, organic finds and bone fragments, as well several other objects (see also above). A small fragment of an Old Kingdom limestone false door was found in this debris slightly west of the mud brick installation (DJ-F29-2018; size: 24.5 × 15 × 10 cm). The fragment shows a small part of the false door architrave with a hieroglyphic inscription in sunken relief. The false door was nicely carved, the surface of the architrave well smoothed and the hieroglyphs well shaped. The inscription reads: ḥp ḫl [nṣw.t] ḫnw tp ḫw.f imy-w[t] ///, “Offering given by [king] and Anubis (who resides) upon his mountain, one of the We[t, …]” (fig. 12). The false door fragment may have come from one of the non-royal tombs situated in the vicinity of Djedkare’s pyramid complex.

The debris also contained later finds. For instance, a fragment of a late New Kingdom relief was uncovered in the south-west sector of the explored T.h area, near the connection of the external enclosure wall of the temple and the eastern enclosure wall of the cult pyramid (DJ-F32-2017; size: 84 × 43 cm). The surface of the fragment is weathered away but four figures, two men and two women facing left, partly survived. The figures are carved in sunken relief with inner details in low relief.
The inscription which once existed above the figures is lost but shorter inscriptions are partly preserved in front of the individual figures. The first figure (from left) shows a bald-headed man, arms raised in a gesture of reverence. The inscription in front of him is almost entirely lost: ///t Hwt-Hr///, “[…] Hathor […]”. The figure behind him shows a lady with long hair and a sistrum in her left hand; she is identified as snt.f mrt nbt-pr, “his beloved sister, mistress of the house”. The third figure shows a man with a shoulder-length wig and a short beard who was zA.f zS, “his son, scribe”. The fourth figure of a female has long hair and holds an object in her right hand; she has no inscription carved in front of her. The prolonged shapes of the heads, soft body shapes and loose transparent tunics indicate a late New Kingdom origin of this relief. This find, even though incomplete, is a clear indication of the existence of New Kingdom structures, tombs and chapels in the South Saqqara necropolis near Djedkare’s pyramid complex.

Notes:
1 The team would like to thank the inspectors of the Ministry of Antiquities, Mohamed Shaaban, Hamada Mansour and Mahmoud Fawzi, as well as the conservator of the Ministry of Antiquities, Amr Shakal, for their kind support during the fieldwork. Our thanks go also to the foremen Mara’i Abu el-Yazeed and Amar El Amir Abdel Hakem, as well as to all the workmen, without whom our work would not have been possible.
2 For preliminary results of the previous archaeological seasons, which concentrated on the eastern part of the funerary temple to the north and south of the entrance hall (pr-wrw), see e.g. Megahed (2011a and 2014), Megahed et al. (2016), Megahed – Jánosi (2017), Megahed – Jánosi – Vymazalová (2017a and 2017b).
3 The method and material have been required by the Conservation Department of the Saqqara Inspectorate (see also Megahed – Jánosi – Vymazalová 2017a: 50).
4 Since the temple was used as a quarry already in antiquity, the positions of these blocks are the meagre remnants left by ancient stone robbers. As it became clear in other parts of the temple as well, Ahmad Fakhry’s men do not seem to have moved heavy blocks, they contented themselves with simply checking all sides for reliefs or inscriptions.
5 Years, or rather occasions of cattle count are rarely included in builders’ inscriptions (see e.g. Verner et al. 2006: 190, nos. 7–8).
6 The north wall of the south massif was cleared in the 2016 season (see Megahed – Jánosi – Vymazalová 2017a: 38–39).
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