The Necropolis of Dahshur
Second Excavation Report Autumn 2003
Free University of Berlin
for ASAE

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Abstract
In autumn 2003, the excavation team of the Free University of Berlin in cooperation with the German Archaeological Institute (Cairo) continued its work in the Old Kingdom cemetery areas east of the Red Pyramid. Here excavations of the group of Old Kingdom mastabas discovered by J. de Morgan to the north west of the pyramid complex of Amenemhat II were continued and nearly completed. The main focus of the work, however, addressed the newly discovered cemetery area in the wadi extending east of the Red Pyramid down to the cultivated areas. Here the excavation area begun in 2002 was enlarged and a number of additional mud brick mastabas, dating probably to the Fifth Dynasty, were discovered. Again the team was able to examine a number of burials, some of them undisturbed. Substantial progress in the exploration of the site was achieved through a magnetometer survey in this area which revealed the considerable extent and the occupational pattern of this cemetery. A late Third to early Fourth Dynasty mastaba was located in this survey and partly excavated. Additionally, the drill core survey of the pyramid towns of Dahshur was continued in the area of the valley temple of the pyramid of Amenemhat II. The Middle Kingdom levels could also be identified; however no remains of substantial settlement could be located.

Introduction
The excavations of the Free University (Berlin) at Dahshur I were continued from September, 20, until

Again the work focused again on excavations and surveys of the Old Kingdom necropolis east of the Red Pyramid. The drill core survey in search of the pyramid towns of Dahshur could be resumed as well.

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Work in the cemetery excavated by J. de Morgan in 1894-95

In the course of his excavations in the necropolis of Dahshur J. de Morgan uncovered 28 mastabas of the Fifth and Sixth Dynasties located in the area directly north of the pyramid of Amenemhat II.3 Already in 2002 the re-excavation of one of these mastabas, no. 23 in de Morgan’s count, had begun to clarify the archaeological situation. This work was resumed and nearly completed in the course of this season.

Fig. 1 New plan of mastaba 23 in the cemetery of Old Kingdom mastabas north-west of the pyramid

2 The work was funded by the Deutsche Forschungsgemeinschaft and supported by the German Archaeological Institute (Cairo). The authors are grateful to both institutions for their generous support. We also wish to thank the members of the excavation team, M. Beer, D. Blaschta and C. Frommold for their substantial contribution. We also extend our gratitude to the Supreme Council of Antiquities, represented by inspector Ragab Ismail Shehata Turki and the directors of Saqqara Kamal Wahid and Tawfiq Abd el-Latif, for their constant support, and we kindly thank Paul O. Ford for checking our written English.

3 J. de Morgan, Fouilles à Dahchour en 1894-1895 (Vienne, 1903) 1-27, pl. I-IV, XVIII-XXVII; for the dating M. Baud, Famille royale et pouvoir sous l’Ancien Empire égyptien, BilFaud 126/1 (le Caire, 1999) 83-92.
complex of Amenemhat II.

Mastaba 23 is made of bricks constituting a non perfect square of 11.35 x 12.85 m (Fig. 1). The mastaba contains three north-south oriented rows of shafts with a total of seven shafts. The eastern row consists of two rectangular shafts, the southern one of which was excavated. Its upper part is preserved up to fifteen layers of bricks at a height of 1.48 m. The subterranean part is narrower, thus leaving a ledge of taffl between the mouth of the shaft and the walls of the superstructure. The shaft itself is hewn 4.42 m deep into the soil. Unfortunately, the taffl-wall on the eastern side of the shaft was in danger of collapsing; therefore it was not possible to enter the burial chamber for security reasons. It could be observed, however, that a rectangular chamber had been dug below the eastern side of the shaft. The reason for this unexpected though not unparalleled position of the chamber was certainly to avoid interfering with the burial chamber of the shaft to the west. The shaft has been robbed in antiquity, as we found pottery fragments, e.g. of a nmsr-jar, scattered throughout the filling. Further indicators for a robbery in antiquity are the remains of three wooden boards with servant figures found in the southwestern corner of the shaft.

The northern shaft of the eastern row was only excavated down to the bottom of its brick lining. At the shaft’s northern end the remains of a wooden coffin were found which apparently had been discarded there by ancient robbers. Two sides of a rectangular coffin, made of curved timbers with a single line of inscription on the outer face, could be assembled. Further, an alabaster headrest was found in three pieces in the debris of the tomb (Fig. 2).

The middle row of shafts consists of a square shaft in the north and a rectangular one in the middle, both with brick lining on all sides. Compartments to the south of the northern and the southern shaft respectively are filled with sand and taffl. In the western row the mouths of three shafts were uncovered: two square ones in the north and a rectangular shaft to the south.

The upper part of the mastaba consists of a base of about 1 m in height and the actual superstructure which was built upon this base. Very little of it is preserved, however. On the eastern side lies the cult corridor of the mastaba, which has been paved twice with a layer of mud. The eastern front of the mastaba is preserved to a height of only 0.30-0.60 m. Seven niches are indicated on de Morgan’s plan. In the actual situation only six niches could be documented, however, since the middle recess (de Morgan’s fourth
niche) turned out to be a later disturbance. All niches are simple recesses. In the northern niche the badly weathered remains of a limestone stela are preserved. On the floor directly in front of the stela an uninscribed offering-table with a central *htp*-sign and two flanking basins is still in situ.

The pottery found in the corridor and inside the mastaba consists of the common repertoire of funerary ritual assemblages: beer jars, bread moulds and washing basins all made of coarse ware (Nile Ic), ovoid or globular jars, bowls, neck-less shoulder jars (*amst*-jars) as well as plates made of finer clays (Nile Ib or Marl clays) and finally miniature offering vessels, though these are rather underrepresented in the corpus. Small trays of coarse material deserve special attention. They seem to be forerunners of the pottery offering trays of the First Intermediate Period and the Middle Kingdom. Except for the last mentioned trays the pottery found can be compared to the material from the cemetery in the vicinity of the pyramid of Pepi II.4

Some of the above mentioned features serve as indicators for the mastaba’s dating. The major indicator, the pottery, points to the later Sixth Dynasty. A further indicator consists of the wooden servant figures, commonly considered to first appear in the Sixth Dynasty. Headrests like the one found in the mastaba are known from the Sixth Dynasty as well. The mastaba’s layout with seven shafts indicates that it was a family tomb. Similar tombs, although considerably larger, can be found in the late Old Kingdom for example in the cemetery in the vicinity of the pyramid of Pepi II.5

The position of the mastaba in the cemetery, the size of the tomb, its square plan and the layout of the eastern part with its long cult corridor and six simple niches indicate that this mastaba is to be identified as de Morgan’s mastaba 23.6 It is not surprising, however, that the actual archaeological situation differs substantially from what de Morgan indicated on his map. Apparently de Morgan did not excavate the shafts.

Matthias Müller

*Excavations in the cemetery in the wadi east of the Red Pyramid*

The main effort of the excavations in this season was devoted to the further exploration of the Old Kingdom mastaba cemetery which had been discovered in the preceding season in the wadi which extends east of the Red Pyramid down to the cultivation. Here the excavation area opened in 2002 was enlarged to gain a better view of the layout of the occupation.

4 G. Jéquier, *Tombeaux de particuliers contemporains de Pepi II*, *Fouilles Saqqâ* (le Caire, 1929).
5 Jéquier, *Tombeaux de particuliers*, M.X., N.II.
6 de Morgan, *Fouilles à Dahchour en 1894-1895*, 17-18, fig. 43.
In the course of this work our expectations were confirmed: a dense network of middle sized mudbrick mastabas extended in all directions (Fig. 3). Actually, the rectangular superstructures of the mastabas were arranged in continuous rows, the individual buildings sometimes shifted against each other according to the well known 'en echelon'-principle. In most cases, the individual superstructures were linked to each other by short connecting walls which served to strictly regulate the access ways to the offering corridors of the different tombs. All in all, the cemetery was constructed as a dense agglomeration of tombs, not as a series of free standing buildings in an open space.

The architecture of the individual tombs is very simple. In most cases rectangular mudbrick walls with sloping outer faces define the superstructure of the mastabas. Within these blocks, a series of square shafts is outlined by brickwork walls. Among these shafts, a hierarchical ordering is normally evident, the most important shaft of the tomb owner being situated in the southern part of the tomb. The rest of the mastaba blocks were filled in with taffi rubble or - in one case - with huge amounts of discarded offering pottery which evidently had been obtained from a dump of offering. In fact such a dump of old offering pottery was also found in one of the forecourts.

To the east of the mastabas, a corridor chapel provided space for the offering cult which was executed in front of false door niches which were built into the eastern face of the mastabas. Already in the preceding season it could be established that at least some of the offering niches were originally constructed with architrave blocks of limestone. Luckily, in this season one such architrave block was found loosely lying in the surface rubbish. It was inscribed with the name of a lady, an 'acquaintance of the king' called
Hemet-Akhty (Fig. 4). In several cases, small offering bases of stone were found still standing in situ in the offering niches. Most of them were uninscribed, but in one case a line of hieroglyphs identified its owner as a woman, again bearing the title 'acquaintance of the king' and the name Hiy (Fig. 5). These two epigraphic finds indicate at least that the owners of the large mastabas were members of the lower ranks of the élite. Most probably they were priests who served in the maintenance of the royal and aristocratic funerary cults in the royal necropolis of Dahshur.

Fig. 4  Architrave block from a false-door with the name of the 'acquaintance of the king' Hemet-Akhty.

Fig. 5  Offering basin with the name of the 'acquaintance of the king' Hiy.

Thanks to the excellent state of preservation of the architecture, a number of interesting archaeological situations could be documented. In one case, for example, a well preserved multi-room complex was found in front of the main niche of a mastaba which evidently served as a place for the preparation and the execution of the offering cult (Fig. 6). On the mud floor of this building, a number of patches reddened through fire indicated places where cooking had been carried out. A small, narrow room at the back of the building was even found filled with the remains of such funerary offerings, namely, ashes, animal bones and broken offering pottery. Such situations may prove of some interest since they provide information on how
long a period the offering cult was actually carried out at these tombs.

Fig. 6    Rooms used for the preparation of funerary offerings in front of the main false-door in one of the mastabas in the wadi-cemetery.

Again a number of burials were excavated in these mastabas. Like in the preceding season, the lesser burials in the mastabas were regularly found undisturbed. They were housed in small burial chambers hewn from the soft rock at a depth of about 8 m. The bodies were usually placed in a more or less contracted position in heavy white plastered wooden coffins. Burial goods, at least those from materials which could withstand the dampness of the soil at this depth, are generally missing. The main burials, on the other hand, were found robbed throughout (Fig. 7). They were placed in larger chambers in large wooden coffins which were reduced to powder, however, in the moist atmosphere. In these burials, the skeletons were found in disarray specifically in the neck-chest-area. This observation indicates that the burials were originally equipped, with pieces of jewelry which became the main target of subsequent tomb-robbing.

Fig. 7    Robbed burial in one of the mastabas.
The pottery found in the shafts and in the offering places generally confirms a dating of the main occupation phase in this area of the cemetery to the Fifth Dynasty.

Apart from the large mudbrick mastabas, again a number of miniature tombs were found, some of them in a perfect state of preservation (Fig. 8). Like the tombs discovered in the preceding season, a number of these small buildings was attached to the superstructures of the large mastabas and stood both chronologically and also possibly socially (probably as attendants) in direct relation to the middle class occupation of the cemetery. In two cases, however, miniature mastabas were built on top of an already ruined tomb, thus providing proof, in these instances, for a markedly later date of these tombs, at least somewhere in the Sixth Dynasty.

Excavating one of the miniature mastabas whose superstructure was already damaged, it became clear that in some cases the tombs were erected not only above simple burial pits (as was found in the previous year), but on top of well built shafts. In one case, at a depth of about 3 m, a very small but undisturbed burial chamber was found to the west of the shaft, containing the body of an elderly woman in a tightly contracted position in a wooden box. In front of the wall which sealed this chamber, at the bottom of the shaft, a group of miniature pottery offering vessels was found (Fig. 9) which certainly belonged to an offering ritual which had been executed, for the first time, in the course of the burial ceremonies.7

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As a direct result of the magnetometric survey of the cemetery area (see below), a very special discovery was made. Actually, in the eastern part of the wadi, a large mastaba (25 x 15 m) was visible on the map which appeared to be totally unlike the later Old Kingdom mastabas. A trial excavation of two test trenches resulted in a dating, according to the pottery found, in the late Third or the very beginning of the Fourth Dynasty. Surprisingly, the excavation revealed that the mudbrick walls of this tomb had been removed in antiquity and mainly the taffi-filling of the core of the mastaba was left standing. For this rather unusual fact at least a hypothetical explanation can be proposed. From our earlier work on the site it appears that during the Fourth Dynasty quite a considerable space adjacent to the royal funerary monuments was purposely left free of private funerary occupation. In the case of the Red Pyramid, contemporary mastaba tombs are situated only in the so-called Lepsius cemetery to the south east of the Red Pyramid8 and de Morgan's 'mastabas du sud',9 south of the pyramid of Senwosret III and north of the causeway of the Red Pyramid. Very much in contrast to these sites, the archaic mastaba discovered in the eastern part of the wadi lies very close to the trace of the former causeway of the pyramid. Therefore the interpretation may be proposed that the tomb, dating from a time before the layout of the Red Pyramid was conceived, was no longer allowed at this place when the royal monument was placed in this part of the site and was consequently removed. Further excavations are required to establish whether the tomb had actually been occupied by a burial before its destruction or not.

In any case, the discovery of this mastaba may be of some importance for the history of the site. In fact, already some pieces of evidence point to an occupation of the site of Dahshur before the construction of Snefru's pyramids. De Morgan, for example, found two alabaster sarcophagi in an ancient shaft in the pyramid precinct of Senwosret III., which are identical in design to Third Dynasty alabaster sarcophagi from the galleries below Djoser's step pyramid.10 In addition, the relief panel of a King Horus

Fig. 9 Miniature offering vessels buried in front of the burial chamber at the bottom of the shaft in one of the miniature mastabas.
Qa-hedjet, now kept in the Louvre and possibly to be ascribed to the funerary monument of King Huni, which has not yet been identified, reportedly originates from Dahshur. The newly discovered archaic mastaba adds a further link in this chain of evidence and helps to anchor it topographically in the northern part of the site.

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Caesium-magnetometry in the cemetery in the wadi east of the Red Pyramid

The test for magnetic prospecting in Dahshur was carried out by Helmut Becker (Bayerisches Landesamt für Denkmalpflege, München) in 6 days (mornings with 4 hours measuring time per day) from the 5th to the 9th of October, and from the 25th to 27th of October by the author.

The instrument used was a Smartmag SM4G-Special (Scintrex, Canada) caesium-magnetometer in the noncompensated duo-sensor-configuration mounted on a man-carried staff. There was also a one day test undertaken with the duo-sensor-configuration mounted on a one-wheel cart in order to minimize the height variation of the sensors above ground. In this technique the positioning was done by a slot disk driven by the rotation of the wheel.

The test area for magnetic prospecting in Dahshur is situated in a wadi east of the Red Pyramid near a modern road and the slope to the Nile valley. The excavation of 2002 and 2003 uncovered well preserved mastabas of the Fifth Dynasty constructed of mudbricks. The magnetic test covered almost the whole necropolis including the excavation in an area of about 400 to 200 m at the lower part of the wadi in east-west orientation.

For a better understanding of the sources for the magnetic anomalies, an investigation of the susceptibility of mudbricks, stones and sand was undertaken in the open trenches of the excavation using a SM-30 Magnetic Susceptibility Meter (ZH Instruments, Czech Republic).

The magnetogram over 7 hectares shows fairly clear the structure and the extension of the necropolis divided into several groups (Fig. 10). The mudbrick architecture had a positive magnetization contrast, but almost all shafts had a negative contrast. Several hundred shafts of different shapes became visible in the magnetogram. It was also possible to identify different types of mastabas, some of them at different depths, but most of them were very near to the surface.

One large mastaba of earlier Old Kingdom type was tested by a trial excavation during the last days of the campaign (see above). It became evident, that this mastaba had been removed in ancient times, but there were still one or two layers of mudbricks of the outer wall left in situ at a depth of nearly 2 m under the surface. The measured magnetization contrast for the mudbricks of this mastaba against the sand was about 10. The susceptibility of the mudbricks was in the range of 1.8 x 10-3 SI units (3 to 4 times stronger than the susceptibility of the younger mastabas) and 10 times stronger than the sand with a mean susceptibility of 0.17 x 10-3 SI units.

Fig. 10 Magnetometer map of the wadi cemetery.
Through these tests it became evident that only total field caesium-magnetometry with high sensitivity may be able to identify archaeological structures at great depths or structures with low magnetization contrast. Therefore the continuation of magnetic prospecting mainly to the west is planned for 2004 using the same technique.

Helmut Becker

_Drill core survey east of the pyramid complex of Amenemhat II_

For a few days, the drill core survey in search of the pyramid towns of Dahshur could be continued in the area east of the pyramid complex of Amenemhat II. Here, due to topographical constraints, the line of the causeway of the pyramid and the location of its valley temple could be predicted with a fair amount of reliability. To test for the existence of a settlement attached to the pyramid complex, a series of seven drill core sondages was executed in this area (Fig. 11). A simple manual drill was used and a depth of up to 4.5 metres below the present surface was reached. This was sufficient to reach the Middle Kingdom level, as it was known from our earlier work in the area of the pyramid town of the Red Pyramid.

In the material extracted from the drill holes, great amounts of limestone chips signaled that the embankment of the causeway was indeed located by the drillings. In some cases, the presence of large limestone blocks which prevented a further continuation of the drilling operation equally attested to the presence of the valley monument of the pyramid in this place. A few stray sherds of clearly Middle Kingdom date also confirmed

Fig. 11  Distribution of drill core soundings in the area east of the pyramid complex of Amenemhat II.
that the Middle Kingdom levels had been reached. However, it became very obvious from the drillings that no substantial Middle Kingdom settlement existed in this place.

Of course, due to the limited number of drillings and the restricted spatial extent of our survey, this result must be treated with caution. Theoretically, it is possible that a pyramid town could have existed at a nearby place which has yet to be located. However, as it stands, this negative evidence can be interpreted as supporting the hypothesis that the pyramid town of the Red Pyramid, which, according to our earlier survey work, flourished during the Middle Kingdom, could also have served as a settlement for those people who were involved in the maintenance of the cults of the Middle Kingdom pyramids of Dahshur.

Further sondages, preferably including the area east of the pyramid complex of Senwosret III, will hopefully provide additional results in the future, which will help to answer this question on the basis of firm evidence.

Stephan Seidlmayer

Summary

Our work in the season of 2003 mainly confirmed and enlarged the picture of the Old Kingdom cemetery occupation we had gained in the last year. In stark contrast to the impression a modern visitor to the site gets, the area east of the Red Pyramid was densely crowded by a middle and lower class cemetery belonging to the inhabitants of the pyramid town of the Red Pyramid in the Fifth and Sixth Dynasties.

Our excavations now allow us to better judge the layout and the development of this cemetery occupation. Regularly, the burials are encountered in an undisturbed condition and therefore form a basis to describe the specific character of the funerary culture of ordinary people in the Memphite region in contrast, for example, to what is known from the cemeteries of Upper Egypt. Even a few inscribed elements now begin to give some first prosopographic clues regarding the identity of the occupants of the cemetery.

However, most important for our knowledge of the site are the results of a magnetometric survey executed for the larger part of the necropolis. From the map produced with this geophysical technique, the areas of dense occupation can clearly be discerned. The individual tombs and their shafts are readily visible even without excavation. On the basis of this map it will be possible to select the most promising places for excavation. In addition, the magnetometric survey offers the unique opportunity to obtain verifiable quantitative data on the size and history of the cemetery, which can be used to deduce information on the settlement history of the pyramid town itself. A crucial question to be solved in further excavations remains the fate this town experienced in the course of the First Intermediate Period. Hopefully, it will be possible to identify cemetery areas which provide information on the latest phases of its occupation.

Of considerable importance, in our view, was also the discovery of the archaic mastaba in the eastern part of the wadi. This tomb, which clearly dates to a period before the reign of king Sneferu (or at least before the construction of the Red Pyramid) offers further information on the earlier history of the site.

The results of the continuation of the drill core survey in search of the pyramid towns of Dahshur further serve to highlight the importance of the pyramid town of the Red Pyramid, even in the
Middle Kingdom.

Both this research in the cultivation as well as the excavation in the necropolis therefore provide data for a better understanding of the impact and consequences the monumental necropolis of the Memphite area had on the settlement patterns on a local and regional scale.

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