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EDITORIAL FOREWORD

As ever, 1999 has been a full and busy year for the Egypt Exploration Society. An active programme of fieldwork was undertaken at Sais, Memphis and Amarna (two major projects), and the final season of the Society-sponsored work at Gebel el-Haridi took place. Fuller accounts of these activities can be found in the Fieldwork section of this volume. Interpretation and analysis of various aspects of material and information resulting from projects in Egypt continued, and several publications are imminent. The Society also continued active lecture series in London, Manchester and Cairo.

The rebuilding of the Griffith Institute in Oxford still continues. At the British Museum in London, the major construction project for the whole museum has caused some disruption to the use of and displays in some of the Egyptian galleries. However, the opportunity has been seized to inaugurate a new permanent display. Dr John Taylor writes:

> In May, the Roxie Walker Galleries of Egyptian funerary archaeology were opened at the British Museum. Generously sponsored by the Bioanthropology Foundation Ltd., the new display occupies two rooms on the upper floor, replacing the old 'mummy rooms', which had long been in need of renovation. Many of the familiar exhibits can now be seen together with pieces drawn from the reserve collections in an installation which seeks to make the mortuary practices of the Egyptians more readily accessible and comprehensible to the visitor. Special emphasis has been placed on displaying objects in context, and a major component of the new galleries is a series of reconstituted burial assemblages, ranging in date from the First Intermediate Period to the Roman era. Other sections of the display concentrate on themes such as preserving the body, provisioning the dead, and the use of magic and ritual, while new data obtained from scientific studies of human remains, painted wooden coffins and other objects has been incorporated into the information structure, providing a perspective on recent research.

These galleries have proved particularly popular with the public and are always well filled with visitors of all ages.

Egyptian hieroglyphs and the story of their decipherment were featured in a major exhibition staged at the British Museum. Dr Richard Parkinson, who played a principle role in it, writes:

> The bicentenary of the Rosetta Stone has been celebrated in various countries. To mark the event, the British Museum mounted a special exhibition, *Cracking Codes: The Rosetta Stone and Decipherment*, from 10 July 1999 to 16 January 2000, which was opened by the Egyptian ambassador. The centrepiece was the newly conserved Rosetta Stone itself, which is now revealed as a grey quartz-bearing metamorphic rock, with a prominent pink vein; it is now displayed in an upright position. Two hundred other artifacts, including international loans, displayed the pre-decipherment confusion surrounding hieroglyphs, the triumph of Champollion, and other scripts still awaiting decipherment. A major part of the exhibition showed the uses of writing through Egyptian history, suggesting how ancient writings are embedded in their specific cultures and cannot be decoded into simple windows on the past, and a section on modern cryptanalysis, contributed by Whitfield Diffie, continued the theme of the title into modern history. The elegantly designed show was well received, with the

number of visitors reaching 1,200 a day during one week. One piece that received particular attention was a giant Eighteenth Dynasty faience *was*-sceptre on loan from the Victoria and Albert Museum.

Hieroglyphs were also in the news when B. Manley and M. Collier's book *How to Read Egyptian Hieroglyphs* (British Museum Press) reached the bestseller lists.

As is inevitable, Egyptology has experienced some sad losses with the deaths of several much valued colleagues.

On 2 January 1999 Charles Shute died in Atlanta, Georgia, at the age of 81. Former Professor of Histology at Cambridge University and Fellow of Christ's College, Cambridge, he had a full and productive career in the medical field, particularly relating to anatomical research and aspects of the brain, and he attained considerable eminence among medical colleagues. He came to Egyptology relatively late in life, with his marriage to Dr Gay Robins. The combination of their talents and interests was fruitful and yielded a number of studies on Egyptian measurement systems and the canon and proportion of the human figure in Egyptian artistic representations. Perhaps their best-known collaborative publication was *The Rhind Mathematical Papyrus* (1987). Charles Shute always seemed to be smiling, and his lively sense of enthusiasm for ancient Egypt will be missed.

It is with great sadness that we note the death of the Reverend Professor Jack Plumley, who died on 2 July 1999, at the age of 88. He had a very long and active career as an ordained minister of the Church of England, and originally embarked on his studies in Egyptology, particularly the Coptic language, as a hobby. He spent twenty years from 1957 to 1977 away from his pastoral duties, as Professor of Egyptology at Cambridge University, where he became a Fellow of Selwyn College. He was a gentle, patient teacher of Egyptian languages, and gave hesitant students confidence with his air of having experienced worse things before. He genuinely cared about his students, all of whom will remember him with great affection. Professor Plumley's interest in Coptic studies led to his undertaking rescue excavations at the Christian Period site of Qasr Ibrim when the creation of Lake Nasser threatened to flood it. He served as director of EES work there from 1963 to 1976, living in rather colourful circumstances on site, and participated in the publication of studies on the site itself and of some of the textual material unearthed during the excavations, notably Old Nubian and Coptic texts. EES exploration at Qasr Ibrim is still an important part of its fieldwork programme, largely due to his contribution. A full obituary of Jack Plumley will appear in the next *JEA*.

On a happier note, the Petrie Museum at University College London has appointed Dr Stephen Quirke to a newly-created permanent curatorial post. It is to be hoped that his tenureship will help to make this highly individual and sadly underused collection better known by Egyptologists and the public, as it deserves.

It is a pleasure to close this foreword with an expression of appreciation and thanks to all who have contributed to this volume. In addition to the authors who have provided the raw material, those behind the scenes who make publication possible and without whom the *JEA* would not see the light of day deserve recognition. The international group of scholars who agree to give up their time to offer expert advice on articles as anonymous referees deserve our thanks. This year Professor John Tait and Dr Patricia Spencer

devoted time to setting the hieroglyphs and Coptic passages on EES office equipment, and Daniel Lines provided assiduous proofreading services. Our new typesetters Letterpart Limited and our printers Whitstable Litho also deserve gratitude for their hard work. Finally, it remains to express our warmest thanks to Neville Laws, long-time friend to the Society and facilitator of multiple aspects of *JEA* production over the years, and to wish him well in his retirement.

Dr Lisa Montagno Leahy (Editor-in-Chief)
Dr Margaret Serpico
Professor John Tait
Dr John Taylor

FIELDWORK, 1998–9

THE Society's fieldwork for 1998–9 consisted of a mixture of excavation, survey and specialized study, on site and in the field stations. Considerable work on the analysis and interpretation of excavated material continued in various institutions in the United Kingdom. The creation of computer databases of material has featured strongly in recent fieldwork, and good progress was made on the pottery database at Memphis. Neal Spencer, the recipient of the EES Centenary Studentship Award, spent several weeks in October of 1998 examining and recording Late Period and Ptolemaic temple blocks at the Delta site of Samanud and is producing a new collection of drawings, photographs and other data from there, soon to be available on-line. An account of his work appears in this volume. Summer 1998 saw the final season of EES work at Gebel el-Haridi in Middle Egypt. No fieldwork or on-site study was undertaken at Qasr Ibrim this season.

On behalf of the field directors and their team members, the Society would like to express its warmest thanks for continuing help and support to the officials of the Supreme Council for Antiquities in Egypt (SCA), especially to its Permanent Secretary, Professor Gaballa A. Gaballa. Gratitude is also due to the Secretary of the Higher Committee, Mr Magdi Abu el-Aala, and to the staff of the security office in Abbassiya and in the local Inspectorates. The efforts of Miss Rawya Ismail in the EES Cairo office have also expedited and facilitated the labours of fieldworkers in Egypt.

The Survey at Sais (Sa el-Hagar), 1998

THE team comprised Penelope Wilson (Director), Mark Noel and Duncan Hale (Geo-Quest archaeo-magnetometrists), and François Leclère (IFAO epigrapher), with Dr Magdy Ismail representing the SCA, and was in the field from 5 to 22 October 1998. I would also like to thank Dr Sabri Taha Hasnein, the Chief Inspector at Tanta, and Fatma Ragab Kamil, who both gave tremendous help and encouragement to the mission.

We obtained copies of the detailed cadastral survey maps for the Sa el-Hagar area up to the river, a total of eighteen sheets. They provide the correct names for the fields in the area and so the area referred to as Kom Farrays in the sketch in the first report on work here is now called the Rebwa basin.[1]

Over a period of two weeks, a geophysical survey using a magnetometer was carried out at selected areas around the site. In general, we concentrated on the agricultural portions of the site because the area designated as Antiquities land in the Rebwa basin was too uneven and hillocky and the land in the 'Great Pit' had been dug out too much in the past and was therefore too disturbed to give meaningful results over small areas. The choice of agricultural land was dictated in turn by the availability of fields without crops or standing water. As much of the agricultural land was planted with cotton bushes or under rice not due to be harvested for two weeks, we had to seize the opportunities for fieldwork as they appeared. The weather was also unseasonably hot, which made working conditions difficult for the geophyicists.[2] Nevertheless, we had good results in three areas (fig. 1):

[1] *JEA* 84 (1998), 2–4.

[2] I am very grateful to Mark Noel and Duncan Hale for their forbearance and advice in difficult conditions.

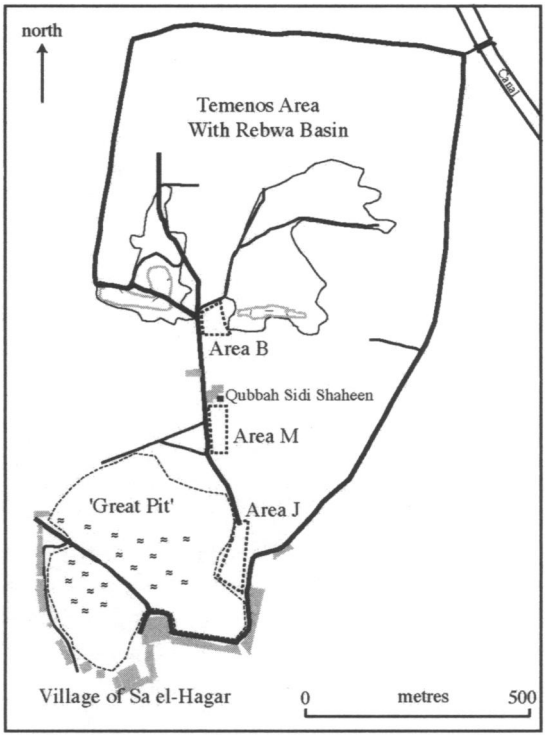


FIG. 1. Sketch plan of Sais (after EES Survey map 1997–8).

1) Area J (pl. I, 1): a strip of land running along the east side of the 'Great Pit' which shows structures on the surface, about 30 m by 350 m in total area. Preliminary results of the magnetometer survey suggested that there is a line of cell-like stone structures arranged along roads running in a north–south orientation under this area. The results complemented the observed surface features, but there was much 'background noise' due to pottery, burnt brick and modern rubbish.

2) Area B: a cleared field and a *bursim* field at a point perhaps in the southern entrance through the Enclosure wall in the Rebwa basin area. Anomalies here suggest that there is a large filled ditch or robbed trench and possible stone structures under the fields.

3) Area M (pl. I, 2): a cleared field to the south of the Sidi Shaheen farmstead. Analysis of the data suggests that under the field there are a large stone building, with walls approximately 4 m thick and surviving as the corner right-angle of a building with walls about 20 m and 30 m long, several smaller stone buildings and some possible kiln sites. In the plate, the vivid dark area to the west is an electricity pylon. The date(s) of these buildings are not known but this evidence does suggest that in the otherwise 'empty' area between the 'Great Pit' and Enclosure there is archaeological material under the agricultural land.

4) Various test areas and fields: areas E and H in the base of the 'Great Pit'; area L to the west side of the Enclosure to see if a mud-brick wall could be differentiated from mud run-off; area M in the Rebwa basin where there is a mud bank with surface colour changes; area K to the west of the farmhouse of Sidi Shaheen where there were cleared fields.

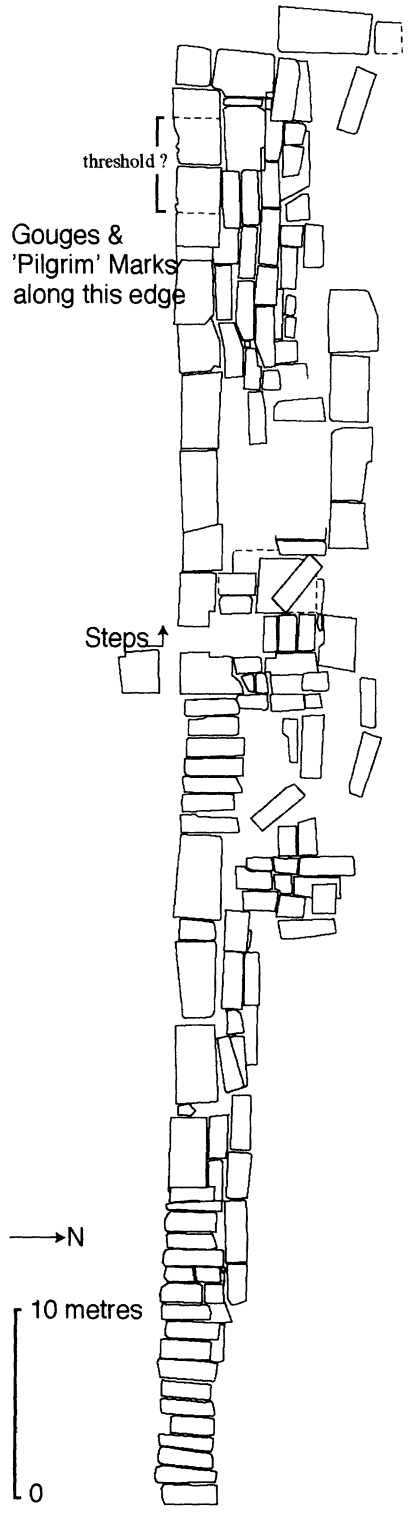


FIG. 2. Stone structure at south end of 'Great Pit', Sais.

François Leclère copied all the inscribed blocks at the site in the SCA Office/police station. This amounted to a good corpus of about 25 blocks. With the help and cooperation of the inspectors at Tanta, he began work looking at the registers and archives in the Antiquities Office in Tanta for further information about the provenance of the various blocks. It seems that some were originally found in the village of Sa el-Hagar, while others have come from further afield.

Penelope Wilson planned and recorded parts of the mud-brick structures in the south-western corner of the 'Great Pit', excavated by the SCA/EAO in recent years. These structures link in with the geophysical survey. She also planned the limestone blocks at the south end of the 'Great Pit', which seem to be the last remnants of some monumental stone building, perhaps also oriented on a north–south axis (fig. 2, pl. I, 3). Some of the blocks are massive, precluding the possibility that they are part of a drainage system for the nearby Roman bath house. The remaining section of wall has been freed to a depth of four courses at its western end and the blocks seem to be arranged with massive rectangular blocks laid end to end, alternating with smaller regular blocks laid side by side. At one point there is a gap in the stone structure, seemingly a narrow entrance leading to a flight of steps, with a sharp right-angled turn west and continuing inside the stone structure. Towards the west end, the front of the wall has some 'pilgrim gouges' and there are depressions in the remaining top stones where powder might have been ground out from the stone. On two massive blocks there is a shallow cut and between the grooves there is a greater number of 'gouges'. In addition, some of the blocks also have rectangular or square cuts made at the corners.

At first, it seemed these blocks may have been the last remnants of the front of a temple building and, in particular, the east side of the foundation wall of a pylon with a threshold for the gateway. However, the length of the structure is approximately 76 m and there are indications that it continues to the east and west. Unless it is a huge pylon base, matching and perhaps exceeding the Karnak structures, it may be the side wall of a temple or a stone foundation for an enclosure or some other type of building. Just to the north inside the 'Great Pit' is a group of large granite blocks, possibly in their original relative positions because the underlying ground has been dug or washed away. If they are related to the limestone blocks, they could have come from the same structure. They could have formed part of a formal lay-out of the whole site, with a strong south–north axis linking the temple structures in the south (now the 'Great Pit'), with the earlier (?) Enclosure in the north and its north–south aligned temples. This would fit the alignment of some of the building traces reported by Wilkinson in 1842, but does not preclude the existence of other east–west aligned buildings or peripteral temples in the Enclosure.

PENELOPE WILSON

Memphis, 1998

THE season ran from 10 October to 20 November 1998. Team members attending were: David Aston, Bettina Bader, Amanda Dunsmore, Carla Gallorini (Deputy Director), David Jeffreys (Field Director), W. Raymond Johnson, Ian Mathieson, and Will Schenck. We are most grateful to the Chairman of the SCA, Professor G. Ali Gaballa, as well as to Dr Zahi Hawass, and at Saqqara to Mr Mohammed Hagras and Mr Magdi Ghandour, for

their help and cooperation. Special thanks are due to Mr Shaban Mohammed Saat, the SCA representative attached to our expedition again this year, who helped on a daily basis.

Fieldwork

A reconnaissance survey was made of the existing survey points and visible features on the Saqqara plateau and along its eastern escarpment, in preparation for next season. A rapid preliminary compass survey was carried out on the four squares, still just visible, cleared by the Society in 1973 on the west side of the Early Dynastic necropolis at North Saqqara.

Amenophis III epigraphic project

The fourth season of the 'Memphis Amenhotep III Reused Block Project' lasted from 2 to 4 November 1998. This season xerox copies of the inked reductions of the original 1:1 tracings by Will Schenck were checked against the original blocks on site, and received final collation by Johnson. The groundwater level in the temple was higher than previously noted in the four years of the project, and the monument continues to show signs of accelerating deterioration.

The reused material includes fragments of offering lists in raised relief, offering scenes to enshrined Ptah, name-frieze blocks and fragments with the cartouches of Nebmaatre Amenhotep III in raised and sunk relief, and priests shown in raised relief in procession carrying the barque of Ptah-Sokar on their shoulders. A sunk relief offering scene to the enshrined Ptah-Sokar barque is partially preserved on another block. Reused architectural fragments, including roof or cornice blocks, a possible pillar block, and several fragments of a papyrus-bundle column, as well as the character of the decoration, make it likely that the structure dismantled by Ramesses II was a barque sanctuary dedicated to Ptah-Sokar. The inscriptions and the style of the relief work, with its innovative solar iconography, date it firmly to the end of the reign of Amenhotep III, and it was undoubtedly part of Amenhotep's great Ptah temple complex 'Nebmaatre-United-with-Ptah', described in the autobiographical inscription of his Steward of Memphis Amenhotep Huy.

A fifth and final season is proposed for the start of November 1999 to review and reevaluate architectural elements preserved on site and to carry out any remaining photography and a condition survey of the structure.

Post-excavation work

The study season began on 19 October and ended on 26 November. The season was spent sampling and recording pottery from the Middle Kingdom and Second Intermediate Period contexts from Kom Rabiʿa. Over 2000 sherds were recorded, and about 600 were drawn and the drawings inserted in the Middle Kingdom – Second Intermediate Period Corpus. It is estimated that approximately two-thirds of the Middle Kingdom

pottery has now been recorded. One priority for the season was to input records from previous years into the computer database, and data from the seasons 1996, 1997 and 1998 are now on computer.

CARLA GALLORINI, DAVID JEFFREYS *and* W. RAYMOND JOHNSON

The Gebel el-Haridi Survey Project, 1998

THE third and final season of survey at Gebel el-Haridi took place between 19 July and 16 August 1998, with a period of 21 working days on site.[1] The team comprised Christopher Kirby (director), Sara Orel (pottery specialist), Wendy Monkhouse (survey assistant), Douwtje Van der Meulen (conservator), Julia Jarrett (illustrator) and Dr Adel Feried (epigrapher). The SCA inspector was Mr Ahmed Montalib of the Akhmim Inspectorate. The objectives of this final season of the preliminary survey were to record in more detail the necropolis at the southern end of the headland in the area known locally as Gebel Abu el-Nasr, to plan the mud-brick structures outside the Ptolemaic Quarry E and to survey the northern end of the headland close to the village of el-Nauwara.

The Abu el-Nasr necropolis[2] *(fig.1)*

Tomb 2. The first priority was the conservation of the painted Tomb 2. Van der Meulen's examination of the tomb ceiling revealed a salt bloom over part of the decorated surface which proved difficult to remove. Her assessment of the fragmented plasterwork also showed that many pieces were being pushed from the surface by emerging salts. The first priority, therefore, was to remove the salts from the back of loose flakes and to consolidate these using a grouting of ground local limestone mixed with adhesive. The prime objective of this consolidation was a short-term one—to make the ceiling strong enough to endure surface analysis and direct tracing with acetate sheeting. Although some cleaning was possible by mechanical methods, this was time consuming and it proved more effective to spray the surface with distilled water to bring up the colour for photography and tracing. Analysis of the plaster by Van Der Meulen confirmed that the decorated wall showing the clapnet scene[3] was contemporary with the plastering of the ceiling. She also observed that many of the outlines of the ceiling elements had a soft edge, suggesting that the paint had been applied while the plaster was still wet. She and Jarrett worked closely together on the details of the ceiling decoration and were able to produce an overall understanding of the arrangement of the painted elements. It appeared that the tomb was covered with tightly-packed, yellow four-pointed stars, each with a red spot in the centre and a black outline. These were placed randomly over the ceiling, with the tips of each star pointing in different directions. On either side of a band which ran east–west across the middle of the tomb were large, bordered panels which

[1] The fieldwork was made possible by the generous contributions of the Wainwright Fund (Oxford), Truman State University (Missouri) and the EES.

[2] See C. J. Kirby, and W. Monkhouse, 'Filling in the Gaps at Gebel el-Haridi', *Egyptian Archaeology* 14 (1999), 10–12.

[3] See C. J. Kirby, 'Preliminary Report of the First Season of Work at Gebel el-Haridi, 1991–2', *JEA* 78 (1992), 24.

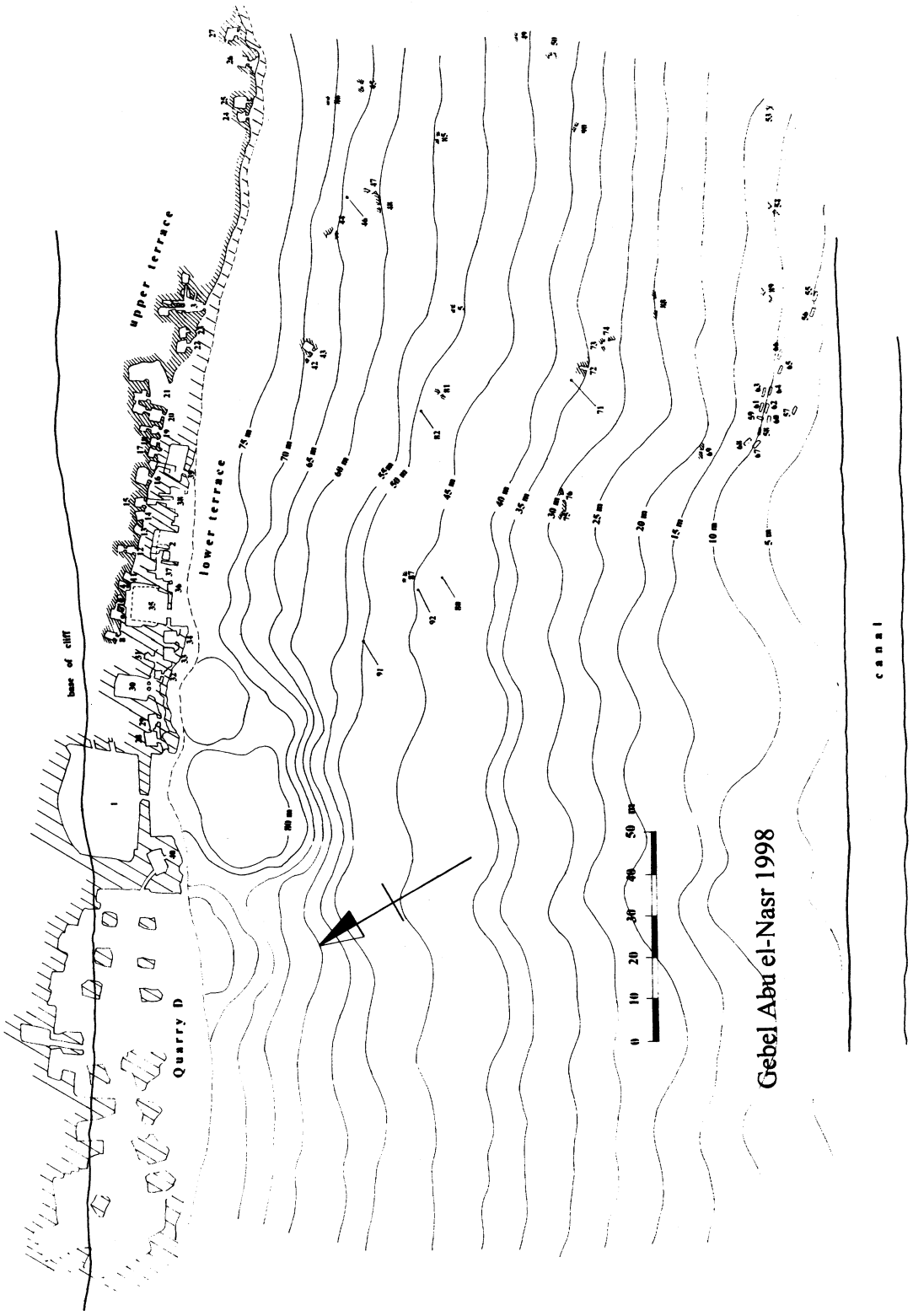


FIG. 1. General plan of the Gebel Abu el-Nasr necropolis.

appeared to contain no stars. Only the northern of the two panels was preserved to any degree: it was bordered by linear registers of block colour in black, yellow, green and red, with pointed strips at the east and west end sections. In the middle portion of the ceiling, just south of the northern panel, was a group of unidentified yellow shapes with thin black outlines executed in similar fashion to the stars. Although the full meaning of the ceiling decoration is still unclear, our detailed study this season has shown that there was a symmetry and order to the painting that was not previously recognised. Preliminary research seems to suggest iconographic similarities with astronomical designs found in Middle Kingdom coffins from Asyut.[4]

In the last few days of the season, preparations were made to trace the ceiling images. Wooden beams were fixed at the top of the north and south walls, with string lines between them which ran across the ceiling in 50 cm strips. Sheets of acetate were attached between two string lines with masking tape and each section of the ceiling traced. The method was a highly effective solution to the problem of attaching acetate directly to the ceiling. The most intact areas of the ceiling were traced by this method.

Tombs of the upper terrace (*3, 4, 8–27*). A detailed recording survey was done of all the tombs in the two terraces at Gebel Abu el-Nasr (40 in total). A special tomb sheet was designed to ensure continuity to the questions asked of each tomb; these included the dimensions, what material finds lay within the tomb, the evidence for quarrying and signs of later occupation. Sketch plans and elevations were done of each tomb, and surface pottery and wood and bone within each chamber were collected to be assessed by Sara Orel for drawing and photography. Although some tombs had been partly quarried away or had some architectural variation, most shared similar dimensions and internal characteristics. A roughly dressed exterior door façade had a panel above it which was defined by irregular 'pecking'. This entrance led straight into a sloping ramp sunk into the floor of the first chamber, which was over two metres (four cubits) square; the ramp led through a second doorway with carved jambs and onto a narrow corridor terminating in a small, rectangular back chamber which projected to the north side of the corridor. Occasionally there were larger tombs with two or three secondary chambers (Tombs 3, 16) which were presumably for family burials.

Several of the tombs had been quarried away on the front face and all showed signs of having been illicitly dug. The contents of these diggings could be found strewn on the slope in front of each tomb and much diagnostic sherd material was collected from these areas (see below). Each tomb was half filled with fine aeolian deposits of sandy silt. In Tomb 12 this layer was carefully brushed away to reveal a made-up floor of compacted limestone chippings embedded with animal bone, carbonized seeds, textile and pottery. The pottery confirmed that this occupation deposit belonged to the period of Coptic occupation.

A detailed plan was made of Tomb 3, the largest tomb on the upper terrace. This contained three burial chambers running off a large entrance hall which had been replastered and used as a Coptic dwelling. Over the middle of the doorway to the second burial chamber were the remains of a painted scene. This had been noted in the 1991–2 season but through careful cleaning Julia Jarrett was able to reveal much more of the

[4] J. Capart, 'Tables astronomiques d'Assiout', *CdE* 8 (1933), 69–77, figs. 1–6.

painted images. The scene showed two male figures in long kilts that projected from high on the chest in a style that suggested a Middle Kingdom date. Both figures had their arms raised with hands presented outwards in a gesture of adoration towards a mummiform figure holding a crook and wearing a blue-striped shoulder mantle.

Tombs of the lower terrace (*2, 28–40*). In the space between the Old Kingdom tomb and the painted tomb area was a series of small rock-cut tombs cut at two different levels. The most important was Tomb 30, which consisted of a large single chamber. The tomb had clearly been reused in the Coptic Period as the walls were covered with mud plaster capped by a hard, white gypsum with traces of red ink graffiti. One preserved graffito showed a bearded human head wearing a pointed hat. Other finely drawn graffiti had been intentionally removed, perhaps in recent times. An irregular plastered concavity in the ceiling may have functioned as a cupola. The remains of red ink lettering in apparently Latin characters ran around its lower rim. The pattern of preserved plaster-work on the south wall suggested that there had been wall fittings which the wall rendering had abutted. A small lamp niche had been cut close to the entrance. The nature of reuse in Tomb 30 suggests that it may have functioned as a Christian church.

Detailed plans and elevations were done of the tombs, including the painted tomb. All had been quarried out, making it difficult to determine the dimensions of the original funerary chambers. The remains of a shaft and burial chamber in the back wall of Quarry D were also planned. The dimensions of this shaft suggested that tombs of the size and quality of Tombs 1 and 2 had originally existed in this area.

Tomb 1.[5] Like Tomb 2, this tomb had been surveyed during the first season at the site. This year a detailed study was made of surface finds in the inner chamber. The chamber consisted of a more deeply cut area from the doorway to the south wall, in which two passageways had been hewn leading to secondary chambers. Both of these horizontal shafts were partially blocked, presumably intentionally, by dressed stones which made it impossible to enter the square secondary chambers. On the north and east sides, the main chamber extended further, but only at a height of about a metre from the ceiling, giving the visual effect of a raised platform on two sides of the room. After the first season it was thought that this unfinished excavation represented an attempt to extend the size of the original chamber, but closer study this season suggested an alternative theory: the north and east walls, like the west and south walls of the deeper-cut chamber area, were completely smooth and (for the most part) straight, implying that these had been defined as the original limits of the tomb from the outset. Thus, the deeper and shallower excavated areas were, in fact, two stages of excavation of the original tomb. The maximum extent of the excavation suggested that the tomb had been designed to be of ambitious proportions—over 24 m by 18 m, which compares with the nomarchs' tombs at Beni Hasan.

The systematic collection of pottery and small finds from this chamber produced a corpus of material of pharaonic date, and included sherds of elongated bread moulds, possibly of Middle Kingdom date, a group of nine mud jar-stoppers, a crude clay model boat and wooden fragments from funerary models, including the bent left arm from a

[5] See Kirby, *JEA* 78, 23, fig. 1.

wooden statuette with a perforation through the hand, and a pole with an elliptical terminal, possibly from a tent shrine on a model boat. Some of this material suggested that a secondary burial had been made in the tomb before the late Twelfth Dynasty.

A small sondage was made in the outer courtyard of the tomb, against the relief figure on the south projecting wall. Its purpose was to reveal the figure's name and titles, as well as to study the post-interment use of the tomb by means of the accumulated deposition in the forecourt. A 3 m strip was taken down, producing eight defined contexts. The stratigraphy consisted of layers of sand, gravel and small stone rubble, although sandwiched in the middle and running almost the entire length of the 2 m section was a localised deposit of organic matter made up of bone, horn, wood, vegetable fibre and woven linen garments. An ostracon in demotic script written in black ink was also found in this deposit. Clearance revealed the relief figure on the southern wall of the forecourt preserved to just below the knee, along with two vertical bands of hieroglyphic text to its right set in a panel which terminated at the bottom line of the tomb owner's kilt. Unfortunately, as the state of rock had deteriorated rather badly towards the base of the panel, it was impossible to read the tomb owner's name.

Tombs on the lower slope (5, 41–93). In the last few days of work an attempt was made to assess the nature and number of rock-cut tombs on the lower slopes. These structures were generally confined to a broad, rocky ridge which ran to the base of the slope from a point just south of the main concentration of tombs in the two upper terraces. In total, another 52 tombs were noted, although there was only time to record 3 of these in any detail. Most of the tombs were of a similar nature to those on the top terrace, with the dressed façades and sloping ramps leading to back chambers. There was, however, a distinct group of twelve graves at the base of the slope which consisted of single coffin-shaped pits designed to accommodate a single burial. This form of burial pit is typical of the Graeco-Roman Period. Another exceptional rock-cut structure was Tomb 5, which had been noted in the 1991–2 survey. It consisted of a well cut chapel with round-topped niche in the north wall and three sloping shafts with footholds in the floor, leading to small underground chambers. Most of these tombs were plotted onto the main site plan to give some idea of the size and spatial distribution of the Gebel Abu el-Nasr necropolis.

A large fragment from the torso of a mummified corpse was found on the upper slopes close to the southern end of the lower of the two tomb terraces. The body had been wrapped in fine linen and covered with a black resinous substance. The internal cavity of the ribcage held several individual linen packets. It was unclear if this corpse was human or animal.[6]

The mud-brick buildings in front of Quarry E

To complete the planning of the extant structural remains at Gebel el-Haridi, a plan was done of the mud-brick structures and terrace walls at the top of the slope in front of

[6] The Napoleonic mission observed near the entrances of ancient caves 'des débris de baume et de momies d'animaux'; see *Description de l'Egypte* IV^2 (Paris, 1821), Ch. 11 part 2: 'Notice sur les antiquités que l'on trouve a Cheykh el-Harydy par E. Jomard', 68.

Quarry E. The layout consisted of a series of large interconnecting rooms with passageways between them. The thicker sections of wall were parts of terrace platforms. A series of square slots cut in two horizontal registers into the face of Quarry E suggested that a two-storey building abutted the outer face of the quarry and connected into the surrounding free-standing mud-brick structures. The surface collection of pottery and small finds was continued from the 1992–3 season, producing a collection of finely decorated pottery (see below).

Epigraphic survey

Julia Jarrett retraced the Ptolemaic quarry inscription in Quarry D and the Thoth and Ptah panels in Quarry E. Several new graffiti were also copied, including two squat figures painted in black which lay directly below the inscription of Ptolemy XII in Quarry E. Each image had a rectangular body and appeared to wear a highly elaborate composite costume; both carried a spear held horizontally in front of them pointing towards the other figure. A series of smaller-scale figures appeared to be positioned close by. Next to this scene was a large cross (*crux ansata*) in red paint.

A large section of gypsum plaster on one of the front pillars of Quarry D contained a graffito in black ink. In the middle portion was the face of a man with rounded chin, elliptical eyes, long nose and squared mouth. Below and above this image were lines of Arabic script written in a distinct calligraphy. Although the dating has yet to be confirmed, the style of the face resembled human images of the Fatimid Period.

Pottery from Gebel Abu el-Nasr (S. E. Orel)

During two and a half weeks of pottery study at Abu el-Nasr and Nauwara almost 130 sherds representing an equal number of separate vessels were recorded. At Abu el-Nasr there were three main areas of concentration for pottery collection and recording: Quarry E and the associated habitation (GAN 2); Quarry D; and the tombs that date in their original form to the pharaonic period but show strong evidence for reuse.

In Quarry E, the vessels recorded included several of Aswan red slip ware (Egyptian Red Slip Ware A) as well as Egyptian Red Slip 'H'. The pottery confirmed that the occupation of Quarry E took place in the late fifth to early seventh centuries AD.

The Quarry D material collected came from the scree slope at the western end of the quarry. This did not represent vessels originally used in Quarry D but rather, debris that had washed down from higher up. The fact that there were no tombs between this end of Quarry D and the cliff above meant that the material must have come from the caves visible as large openings a third of the way up from the base of the cliff. These caves, presumed to be hermitages, contained ceramic material of a similar nature to that of the lower slope settlement (GAN 1) surveyed in 1993, which dates from the second to fifth centuries AD.

Sherds collected from both the interiors and exteriors of the terrace tombs (including Tombs 1, 3, 4, 8–9, 12, 13–14, 16, 30 and 39) confirmed the earlier observation that the tombs had been reused in the early centuries AD. The only pottery that could be said to be part of an original interment were sherds of Nile C from Tomb 1, which may have been from Middle Kingdom bread moulds.

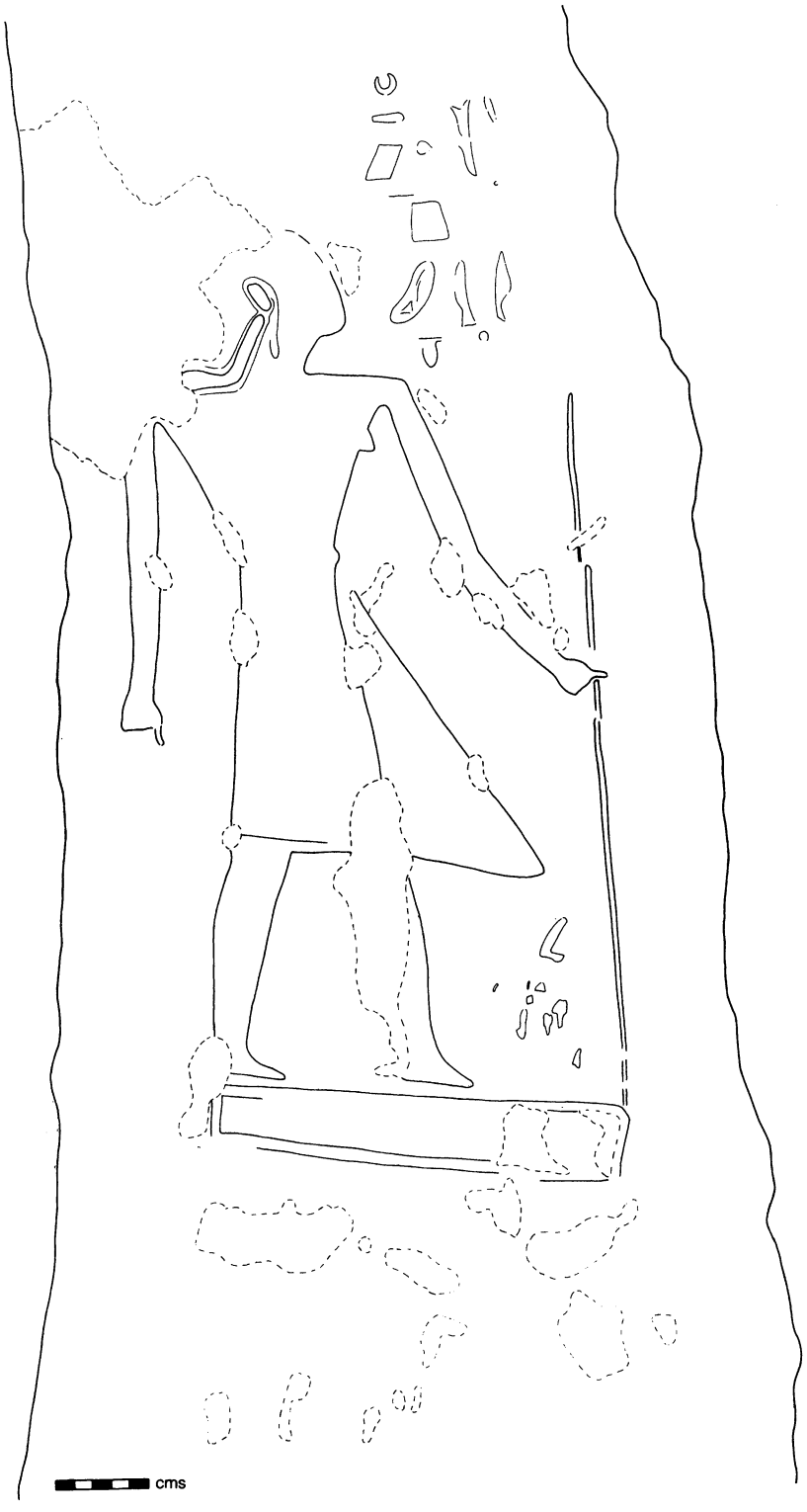


FIG. 2. Ezbet Zohary necropolis: sunk relief figure on south wall of corridor in Tomb 207.

The Ezbet Zohary necropolis (Tombs 200–229, Quarry L)

At the beginning of the season we had surveyed the northern headland beyond the Ramesses III stela at el-Khazindariyah. Several uninscribed tombs were discovered close to the stela including one with a crudely incised false-door. At the end of the Khazindariyah ridge, the slope turns into a sweeping bay, on the far side of which is a projecting spur with a dense concentration of rock-cut tombs. As these tombs lay directly above the small village of Ezbet Zohary, we referred to the site as the Ezbet Zohary necropolis. We worked here for two days (1–2 August) accompanied by Mr Mustapha Mohammed Ahmed, the SCA inspector from the Asyut office.

The tombs were spread along the side of a mountainous ridge at 140 m asl. Unlike the examples at Gebel Abu el-Nasr, the doorways were typically well carved, with side jambs in relief and a lintel and/or torus roll above; some tombs also had forecourts cut into the projecting cliff. The majority of the tombs showed signs of being unfinished on the interior; the most complete examples comprised one or two square chambers with shafts sunk in the floor. In some cases the shaft was placed in the forecourt (Tomb 204) or directly above the entrance chambers at the top of the cliff (Tomb 227 a-c).

Tomb 207 had an inscribed image of the tomb owner on each side of the short entrance corridor (fig. 2). The figure stood on a raised base holding a horizontal sceptre in one hand and a vertical staff in the other. On his head was a rounded wig with a cross band and two streamers which projected from the back. In front of the face of the figure on the right jamb was a group of hieroglyphs which suggested that the name of the deceased was '[. . .]ynu'. The proportions of the figure were clumsy and his frame taut and angular, in a style that suggested the First Intermediate Period. There were signs that a relief panel had been cut out in the interior of the tomb.

Another exceptional tomb was Tomb 201, situated in an isolated rocky pinnacle higher up the mountain (172 m asl). Its structure consisted of an open rectangular chamber with two front square-sectioned pillars 'supporting' a carved 'dummy' lintel on the outer façade of the tomb. Directly behind the pillars was a rectangular shaft with footholds at the north-west end. This shaft ran about 1.5 m down into a subterranean chamber that undercut it on the west side.

One quarry was noted at the site (Quarry L), where slabs of varying sizes had been cut, perhaps to make stelae or for some internal dressing in the tombs. In total 29 tombs and one quarry were photographed and plotted onto a survey plan.

CHRISTOPHER J. KIRBY

Tell el-Amarna, 1998–9

AS a preliminary to the main season, B. Kemp spent ten days at Amarna in December, partly to supervise building work at the expedition house and partly to complete the transfer of material from the old to the new magazine. G. Owen, present for part of the time, did more photography. Subsequently Kemp and some members of the team flew to Cairo on 22 February, travelled onwards to Amarna, and were able to start work on 27 February; the season ended on 19 April 1999. The expedition comprised B. Kemp (field director), P. Buckland (palaeo-entomology), A. Cornwell (registrar), S. Dhargalkar

(building conservation), A. Dunsmore (Eighteenth Dynasty pottery), J. Faiers (Late Roman pottery), R. Gerisch (charcoal), M. A. Leahy (hieratic labels), R. Luff (animal bones), A. McDonald (Canaanite amphorae), J. MacGinnis (archaeologist), G. Owen (photographer), E. Panagiotakopulu (palaeo-entomology), G. Pyke (Late Roman pottery), P. Rose (Eighteenth Dynasty pottery), M. Serpico (Canaanite amphorae), W. Smith (plant remains), K. Spence (archaeologist), N. Spencer (archaeologist) and B. Stern (Canaanite amphorae). The SCA representative was again the ever-helpful Mr Aly el-Bakry, and the smooth running of the expedition was much aided by Mahmoud Hamza and Samir Anis and their colleagues in the Minya Inspectorate. Robert Hanawalt paid a visit for a few days, to represent the Amarna Research Foundation, whose grant covered the field expenses for the part of the season's work in the North Palace. The McDonald Institute for Archaeological Research at the University of Cambridge continued to provide the expedition with its base in the UK, and contributed, along with the Thomas Mulvey Fund of the Faculty of Oriental Studies, the funds needed for the purchase of new computing equipment and GIS software in Cambridge. Individual projects were supported by the Leverhulme Foundation, the G. A. Wainwright Fund, and NERC. As a way of coping with regular power cuts at the Amarna field station, a new generator was installed, a generous donation from Balfour Beatty Ltd, arranged by John Sharp and Jack Thomson. Other assistance gratefully acknowledged was provided by Alf Baxendale, Richard Keen of Keminco and M. el-Dorry of Eastmar (Cairo), and Ian Downes of Sainsbury Supermarkets Ltd.

Area south of the Great Palace

For the first month the fieldwork was set in the Central City and the immediately adjacent region to the south, in direct continuation of last year's programme of exploring more of the large building to the south of the Smenkhkara Hall (O43.1). A century and a half ago, when J. Gardner Wilkinson visited the site, many of the walls were sufficiently visible for him to plot them on a sketch map. Guided by this, our intention was to plan as much as possible of the westernmost section of the building. By the end of the season we had managed to excavate around one thousand square metres, thanks to the shallowness of the deposits. A significant discovery made near the beginning of the work was of a single mud-brick, in its original position, which bore very faintly the impression of a stamp giving the name of the building. Previous examples had been found further to the east during the initial survey of the site in 1977. The reading of the stamp is not straightforward, but I am inclined now to regard it as saying: 'The magazine: Beauty of the Lord of the Two Lands'.

The building lies at the junction of two major axes which determined the shape of the city. Its east–west walls, which ran back from the river front, had been laid out to be parallel to the main lines of the royal buildings in the Central City, whereas its north–south walls had followed an angular alignment, evidently made to take account of the curving river bank. These alignments were doggedly followed even in the case of interior walls, to create a building which, despite its evident importance and royal connection, consists of a series of skewed rooms and spaces and awkward compromises in layout.

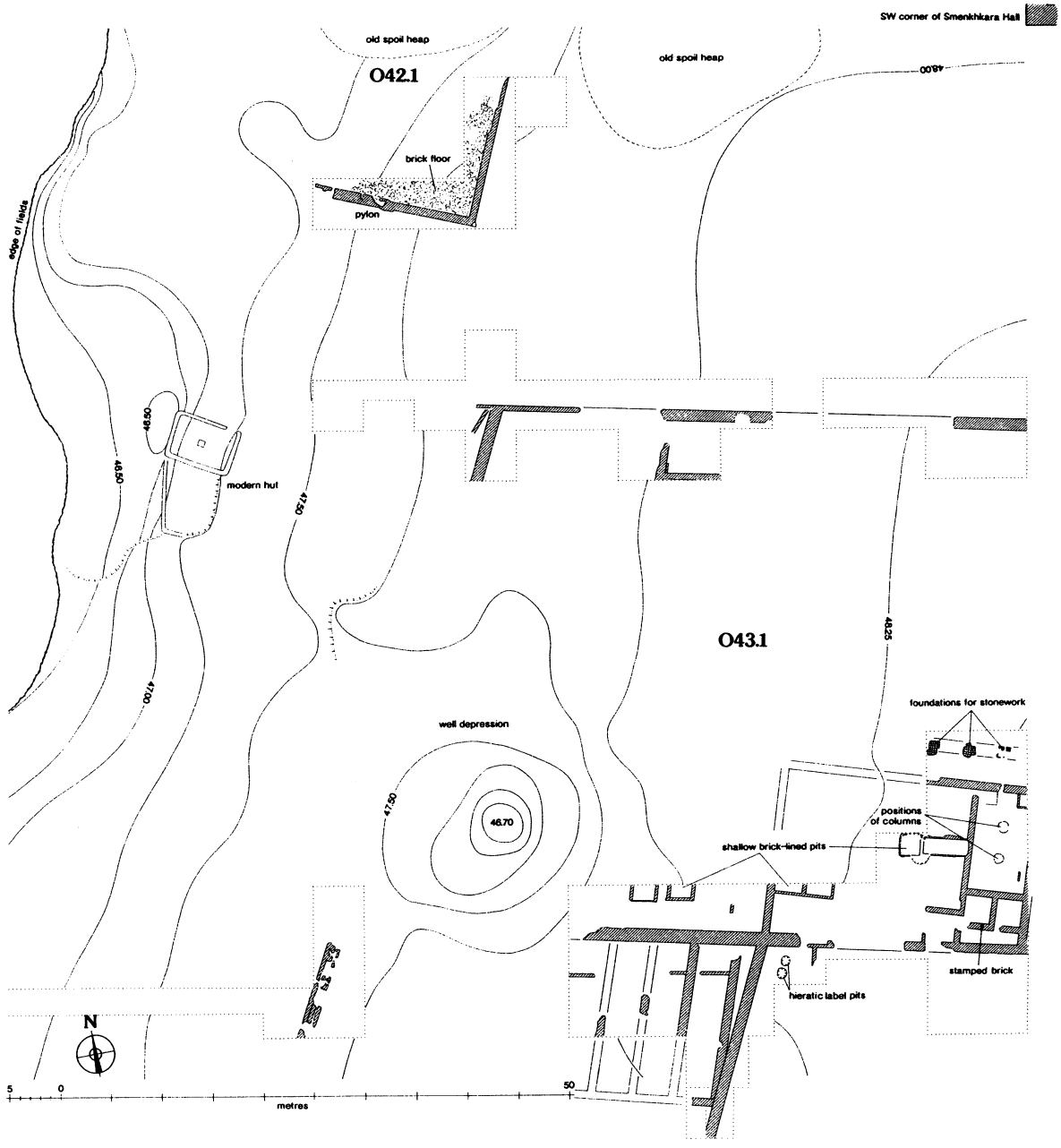


FIG. 1. Area south of the Great Palace with O43.1.

As the plan shows (fig. 1), the excavations straddled the southern boundary wall. For the most part the ground to the south lay open, but towards the west an extension had been constructed, of which we exposed only the northern edge. The traces of walls, when added to the information in Wilkinson's sketch plan, can be resolved into a row of long

parallel rooms of the 'magazine' type, evidently facing towards the south. These provide a particularly clear example of the awkward consequences of following predetermined building lines.

On the northern side of the boundary wall much of the ground seems to have been subdivided into open spaces. Across them a number of shallow quadrilateral pits had been dug, their sides, faced with brickwork, carefully reflecting the twin axes of the building. In the general turning over of the site which seems to have occurred in the last century, none of them had escaped, so that no intact fill deposits were left to excavate, although traces showed that they had simply been floored with a thin mud layer. They were clearly central features of this part of the site but what purpose they served remains unknown. They contained an accumulation of rubble mixed with quantities of bones. Most of the bones are from animals, predominantly dogs (including puppies), recalling a similar discovery which Woolley had made in Maru-Aten in 1922. Whether these carcasses were disposed of during the Amarna Period or at a later date is also not clear.

The south-east corner of the excavated area had been built up into a suite of rooms, the largest originally provided with a pair of column bases. Outside the front we made the surprising discovery of patches of gypsum concrete foundations with block marks, a sign that a stone construction had stood here. Further work is needed to see if more survives in the adjacent unexcavated areas. We can, incidentally, observe from traces visible on the surface that another stone construction lay in the next section of the building to the east, where we hope to extend the excavations next year. Other reminders that our mud-brick foundations supported buildings which were once richly decked are a few fragments of inlaid faience tiles and the nose and part of the cheek of a small but beautifully made statuette in bright blue faience, presumably of a member of the royal family (pl. II, 1).

Towards the west erosion has obliterated even the foundations of most of the walls, although fortunately a part of the western boundary wall, which probably defined the front of the city, did survive. Close by, and within the limits of the building, the ground dips suddenly in a way that probably marks the position of one of the ancient wells with which the city was liberally provided. From the western boundary wall a trench was dug for the hundred metres or so which separates it from the present edge of the cultivation. No walls appeared but, at the approach to the fields, large quantities of relatively unweathered sherds lay in the soil, suggesting that erosion of the ancient desert surface has not been complete and that the absence of walls does indeed indicate that a broad open space separated this part of the city from the river.

As was the case last year, the pottery from the excavations included a significant proportion from amphorae, amongst which were some in the distinctive fabric which has recently been identified as coming from the Dakhleh Oasis. Some 45 of the sherds bore hieratic labels (pl. II, 2), several coming from the fill of two pits which had escaped the general turning over of the site.

Over a very long period the desert edge in this area has been used for burials. Mostly they have been so disturbed by the diggings of the local villagers that the bones have become widely dispersed through the loose debris. Two nearly intact burials were nonetheless found this year, one of a child and the other of an adult, the latter wrapped in cloth impregnated with gypsum.

Small Aten Temple

The major task of outlining the original shape of the sanctuary platform in new limestone blocks, and of filling the platform with the sand and stone debris which Pendlebury had heaped at the sides, was finally completed by Surésh Dhargalkar. He also found time to continue the repairs to the innermost of the three sets of brick pylons.

North Palace

For the second month of the season the fieldwork was transferred to the North Palace, to complete the study and replanning of the building. The examination of key features of the outer (western) part was continued from last year with the clearance of the entrances to the South-west and Altar Courts. Neither of these gateways had been fully cleared or recorded in the excavations of 1923–5. Both entrances were built of stone, and the marks of the blocks are preserved in the gypsum foundations. In addition, each gateway was flanked by a pair of rectangular stone features which may be socles for statues. The entrances are therefore similar to the gateway cleared last year in the north-east corner of the court but on a slightly larger scale. The gypsum foundations of the 'altars' were also recleared and investigated. Although the smaller, flanking features do appear to have been solid 'altar' platforms, the foundations of the larger central structure show internal articulation which suggests that it was almost certainly an enclosed shrine.

Further clearance was undertaken in the South-west Court. This part of the temple is badly denuded and originally contained insubstantial structures of mud-brick. The court shows two distinct architectural phases, both dating to the Amarna Period, but as only the foundations of the walls are preserved and these are often damaged and rarely contiguous, it is seldom possible to establish which walls belong with which phase of construction. The central structure opposite the entrance was cleared and a bed-niche was found in the easternmost of the rear rooms. A number of pits were found inside the south enclosure wall, the largest of which contained, amongst other things, numerous fragments of gold leaf, faience moulds, and large quantities of fish bones.

More work was also done in the Central Court. The north-east corner was cleared and the end of the conduit running between the central depression and the Garden Court was located and planned. A circular feature of river soil was also investigated and was found to be a shallow pit, probably for growing small plants. A trench was cut from the north-east corner of the depression towards the 1998 excavation on the south side. Once again work was hampered by the deep deposits of wind-blown sand and spoil which fill the depression and the fact that the edge of the feature is severely eroded. As a result, the precise nature of the deep depression in the Central Court remains ambiguous.

At the same time Surésh Dhargalkar supervised a continuation of the programme to consolidate and carry out limited reconstruction in the north-east Garden Court of the palace. The repairs to the brickwork and marking of the timber courses were completed, and the edge of the sunken garden was redefined. Many of the original limestone bases of the columns of a colonnade which surrounded the garden survive. As a way of making it easier to appreciate the form of the building, the missing bases were replaced (seventeen in all), so that they now run continuously and the colonnade is complete on its three sides (pl. II, 3). The replacements are casts in white cement and stone chippings made from a

mould which had been prepared in England by sculptor Simon Bradley to the dimensions and shape of one of the originals. The new bases were lightly distressed to render the overall effect more harmonious.

Research at the field station

The regular cataloguing and study of material in store and from the current excavations continued. A new direction of research was represented by Buckland and Panagiotakopulu who, with the support of a Leverhulme research grant, are beginning a major study of the insect fauna of Egypt, past and present (with special reference to Coleoptera). At the same time, the season saw the completion of the Amarna field stage of the Canaanite amphora project (led in Egypt by Margaret Serpico and supported by a G. A. Wainwright fellowship and a major NERC grant). This has resulted in a large drawn corpus of vessels and the creation of a labelled reference collection.

BARRY KEMP

Tell el-Amarna Glass Project (site O45.1)

THE Society's expedition working at Amarna site O45.1 began work on 29 August and ended it on 17 September 1998. The staff comprised Elina H. Brook (finds and pottery), Susan Cole (site supervisor), Zadia A. Green (finds and pottery), Philip Macdonald (site supervisor), Paul T. Nicholson (director), and Andrew Shortland (visiting PhD student). The SCA was represented by Mr Usama Galal Redwan, and we are grateful to him and to Mr Samir Anis and Mr Mahmoud Hamza of the Minya Inspectorate for their help throughout the project. The work was funded by the Wainwright Fund for Near Eastern Archaeology, whose continued support is gratefully acknowledged.

Excavation at site O45.1

Work this season followed two previous seasons at the site designated O45.1 on the German grid system, located immediately to the south of the modern water tower, at a little distance south of the Small Aten Temple (pl. III, 1). The eastern boundary of the site is made up of the roadway between Hagg Qandil and El-Till, and the western by the cultivation. The site was chosen as close to the area marked as 'moulds' on the plan given by Petrie in his *Tell el Amarna* (London, 1895), plate xxxv, and which probably refers to the many thousands of fired clay moulds which he found at the site. The area currently under excavation is thought to be very near that in which Petrie worked, but cannot be identical with it, since site O45.1 has clearly not been subject to previous investigation. The aim of the project, and of the current excavations, is to discover evidence for the manufacture of glass, faience and pottery, as well as other materials which might be present at the site. Glass is of particular interest to us, since it is hoped to discover whether or not glass was actually *made* at the site from its raw materials, rather than simply *worked* from imported ingots.

During the season three 5 × 5 m excavation squares were opened: J80, J85 and K75. These adjoin areas investigated in previous seasons. Square J85 is the most northerly of

those investigated and was found to contain the continuation of a brick floor discovered in the first season and believed to have been used in the trampling of potters' clay. The floor consisted of a mixture of fired and unfired bricks, bounded on the northern side by a marl-brick wall. The presence of fired bricks in the floor strongly suggests that it was made from bricks from a demolished kiln or furnace. Several kilns and furnaces are known from the site, and it is common to rebuild such structures, so that fired bricks would have been readily available.

A number of shallow pits were also discovered in J85 (pl. III, 2). These are largely filled with a mixture of brick rubble, small fragments of vitrified clay, known locally as *khorfush*, fragments of bone and sherds of pottery. The vitrified clay is known to be the fused remains of a 'sacrificial render' lining the two furnaces (designated as Kilns 2 and 3) which would have allowed them to be relined regularly without the need to rebuild the whole structure as often as might otherwise be necessary. Clay moulds for the manufacture of faience objects, as well as fragments of faience and a fragment of glass vessel, have been found mixed amongst the fill of such pits. Toward the south-east corner of J85, cut through the trampling floor, is a clay preparation pit. This extends into square J80 as well as into the two squares to the east which were excavated previously. The pit is lined with a dark grey clay, believed to be of the 'Nile Silt' type. Ethnographic comparisons from potters' workshops in Egypt and elsewhere frequently show clay preparation pits in close proximity to trampling floors, and also demonstrate that they are areas to which unfired clay waste (damaged vessels, excess clay etc.) is returned for recycling. This proved to be the case here, and a number of unfired sherds from vessels which had broken during drying were found in the pit, along with the 'shavings' left from trimming vessels.

Square J80 is similar in character to J85. The trampling floor seems to extend into it, and there are the remains of a wall of marl bricks as well as a floor. The marl wall is only a single brick in thickness and can never have been very substantial. Further pits in the area were filled with the same kind of material as in J85. Such material appears to be the debris from workshops producing faience and glass.

In removing a thick deposit of windblown sand on 10 September a burial was discovered. This was oriented with the head to the west, facing north. The body lay on its back with the hands placed over the pelvis. It was enclosed in a 'coffin' made from matting, probably a reed mat simply wrapped around the body and tied at each end. This matting survived only as a stain in the sand, with occasional fragments of the original, very friable, material. Fragments of linen were discovered adhering to the long bones of the legs of the body. It is likely that these were the remains of the clothing worn by the deceased rather than showing an attempt at mummification, since there otherwise seems to be no attempt to preserve the body artificially. The feet of the corpse were missing, apparently having been dug through by a small pit in later times. This pit was only barely visible, having been backfilled with much of the same clean sand from which it had been dug. No finds were made on the body. Mr Redwan requested that the body be fully excavated and recorded on the day of discovery, and Macdonald and Nicholson, assisted by Brook, undertook this work. This is not the first burial from the site; two others have been discovered during previous seasons. One of them, from beneath Kiln 2, was incomplete, presumably having been destroyed during the construction of the furnace, which would suggest that this industrial phase at O45.1 was

superimposed on an earlier burial site. Since the bodies lack any evidence of finds, it is not possible to say by how long they predate the industrial complex.

From the north-east corner of square J80, in the fill adjacent to a marl-brick wall from a demolished building, a large *zir* with white-slip coating was discovered (pl. III, 3). It may well have been used to hold water for use in the potter's workshop, a similar installation having been discovered in the Main City excavations of 1987.

Square K75 was somewhat different in character. Here the major north–south wall of a building was very clearly visible prior to excavation. However, it proved to overlie a kiln (pl. III, 1), probably for the firing of pottery or faience, thus clearly demonstrating that the kiln, and probably the whole industrial phase, is earlier than the large building. This is the fifth definite kiln or furnace to have been located at site O45.1, which was clearly intensively used. A large pit on this southernmost side of the excavation square contained a variety of industrial debris, including a large clay mould for making a faience object in the shape of a thistle (pl. III, 4). Traces of the faience colourants are still visible on the mould.

At the close of the excavation the squares examined were back-filled, particular attention being paid to the protection of fragile industrial features such as the kiln and trampling floor. This has been the usual practice at site O45.1 and has successfully preserved the site from the effects of the weather, as well as from trampling by pack-animals coming to and from the cultivation.

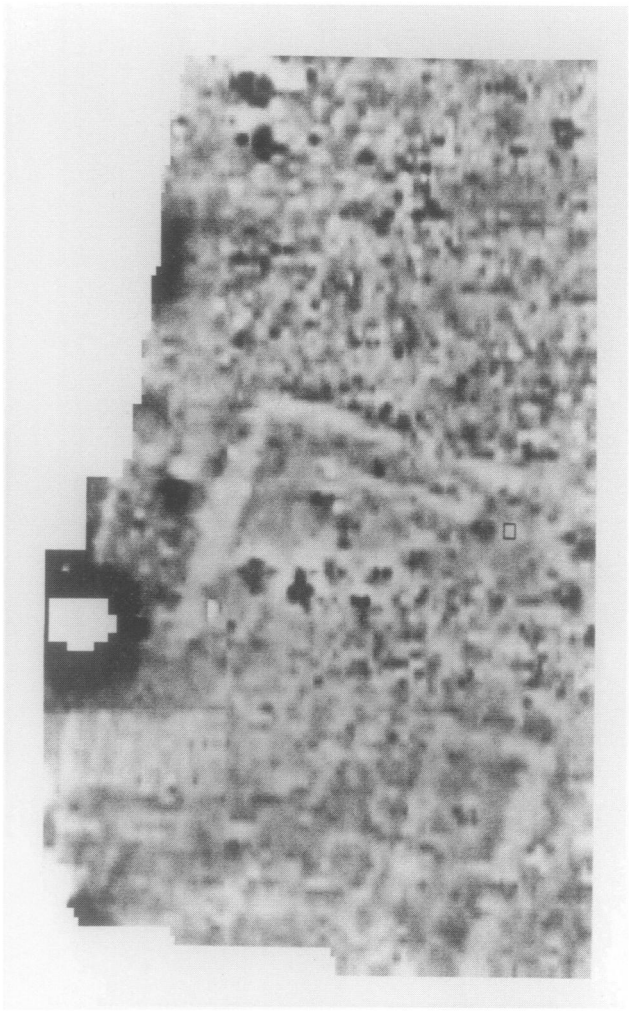
The work this season was significant mostly for what it has told us about the phasing of the site. It would appear that the earliest phase is one of burials, made into windblown sand. This is followed after an indeterminate time by at least one, and possibly two, industrial phases. These include the making of pottery, as clearly illustrated by the presence of the clay trampling pit and trampling floor, as well as by unfired sherds, the making of faience, as attested by moulds and fragments of faience, and the manufacture of glass, as shown by lumps of raw glass, and vessels believed to be for the moulding of glass ingots. There is also some evidence to suggest that pigment may have been produced at the site. In summary, the main industrial phase(s) are for the production of vitreous materials, and may be centred particularly on those requiring cobalt blue pigment, such as blue-painted pottery, blue faience, and blue glass. The final phase of the site is marked by the construction of the large building, parts of the north–south and east–west walls of which have been investigated. The function of this building remains uncertain but it may be unconnected with the industries which preceded it.

Finds processing

During the season Brook and Green were able to record not only most of the finds from 1998 work, but also a considerable quantity of the backlog material from 1993, so that what remains can be processed within a season of a similar length. Record photographs of the most important objects were also made, and will be photographed for publication purposes in a future season.

PAUL T. NICHOLSON.

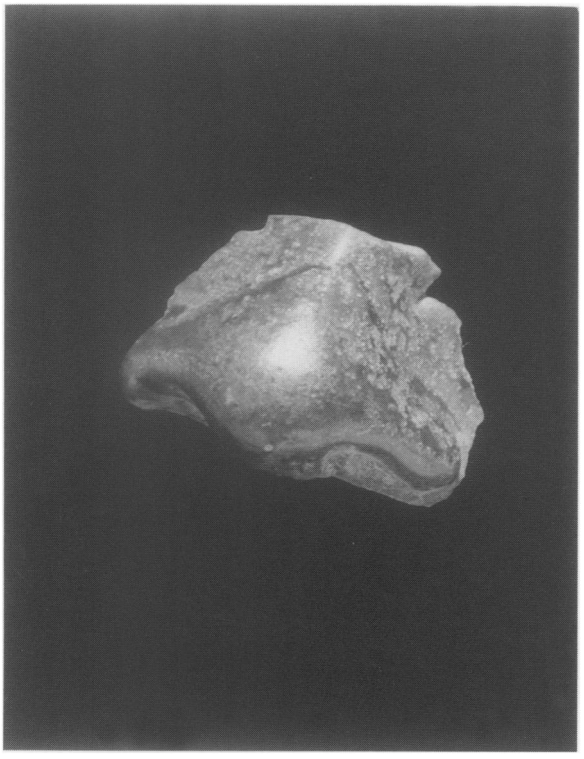
1. Area J, east side of 'Great Pit'



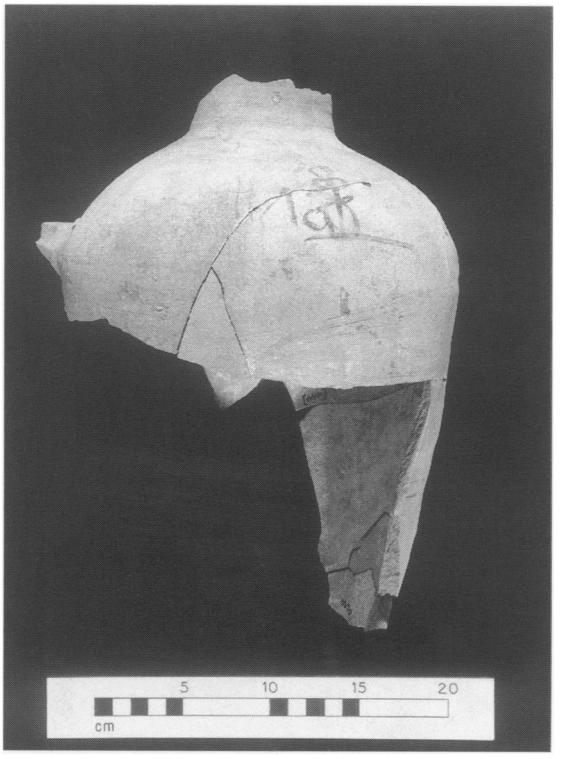
2. Area M, south of Sidi Shaheen farmstead (north at top)

3. Limestone structure, east view

THE SURVEY AT SAIS (pp. 1–4)



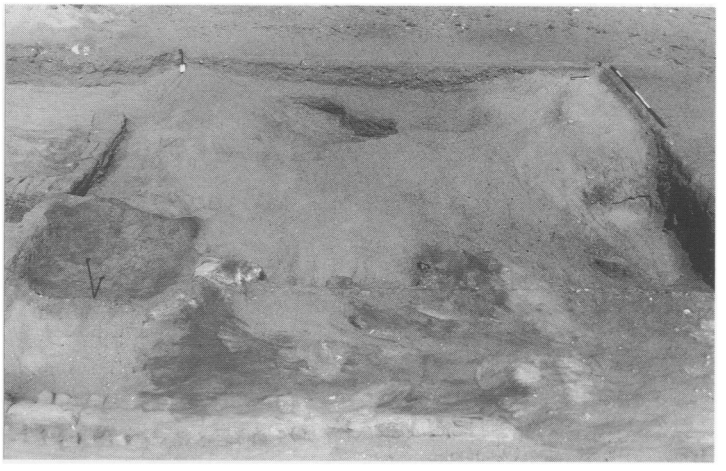
1. Tiny fragment in blue faience from the head of a statuette, from building O43.1



2. Part of an amphora bearing year dates from a pit behind O43.1 (Obj. no. 32054). During the course of manufacture, one handle was removed before firing

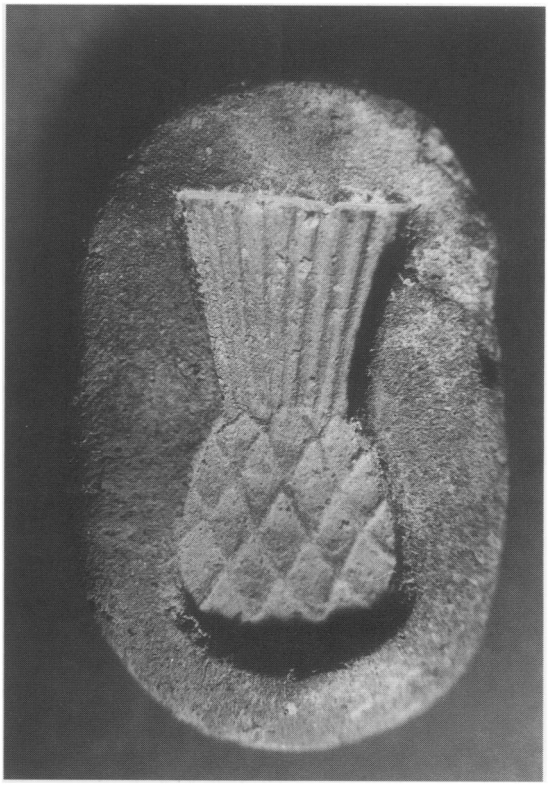
3. The Green Room of the North Palace, view to the north, showing repairs to the brickwork and the new column bases

1. General view looking north over site O45.1. The north–south wall of the later building (in the centre), runs over the kiln in K75. Square J85 is visible at the top left. On the horizon (right) the reconstructed column of the Small Aten Temple is visible, to the right of the metal pylon. The ranging rods are 2 m long



2. Square J85 under excavation, looking due west. A pit containing debris lies immediately east of the 2 m ranging pole on the north baulk. In the foreground is the area of fired bricks, and to its left is the clay puddling pit

3. The *zir* in J80. Some of the rim sherds were found in the bottom of the vessel, having been broken from it in antiquity. Ranging rod divisions are 0.5 m each



4. A fired clay mould for making a thistle-shaped faience object, preserving traces of the faience colorant. TA98–31752. L. 63 mm

THE NATIONAL MUSEUMS OF SCOTLAND SAQQARA SURVEY PROJECT, EARTH SCIENCES 1990–1998

By IAN MATHIESON, ELIZABETH BETTLES, JON DITTMER AND COLIN READER*

The National Museums of Scotland are engaged in producing an up-to-date archaeological and subsurface geophysical map of an interesting and little explored area of the necropolis of Memphis at Saqqara. The area comprises the Gisr el-Mudir (also known as the 'Great Enclosure') at the southern boundary, the open valley between the Sekhemkhet complex and the Gisr el-Mudir stretching north to the Serapeum and containing the L-shaped enclosure at the Old Kingdom tombs around the mastaba of Ptahhotep, the area of the Serapeum and its dependencies, and the valley to the north-west of the Sacred Animal complex down to the edge of the remnant lake at Abusir in the north. The geology, topography, structural details, techniques and instruments for geophysical prospection, methods of interpretation and results of our research are described and discussed. The conclusions draw on the significance of our work using geophysical prospection methods and sondage trenches to find the best solution for archaeological work in desert conditions.

THE last report of our work was published in *JEA* 1998.[1] There, we finalised the preliminary accounts of the archaeological fieldwork and archival research to the end of the 1997 season and indicated that an earth sciences report would follow. The National Museums of Scotland acknowledge with gratitude the help and co-operation of the Supreme Council for Antiquities (SCA) of Egypt in granting permission for the work at Saqqara, especially that of the present Chairman, Professor G. A. Gaballa, past Chairmen Dr Ali Hassan, Professor Abd el-Halim Nur el-Din and the late Drs Ahmed Kadri and Sayed Tawfik, and the ever-generous help given by the Secretariat at Abbassiya.

They are also grateful to Dr Zahi Hawass, Director of Antiquities for the Giza region, and to the Director for Saqqara, Mr Mohammed Hagras, his predecessor, Dr Yehia Eid, Mr Magdi el-Ghandoor, Chief Inspector and the SCA field inspectors, Messrs Sabri el-Din Farag, Said Farag, Abdel Hamid Rehan, Hazim Said, Turki Ragab and Azzam Salama for their courteous assistance and collaboration on site. The work was made possible by grants from the British Academy, the National Museums of Scotland, the Trustees of the Gerald Averay Wainwright Fund (Oxford University) and the Clydesdale Bank; the loan of equipment by ERA Technology Ltd., Leatherhead, Surrey, and assistance in map reproduction has been contributed by Survey and Development Services, Bo'ness, West Lothian.

The earth sciences

The need for an earth sciences report becomes apparent when the archaeologist is faced with the decisions of where to excavate, whom to employ, and how to justify the

* Ian Mathieson and H. S. Smith are co-directors of the project, and all authors wish to thank Professor Smith for his kind help and advice. Other contributors are Elizabeth A. Bettles, geological research and archaeological site supervisor, Jon K. Dittmer, geophysicist and research scientist, and Colin D. Reader, engineering geologist. Other contributions are acknowledged in the text.

[1] I. J. Mathieson et al., 'The National Museums of Scotland Saqqara Survey Project 1993–1995', *JEA* 83 (1997), 17–33.

expenditure of an expedition. On many sites, there is little or no surface indication as to what lies beneath the top layer of soil or sand. The high cost of present-day labour, travel and accommodation prevents the employment of the huge teams that excavated in the days of Carter and Petrie. A method of reducing the area of interest and pin-pointing the location of probable archaeological structures is therefore required.

With the increasing application of commercial geophysical prospection techniques to the discipline of archaeology, it is now a legal requirement in several countries to carry out such a survey to check for archaeological remains before any building can commence. The geological study of a site enables the correct choice of prospection equipment and method to produce the best data for locating sub-surface structures. It is this delineation of the different layers immediately beneath the surface into soils, gravels, clays and rock types that governs the ability of the different instruments to penetrate the materials and display structures. It is therefore timely to present an overview of the methods available and their relevance to the Egyptologist.

The Saqqara necropolis—topography, bedrock lithology and structure

The Saqqara necropolis, and the concession area of the NMS project, is situated on a plateau that rises up to 17 m from the flat alluvial plain of the Nile Valley.[2] This plateau, consisting largely of limestones and marls of the Late Eocene Maadi Formation,[3] is bounded to the east by the Nile Valley and to the west by a wadi, or dry river valley, running north to north-east from the Gisr el-Mudir to the village of Abusir (fig. 1). The steep eastern edge of the plateau, overlooking the Nile Valley, was formed by down-cutting of a pre-Nile drainage system and was further eroded when, during the Pliocene,[4] the Mediterranean Sea advanced southward along the Nile Valley.[5]

The earliest rock unit or structural group in the area is exposed only in the north, at the foot of the Abusir plateau along the edge of the remnant Abusir lake. These beds are considered to be equivalent to the Basal Shales of the Saqqara Member of the Maadi Formation and consist of a marly shale with some gypseus veins. However, as the base of these shales is not exposed in the Saqqara–Abusir area, their thickness cannot be established.

Overlying the Basal Shales, and exposed along the steep eastern face of the Saqqara plateau, is an alternating sequence of hard, light yellow limestones and softer, yellow marls, which have degraded differentially into horizontal bands. These rocks constitute the bulk of the Saqqara–Abusir plateau and belong to the Upper Calcareous Beds of the Saqqara Member of the Maadi Formation. Although later than the Basal Shales, the Upper Calcareous Beds were also deposited during the Late Eocene when the area was covered by a shallow, probably lagoonal sea and climatic conditions fluctuated between relatively wet and relatively dry periods.

[2] M. Youssef et al., 'Geological Studies on the Saqqara Area, Egypt', *Neues Jahrbuch für Geologie und Palaontologie* 168 (1984), 125–44.

[3] Eocene = 53.5 to 36 million years ago.

[4] Pliocene = 5.5 to 1.8 million years ago.

[5] T. Aigner, 'A Pliocene Cliff-line around the Giza Pyramids Plateau, Egypt', *Paleogeography, Paleoclimatology and Paleoecology* 42 (1983), 313–22.

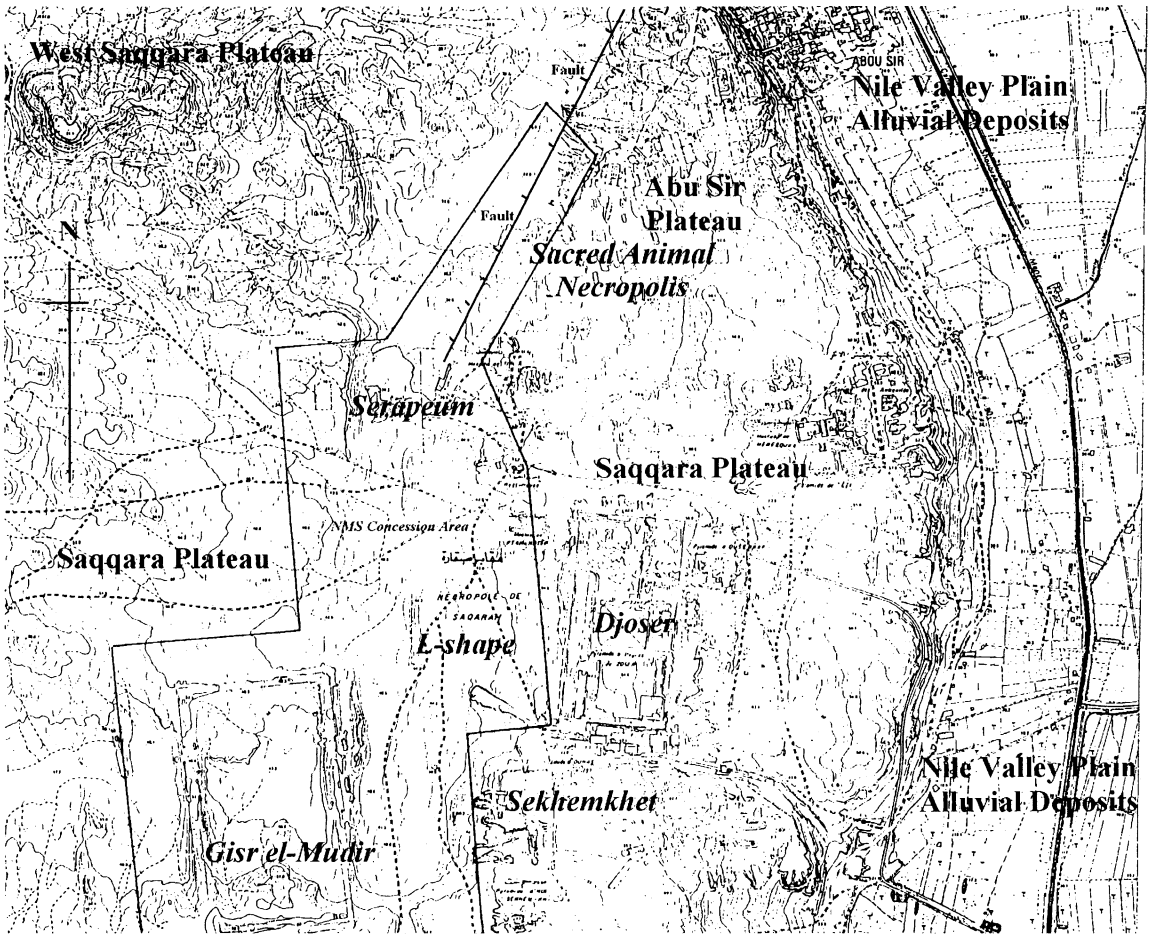


FIG. 1. The Saqqara Necropolis (based on the MHR 1/5000 topographic series Sheet H22–1978 and Youssif et al., *Neues Jahrbuch für Geologie und Palaontologie* 168)

West Saqqara Plateau: Maadi Formation—Giran El Ful Member. Upper Eocene, highly fossiliferous

Abusir Plateau: Maadi Formation—Saqqara Member. Upper Eocene, few fossils

Saqqara Plateau: Maadi Formation—Saqqara Member. Upper Eocene, hard limestone and soft marl beds forming the strata of the Upper Calcareous Beds capped with gravels

Nile Valley Plain: alluvial deposits

It is from the strata of the Upper Calcareous Beds that much of the masonry used to build the Saqqara necropolis was extracted. Eroded beds of limestone are still visible at many locations in the necropolis area, and their potential use as a source for the undressed blocks employed in the walls of the Gisr el-Mudir and for the fill of the Djoser, Sekhemkhet and other pyramids of the necropolis is obvious. The 1998 excavations on the East Wall of the Gisr el-Mudir have exposed the worked face of one of these limestone beds below the *tafl* plinth of the wall. The soft marl between the beds forms

the basis of the local desert clay or *tafl* which was used in the early structures as a type of mud mortar to compensate for the roughly cut and uneven blocks of limestone used in the masonry.[6]

The rocks of the Maadi Formation located west of the Nile Valley are amongst the most widely exposed strata in the greater Cairo area. Beds, equivalent to those of the Saqqara Member, are exposed in the north at Giza, overlying the Middle Eocene Mokattam Formation on which the Fourth Dynasty pyramid complexes were built. The significant difference, however, between the two sites is that the Maadi Formation at Giza is rich in fossil remains, whereas the rocks at Saqqara are comparatively poor. This suggests that, during the Late Eocene, conditions in the Saqqara area did not support abundant marine life. It was these sparse fossil remains that led Hume to classify the limestones and marls at Saqqara as a separate unit—the Saqqara Limestones.[7]

In the area to the north-west of the plateau and west of the Abusir village, the lithology differs from that around the Saqqara pyramids. A ridge running roughly east–west has been dissected by at least three north-west to south-east trending drainage features, with the Upper Calcareous Beds exposed only in the lowest-lying areas. Above these beds, the remaining elevated sections of the ridge consist of highly fossiliferous sandy and marly limestones and shales of the Giran El Ful Member, again of the Late Eocene Maadi Formation. The Giran El Ful strata are, in turn, locally capped by fossil-rich sandy detrital limestones of the Early Pliocene Kom El Shellul Formation.

The wadis or erosion valleys that have cut through the limestone beds at Saqqara have formed low-lying areas in which superficial deposits have accumulated. Above the Upper Calcareous Beds along the eastern edge of the Saqqara–Abusir plateau, gravels up to 10 m thick have been deposited. These contain frequent white quartz (about 10 per cent) and are thought to have been deposited in the early Quaternary,[8] during an active phase in the history of the river Nile when substantial rainfall was experienced in the region.

Extending westward from the eastern side of the Saqqara pyramids, a thick mantle of sands and gravels of Quaternary and Recent (post-Quaternary) origin has accumulated in the lower lying areas. These overlie the beds of the Maadi Formation. The surface deposits consist predominantly of aeolian sands, which have blown across the area since the retreat of savannah conditions, some six to ten thousand years ago. From the Serapeum to Abusir, the accumulation of sand in the valley is five to six metres in depth and presents a major problem to archaeological investigation of the Early Dynastic and Predynastic structures which may exist on the valley floor.

Structurally, the Saqqara plateau has been little affected by faulting. The only fault that can be observed runs from Abusir village in the north-east to the north of the Serapeum in the south-west. The escarpment formed by this fault defines the western limit of both the Abusir plateau and the NMS concession area. This fault is considered to be the result of post-Eocene ground movements and has down-thrown the Upper Calcareous Beds by less than 20 m to the north-west.

Earlier ground movements are represented at Saqqara by two other north-east to south-west trending faults, the positions of which have been inferred. The general

[6] Mathieson et al., *JEA* 83, pl. iv, 1 and 2.

[7] W. F. Hume, 'The Effect of Secular Oscillation in Egypt, during the Cretaceous and Eocene Periods', *Quarterly Journal of the Geological Society, London* 67 (1911), 118–48.

[8] Quaternary = 1.8 to 0.01 million years ago.

position of a fault can often be assumed on the basis of adjacent features, without the fault itself being exposed. The fault along the foot of the Saqqara–Abusir plateau may be considered as one of a system of parallel faults that often defines the limits of a river valley. The fault to the north-west of the Abusir plateau may be indicated by an abrupt change in the exposed rock types on each side of the inferred fault-line.

All the faults recorded in the Saqqara area are the result of geologically ancient ground movements and are not currently active. Therefore, they pose no significant hazard to ancient Egyptian monuments in the area.

Topographic mapping and aerial photography

Aerial photography dating from 1920 to the present exists for the concession area.[9] Maps of various scales are available in archives from Lepsius,[10] through de Morgan,[11] to the recent 1/5000 scale topographic maps produced for the Ministry of Housing and Reconstruction in 1978.[12]

Methods of geophysical prospection

During the course of the Saqqara project, a total of four geophysical techniques were employed to study the desert subsurface, described in the following sections. These are:

- Resistivity
- Magnetometry
- Ground conductivity
- Ground penetrating radar or electromagnetic impulse methods.

Resistivity

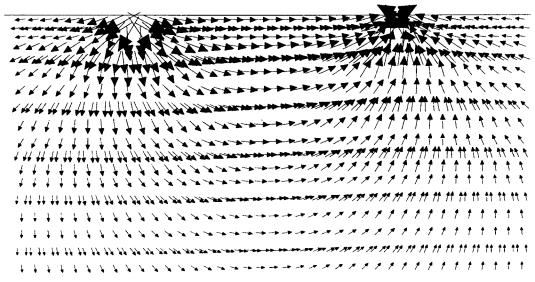
The resistivity survey method is concerned with measuring variations in the electrical properties of the subsurface by introducing a current into the ground, usually via an array of probes, and measuring the potential difference between two other points. Variations in these readings allow the electrical structure of the subsurface to be discerned, at least in part. In homogeneous ground, where the soil structure is uniform and there is a complete absence of archaeological features, the electrical current will flow uniformly from the

[9] Saqqara 1920 (sortie 1) scale 1/12500 RAF/Survey of Egypt.
Saqqara 1920 (sortie 12) scale 1/12500 RAF/Survey of Egypt.
Saqqara July 1924 scale 1/12500 RAF/Survey of Egypt.
Saqqara September 1924 scale 1/12500 RAF/Survey of Egypt.
Saqqara August 1947 scale 1/25000 RAF/Survey of Egypt.
Saqqara October 1949 scale 1/26000 RAF/Survey of Egypt.
Saqqara 1954 scale 1/60000 Aero Service/Survey of Egypt.
Saqqara 1956 scale 1/40000 KLM/Survey of Egypt.
Saqqara 1977 scale 1/15000 IGN/Survey of Egypt.
Saqqara 1977 scale 1/40000 IGN/Survey of Egypt.

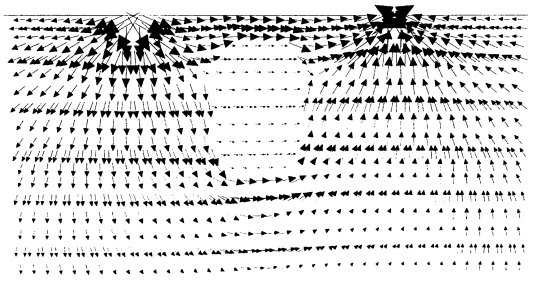
[10] C. R. Lepsius, *Denkmaeler aus Agypten und Aethiopien*, I–V (Leipzig, 1897–1913).

[11] J. de Morgan, *Carte de la nécropole memphite: Dahchour, Sakkarah, Abou-sir* (Cairo, 1897), plans 7 and 9.

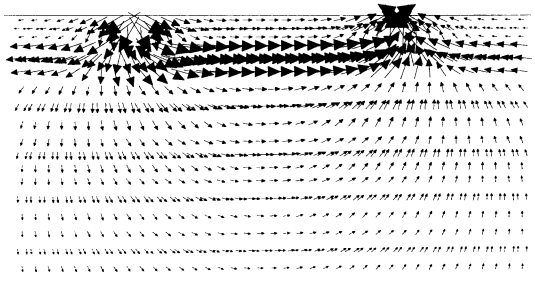
[12] Ministère de l'Habitat et de la Reconstruction (MHR) Topographie series 1:5000 scale (Cairo, 1978) Consortium SFS/IGN France, Ellipsoid international—Hayford, based on aerial photographs 1977 (Cairo).



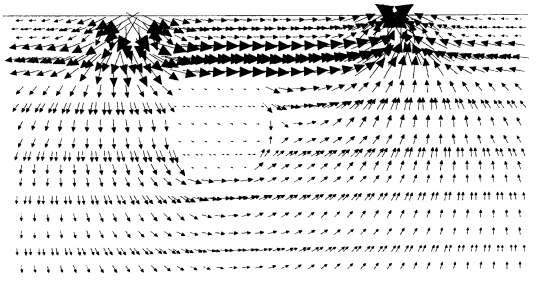
a. Homogeneous ground, current flow even and to theoretic depth.



b. Resistive body in homogeneous ground.



c. Conductive layer, stops current flowing beneath.



d. Conductive layer over and masking resistive body.

FIG. 2. Resistivity current flows.

probe introducing the current to the ground to the probe removing the current. This is illustrated in the computer-generated model shown in figure 2a. However, electric current will attempt to flow along the least electrically resistive path, and due to the inevitable inconsistencies and variations in ground structure, a very distorted current flow will result. These distorted current paths create measurable variations in voltage at the surface and produce the resistivity anomalies which help the geophysicist to determine the structure of the ground.

Figure 2b shows the current flow around a resistive structure, such as a stone wall, buried in a more conductive medium, such as agricultural soil. Sometimes a layer within the ground might be very conductive, as would be the case with a water-bearing layer, such as an aquifer. The concentration of the current along this layer is illustrated in figure 2c. If an archaeological feature, for example, a wall, is buried beneath this layer, less electric current will reach the archaeological structure and it will be less visible in the data. Figure 2d illustrates this situation.

From results in the desert conditions of Saudi Arabia, the work of Dolphin at Saqqara and Giza,[13] and our observations since 1979 coupled with the geological survey, it was obvious that an approach to surveying had to be developed which would enable the currents to penetrate to depths up to 20 m and, if possible, would give a continuous

[13] L. T. Dolphin, A. H. Moussa and G. Mokhtar, 'Applications of Modern Sensing Techniques to Egyptology', *SRI International, Menlo Park, California* (1977).

profile to at least a depth of 8 m. This requirement is due to the likely depths of features at Saqqara. To achieve this, several factors need to be considered.

The resistivity meter. Surveys are usually carried out using direct current (DC) sources or a low frequency (approx. 120Hz) alternating current (AC) source. AC sources are generally used to improve signal quality and reduce contact resistance between the probe and the ground. In desert conditions, contact resistance is high, effectively diminishing the amount of current being injected into the ground. In order to lessen this contact resistance, a small hole is made for each probe position in the ground. Each hole is moistened with water before inserting the probe. This reduces the electrical differences between the metal probe and the dry sand and gravel desert, thereby significantly lowering the contact resistance.

To be useful, resistivity meters need to be rugged and portable (pl. IV, 1). Older equipment requires manual adjustment to obtain the required readings via an analogue needle meter. In experienced hands this can be achieved quickly and accurately. More modern equipment automatically takes the readings and stores the data in a solid-state, data-logging system for input to a computer. Such equipment requires no field-user input or interpretation while the measurement process is under way. Although accurate, experience has shown that in the extreme geophysical conditions of the desert, the 'automatic' meters do not always produce reliable readings. The current must be allowed to settle to a steady state before the meter reads it. Unfortunately, the software of newer instruments seems unable to do this properly, and gives little feedback to the user apart from a sequence of flashing digital numbers. In contrast, the fluctuations of older equipment's analogue needle can be very informative in this respect, especially when approaching a buried structure.

Probe arrays (fig. 3). This method was used and pioneered in the oil industry, and by Frank Wenner.[14] Generally, a survey is carried out employing four electrodes arranged in some sort of regular pattern. Two electrodes are used to introduce the current (I) into the ground. The other two are used to measure the potential difference (V) at a point centered between the two electrodes. This will vary according to the resistivity of the material (ρ) through which the current is flowing. The actual resistivity measurement is given by the formula $\rho = G2\pi V/I$, where G is a geometrical scaling term determined by the configuration of the array.

It can be shown mathematically that the depth of penetration is dependent on the separation of the probes, and in simple terms, the wider the separation, the deeper the current flows. If an array were moved along the surface and readings taken at each position, a profile of the ground's resistivity at a single depth would be obtained. If the process were repeated, but with the electrodes further apart, a similar profile would be measured, but the measured resistivity would be due to current flowing at a greater depth. By carrying out this procedure several times, a profile can be built up that not only shows variations in resistivity laterally, which might show the lines of walls or trenches, but also provides depth information as well.

[14] F. Wenner, 'A Method of Measuring Earth Resistivity', *Bulletin of the U.S. Bureau of Standards* 12 (1916), 469–78.

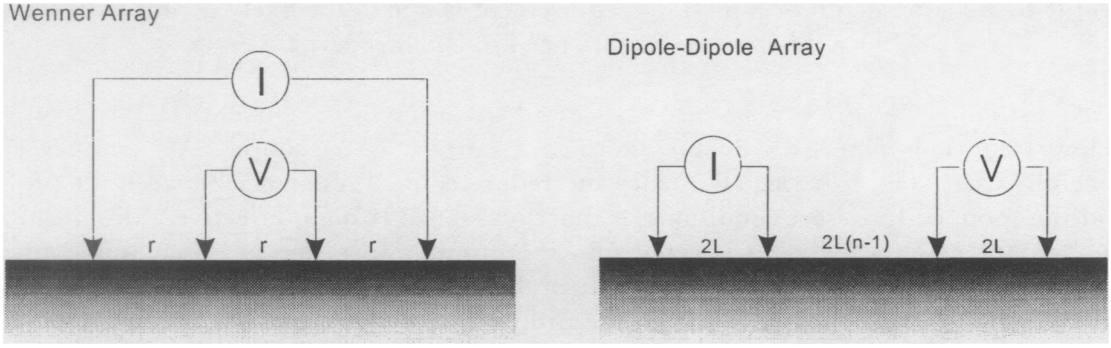


FIG. 3. General electrode arrays.

It would be time-consuming and uneconomical to use just four probes and repeatedly remove and plant them for each reading, especially as profiles can be hundreds of metres in length. We determined that in order to provide sufficient lateral resolution and depth cover, the probes would need to range from 2 m to 12 m apart, with sets of readings spaced 2 m apart. In order to speed up the process, a rolling array of 24 probes was built, with a device allowing manual selection of any 4. This meant that all the required readings could be made quickly and efficiently. A computer was then used to build the full profiles from these data sets.

Interpretation and presentation of results. By computation, the results obtained are the Apparent Resistivity Values at a specific depth and topographic position. As an aid to interpretation, it is paramount that all known information be plotted at the indicated position on the profile. Thus, surface conditions at each probe station should be recorded during the survey, including the type of material such as sand or silt, and the presence of crops, exposed rock, or building structures of mud-brick or stone. If possible, the geology of the area should be observed at any suitable cliff, road cutting or borehole record. Recognition of an archaeological anomaly is the ability to make a qualitative analysis of the profile and, if possible, to make a comparison with adjacent profiles. It is then possible to recognize a pattern that fits the expected archaeological solution. In most cases, as the survey is being undertaken to define a known or expected structure, a negative answer is as important as a positive one.

Presentation of resistivity results is in a format similar to magnetic and gravimetric results and those of any method that produces digital coordinates in x, y and z. Pseudo-sections, which in appearance look like topographic sections, are commonly used. These can be the result of three-point averaging or logarithmic solutions, as the Apparent Resistivity Values can change from near zero to infinity within a few metres. (see figs. 9, 12 and 15) By computer solution of all available points in an area survey comprised of several adjacent profiles, a contour map of Apparent Resistivity Values can be created which will help define the position of an archaeological anomaly. By the same method, dot-density, gray scale or three-dimensional framework projections can be presented.

Magnetometry

Resistivity is an active method. With an active method, the geophysicist is measuring the response to a signal that the instrument is producing, such as an electric current. Magnetometry is known as a passive method: the geophysicist is measuring a potential field that is totally independent of the operator or his equipment. Specifically, one is measuring the variations in the earth's magnetic field across the survey area. The technique has been used in archaeology since the early 1960s when it was employed to locate Etruscan tombs in Italy.[15] The need for a method to identify archaeological industrial areas such as metal and glass kilns or large temple bakeries has became apparent as extensive excavation becomes an expensive luxury of the past. This is especially true in Egypt where structures are often buried at considerable depths.

Archaeologists are fortunate in that the clays which are used to make kilns and ovens contain oxides of iron compounds produced during the firing process. These oxides are demagnetized during the heating process and, on cooling, are remagnetized by the earth's magnetic field *at the time of firing*. This process is referred to as *thermoremanence*. Ditches also exhibit enhanced magnetic fields due to the gradual accumulation of small particles containing iron within the mud. These particles tend to align themselves with the prevailing magnetic field, thus producing an exaggerated and measurable field.

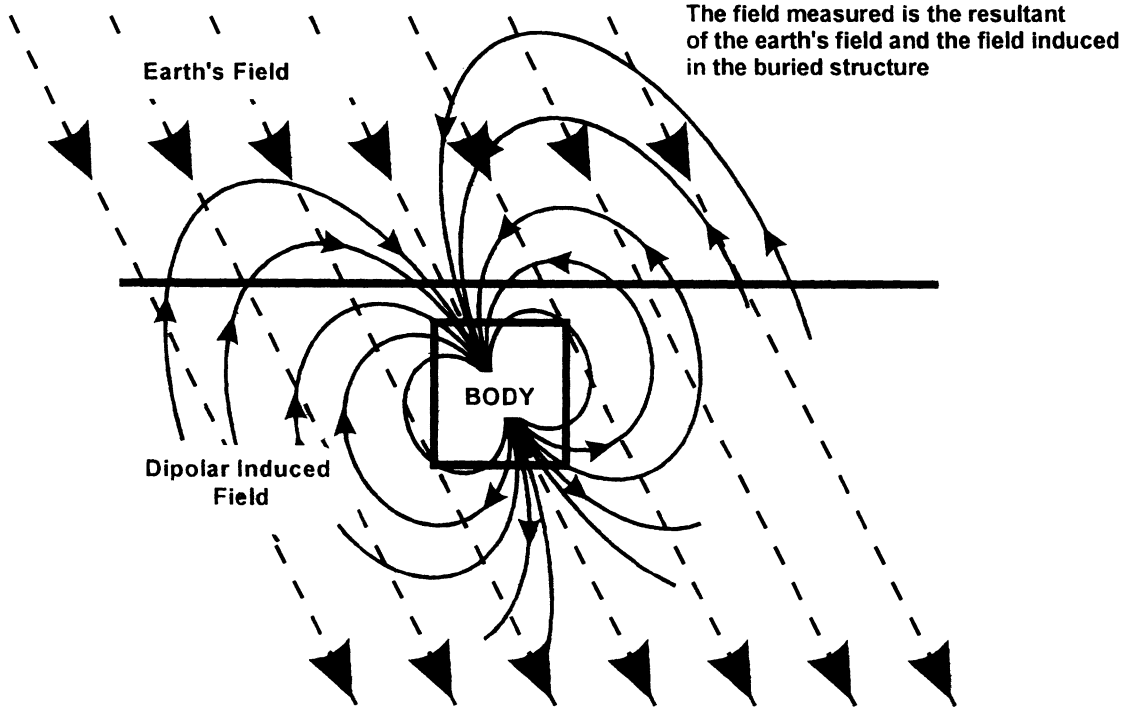
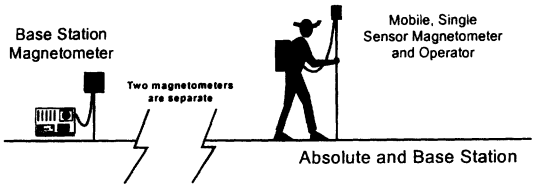


FIG. 4. The principal of field induction.

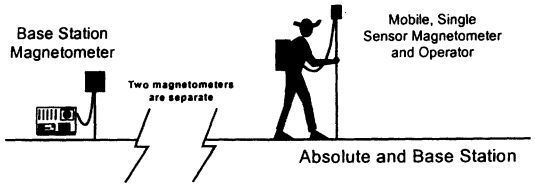
[15] C. M. Lerici, E. Carabelli and E. Segre, 'Prospezione geofisiche nella zona archeologica di Vulci', *Quaderni di Geofisica Applicata* 19 (1958).

In general, the earth's magnetic field induces a field within these iron rich bodies. Figure 4 shows the principal of field induction. These fields are small—about 1000 times smaller than the earth's magnetic field. The earth's magnetic field (95%+) is largely due to geological effects deep in the earth's core. The core, consisting of molten iron and nickel, acts as a large dynamo producing the dipolar magnetic field with which we are familiar. In addition, effects from the sun and moon contribute to the field in the form of low amplitude diurnal variations. Unfortunately, these are very similar in size to the archaeological anomalies. In order to identify and remove them, so that we can recognize the small variations caused by the antiquities, we have to take special precautions in the design of the equipment and in the manner of conducting the survey.

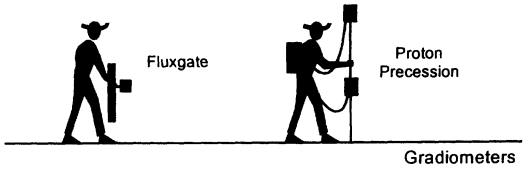
Magnetometers consist of sensors which measure an electric pulse (fig. 5). At present, there are three types of sensor: 1) a proton sensor where the precession of protons (nuclei of hydrogen atoms) generates the small electric pulse; 2) an alkali vapour, optically pumped cesium or rubidium sensor, analogous to the proton system; and 3) the fluxgate sensor, where energised metal strips generate the pulse. This pulse is proportional to the magnetic field strength and the equipment can be used in three configurations.



a. Single movable sensor and single non-movable base station.



b. Differential magnetometer.



c. Gradiometer and the fluxgate gradiometer.

FIG. 5. Types of magnetometer.

Single movable sensor and single non-movable base station. A single sensor is moved across the site measuring the magnetic field value at survey points and the time of the measurement is taken (fig. 5a). The base station is left running continuously, measuring the earth's field at set time intervals. When the survey is finished, the base station readings are adjusted to correspond with the time of the survey point measurement, and the magnetic field value subtracted. This leaves only the magnetic field due to local variations at the survey points across the site and also removes 'solar storm' effects.

Differential magnetometer. The two sensors are joined by cable and the magnetic field value for the background is automatically removed, leaving the desired local survey point value (fig. 5b).

Gradiometer and the fluxgate gradiometer. Two sensors are firmly connected together and moved across the site (fig. 5c). The equipment records the difference between the two sensors. As the earth's field is the same at each sensor, the only differences will be due to local effects, such as buried antiquities. The fluxgate or optically pumped gradiometer, which has a very rapid cycle of operation, is ideal for intensive high-speed directional surveys along closely spaced survey lines. The data can be collected and downloaded directly to a laptop computer to produce real-time survey diagrams in the form of contour plans or a three-dimensional surface plot. In countries where the antiquities or occupation layers are within one to two metres from the surface, the fluxgate gradiometer is a real workhorse for the archaeologist.[16]

For greater sensitivity to the subtle variations in the magnetic field caused by the depth or structural material of the archaeological features, a proton-magnetometer is more suitable than a fluxgate system. Although the time between readings takes longer than the fluxgate (5 secs. compared to 0.001 secs.), the proton-magnetometer will produce more accurate readings when used in the differential configuration. The instruments are quite expensive, and even the hire of a commercial proton-magnetometer is beyond the means of the average archaeological unit working in Egypt. The most accurate systems, which are optically pumped, are particularly expensive.

One solution, which would certainly fall within the budget of an archaeological institute, is to use an instrument developed in America for metal ore prospection. This is the double-sensor Liebhazet differential proton-magnetometer manufactured by M. L. Dalton Research of Dallas, Texas, USA (pl. IV, 2). This instrument allows the calculated value of the earth's magnetic field intensity to be used as a calibration factor at the geographic position of the site. By fine-tuning the instrument, the effects of diurnal variation can be reduced and a difference of 0.5 of a gamma may be detected by using an audible beat frequency that is introduced into the decay sequence of the protons at the separate sensors. The cycle of operation, though longer than other instruments (5–10 secs.), can allow the surveyor to field-walk a metric grid pattern.

Interpretation and presentation of results. For this project, a proton-precession gradiometer was employed. When carrying out a general search pattern, a two-metre grid was used. This was defined by the distance between the proton sensors and ensured every square metre was covered. The instrument was in the audio beat pattern, as a considerable area had to be searched before an anomaly was likely to be detected. The audio 'hit' or identification signal immediately indicated that a structure had been located. There are three methods of recording the pulse data generated by the measurement of the anomaly field: (a) a count of the audible beats produced by the decaying proton signal; (b) numerical recording of the analogue meter; and (c) a graphed strip recording of the signal. All these methods give a digital representation of each one metre square surveyed.

[16] E. Pusch, 'Towards a Map of Piramesse', *Egyptian Archaeology* 14 (1999), 13–15.

Presentation is the same as resistivity readings with Easting, Northing and Z (the recorded value) giving the ability to plot pseudo-sections, contours or three-dimensional surface plot.

Ground Conductivity

Conductivity is an electrical property of the ground that can be measured to give an idea of the ground's structure. It is affected by both natural influences, such as the geology and geomorphology of an area, and by human habitation. This property can be measured very accurately with today's modern conductivity meters. For this project, the EM31 instrument manufactured by Geonics of Canada was employed. This is one of the most commonly used instruments in the geophysical industry, particularly for geotechnical investigations and ground-water studies. It has been used a number of times for archaeological surveys in the Middle East. It was employed by Frohlich[17] to investigate large tumuli burials in Bahrain, and by Deletie[18] to survey the environs of the Pepi II pyramid in South Saqqara.

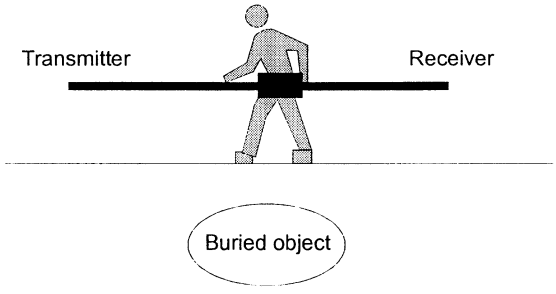


FIG. 6. EM 31 conductivity meter.

Unlike the resistivity method, which requires probes to be inserted into the ground, the ground conductivity meter is non-contact. This means that large areas can be covered very quickly. The conductivity meter employed consists of two coils fixed approximately 3.5 m apart and carried by the operator (see fig. 6 and pl. V, 1). The meter works by transmitting a continuous 9 kHz electromagnetic (EM) signal via a coil. This primary EM field induces a secondary field in the ground, the properties of which depend on the electrical characteristics of the ground, and in particular, conductivity. This secondary field is detected at the receiver coil, and when compared to the transmitted or primary signal, allows the ground conductivity to be determined. It also enables the magnetic susceptibility of the ground to be measured. The instrument actually measures the conductivity of a hemispherical volume of ground approximately 6 m in diameter. This means that objects below one metre in size will be difficult to see. However, by taking measurements close together, the presence of smaller objects should be evident in

[17] B. Frohlich and W. J. Lancaster, 'Electromagnetic Surveying in Current Middle Eastern Archaeology', *Geophysics* 51 (1986), 1414–25.

[18] P. Deletie et al., 'Discovery of two unknown pyramids at Saqqarah, Egypt, by a multimethod geophysical survey', Presentation at SEG Annual Meeting, Anaheim (1988).

adjacent readings. In practice, measurements are taken on a regularly spaced grid and then displayed as a contoured or colour coded plot. Anomalous features and data trends can then be clearly seen and interpreted (see, for instance, fig. 10).

Ground Penetrating Radar

Ground Penetrating Radar (GPR) is a relatively modern non-destructive testing method available to the archaeologist (pl. V, 2). Although the method has been in use mainly in the geotechnical field since the 1980s, it is only with the recent advances in computing technology that it has become practical for archaeological surveys. New, powerful, and relatively cheap computers have meant that the vast amount of data collected by a radar system can be readily processed and displayed.

A radar system works by transmitting a very short pulse of electromagnetic energy into the ground via an antenna that is in contact with the earth. This signal then travels through the ground until it meets a target or interface (fig. 7). At this point, a certain amount of energy is reflected back to the radar.

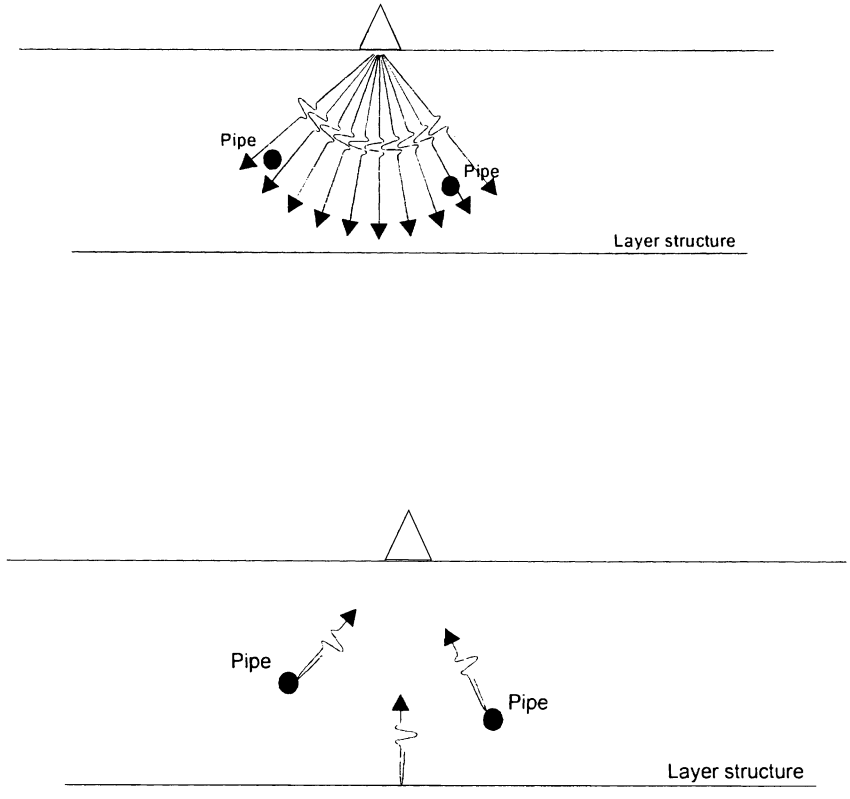


FIG. 7. Radar pulse diagram.

The remainder of the wave continues deeper into the earth. Every time the signal encounters a target or interface, this partial reflection-transmission process repeats. After transmitting the signal, the radar receives the returning signals for a limited period of

time. The time taken for the reflected signals to return is determined by the depth of the target; the deeper the target, the longer the signal will take to return.

By moving the antenna across the ground, a cross-sectional profile of the subsurface is obtained. However, this section is what is known as a 'time section' and not a true depth section. The radar signal travels at different speeds through different materials. Therefore, in archaeological applications, where the ground can be very complicated, it is not generally possible to calculate a perfect true depth cross-section. A time section is made up from each scan at a predetermined rate, for example 25 per second, and is, in most cases, accurate enough to determine what is happening, such as in figure 8, where two pipes can be seen.

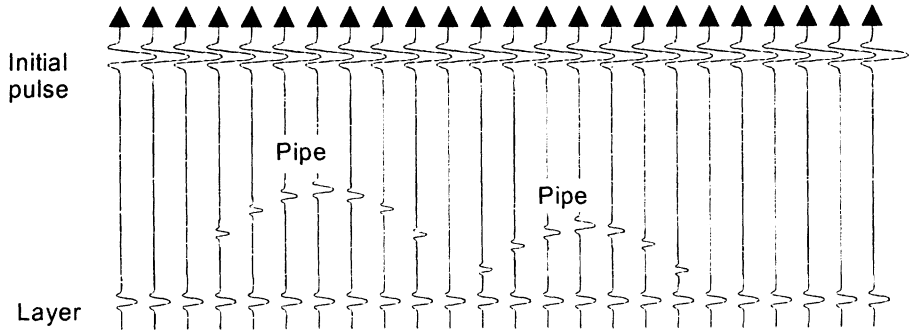


FIG. 8. Time section diagram.

In theory, radar can see both metallic and non-metallic features. In the archaeological context, this means GPR can be used to detect and map foundations, layers, trenches and voids, such as tombs. However, the depth the radar signal can penetrate is limited and is determined by the frequency of the signal and the properties of the ground. The radar signal will attenuate as it travels through the ground depending on the electrical properties of the subsurface: the higher the conductivity the more rapidly the signal decays.

Field Results

Memphis and Saqqara

At the invitation of the EES and with the help and co-operation of the site directors, Harry Smith, David Jeffreys and Lisa Giddy, a resistivity program was started in 1983 to run parallel with the Survey of Memphis project. The aim was to cover the surveyed areas with a 50 m resistivity grid wherever possible. Such a project would prove the effectiveness of resistivity as a prospection tool when used over the compacted debris of a city *tell* structure with depths up to 16–19 m in places. Concomitantly, the survey has continued to the present (1998) with an investigation into the possibility of recognising silt patterns of different density and probable salt and moisture content. By traversing from the Memphis area towards the Saqqara escarpment, and from the foot of the escarpment to the Shubramant Canal, we aim to trace the original course of the Nile as it

retreated eastwards. The results are of considerable interest. At the escarpment, the edge of the probable Early Dynastic occupation area at the foot of the slope is clearly defined. The various silt values show ponding and sandbanks probably due to the retreating of the Nile in an easterly direction.[19] In addition, an interesting anomaly located to the east of the Unas valley temple points to a build-up of much denser material in the form of a bank or bund, which could be the outer limit of a temple harbour (fig. 9).

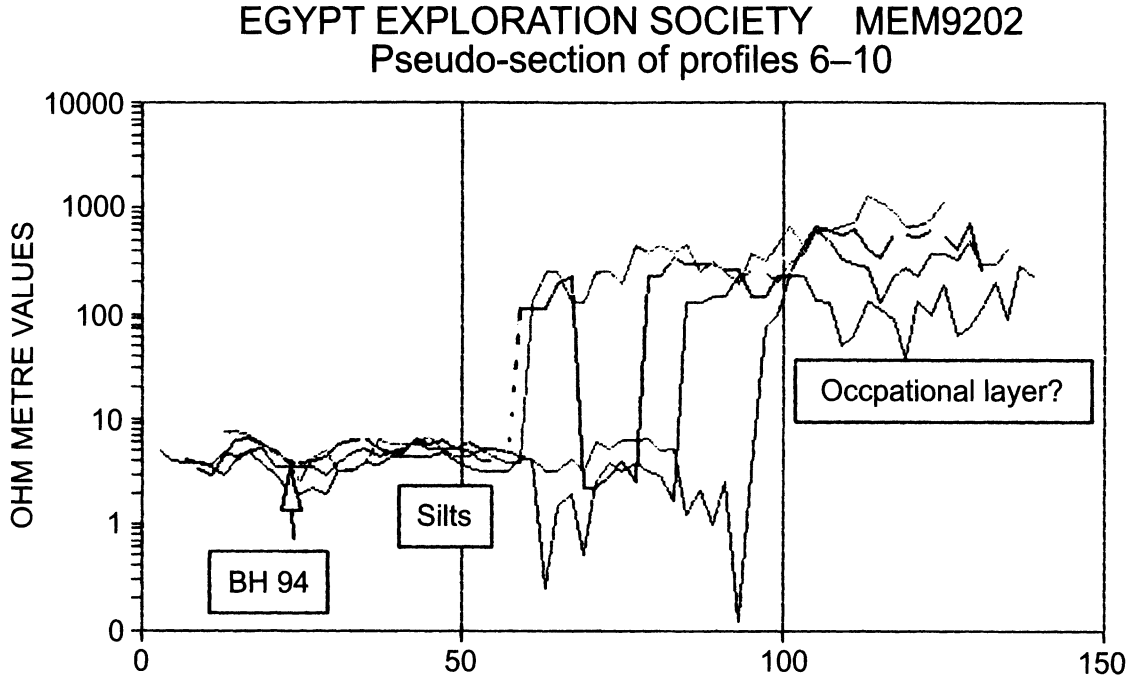


FIG. 9. Resistivity profile at Unas valley temple area. Readings taken at depths of 2 m intervals. 2 m–10 m show little variation in silts, and high levels of variation or 'noise' in the assumed occupational layer.

Amarna

Since 1983, extensive resistivity and proton-magnetometer surveys have been carried out in the area of the Main City site and at Kom el-Nana.[20] Resistivity has been particularly successful in delineating the extent of the city site, the quarry at the Workmen's Village, and the ground plan of the buildings at Kom el-Nana. The proton-magnetometer was also instrumental in the rediscovery of Petrie's glass kilns,[21] later excavated by Paul Nicholson.[22]

[19] L. L. Giddy and D. G. Jeffreys, 'Memphis, 1991', *JEA* 78, (1992), 1–11.
[20] B. J. Kemp (ed.), *Amarna Reports*, II, V–VI (London, 1985, 1989, 1995).
[21] I. J. Mathieson, 'Magnetometer Surveys on Kiln Sites at Amarna', in Kemp (ed.) *Amarna Reports* VI, 218–25.
[22] P. T. Nicholson, 'Industrial Archaeology at Amarna', *Egyptian Archaeology* 7 (1995), 14–16.

NMS Saqqara Survey Project

In 1990, the National Museums of Scotland obtained permission from the EAO to carry out a geophysical prospection survey of the Abusir–West Saqqara wadi using modern non-destructive methods. Combined with extensive archive research, the location of all visible archaeological structures would be plotted on existing topographic maps compiled by the Ministry of Housing and Reconstruction. Using the resistivity technique developed during the Memphis survey of a similarly large area, we decided to place a central traverse the full length of the valley. The area covered extended from the edge of the cultivation at the ancient remnant lake of Abusir in the north, to the Sekhemkhet–Gisr el-Mudir boundary in the south, a distance of approximately 2.5 km. Within the limits of physical boundaries, cross-sections at 100 m centres were surveyed from edge to edge of the valley. This included detailed surveys of the Sacred Animal Necropolis, the Serapeum and the L-shaped structure to the west of the tombs near the mastaba of Ptahhotep. The material encountered in the depth surveyed (0 to 8 m) varied from water-borne silt, through silty sand, to wind-blown sand, and fine and medium to large gravel, with flint, chert and limestone fragments, all of which overlie the poor quality *tafl* bedrock. All of these materials cause complications with the interpretation of data and require the use of the different prospection techniques to obtain the best results.[23]

This survey showed that the valley floor of the area from the lake of Abusir to the Serapeum was covered by up to 5 m of wind-blown sand with many mud-bricks and probable tomb structures requiring more detailed inspection.[24] The Serapeum proved to be a very disturbed area due to previous excavations and its historical sequence of building and destruction. From the southern edge of the Serapeum through the valley to the ridge forming the southern boundary of the Gisr el-Mudir and the enclosure of Sekhemkhet, the depth of sand covering the valley floor becomes minimal, with the *tafl* bedrock showing in many places. From the 1998 excavations, it appears that any limestone beds in this area have been removed to provide material for the construction of the early monuments. The valley survey revealed many tomb structures and near-surface graves and gave indications of deep wind-blown sand against the east and west slopes. On examining this anomaly in 1998, it was found that the eastern wall of the Gisr el-Mudir stood on top of a quarried face against which the depth of sand had accumulated.

The Gisr el-Mudir (the 'Great Enclosure')

Lying at the southern boundary of the concession, the Gisr el-Mudir (fig. 1) has been studied on the ground and from the air but its origin and purpose are still the subjects of speculation. Working on a site as large as the Gisr el-Mudir emphasises the importance of the use of geophysical methods to reduce the amount of excavation, which might result in damage to a very old monument. Once templates or bench-marks of the Apparent Resistivity, magnetometry or output of the sensing tool have been obtained, a very accurate assessment can be made of the archaeological content.

[23] Mathieson et al., *JEA* 83, 19, fig. 1.

[24] I. J. Mathieson and A. Tavares, 'Preliminary Report of the National Museums of Scotland Saqqara Survey Project, 1990–91', *JEA* 79 (1993), 17–31.

Due to the enormous size of the enclosure, it took 5 x 100 m cross-sections to traverse this monument and in doing so, several anomalies were identified. A detailed examination of the monument was initiated in 1993 and continues today with the use of ground penetrating radar, conductivity, proton–magnetometer and sondage inspection of anomalies to clarify the probable archaeological content.

Resistivity. Cross-section GM90XS1 indicated an anomaly on the site of a large mound situated towards the south-west corner of the Gisr el-Mudir, where the West and South Walls appeared to be incomplete. The area was gridded at 2 m intervals by resistivity which revealed a group of features deserving inspection. On excavating a sondage, the West Wall was found standing to a height of fifteen courses and the inner south-west corner of the monument was discovered.[25] Cross-section GM90XS3 showed a small anomaly at the expected position of the west wall of the Gisr el-Mudir, and when the section of the sondage was compared to the pseudo-section of the Apparent Resistivity, a template for interpretation of other wall crossings became available.[26]

At a point midway along the north wall of the Gisr el-Mudir, there is a step formation in the outline of the wall face. A profile (GMNWXS2) was observed over the centre of this step and produced, in addition to the normal wall crossing interpretation, an anomaly some 25 m south of the assumed wall face. On opening a sondage at this position, it became apparent that the high readings had been caused by the very fine sand used to back-fill a cemetery of near-surface and rock-cut burials which varied in depth from 1–3 m from the surface.[27]

Conductivity.[28] The Gisr el-Mudir was sub-divided into a grid consisting of 50 m squares. In total, the enclosure was covered by some 85 squares. Readings were taken every 1 m, which means the area was covered with over 200,000 readings. The results are shown in figure 10. The enclosure exhibits regions of high and low electrical conductivity. The high conductivity occurs mainly on the interior of the enclosure, in the regions of lower elevation. Boreholes have indicated that the bedrock is just below the surface and never more than one metre down. This shows that the region's bedrock tends to have high conductivity, which explains why the radar performance was poor in locations where the bedrock was shallow. The survey has also shown the different electrical properties of the layering in the bedrock, indicated by the north-east to south-west trends in the data. Areas of lower conductivity represent regions where the wind-blown sand has collected against some structure, usually a wall. The walls of the Gisr el-Mudir tend to consist of a single skin of local stone, which makes them difficult to discern in the data. The dry sand, which collects against the walls, has a much lower conductivity and demarcates the wall lines quite clearly. The southern part of the enclosure has a much lower conductivity than the rest of the Gisr el-Mudir. This can be attributed to the large amount of gravel which has been piled there. Therefore, the higher conductivity can be used to show areas where the overburden has been cleared in antiquity.

[25] Mathieson et al., *JEA* 83, 34, figs. 9a and 9b.
[26] Ibid. 23, fig. 4.
[27] Ibid. 24–33, figs. 5–8.
[28] For this work, only conductivity data from the EM 31 was mapped.

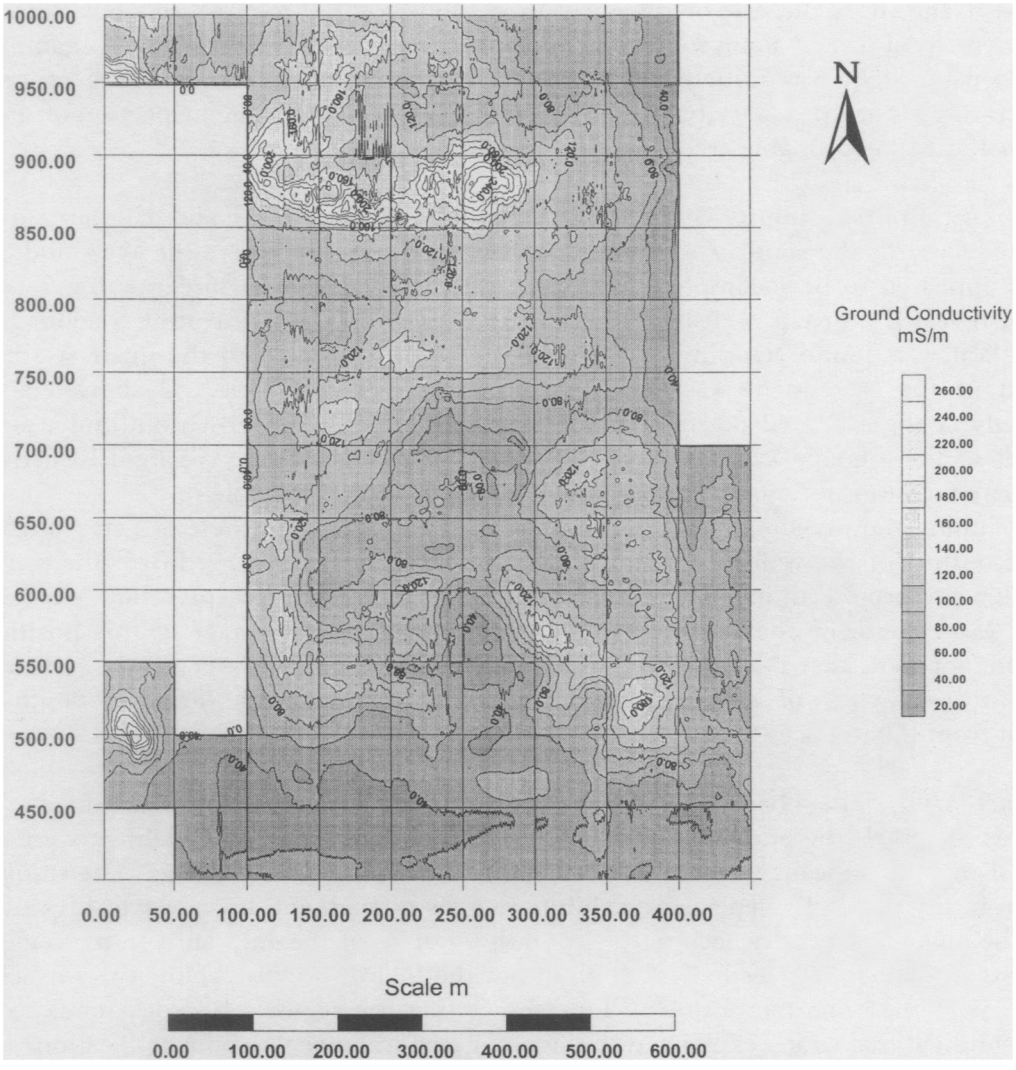


FIG. 10. EM 31 conductivity plan.

The one major discovery was that there was no large structure or feature within the Gisr el-Mudir. The high resolution of the survey has ensured that no feature of any size would be missed.

Ground penetrating radar. One field season was dedicated to surveying various parts of the concession with GPR. The instrument used was an ERA Technology SPRscan radar system with a 500MHz antenna (pl. V, 1). This antenna will give a normal penetration of about 2 m. In dry sands, this penetration can exceed 4 m, and on some parts of the site such conditions exist.

Geophysical prospection of the South Wall. The South Wall of the Gisr el-Mudir has yet to be located with absolute certainty. Radar sections were measured across the wall at

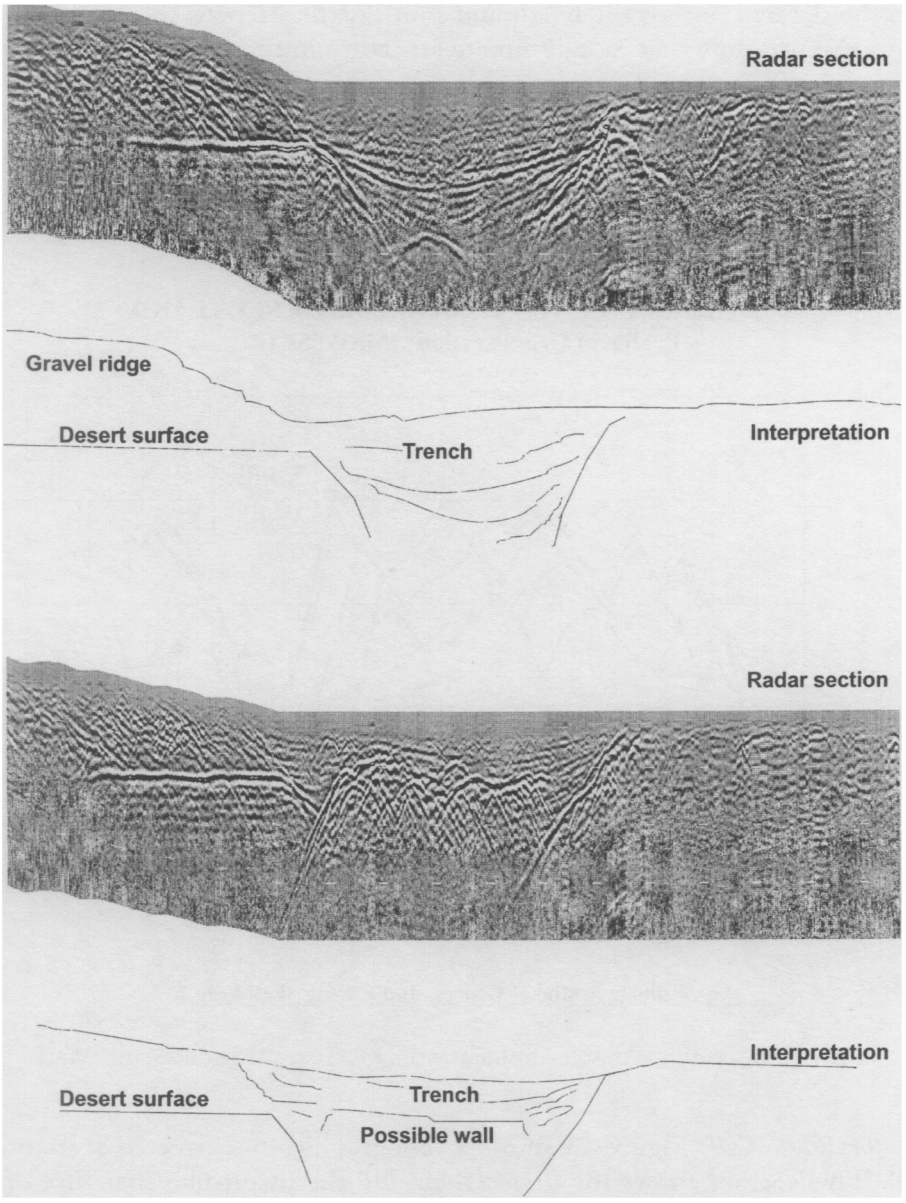


FIG. 11. Ground penetrating radar profiles, South Wall.

approximately 10 m separations. These lines extended from the top of the large gravel ridge that runs parallel to the supposed wall on the inside of the enclosure, to about 50 m into the desert to the south. Figure 11 shows two radar profiles across the desert. The following features are clearly visible:

- The desert floor beneath the gravel ridge
- A clear trench filled with dry sand. Within the trench, layering can be seen in the sand

- Cuts in the desert floor on the north and south of the trench
- The lower figure shows an indeterminate structure in the trench

These profiles can be compared with the resistivity profile (fig. 12) over the same area. From analysis of all the radar lines, it is suspected that the trench does not extend more than two-thirds of the way along the south of the enclosure from the west. Further excavation is required to verify this.

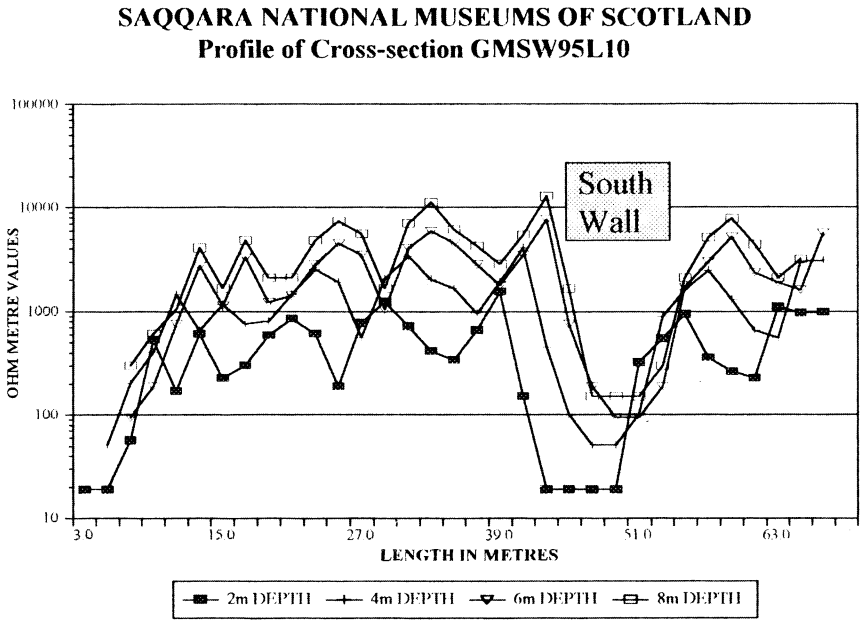


FIG. 12. Resistivity dipole-dipole profile of Gisr el-Mudir South Wall.

Survey of the West Wall. Figure 13 shows a topographically corrected section across the West Wall. This section shows the desert floor and the pylon-like structure of the West Wall. The build-up of sand against the faces of the wall is clear. This confirms the resistivity and conductivity findings, and demonstrates that a wall can be identified by the build-up of very resistive material against it (see also fig. 15). A sondage across this anomaly in 1993 (A8WW) clearly showed all the features indicated by the geophysical survey.[29]

De Morgan's 'Greek tomb'. A major feature in the centre of the enclosure is a crescent-shaped mound of sand and excavated fill attributed to the activities of Jacques de Morgan. Figure 14 shows the results of a radar section across the centre of the feature.

[29] Mathieson et al., *JEA* 83, 21–4, and fig. 4.

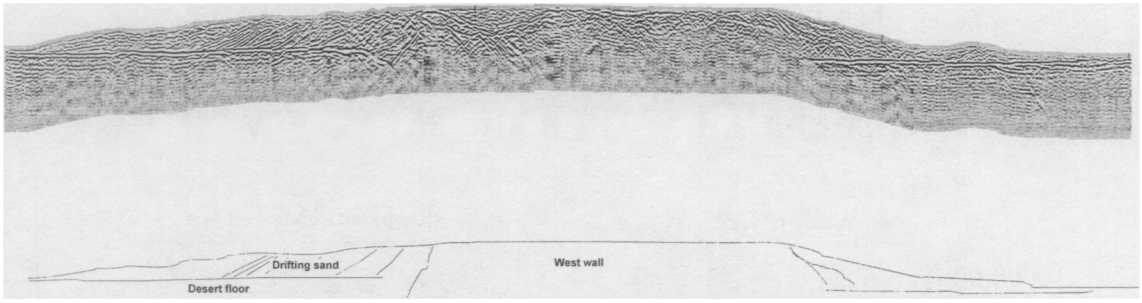


FIG. 13. GPR section across West Wall (topographically corrected).

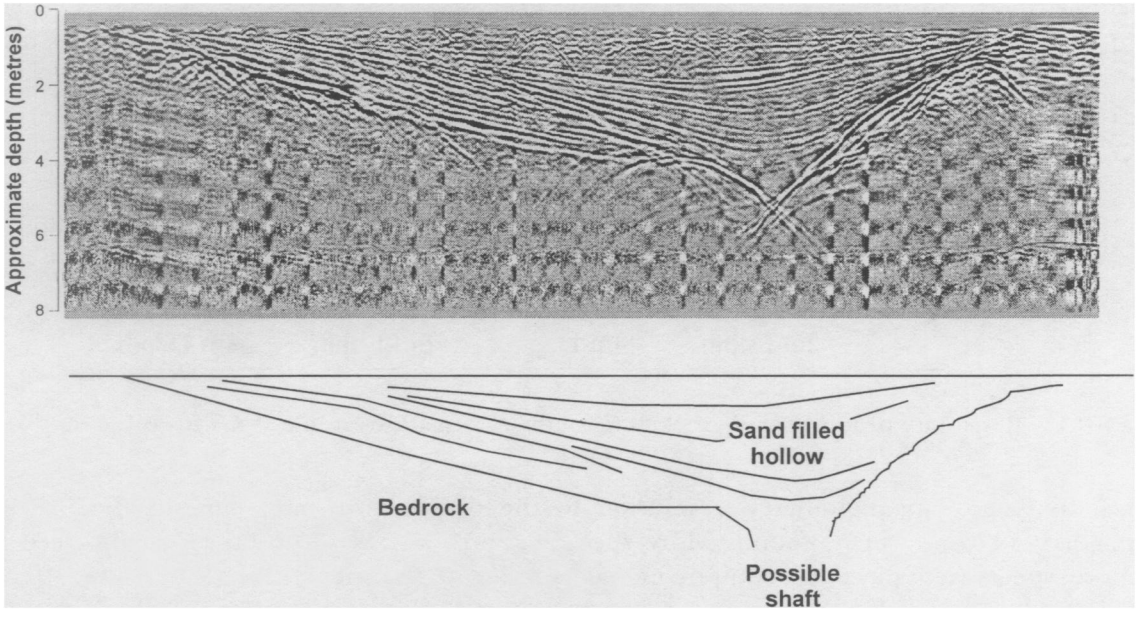


FIG. 14. GPR section across de Morgan's tomb (for position of tomb see *JEA* 83, 20, fig. 2 at 48.8 m).

The excavation is deep. Indications of a shaft are in evidence, as is the layering in the pit, which reflects the gradual accumulation of sand over the past hundred years.

In summary, radar can be used quite effectively on a site such as Saqqara. Shallow Predynastic burials are visible in the radar data, as any excavation in the bedrock is very clear. The major difficulty at Saqqara is the high conductivity of the bedrock, which can limit the penetration of the signal. However, the radar is particularly good at investigating dry sand and structures such as trenches, which may be filled with sand, or walls with sand built up against one side.

Conclusions and discussion

It is perfectly obvious to a geo-archaeologist that certain site conditions would be ideal for one instrument method and totally wrong for another. However, by judicious use of

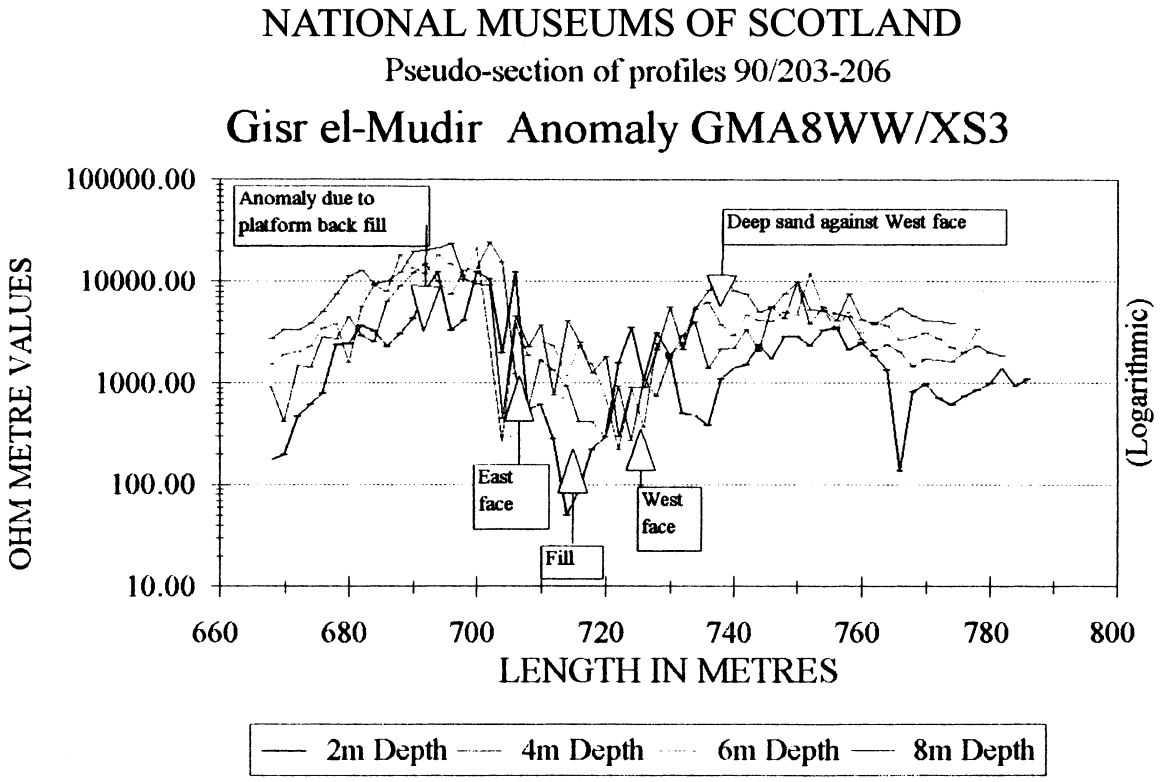


FIG. 15. Resistivity profile over West Wall (over the same east–west line as GPR profile fig. 13).

resistivity and magnetometry a solution to the problems of structure location on a majority of sites can be found. More specific site problems or questions might need a more specialised piece of equipment, such as a ground penetrating radar. We have collected, calculated, and interpreted a vast amount of data in the fifteen years since this project started and it would therefore be unsatisfactory if conclusions could not be reached and advice given. Though only three fairly economical and quick methods (resistivity, magnetometry and ground conductivity) have dominated this survey, electromagnetic impulse (ground penetrating radar) has also been used and found successful. Sonic profiling, thermal imagery, and chemical analysis have not been dismissed and are possibilities for the future.

As all archaeologists realise, the discipline of archaeology is not richly endowed with finance. To purchase or rent equipment to deal with the whole range of sensing methods for periods of one to two months is expensive. A three-week field season equals a five to six weeks hire contract by the time collection, transport, customs clearance and return are taken into account. Even the cost of insuring the equipment would pay for a week of site labour.

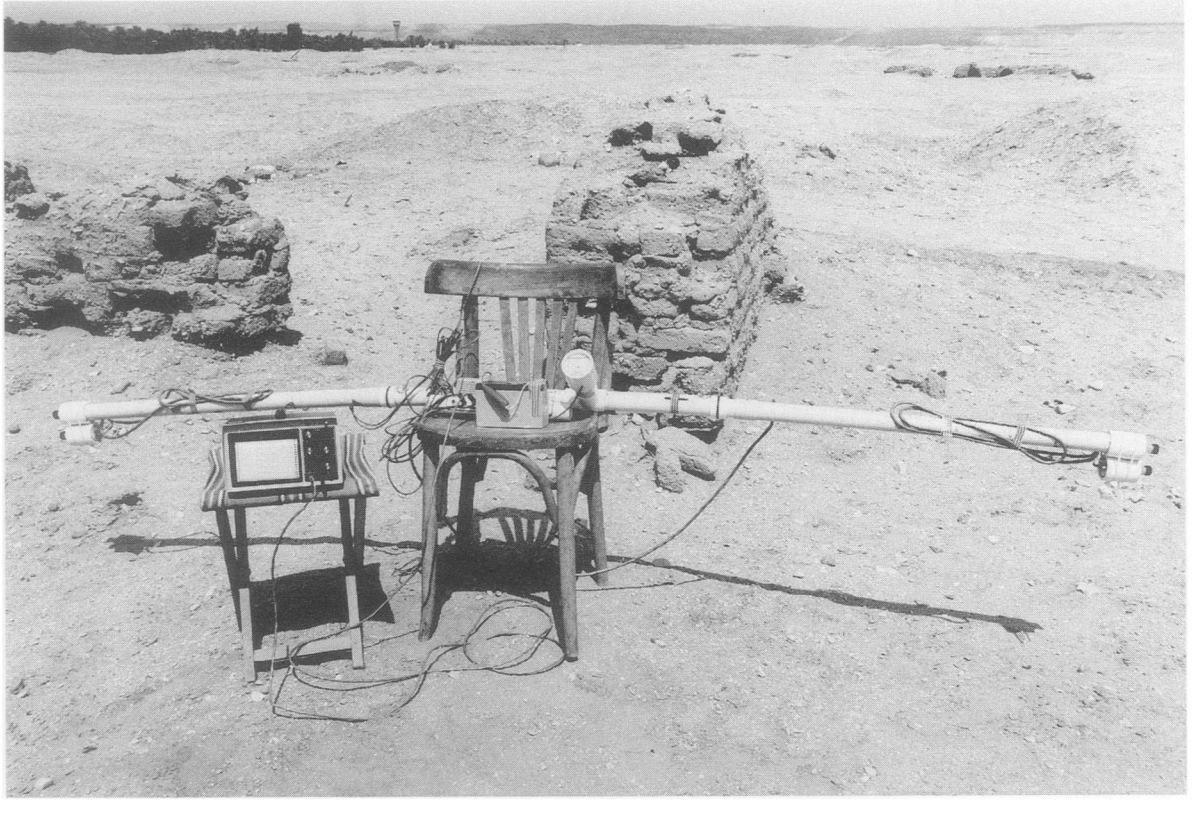
Before deciding on a geophysical survey the surveyor or archaeologist must have a clear picture of the objectives of the project. Is it a reconnaissance with no prior knowledge of the archaeological content or is the survey intending to search for a specific buried structure? At what depth are occupation layers expected? What is the physical surface appearance of the site and what knowledge of the geological layering of the sub-surface is

available? Is the surface sand or gravel? Is it rocky, flat, precipitous or barren? Is it cultivated or overgrown with scrub? Is the subsurface shallow cultivation over bedrock, deep wind-blown sand or are there multiple layers with probable aquifers? Finally, even if geophysical methods are non-destructive and environmentally friendly, has permission been granted to take electronic equipment, with all the necessary probes, cables and computers on to the site?

Assuming that the site has proved suitable for a particular method and equipment is available, the survey must be accurately located on an existing topographic map for presentation to the authority granting permission, for publication and also for archival purposes. Much work in the past, though beautifully reproduced and accurate, cannot be located on present day maps. It is therefore imperative that any geophysical traverse or grid survey be co-ordinated in X, Y and Z, that is, the east, north and height co-ordinates of the national or local area grid used on the site. In addition to the geophysical equipment, the surveyor requires survey equipment appropriate to the task being contemplated. For this, a modern EDM (electronic distance measuring total-station) which measures the horizontal distance, the horizontal and vertical angles and computes the co-ordinates, the elevation, and downloads all information to a data-logger, is the ideal answer. It is also very important to leave suitable reference marks on the ground to enable future archaeologists to relocate your work.

Interpretation of the geophysical data requires not only the instrumental readings but also geological and topographic input from the site reconnaissance, archaeological pattern recognition, and previous data comparison from surveys of similar subsurface materials. Because most of the time we are looking for a change in a homogeneous set of data, any positive or negative change can have archaeological implications and, through experience, pattern recognition can produce an indicative signature. It is also essential that archival records are properly documented; geophysical prospection produces a massive amount of mostly digital information on tape, floppy disk or other type of recording medium. As methods of computer enhancement improve rapidly, the ability to have another look at the original field data can pay handsome dividends. The final important element for interpretation is the trial excavation, by which the truth of the work is assessed on the ground. Only by testing the anomaly can the geo-archaeologist be sure of his interpretation and, of course, by doing this he gives an instant verification of the value of geophysical prospection as a tool for the environmentally friendly excavator.

1. The Soiltest Stratascout resistivity meter



2. The Liebhazet differential proton magnetometer

3. EM 31 conductivity meter

4. ERA Ground Penetrating Radar

MUMMIES OF OLIVE BABOONS AND BARBARY MACAQUES IN THE BABOON CATACOMB OF THE SACRED ANIMAL NECROPOLIS AT NORTH SAQQARA*

By JAAP GOUDSMIT *and* DOUGLAS BRANDON-JONES

The major objective of the investigation of the Baboon Catacomb in Saqqara in 1996 was to establish the species, sex and age at death of all its surviving monkey cranial material. 146 of the estimated 169 individuals were identified as olive baboons *(Papio hamadryas anubis)*. Twenty-one Barbary macaques *(Macaca sylvanus)* were identified. Two guenons were determined as *Cercopithecus aethiops*. Males outnumbered females by more than 2:1; infants and young juveniles were scarce. The 12% proportion of macaques is remarkable, since the habitat of this species is restricted to the mountainous areas of north-west Africa, in contrast to the extensive African savannah distribution of the green monkeys *(Cercopithecus aethiops)* and baboons.

THE systematic excavation of the Sacred Animal Necropolis at North Saqqara commenced in 1964, with the rediscovery of the Ibis Catacombs by a team of the Egypt Exploration Society.[1] In 1968 the EES detected the Baboon Catacomb between the Falcon (or Hawk) Catacomb on its south flank and the Cow (Mother of Apis) Catacomb on its north flank (fig. 1a).[2] Construction of the Cow Catacomb began in about 400 BC, shortly after the withdrawal of the first Persian occupation. Construction of the Baboon Catacomb commenced early in the period of Egyptian independence between 404–343 BC, though baboons may have been buried in disused tomb-chambers in the cliff face in the sixth and fifth centuries BC. The Falcon Catacomb was also constructed in the first half of the fourth century BC.[3] Multiple lines of evidence indicate that the catacomb was in use until the end of the Ptolemaic Period (32 BC).[4]

The Baboon Catacomb occupies two levels (fig. 1b), the upper one with three main galleries, probably constructed before the lower single gallery. After mummification, most of the upper level baboons were linen-wrapped and each was deposited in its own purpose-built rectangular wooden box, infilled with plaster.[5] The boxes were placed in niches which were sealed with limestone slabs. The 200 monkey niches on the upper level were individually cut from the side-walls of the catacomb galleries. Most of the 237 niches on the lower level were created by partitioning with limestone. From the only two

* We thank R. W. Perizonius for many helpful discussions, Colin Groves for providing unpublished material, and H. S. Smith of the EES for joining us on the 1996 expedition and critically reviewing this manuscript, as well as W. van Est and Maea Brandt for providing illustrations. In addition, the authors thank Chris Brandon-Jones for her contribution to the ordering of the data sets. The authors want to express their gratitude to the SCA, the EES and to the Netherlands Institute for Archaeology and Arabic Studies, without whose cooperation this study would not have been possible. The project was partly funded by the EES and the University of Amsterdam.

[1] W. B. Emery, 'Preliminary Report on the Excavations at North Saqqâra 1964–5', *JEA* 51 (1965), 3–8.

[2] W. B. Emery, *JEA* 56 (1970), 7–11.

[3] See C. I. Green, *The Temple Furniture from the Sacred Animal Necropolis at North Saqqâra 1964–1976*, (MEES 53; London, 1987).

[4] H. S. Smith, *A Visit to Ancient Egypt: Life at Memphis & Saqqara (c. 500–30 BC)* (Warminster, 1974).

[5] Emery, *JEA* 56, 7.

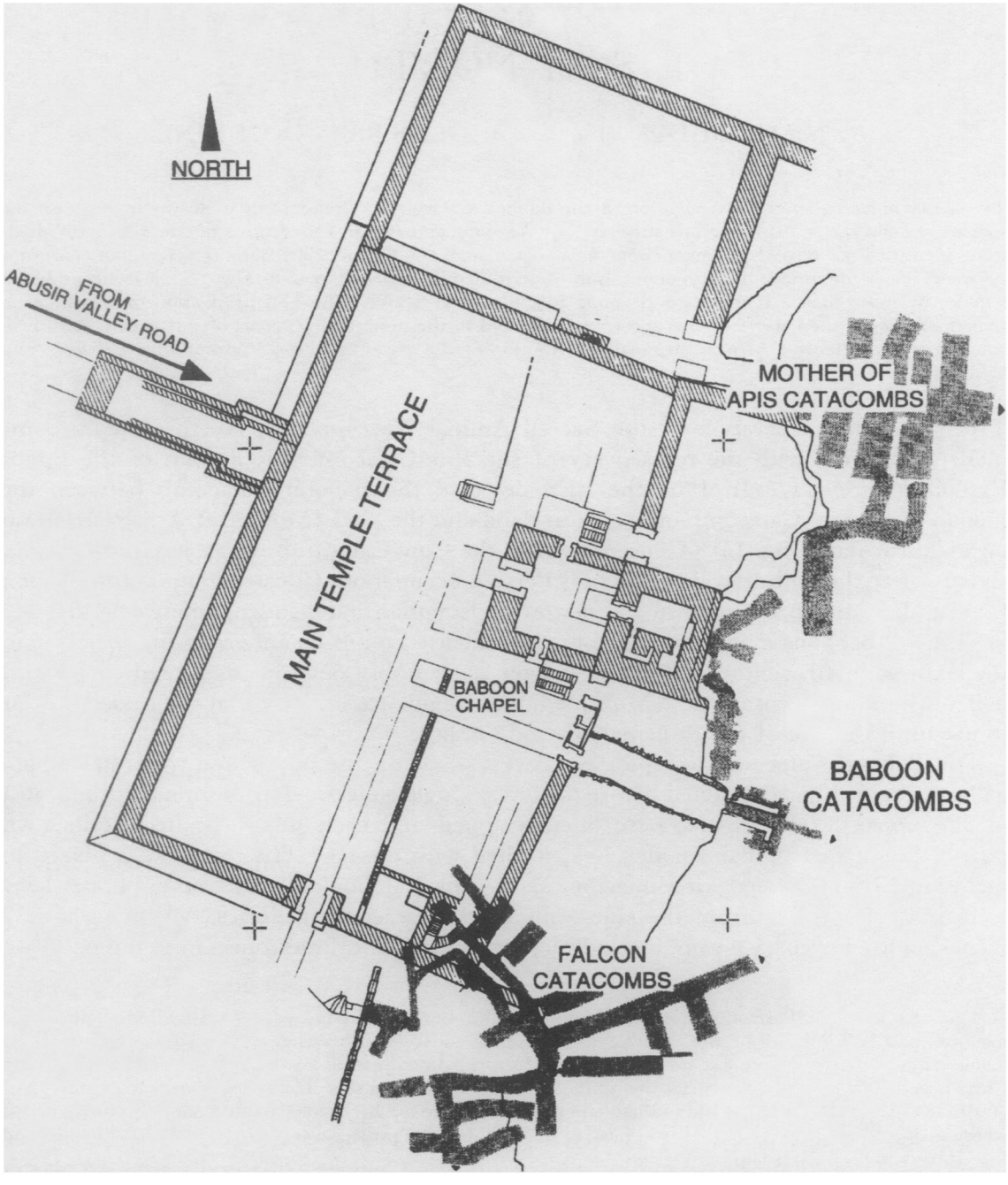


FIG. 1a. Location of the Baboon Catacomb within the Sacred Animal Necropolis complex.

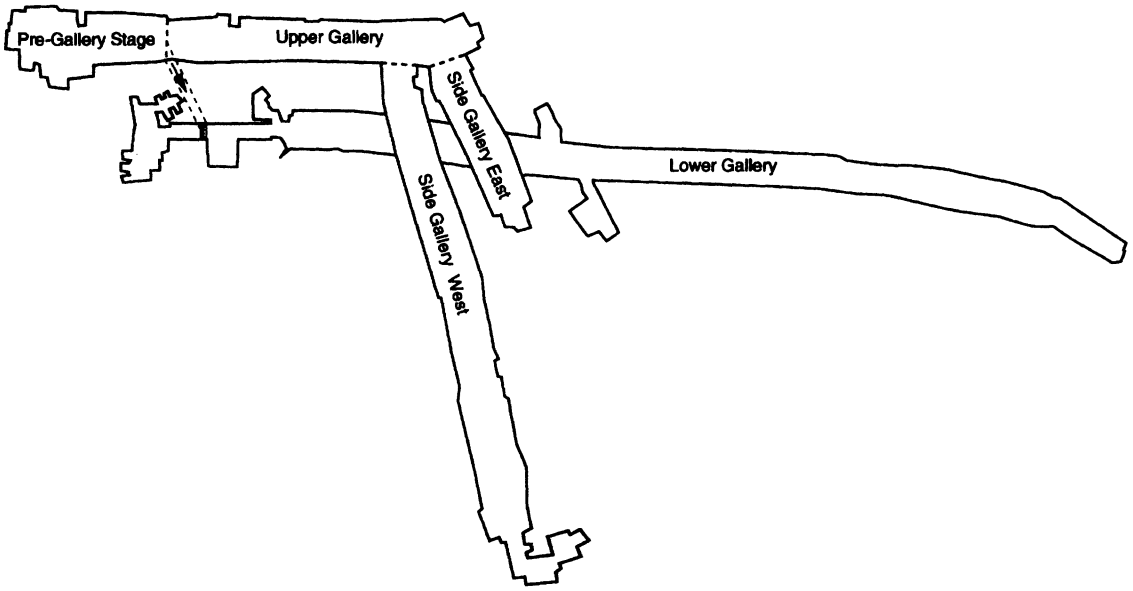


FIG. 1b. Layout of the galleries of the Baboon Catacomb.

intact monkey burials found in 1968,[6] it can be inferred that each niche was intended to contain a single monkey mummy, allowing for 437 monkey mummy burials in the Baboon Catacomb.

Including those of 16 monkeys donated to the Petrie Museum, University College London in about 1969, it is estimated that cranial remains representing 169 monkeys survive from the Baboon Catacomb. This indicates either that substantially fewer than 437 mummies were interred, or that most of them were removed and/or destroyed since their interment. We favour the latter explanation, as clear evidence was obtained during the original excavations of the Sacred Animal Necropolis for extensive destruction following the abandonment of the sacred animal burial cults, which probably occurred early in the Roman Period.[7] We found fragmented monkey mummies jettisoned then or even earlier from their original positions in the Baboon Catacomb. These remains were found within the rock-cut niches.

Two Old Kingdom tomb chambers (Vaults B and C: Vault C is the original form of the Baboon Catacomb, Vault B is immediately to the north of the Baboon Catacomb), together with the burial chamber at the base of Vault C, were reused in the earliest stage of the baboon burial cult and contained in all 43 niches. Vault E, immediately to the south of the Baboon Catacomb, had previously been unexplored. Evidence of monkey burials was absent from Vault E, but several monkey mummies (one intact), were found scattered in an earth layer about 50 cm above the vault floor. Niches 432 and 433 of the upper level of the Baboon Catacomb interconnected with Vault E. The presence in niche 433 of an inverted baboon skull with mandible in occlusion, and half of a bilaterally-divided plaster infill from a monkey mummy box, indicate early attempts to clear part of the Baboon Catacomb through this niche, most likely by robbers and plunderers in the early Roman

[6] Ibid.
[7] Emery, *JEA* 51, 3–8; id., *JEA* 53 (1967), 141–5; id., *JEA* 56, 5–9; id., *JEA* 57 (1971), 4–13.

Period. Niche 432 is situated directly over the Old Kingdom tomb shaft, and is therefore impractical for such use. The presence in Vault E of a relatively intact mummy, and the short distance this material was ejected (one baboon skeleton had evidently been thrown to the back of Vault E), suggests the interruption of the plunderers and robbers.

Material and methods

Between 24 March and 9 May 1996 a joint expedition of the Egypt Exploration Society and the University of Amsterdam took place at the Baboon Catacomb at North Saqqara, with the permission of the Supreme Council for Antiquities. As part of the expedition an inventory of all monkey remains present in the Baboon Catacomb or originating from the catacomb has been made by the authors. The primate inventory presented here is solely based on cranial material, although post-cranial material was studied simultaneously. Primate skulls were distinguished from those of other mammals by the presence of an orbital bar. Cercopithecid primate teeth can be distinguished from most other mammal teeth, particularly in the first and second molars, by the characteristic bilophodont molar cusp pattern.

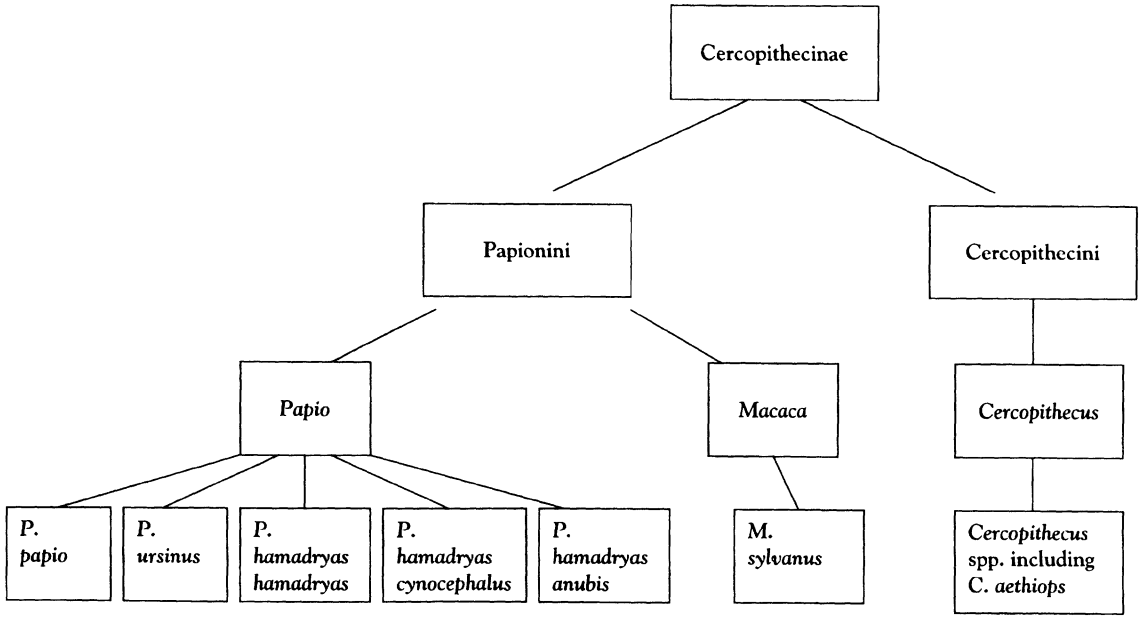


FIG. 2. Relationship between the Old World monkey species found in the Baboon Catacomb.

All primate cranial material was removed from the catacomb. Prior to removal, each item was annotated in indelible ink with its niche number. The osteological material was collected niche by niche and relocated to the temporary laboratory at the SCA rest-house used as excavation headquarters by the EES. This fragmented material was reconstructed in order to reduce the likelihood of associated fragments being interpreted as separate individuals. Baboon (genus *Papio*) cranial remains were distinguished from those of macaques (*Macaca*) by anatomical features, such as their distinctly larger teeth. The

guenon (*Cercopithecus*) skull is smaller, particularly in dentition, than the macaque skull. However, baboons and macaques belong to the same tribe—Papionini—while guenons belong to a different tribe—Cercopithecini (fig. 2). 146 baboons and 21 macaques were identified. Apart from a post-cranium, the two Petrie Museum skulls remain the only evidence of guenons in the Baboon Catacomb, and we endorse their identification by C. P. Groves (unpublished) as *Cercopithecus aethiops*, probably *Cercopithecus aethiops sabaeus* or *Cercopithecus aethiops tantalus*.

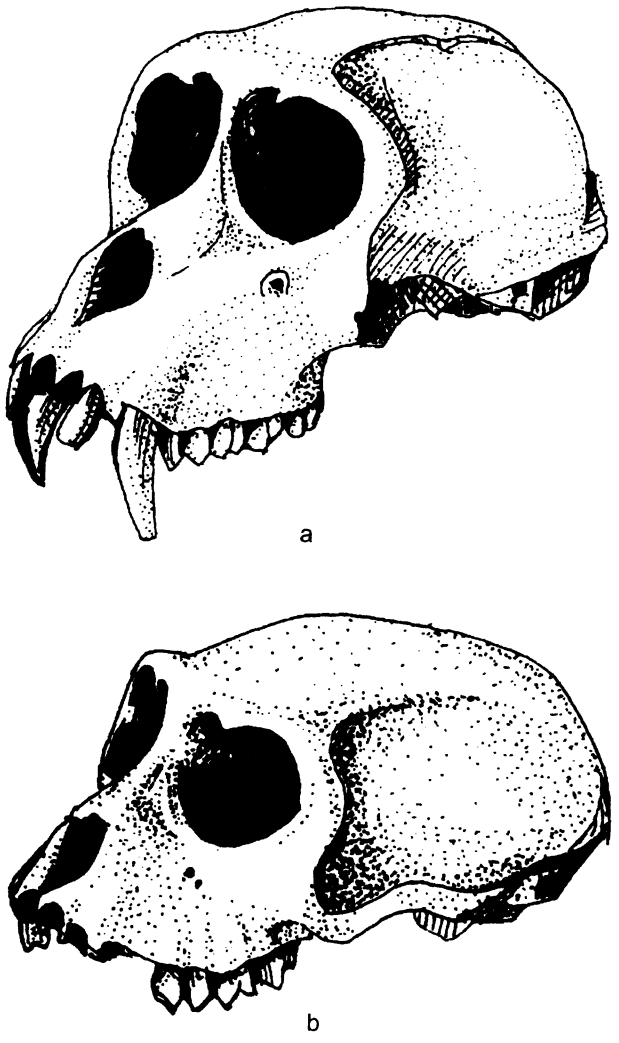
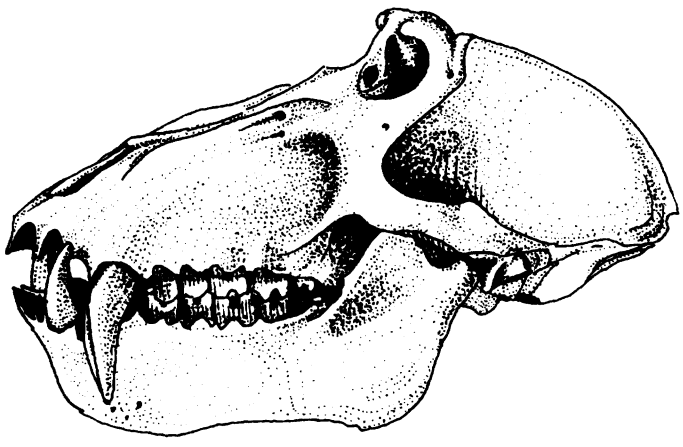
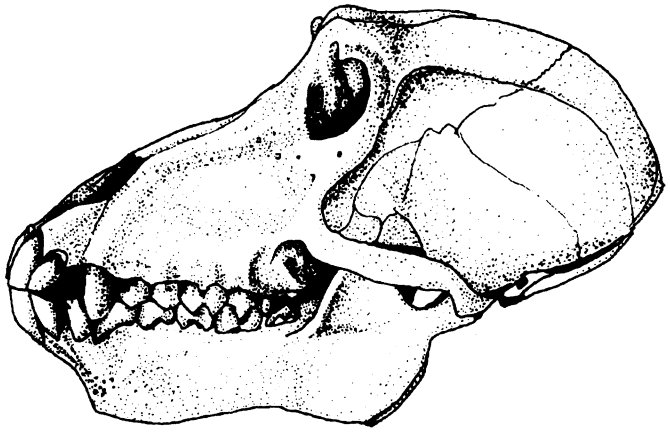


FIG. 3. Drawings of type-specimens of a male (A) and female (B) *Macaca sylvanus* calvarium (#2.032; #5.216).

The identity of the Baboon Catacomb skulls as cercopithecines was confirmed by the discreteness of the nasal aperture from the interorbital region, the entire formation of the lacrimal fossa by the enlarged lacrimal bone, the relatively swollen molar bases, and where present, the thick buccal enamel and thin lingual enamel of the mandibular incisors. Its abnormal robustness in three Baboon Catacomb macaques possibly indicates a distinct



a



b

FIG. 4. Drawings of type-specimens of a male (A) and female (B) *Papio hamadryas anubis* calvarium (#2.071; #1.434.09).

population, and tends to confirm the identity of the macaques in this catacomb as *Macaca sylvanus* (fig. 3 and pl. VI, 1–2). This is corroborated by the high incidence of bregmatic ossicle. Genetic evidence indicates that all baboons, other than *Papio ursinus* (and possibly *P. papio*, which was not sampled), should be referred to a single species, *Papio hamadryas* (fig. 2).[8] Morphological analysis to date cannot exclude the possibility that a short-skulled minority of the Saqqara baboons are referable to *P. hamadryas cynocephalus*, but none of them had the narrow, sharply-folded muzzle of *P. hamadryas hamadryas*. The cranial length (fig. 4 and pl. VI, 3–4) of the majority exceeds that of all baboons except *P. hamadryas anubis* and *P. ursinus*, but the muzzle of *P. ursinus* dips sharply on the brain case. The principal, if not exclusive, Saqqara baboon subspecies seems, therefore, to have been *P. hamadryas anubis*.

[8] A. C. van der Kuyl, C. L. Kuiken, J. T. Dekker, and J. Goudsmit, 'Phylogeny of African Monkeys Based upon Mitochondrial 12S rRNA Sequences', *Journal of Molecular Evolution* 40 (1995), 173–80.

The following monkey age-class boundaries were adopted: infant to full deciduous dentition (less than 21 months old); juvenile to fully erupted first permanent molar (±15–33 months); adolescent to one permanent tooth apex still below alveolar margin [%] ±2.5–7.5 years; [and] ±2.5–6.5 years; subadults to permanent dentition erupted, but final occlusal position incompletely attained [%] ±5.5–7.5 years; [and] ±5.8–6.5 years. Adult age (more than 6.5 years) was assessed by basal suture closure and the degree of molar dentine exposure.[9] Monkey skulls beyond the appropriate dental eruption stage were sexed primarily by the permanent canine and mandibular third permanent premolar morphology. Even if these teeth are missing, the sex of the skull can usually be determined from the cross-sectional morphology of the socket, as the female socket is more tri-lobed than the male's and also smaller in size. In the minority of cases where the anterior dentition was absent, the skull was sexed by temporal and occipital ridge morphology and/or by size.

Results

Of the 143 baboons 79 (55%) died as adults, 28 as subadults (20%), 29 as adolescents (20%), only five as juveniles (4%) and two as infants (1%) (fig. 5). 14 of the 21 macaques (67%) and both guenons died as adults. At least 140 of the 169 monkeys (83%) died at an age estimated at less than 13 years. The potential longevity is about 40 years in baboons and about 30 years in macaques.[10]

Of the 154 sexually dimorphic monkey skulls, 50 were female, but more than twice that number (104) were male (fig. 6). The breakdown for *Papio* was 86 males and 45 females, and for *Macaca*, 17 males and 4 females. Potentially fatal inter-male aggression precludes captive maintenance of more than a single adult male in all but extensive enclosures. Restricted to adults, the sex ratio is 60 males to 35 females. The breakdown for adult *Papio* was 48 males and 31 females, and for adult *Macaca*, 11 males and 3 females. Although the adult *Papio* sex ratio is less imbalanced than that for *Macaca* and for monkeys as a whole, it is still incompatible with the regular maintenance of these monkeys in social groups, or even in male–female pairs. The presence of two infants indicates limited captive breeding, but the preponderance of males suggests sex-biased monkey acquisition.

Healed skull and longbone injuries indicate adequate levels of nutrition. A 10% prevalence of caries and 16% prevalence of suspected or actual dental or periodontal disease indicates both adequate nutrition and low levels of refined carbohydrates. 82% of cranially-based individuals show dental and skull development abnormalities, probably attributable to vitamin D deficiency, possibly exacerbated by forced wearing due to capture at an early age, or by calcium or other mineral dietary deficiency. This is corroborated by the presence of three possible cases of rickets in the post-cranial material. Primates obtain vitamin D by the action of UV light on the skin, rather than through diet.[11]

[9] D. Brandon-Jones, 'The Zoogeography of Sexual Dichromatism in the Bornean Grizzled Sureli, *Presbytis comata* (Desmarest, 1822)', *Sarawak Museum Journal* 50 (1997), 117–200.

[10] C. Ross, 'Life History Pattern of New World Monkeys', *International Journal of Primatology* 12 (1991), 481–502.

[11] M. F. Hollick, 'Vitamin D and Bone Health', *Journal of Nutrition* 126 (1996), 1159s-1164s.

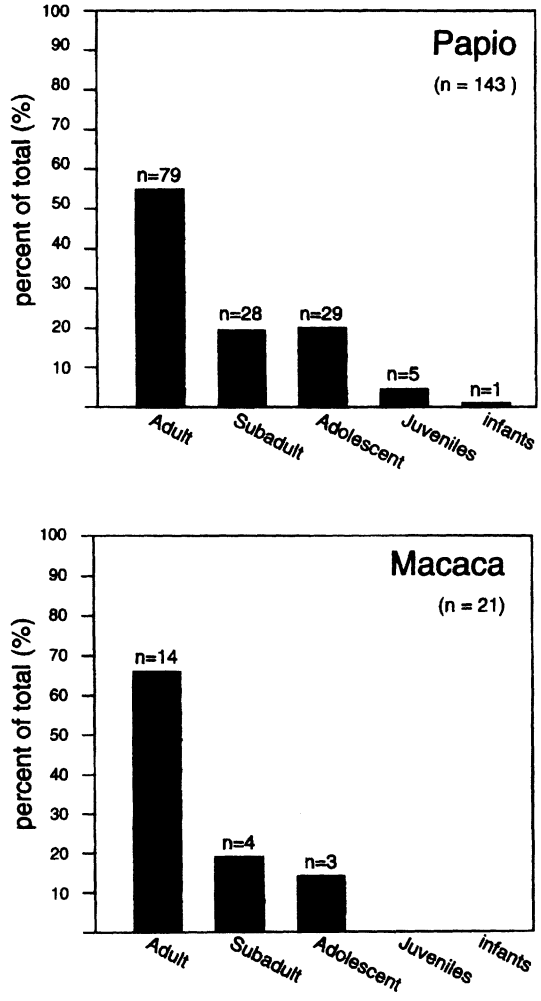


FIG. 5. Age distribution among macaques and baboons.

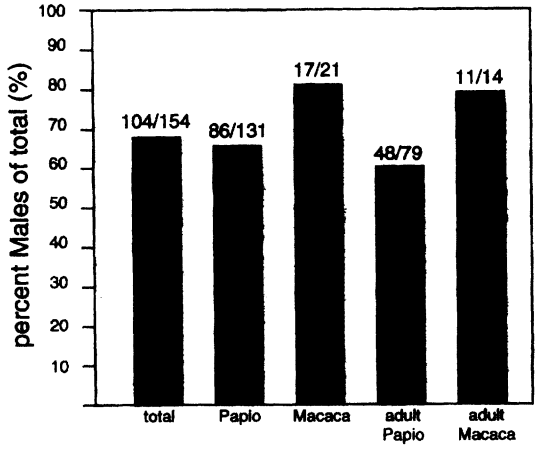


FIG. 6. Sex distribution among macaques and baboons.

Discussion

Despite its more consistent presence than the olive or anubis baboon (*Papio hamadryas anubis*) in Egyptian art,[12] we found no evidence of a hamadryas baboon (*P. h. hamadryas*) burial in the Baboon Catacomb at North Saqqara. Olive baboons were also the predominant subspecies in the Tuna el-Gebel galleries in Middle Egypt.[13] The monkey age distribution indicates that most were captured young in their habitat country, and brought to Memphis where they died as relatively young adults. While evidence for vitamin D deficiency and rickets was obtained in our mummified primate population, rickets was rare in the humans occupying ancient Egypt, because of the intense sunshine.[14] We believe that the Saqqara primates, while receiving a reasonably balanced diet, were probably confined indoors, at least during the crucial developmental period. The preponderance of males and the scarcity of infants and juveniles suggest solitary confinement, with few breeding opportunities. The frequency of macaques *Macaca sylvanus* at Saqqara surprised us, but their presence is also reported at Tuna el-Gebel.[15] *M. sylvanus* is tail-less and the ancient Greek historians distinguished tail-less from the tailed and dog-headed monkeys.[16] Ancient Egyptian amulets, statues and reliefs provide only evidence for tailed monkeys, including African green monkeys and baboons. This suggests that Graeco-Roman trade introduced the Egyptians to the Barbary macaque during the Ptolemaic Period.

We conclude from our findings in the Baboon Catacomb that the majority of mummified monkeys consisted of olive baboons (*Papio hamadryas anubis*), but not sacred baboons (*Papio hamadryas hamadryas*), and a significant minority of barbary macaques. These observations suggest two different monkey import routes: one from the south (for baboons and African green monkeys) and the other from the west (for barbary macaques).

[12] W. C. McDermott, *The Ape in Antiquity* (Baltimore, 1938), 3–33; D. J. Osborn and J. Osbornová, *The Mammals of Ancient Egypt* (Warminster, 1998), 32–9.

[13] A. von der Driesch, 'Affenhaltung und Affenverehrung in der Spätzeit des Alten Ägypten', *Tierärztl Prax* 21 (1993), 95–101.

[14] A. T. Sandison, 'Disease in Ancient Egypt', in A. Cockburn and E. Cockburn (eds), *Mummies, Disease and Ancient Cultures* (Cambridge, 1980), 35.

[15] McDermott, *The Ape in Antiquity*, 3–33; A. von der Driesch and J. Boessneck, 'Krankhaft veränderte Skelettreste von Pavianen aus altägyptischer Zeit', *Tierärztl Prax* 13 (1985), 367–72; J. E. Fa (ed.), *The Barbary Macaque: A Case Study in Conservation* (New York, 1984), 71–8.

[16] Fa, *The Barbary Macaque*, 3–15.

1. Type-specimen of a male *Macaca sylvanus* calvarium (#2.032)

2. Type-specimen of a female *Macaca sylvanus* calvarium (#5.216)

3. Type-specimen of a male *Papio hamadryas anubis* calvarium (#2.071)

1. Type-specimen of a female *Papio hamadryas anubis* calvarium (#1.434.09)

THE EPIGRAPHIC SURVEY OF SAMANUD

By NEAL A. SPENCER

Reliefs from the temple of Onuris-Shu at Samanud, recently rehoused by the SCA, are published. The temple was built between the Thirtieth Dynasty and the early Ptolemaic Period. Anepigraphic remnants, including palmiform capitals, further our knowledge of the destroyed sanctuary.

THE town of Samanud (Greek Sebennytos, *Ṯb-nṯrt* in Egyptian) lies approximately 140 km north-east of Cairo, south-west of el-Mansura. The only visible remains of the ancient nome capital, Sebennytos, are a collection of blocks, the majority of which are anepigraphic, displayed in an open-air building erected by the Supreme Council for Antiquities in 1995. Some of these blocks have been known since the nineteenth century, and represent the vestiges of a temple dedicated to Onuris-Shu.

Sebennytos is often cited in Egyptological publications, either as the place of origin for the kings of the Thirtieth Dynasty or as the birthplace of Manetho. The short entry in the *Lexikon der Ägyptologie* reflects our current level of knowledge of the site.[1] Interest in the reliefs at Samanud has so far been limited. Naville visited the site in 1887, resulting in the publication of eight line drawings.[2] He returned seven years later to make further copies, adding four previously unpublished reliefs and the naos sent to Cairo in 1892.[3] The principal sources for Samanud are two articles in *ASAE*.[4] In total, both articles published nineteen reliefs, but without photographs or line drawings, relying instead on short descriptive passages and inscriptions reproduced in the printer's font.[5] Blocks from Samanud sent to museums in Cairo,[6] Copenhagen[7] and the United States[8] were subsequently published with photographs and a brief commentary. Further photographs of blocks in museums appeared in a study on royal sculpture,[9] and a recent survey of Egyptian temples included a summary of the information already published.[10] The most recent coverage of the site is in the context of a survey of Nectanebo II's building work;[11] no new data was added to that published earlier this century.

[1] R. S. Bianchi, 'Sebennytos', *LÄ* V, 766–8.

[2] E. Naville, *The Mound of the Jew and the City of Onias. Belbeis, Samanood, Abusir, Tukh el Karmus. 1887* (MEEF 7; London, 1890), 23–7, pl. vi; Naville also outlined his findings at Samanud in a letter to the EEF committee (EES Letter V.e.30).

[3] E. Naville, *Details relevés dans les ruines de quelques temples égyptiens* (Paris, 1930), 64–6, pls. xvi–xvii.

[4] A. B. Kamal, 'Sebennytos et son temple', *ASAE* 7 (1906), 87–94; C. C. Edgar, 'Notes from the Delta', *ASAE* 11 (1911), 90–6.

[5] Nine of these blocks are still in Samanud, and thus fully published here (**4**, **5**, **6**, **8**, **13**, **15**, **19**, **20** and **26**).

[6] G. Roeder, *Naos* (CG; Leipzig, 1914), 42–3, 47–8, pls. 14, 47b–c, e, 63c–d, 83a–b.

[7] M. Mogensen, *La collection égyptienne de la Glypothèque Ny Carlsberg* (Copenhagen, 1930), 108 (A772–3), pl. 118.

[8] G. Steindorff, 'Reliefs from the temples of Sebennytos and Iseion in American Collections', *JWAG* 7–8 (1944–5), 39–59; id., *Catalogue of Egyptian Sculpture in the Walters Art Gallery* (Baltimore, 1946), 74–7, pls. 44–5, 47, 54.

[9] K. Myśliwiec, *Royal Portraiture of the Dynasties XXI-XXX* (Mainz, 1988), 71–2, 81–3, pls. lxxxvii (c–d), xcii (b–d), ciii (a–b), civ (b).

[10] D. Arnold, *Die Tempel Ägyptens: Götterwohnungen, Kultstätten, Baudenkmäler* (Zurich, 1992), 217.

[11] H. Jenni, *Elephantine*, XVII. *Die Dekoration des Chnumtempels auf Elephantine durch Nektanebos II.* (AV 90; Mainz, 1998), 87–8.

In light of this, the EES Epigraphic Survey of Samanud in October 1998[12] aimed to record the extant on-site remains, and publish them in a concise, yet complete, format.[13] A total of 149 blocks remained on site, mostly of pink granite. Subsequently, seven newly found blocks were displayed from March 1999; these were recorded in October 1999.[14] The 30 surviving reliefs are presented here in line-drawing (derived from direct copying onto acetate), with commentary on the scenes and texts. The anepigraphic blocks deemed to be architecturally significant are also considered.

The reliefs

Thirty inscribed blocks are now housed in the SCA building at Samanud, the majority being granite blocks found within the town. Prior to 1995, blocks found in the environs of Samanud were moved to the temple enclosure at Behbeit el-Hagar. This may have led to several blocks actually from Samanud itself being transported to the Behbeit el-Hagar precinct.[15] Conversely, blocks from the latter site were re-used by inhabitants of Samanud.[16] Since the 1998 season, blocks found at Abu Sir Bana have been transferred to Samanud. [17]

Blocks dated by their inscriptions are considered first. All but two are decorated in sunk relief. Dimensions given are in metres, listing height, width and depth respectively. The text is transcribed and translated, separated into columns and rows, referred to in the commentary by numbers in brackets. **1–30** are those blocks copied in 1998 and 1999; **31–59**, listed in the Appendix, are those no longer in Samanud. Finally, **3** is the only cornice illustrated, being representative of the other cornice blocks, **4** and **5**.

1 (fig. 1; pl. VII, 1) *Date*: Nectanebo II *Material*: black granite *Dimensions*: 0.57 × 0.27 × 0.38 *Note*: This block was removed from the Gawish mosque in Mehalla el-Kubra, between October 1997 and September 1998.
Description: The Horus name of Nectanebo II is partially preserved, enclosed in a *serekh* (1), and his prenomen (2). The rest of the preserved surface is polished. The layout of the decoration is more suited to a statue base or altar than to wall decoration, as there are two smoothed sides at right angles to each other.

[12] The project was supported by the Egypt Exploration Society's 1998 Centenary Fund. Thanks are due to the Society's officers for supporting the project, the General Secretary of the SCA, Dr G. A. Gaballa, for permitting the fieldwork, Dr Sabri Husnein at the Tanta Inspectorate, and Abdallah Mohammed Abu el-Hassan, Moustafa Abu Hussein and Adel Mohammed Nazif, inspectors at Samanud, who facilitated my work. Barry Kemp and Penelope Wilson read drafts of this article, leading to several helpful suggestions for which I am grateful. The photographs and line drawings are by the author, with the exception of plate VII, 1, which was photographed by Penelope Wilson in August 1993. A preliminary report included colour photographs of several blocks: N. Spencer, 'The Temple of Onuris-Shu at Samanud', *EA* 14 (1999), 7–9.

[13] Full archives, with drawings, data and photographs will be made available online (http://www.datagypt.connect-2.co.uk/samanud). This database will eventually include information on travellers' references to Samanud, from classical times until the start of the twentieth century.

[14] During a two-day visit to conduct a survey with GPS equipment, also under the auspices of the EES.

[15] Possibilities include the base of a naos and other reliefs in pink granite, found at Mehalla el-Kubra and now stored near the inspector's office at Behbeit el-Hagar. Grey granite was the principal stone used at Behbeit el-Hagar. Nonetheless, this can remain but informed conjecture, apart from those pieces which bear topographical inscriptions.

[16] E.g. C. C. Edgar and G. Roeder, 'Der Isis Tempel von Behbet', *RT* 35 (1913), 90, n. 1.

[17] **30** is the only decorated piece. I am grateful to Moustafa Abu Hussein, inspector at Samanud, for this information.

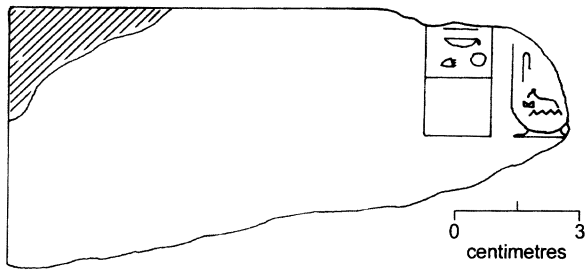


FIG. 1. Block **1**.

FIG. 2. Block **2**.

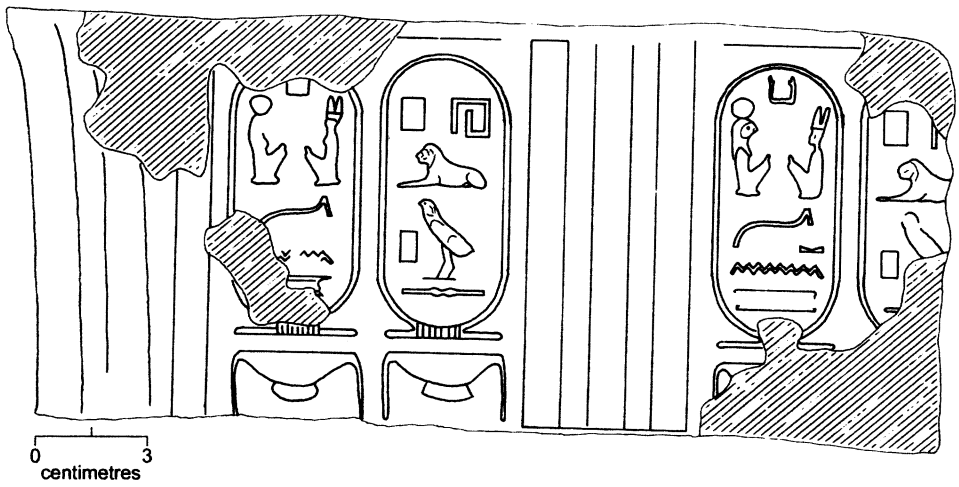


FIG. 3. Block **3**.

Text:
(1) . . . [*mry tȝwy m*]*k BȝkI*
(2) . . . *S*[*nḏm ib-Rᶜ*] *stp-n-*[*Inḥr*?]

Translation:
(1) . . . [Beloved of the Two Lands], protector of Egypt.
(2) . . . Se[nedjemibre], chosen one of [Onuris].

2 (fig. 2; pl. VII, 2) *Date*: Nectanebo II *Material*: granite *Dimensions*: 0.52 × 0.57 × 0.13
Note: This block was found in Sharia Dahab, Samanud; it was split in two and later rejoined (for photograph, see N. Spencer, *EA* 14, 9).
Description: A Hapy-style offering-bearer, with pendulous breasts and belly, wears a simple tripartite wig, originally topped by a symbol. The surviving traces suggest that it was the emblem of the Fifteenth Lower Egyptian nome[18] or a sign for the inundation (*bᶜḥ*).[19] To the left is a column of text (1). He holds a tray which bears a *ḥs*-vase, a lotus and Nectanebo II's prenomen in a cartouche (2), topped by a sun-disc flanked with feathers.

Text:
(1) . . . [*nb*] *tȝwy Snḏm-ib-Rᶜ stp-n-Inḥr ḥr*[*.k*] . . .
(2) [*Snḏm-*]*ib-Rᶜ sȝ-ȝst/BȝsI*

Translation:
(1) . . . [lord] of the Two Lands, Senedjemibre, chosen one of Onuris, before [you] . . .
(2) [Senedjem]ibre, son of Isis (or Bastet).

3 (fig. 3; pl. VIII, 1) *Date*: Philip Arrhidaeus *Material*: pink granite
Dimensions: 0.69 × 1.21 × 1.22 *Note*: Photograph in N. Spencer, *EA* 14, 7.
Description: A cornice block, carved on both sides, although the rear face is undecorated. The top has been finely polished, ready to receive the architraves. The cartouches of Philip Arrhidaeus are arranged in pairs, prenomen to the left, with a *nbw*-sign underneath each one.[20] The decorative element between each pair of cartouches alternates between bands of square or rounded section.

Text:
Phlpws stp-kȝ-n-Rᶜ mry-Imn

Translation:
Philip, chosen *ka* of Re, beloved of Amun.

4 (not drawn) *Date*: Philip Arrhidaeus *Material*: pink granite *Dimensions*: 0.86 × 1.51 × 1.31
Notes: Published by Edgar, *ASAE* 11, 91 (2).
Description: The decoration is the same as on **3** and **5**, though a torus moulding is visible below the curving part of the cornice face. The surface below is too weathered to ascertain whether it had been decorated.

[18] L. Habachi, 'Notes on the Delta Hermopolis', *ASAE* 53 (1955), 441–80.
[19] *Wb.* I, 448; P. Wilson, *A Ptolemaic Lexikon. A Lexicographical Study of the Texts in the Temple of Edfu* (OLA 78; Leuven, 1997), 312.
[20] Cornice blocks of Ptolemy II at Behbeit el-Hagar had the same decorative layout: C. Favard-Meeks, *Le temple de Behbeit el-Hagara. Essai de reconstitution* (SAK Beiheft 6; Hamburg, 1991), xv.

5 (not drawn) *Date*: Philip Arrhidaeus *Material*: pink granite *Dimensions*: 0.68 × 1.42 × 0.7
Notes: Published by Edgar, *ASAE* 11, 91 (1).
Description: Decoration is the same as on **3** and **4**, though more of the upper part of the cornice face is preserved, revealing that each cartouche was topped with a sun-disc flanked by two feathers. As with **4**, a torus moulding is partially preserved below the frieze of cartouches. All three cornice blocks are of similar scale, with a cartouche length of 0.29 m.

6 (fig. 4; pl. VIII, 2) *Date*: Alexander II *Material*: pink granite *Dimensions*: 0.68 × 0.86 × 0.45
Notes: This block was seen by Edgar earlier this century, when it joined to another relief that completed the right part of the composition (*ASAE* 11, 91–2 (3–4)).
Description: The decoration depicts Onuris-Shu wearing a simple cap-wig, uraeus and four tall feathers, holding a sceptre. Another figure stood to the right, but only the left part of an *atef*-crown and the front of the face survives. This person offers a small sphinx vessel,[21] of which the head and curving top of the back are preserved. Columns of text are preserved between the heads of the facing figures (1–5).

Text:[22]
(1) *Ỉn-Ḥr Šw sȝ Rˁ nb Ṯb-nṯrt*
(2) . . . *nb pt ḥqȝ psḏt*
(3) *Ḥwn wsr-pḥty*
(4) *n-sw-bit nb tȝwy Ḥˁˁ-ib-Rˁ stp-n-Ỉmn*
(5) *sȝ Rˁ nb ḫˁw Ỉlksindrs*
(6) *di ˁnḫ*
(7) *Bḥdt*
(8) *ḏd-mdw in n-sw-bit Ỉlksindrs ḥr.k* . . .
(9) *di.s snby nbt* . . .
(10) *ir Rˁ nb pt ḥnw nṯrw nb* . . .

Translation:
(1) Onuris-Shu, son of Re, lord of Sebennytos.
(2) . . . lord of heaven, ruler of the Ennead.[23]
(3) [The Horus] youth strong of might.
(4) King of Upper and Lower Egypt, lord of the Two Lands, Khaa-ib-re, chosen one of Amun.
(5) Son of Re, lord of diadems, Alexander.
(6) Given life.
(7) The Behdetite.
(8) Words spoken by the King of Upper and Lower Egypt, Alexander, before you . . .
(9) She gives all health . . .
(10) Made of Re, ruler of heaven, mistress of all the gods . . .

[21] Parallels: Dendera, pharaoh offering a sphinx to Isis: E. Chassinat, *Le temple de Dendera*, III, 128, pl. ccxiv; offering a sphinx to Hathor and Horus; Chassinat, *Dendera* VI, pl. dxxxix. At Philae, accompanying texts always identify the sphinx as a holder for myrrh: E. Vassilika, *Ptolemaic Philae* (OLA 34; Leiden, 1989), 111.
[22] Lines 6–10 are based on Edgar's copy of the now lost right half of the block.
[23] At Edfu, *psḏt* can refer to all the gods worshipped within that temple, rather than a specific set of nine gods: Wilson, *Ptolemaic Lexikon*, 375–6.

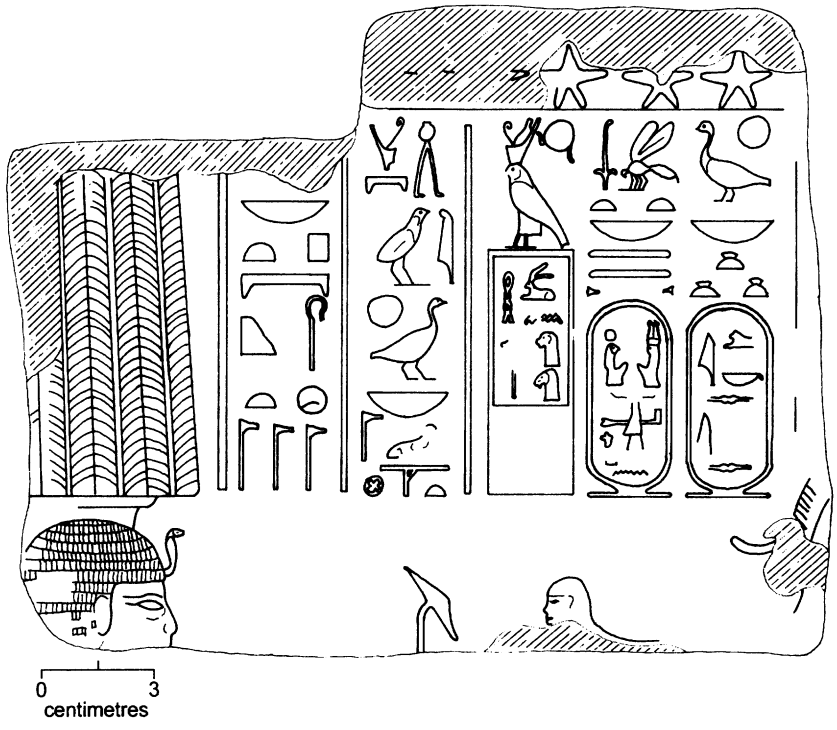


FIG. 4. Block **6**.

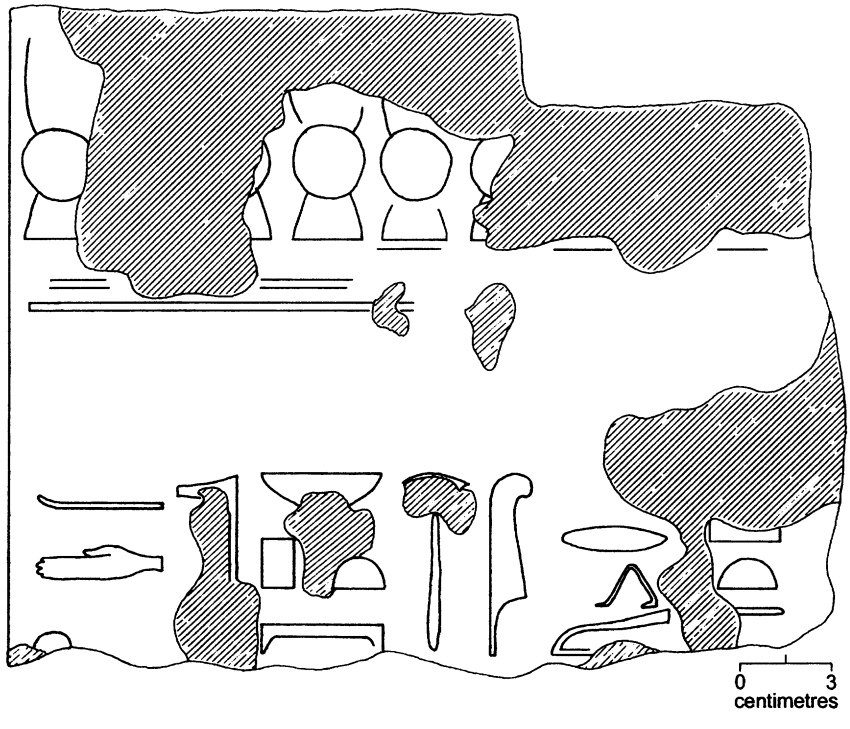


FIG. 5. Block **7**.

7 (fig. 5) *Material*: pink granite *Dimensions*: 0.9 × 1.35 × 0.39
Description: Block with a vertical torus moulding on the left side. A *kheker*-frieze frames the top, beneath which runs a row of large hieroglyphs. Decoration is very similar to **8**, where a line of medium-sized text separates the frieze from the large text. On this block, there is sufficient space for this, but it was never decorated (a smooth surface remains). Scale and the remains of an inscription suggest a similar context within the temple to **8**; the style of the sunk relief also points to the two blocks being contemporary.

Text:
. . . *Bḥdt nṯr* [*ꜥ*] *nb pt sꜣb šw*(*t*) *pḫr* (?) *m* [– –]*t* . . .

Translation:
. . . the Behdetite, [great] god, lord of heaven, dappled of plummage,[24] who goes throughout . . .

8 (fig. 6; pl. IX, 1) *Material*: pink granite *Dimensions*: 1.05 × 0.97 × 0.47
Notes: Previously published by Edgar, *ASAE* 11, 92 (5).
Description: Block featuring a vertical torus moulding on its left side. A frieze of *khekers* adorns the top, followed by two horizontal lines of text (1–2). In the bottom right corner is preserved the top of a head-dress, consisting of two or more tall feathers; to the left is the top of an *atef*-crown. In between are two columns of hieroglyphs (3–4), identifying the left figure as Mehit. The top of the scene is framed by a row of stars. The text preserved in the upper lines is familiar from the bands of dedicatory inscriptions, appearing at the tops and bottoms of temple walls.[25] The scene below, now lost, undoubtedly depicted the king to the right, offering to Onuris-Shu in four-feathered head-dress, and his consort Mehit, depicted with an *atef*-crown, as on other blocks from Samanud (**13**, **19** and **26**).

Text:
(1) [*In-Ḥr Šw*] . . . *sḫr ḥftyw.f* [26]
(2) *Bḥdt nṯr ꜥ nb pt sꜣb šw*(*t*) . . .
(3) *Mḥt* . . .
(4) *nb*[*t*] *pt ḥry-ib* ..

Translation:
(1) [Onuris-Shu] . . . slaying his foes.
(2) The Behdetite, great god, lord of heaven, dappled of plummage . . .
(3) Mehit . . .
(4) mistress of heaven, who is in . . .

9 (fig. 7; pl. IX, 2) *Material*: pink granite *Dimensions*: 0.9 × 1.14 × 0.44
Description: The block has a vertical torus moulding on the left side. The right edge also has a raised feature which widens towards the bottom. Two columns of text (1–2) are divided by an incised line. The town name, partially preserved at the top of the left column is not, to my knowledge, paralleled in other sources.

[24] A common epithet of Horus of Edfu; see e.g. S. Cauville, *Le temple de Dendara. Les chapelles osiriennes* (BdE 119; Cairo, 1997), III, 463.
[25] E.g. in the Edfu sanctuary: E. Chassinat, *Le temple d'Edfou*, I (MMAF 10; Cairo, 1897), 22–3.
[26] This phrase appears in the Onuris mythology from Philae; 'slaying his foes on the occasion of festival': H. Junker, *Die Onurislegende* (Vienna, 1917), 3.

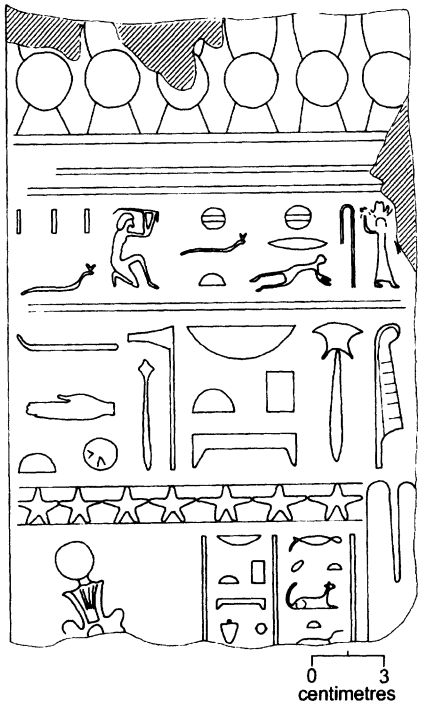


FIG. 6. Block **8**.

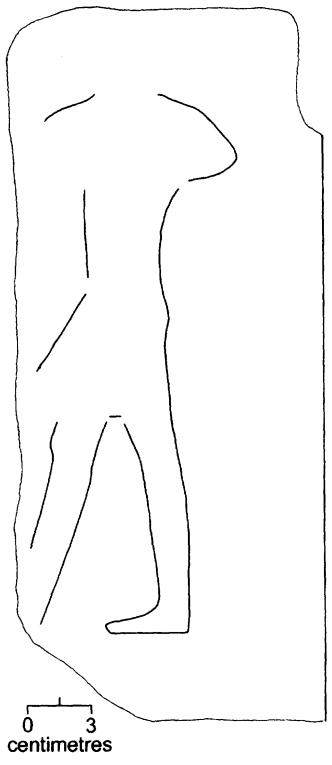


FIG. 8. Block **10**.

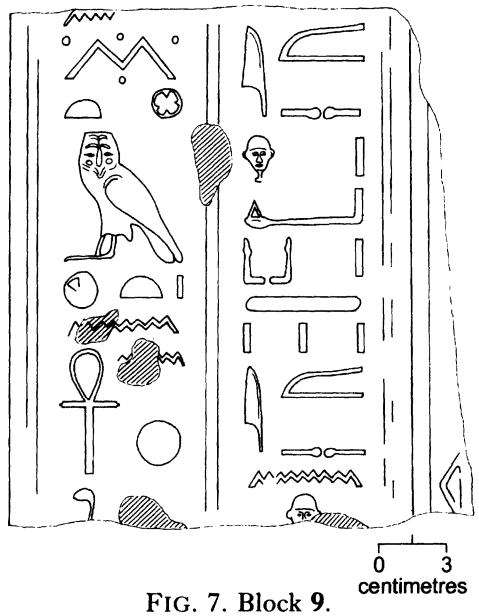


FIG. 7. Block **9**.

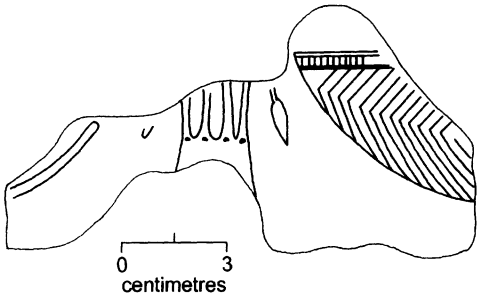


FIG. 9. Block **11**.

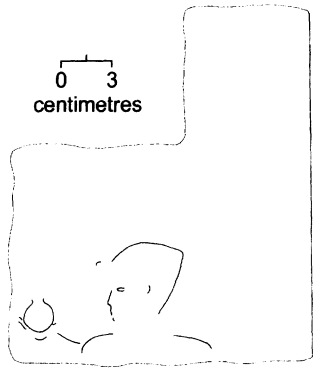


FIG. 10. Block **12**.

Text:
(1) . . . *m niwt n ⸢nḫ ḏ* . . .
(2) . . . *im.s ḥr di kꜣw im.s n* . . .

Translation:
(1) . . .(town name) as the city of life . . .
(2) . . . therein, giving offerings therein . . .

10 (fig. 8) *Material*: pink granite *Dimensions*: 1.25 × 0.84 × 0.52
Description: Block with a vertical torus moulding on the right side. The piece is very badly weathered, but in the early afternoon light, a standing figure of pharaoh is visible. He wears a triangular kilt.[27]

11 (fig. 9; pl. X, 1) *Material*: quartzite *Dimensions*: 0.62 × 0.68 × 0.61
Description: The decorated face of this block is very small. To the right is the left part of a *ḥb*-basket. Immediately to its left is the middle section of a (plant), most commonly used to denote the Delta (*Tꜣ-mḥw*). Another sign is partially preserved to the left.

12 (fig. 10; pl. X, 2) *Material*: pink granite *Dimensions*:0.83 × 0.97 × 0.4
Description: Vertical torus moulding on the left side. The decoration is very badly weathered, but with the right light conditions, the figure of a king is discernible. The head and shoulders survive, and one can make out a *khepresh*-crown with uraeus. The king holds a *nw*-jar.

13 (fig. 11; pl. X, 3) *Material*: pink granite *Dimensions*: 0.91 × 0.63 × 0.55
Notes: Published by Edgar, *ASAE* 11, 93 (8).
Description: On the left are the remains of a figure of a deity, with a curved beard, uraeus, collar, pectoral and *atef*-crown, holding the *wꜣs*-sceptre. In front of him, a goddess with a braided tripartite wig, *atef*-crown and collar. In front of the god's head are three lines of text (1–3), fully preserved (indicated by the incised line above them). The face of the goddess is not preserved; parallels on two other blocks suggest the figure should be identified as Mehit (**19** and **26**). Presumably, the king stood to the right, performing a rite.

Text:
(1) *Ỉn-Ḥr Šw sꜣ Rᶜ nb*
(2) *ꜣtf ⸢ꜣ wr ḥḏt*
(3) *ḥry-ib Ḥwt-Qnw*

Translation:
(1) Onuris-Shu, son of Re, lord of
(2) the great *atef*-crown, great of the white crown
(3) who resides in the *Ḥwt-Qnw* (see discussion below).

14 (fig. 12; pl. XI, 1) *Material*: pink granite *Dimensions*: 0.66 × 0.93 × 0.48
Description: Three columns of text, with the left one (1) on a surface set back 2 cm. The orientation of the signs indicates the left column is part of the last line of one text; columns (2) and (3) 'face' each other, suggesting they formed part of a short rubric. The right column (3) is most likely to refer to Onuris-Shu or Mehit. The phrase 'image of . . .' can be applied to associate

[27] At Philae, such kilts are only associated with static offering scenes: Vassilika, *Ptolemaic Philae*, 96.

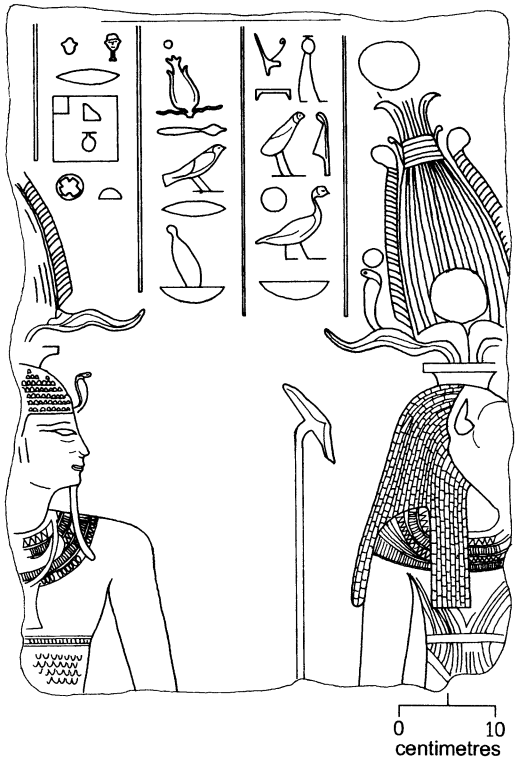


FIG. 11. Block **13**.

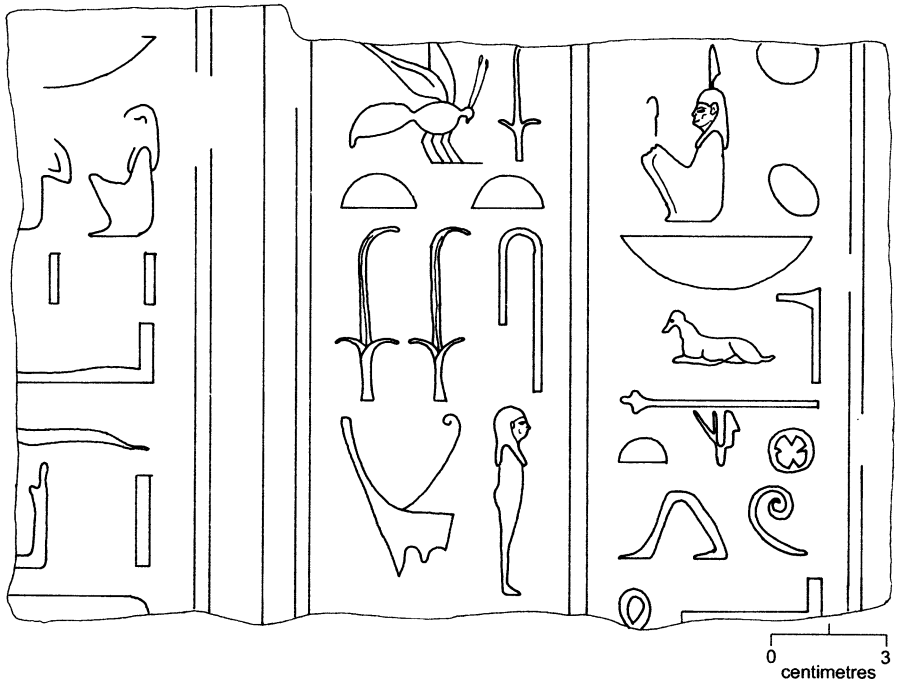


FIG. 12. Block **14**.

god with god, but particularly a king to a god; the deity chosen would reflect the particular ritual in which the king was participating.[28] A block seen by Edgar (**53**) was from a similar context, based on scale, inscription and the division of the text columns.

Text:
(1) . . . *nb pʿt di.f kꜣw* . . .
(2) . . . *n-sw-bit snn n* . . .
(3) . . . *sꜣ Mꜣʿt* (?) *nb Ṯb-nṯrt iw ḥʿ(ʿ)* . . .

Translation:
(1) . . . lord of the people,[29] he gives offerings . . .
(2) . . . King of Upper and Lower Egypt, image of . . .
(3) . . . son of Maat, lord of Sebennytos, who comes rejoicing . . .

15 (fig.13; pl. XI, 2) *Material*: pink granite *Dimensions*: 0.74 × 1.06 × 0.34
Notes: Published by Edgar, *ASAE* 11, 93 (6)b. There is a red staining across the scene.
Description: A figure, standing holding a sceptre, wears an ankle-length scaled kilt, through which his limbs can be made out. An *ʿnḫ*-sign is held in the right hand; the feet are lost. Behind is the sceptre of another figure, now lost apart from the hand and sceptre. To the far right of the block, the corner of a kilt can be seen, worn by a figure facing left, undoubtedly pharaoh. Columns of text are partially preserved beneath both figures' hands (1–2), and a horizontal inscription between the central figure and that originally to the right of the scene (3).

Text:
(1) . . . . . [*nb nfr*] (Edgar: *di.n n.k ḫt nb nfr*)
(2) *di.n(.i) n.k ḥʿp ʿꜣ* . . . (Edgar: *di.n n.k ḥʿ.. ʿꜣ wr*)
(3) *ir qbḥ snṯr n it.f .. n.f di* . . . (Edgar: *ir ḥs n it.f ir.n.f di ʿnḫ*)

Translation (incorporating Edgar's readings):
(1) (I) give to you every beautiful thing.
(2) (I) give to you a great and plentiful inundation.[30]
(3) Performing libation and censing for his father, may he make 'given life'.[31]

16 (fig. 14) *Material*: sandstone *Dimensions*: 0.79 × 0.58 × 0.40
Note: This block was recently removed from Sharia Dahab, near the Hanafy mosque in Mehalla el-Kubra.
Description: The only traces of a scene are the feet of a female figure, facing right. To her left, the hieroglyph *nṯr* is the sole remnant of an inscription. Below this, part of a horizontal row of text is preserved, in larger hieroglyphs.

Text:
. . . *shtp qnd* . . .

[28] Wilson, *Ptolemaic Lexikon*, 865.
[29] Horus is given the same epithet at Edfu: Wilson, *Ptolemaic Lexikon*, 347.
[30] Parallel on a Nectanebo II relief from Behbeit el-Hagar: Favard-Meeks, *Behbeit el-Hagara*, 250.
[31] Parallel on **46**; cf. Steindorff, *Catalogue*, 77, no. 259, n. 1.

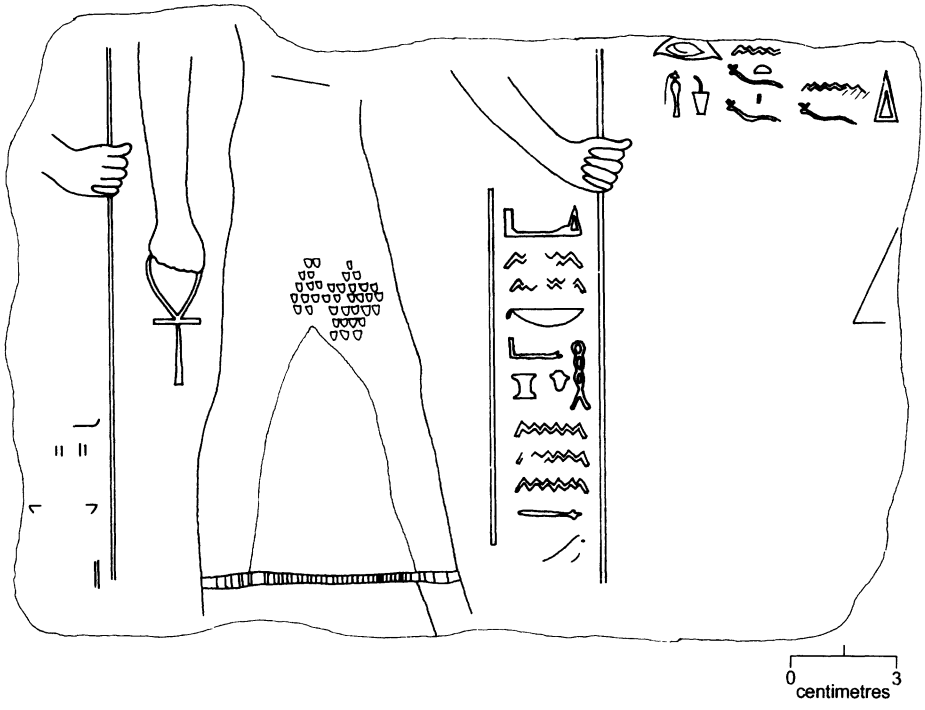


FIG. 13. Block **15**.

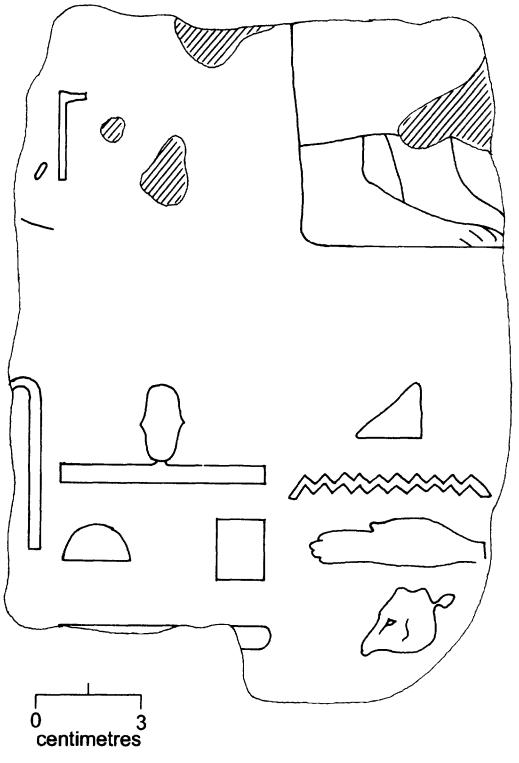


FIG. 14. Block **16**.

FIG. 15. Block **17**.

Translation:
. . . pacifying the raging one [32] . . .

17 (fig. 15) *Material*: sandstone *Dimensions*: 0.54 × 0.72 × 0.42
Note: This block was also recently removed from Sharia Dahab, near the Hanafy mosque in Mehalla el-Kubra.
Description: The bottom part of a mummiform or ithyphallic figure is preserved, with a column of hieroglyphs before it (1). Behind the figure is an incised vertical line. Below this register, the remnants of a horizontal row of text appear (2). The line behind the figure could represent a frame to the scene or the decorative element attached to the head-dress, typically found on representations of ithyphallic Amun-Re[33] or Min, [34] and even the rarely attested ithyphallic Mut.[35] However, an identification of the figure as Osiris is more plausible in light of the nearby cult centres of Busiris and Behbeit el-Hagar; a block found at the latter site depicts pharaoh offering to Osiris, with a similar accompanying text.[36]

Text:
(1) . . . *ỉwt-ib ḥr st Ḥr ḏt*
(2) *..t.. ..ḥ.. mr mwt.. ..*

Translation:
(1) . . . rejoicing upon the throne of Horus eternally.
(2) . . . . . beloved of . . . mother (?) . . .

18 (fig. 16; pl. XII, 1) *Material*: pink granite *Dimensions*: 0.54 × 0.74 × 0.26
Notes: Found at the Ezbet Anis in Kemaleya, about 10 km from Samanud. Displayed in the SCA building since October 1997.[37]
Description: The lower part of the decoration is missing, partly due to the curvature of the block. The left seems to be a decorative or pictorial element rather than text; three vases alternate with two falcon-headed canopic jars. A vertical line separates these elements from a column of text, of which only *pr* survives.

19 (fig. 17) *Material*: pink granite *Dimensions*: 0.73 × 0.9 × 0.39
Notes: Possibly published by Edgar (*ASAE* 11, 93 (7)). His block included stars above the goddess, but the dimensions and other components of the scene are compatible.

[32] At Edfu, the *shtp*-ritual is frequently used with respect to Sekhmet, a lioness deity who becomes furious with anger: Wilson, *Ptolemaic Lexikon*, 894–5. On the Samanud block, a female figure was present, quite possibly Mehit. In the Late Period, lioness deities such as Mehit, Tefnut, Pakhet and Bastet could be portrayed as the protagonists in the myths associated to Sekhmet: P. Germond, *Sekhmet et la protection du monde* (Aegyptiaca Helvetica 9; Geneva, 1981), 133, n. 3. One of the Samanud naoi (**33**) actually depicts Sekhmet with Onuris-Shu.
[33] E.g. H. H. Nelson, *The Great Hypostyle Hall at Karnak*, I. Part 1. *The Wall Reliefs* (OIP 106; Chicago, 1981), pl. 11.
[34] R. H. Wilkinson, 'Ancient Near Eastern Raised-arm Figures and the Iconography of the Egyptian God Min', *BES* 11 (1991–2), 109–18. A form of Min, 'lord of Hebyt', was depicted at Behbeit el-Hagar: Favard-Meeks, *Behbeit el-Hagara*, 9.
[35] L. Lamy, *Egyptian Mysteries—New Light on Ancient Knowledge* (London, 1981), 47; S.-A. Naguib, *Le clergé féminin d'Amon thébain à la 21e Dynastie* (OLA 38, Louvain, 1998), pl. 6 (fig. 14).
[36] *ḏd-mdw di.n.(i) n.k* [*ỉwt-ib*] *nb ḥr st Ḥr*: Favard-Meeks, *Behbeit el-Hagara*, 231–2.
[37] It was not present when I visited on 12 October 1997.

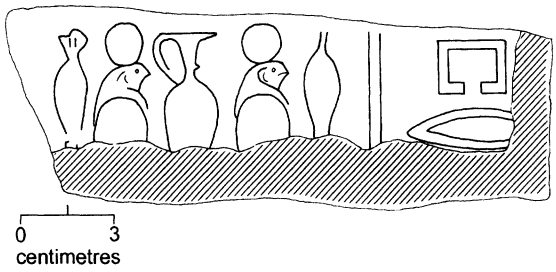


FIG. 16. Block **18**.

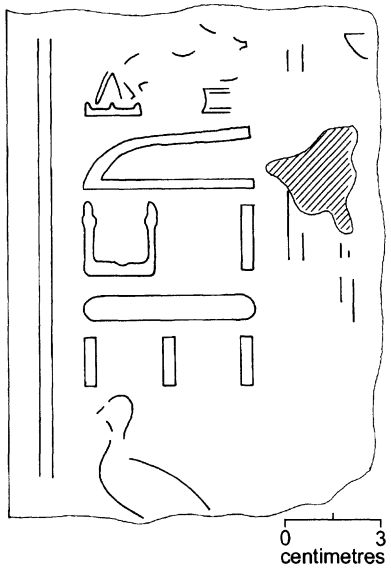


FIG. 18. Block **20**.

FIG. 20. Block **22**.

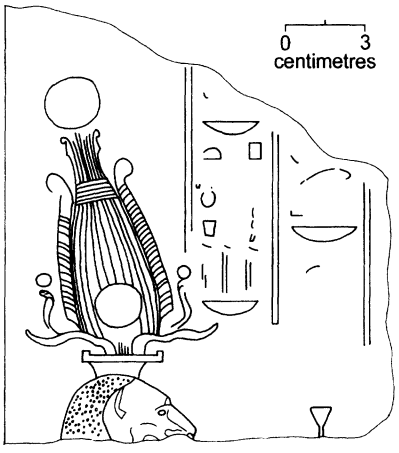


FIG. 17. Block **19**.

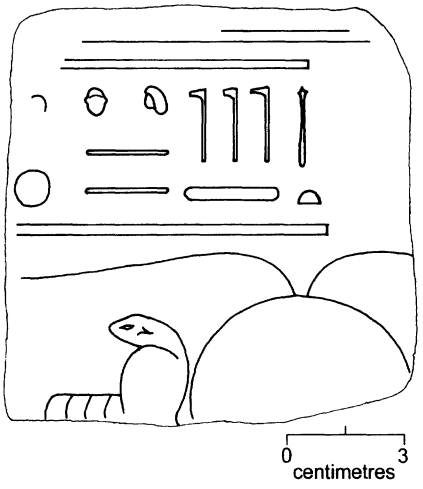


FIG. 19. Block **21**.

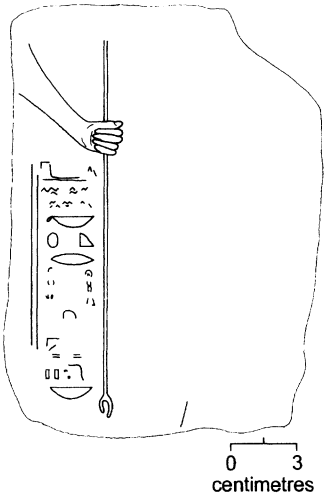


FIG. 21. Block **23**.

Description: A vertical torus moulding edges the left side of the block. A lioness deity wears an *atef*-crown with uraei, holding a sceptre. Only the head and crown survive, with the top of the sceptre. Two columns of text appear before the deity (1–2). She is undoubtedly Mehit, as on several other blocks (**13** and **26**).

Text:
(1) . . . *nb* . . . (Edgar: . . . *sꜣtt Rᶜ nb Ṯb-nṯrt*)
(2) . . . *nb pt ḥnw(t) nṯrw nb* (Edgar: *ir Rᶜ nb pt ḥnw nṯrw nb*)

Translation (incorporates Edgar's readings):
(1) . . . daughter of Re, ruler of Sebennytos.
(2) . . . begotten of Re, ruler of heaven, ruler of all the gods.

20 (fig. 18) *Material*: pink granite *Dimensions*: 0.66 × 0.91 × 0.56
Notes: Published by Edgar, *ASAE* 11, 94 (10).
Description: A vertical torus moulding lines the left side. The remaining surface is taken up by a column of large hieroglyphs (1); the remains of a *nb*-sign indicate the original presence of a second column.

Text:
. . . [*bᶜḥ*] *m kꜣw* . . . (Edgar: *bᶜḥ m kꜣw*)

Translation:
. . . [flooded] with food offerings . . .

21 (fig. 19; pl. XII, 2) *Material*: pink granite *Dimensions*: 0.42 × 0.44 × 0.8
Notes: From Nemra el-Basal, near Mehalla el-Kubra.
Description: A horizontal band edges the top of the scene. The end of a line of text is preserved (1). The only remnant of the scene is a sun-disc sporting a finely-carved uraeus. Two sweeping lines originating at the top of the disc were the upper part of the wings.[38] The present size of the block is evidently a result of its re-use, as the back is carved into a raised circle (diameter 0.4 m, depth 0.15 m). More so than the other stones recently unearthed in surrounding areas, this block fits into the corpus very well, in terms of material, scale and workmanship.

Text:
. . . [*-niwt*] *ḥry-tp tꜣwy psḏt ᶜꜣt*

Translation:
. . . [-town] chief of the Two Lands, and the Great Ennead.

22 (fig. 20; pl. XII, 3) *Material*: quartzite *Dimensions*: 0.38 × 0.42 × 0.31
Description: Only a small area of the decorated face survives. A lapwing head is depicted, clear from the erectile crest diagnostic of this species.[39] This may be a fragment of a frieze of such birds (**48** and **51**).

[38] Winged sun-discs were preserved in reliefs from Nectanebo II's temple at Elephantine: Jenni, *Elephantine* XVII, pl. 11, no. 1248; pl. 12, no. 1243.
[39] P. F. Houlihan, *The Birds of Ancient Egypt* (Warminster, 1986), 93–6.

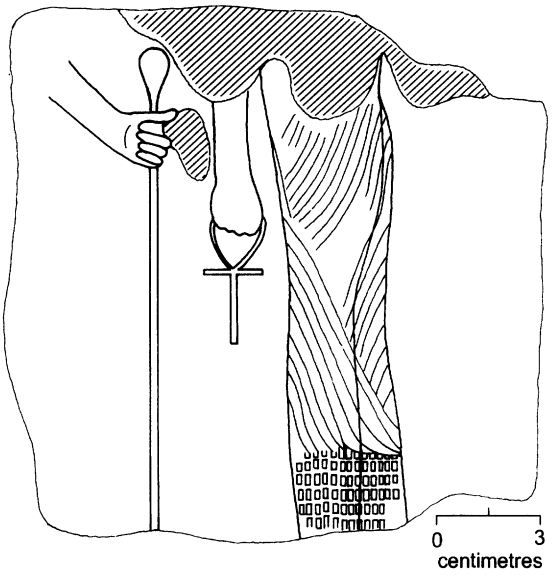


FIG. 22. Block **24**.

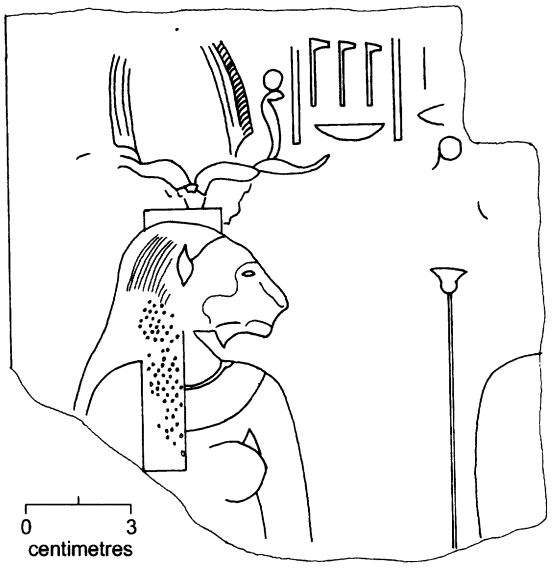


FIG. 24. Block **26**.

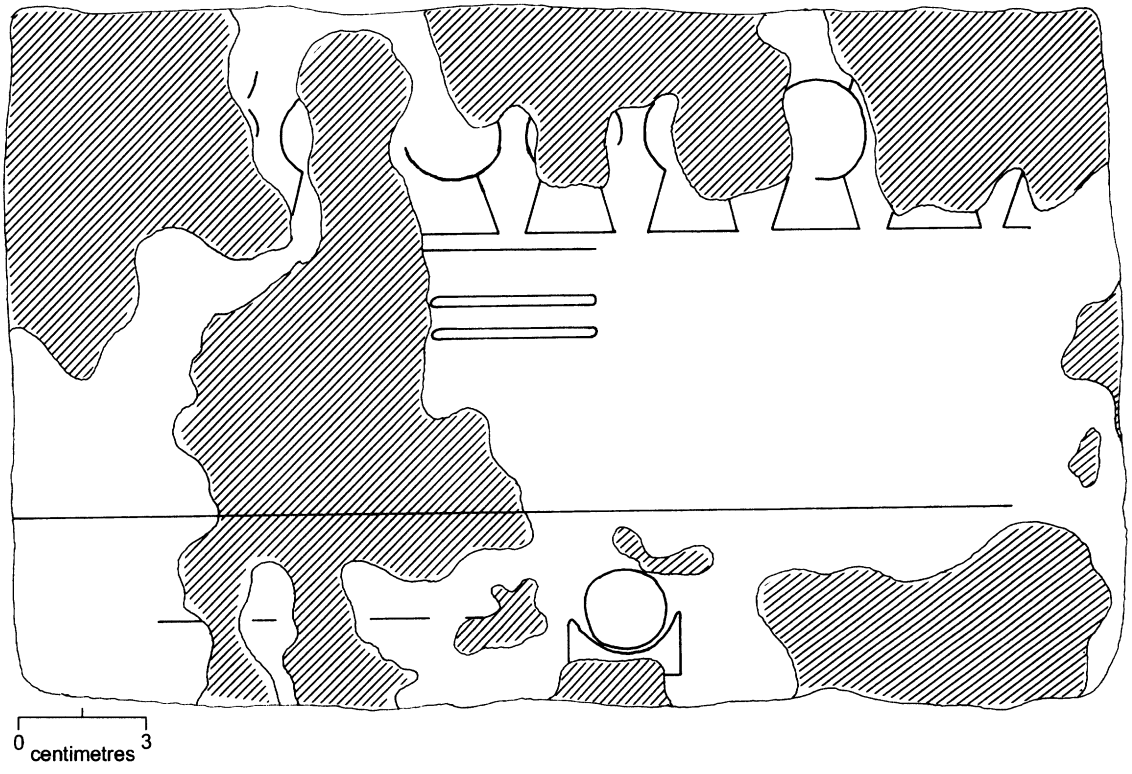


FIG. 23. Block **25**.

23 (fig. 21) *Material*: pink granite *Dimensions*: 0.78 × 0.59 × 0.52
Description: On the far left of the block, a figure, now mostly lost, holds a sceptre. Underneath the preserved forearm is a column of text (1). Near the centre of the bottom, an incised line is clear, possibly the left edge of an offering table or stand.

Text:
di.n.(i) n.k .. q.. r .. .. nb [40]

Translation:
(I) give to you . . . all . . .

24 (fig. 22; pl. XIII, 1) *Material*: pink granite *Dimensions*: 0.63 × 0.61 × 0.41
Description: To the left, a forearm and hand of a figure holding a *ḥḏ*-mace remain. In front, a female deity wearing a long patterned dress with vulture-wing motif, similar to that of **27**, holds an *ʿnḫ*-sign in her right hand.[41] Both figures face right.

25 (fig. 23) *Material*: pink granite *Dimensions*: 1.67 × 1.09 × 0.58
Description: The decorated face is very weathered, but the general nature of the decoration can be seen. A *kheker*-frieze runs along the top, underneath which are two lines that could be part of longer decorative elements or the hieroglyphs for *tȝwy*. The lower part of the block was taken up with a horizontal inscription, of which only an *ȝḫt*-hieroglyph survives. Obvious parallels are **7** and **8**.

26 (fig. 24; pl. XIII, 2)[42] *Material*: pink granite *Dimensions*: 0.66 × 0.88 × 0.42
Description: A vertical torus moulding is preserved in the upper left part. A lioness deity faces right, wearing a braided wig, lightly incised collar and *atef*-crown, and holding a sceptre in her hand. The figure is lost below the breast. She holds a sceptre in her hand. The ends of two lines of inscription are visible above her head (1–2). The right shoulder and arm of another figure can be seen to the right.

Text:
(1) .. *rḫ* .. [?][43]
(2) . . . *nṯrw nb*

Translation:
(2) . . . all the gods.

27 (fig. 25; pl. XIII, 3) *Material*: pink granite *Dimensions*: 1.35 × 1.32 × 0.59
Description: The largest decorated block preserved from the temple, including those no longer in Samanud. On the left, a female goddess faces right, wearing a long dress with vulture-wing motif and holding a sceptre. Before her, also facing right, stands a male figure, dressed in an ankle-length outfit, holding a short *ḥḏ*-mace. He wears a simple flat cap-wig, with no uraeus (surviving). Above

[40] Penelope Wilson (personal communication, 3 May 1999) suggested the reading *di.n.(i) n.k qrrt . . . nb*, '(I) give to you all . . .burnt food offerings'. The surface of the block is extremely weathered, yet this reconstruction fits the visible signs and their spacing.

[41] For a Thirtieth Dynasty parallel from Elephantine; see Jenni, *Elephantine* XVII, pl. 29, no. 0294. This relief still bears some paint.

[42] Cf. N. Spencer, *EA* 14, 9.

[43] The *ḥ*-sign may actually be a sun-disc with uraeus, but the relief is too damaged to be certain.

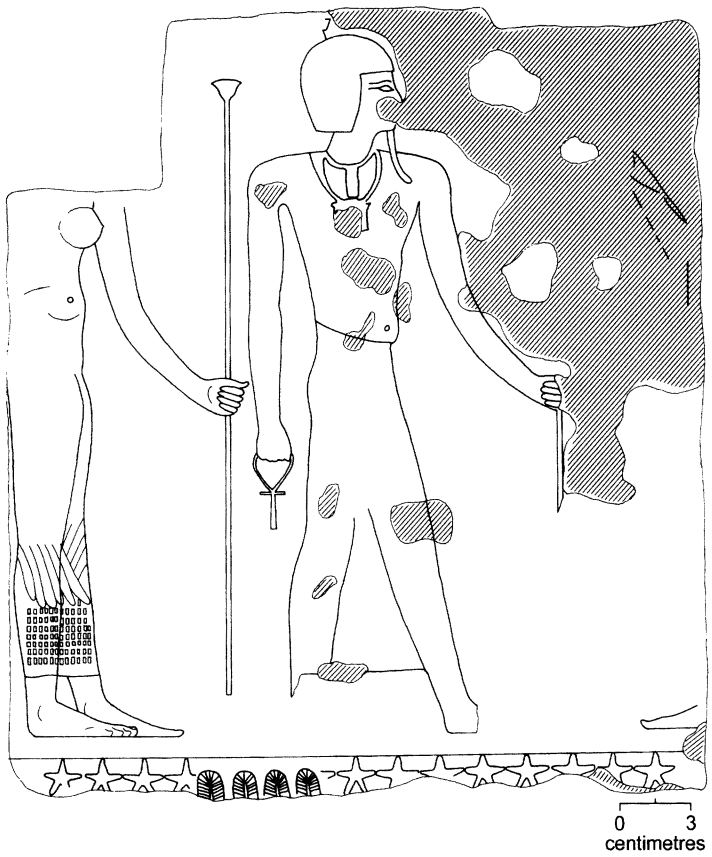


FIG. 25. Block **27**.

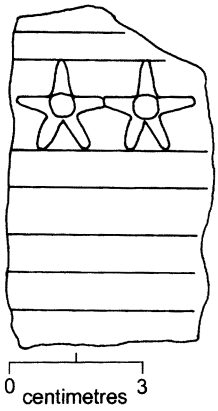


FIG. 26. Block **28**.

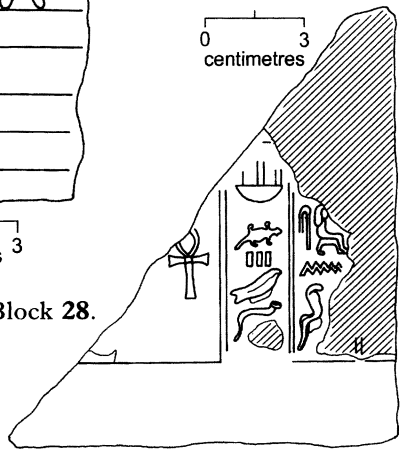


FIG. 27. Block **29**.

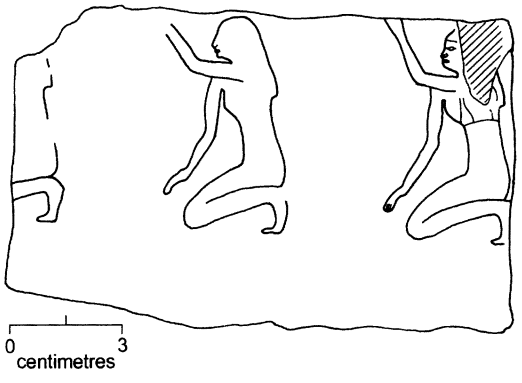


FIG. 28. Block **30**.

his wig, there are traces of an element that would have connected a crown to the head.[44] An *ꜥnḫ*-sign is carried in his right hand. He wears two necklaces, one supporting an amulet, the other a pendant. In the bottom right are the toes of a foot belonging to a figure facing left. Directly above, there is a carved feature possibly belonging to this figure; it appears to be of falcon form, but is too large for a textual element. Could it be a standard held by the king? The top of the register below is visible, showing the tips of four tall feathers of a god, presumably Onuris. The registers are split with a row of stars, into which the tall feathers protrude. No text survives on the block.

The main scene is likely to have depicted pharaoh, Onuris-Shu and Mehit. An interesting feature of this block is that it was evidently unfinished, as neither the male god's feet or the sceptre he holds was completed. The lack of inscriptions is often attributed to weathering. However, in this case, the spaces between the figure are still exceptionally smooth in places. In light of the unfinished nature of the principal figure, it is possible that the text was never added. One would expect text to be carved after the figures. It is possible that the inscriptions were located further up, in front of the figures' head-dresses.

28 (fig. 26) *Material*: pink granite *Dimensions*: 0.18 × 0.31 × 0.37
Description: A small block with remnants of a single row of stars, with parts of three parallel horizontal lines below. The use of bas-relief is only found on one other block (**29**).

29 (fig. 27; pl. XIII, 4) *Material*: grey granite *Dimensions*: 0.42 × 0.51 × 0.36
Notes: Found in a house near the train station, in May 1999.
Description: Only the bottom right corner of the bas-relief decoration survives. The front of a foot belonged to a figure facing right; the *ꜥnḫ*-sign before it may have hung from an offering tray, as on dado processions (**36**, **38** and **39**). Remnants of two lines of text are preserved to the right.

Text:
(1) . . . *šps n nbty* (?)
(2) . . . [*ḥb-sd*] *ꜥšꜣw wr ḏ*[*t*]

Translation:
(1) . . . noble one of the Two Ladies (?)
(2) . . . many great [*sed*-festival(s)] for eternity.

30 (fig. 28) *Material*: limestone *Dimensions*: 0.58 × 0.36 × 0.09
Notes: Found at Abusir Bana, May 1999. In all likelihood, this originated in a sacred or mortuary structure at ancient Busiris. However, the relief is included here for completeness.
Description: A very thin block bears incised relief decoration. Three women are depicted crouching, each with one hand raised in adoration, the other resting by her side. Although the figures are placed on the same level, there is no trace of a baseline, or of any text. The women are probably *meret*-singers.[45] The block could be from a temple context, where *meret*-singers are depicted in ritual scenes, or from a funerary monument. In the latter case, the singers appear at funerals and as protector-deities. The small size (particularly its depth), the material and quality of relief would suit tomb decorations (i.e. a small chamber lined with decorated limestone blocks).

[44] E.g. Myśliwiec, *Royal Portraiture*, pl. lxvi (d).
[45] J. Berlandini, 'Meret', *LÄ* IV, 80–8.

Art historical parallels are the only method of suggesting a possible date. The best preserved features are on the figure to the right; her depiction of mouth and nose are similar to many representations of women in the Kushite era. [46]

The anepigraphic blocks

Of the blocks still at Samanud 127 of 157 are anepigraphic, including 10 not stored within the SCA building. These lie near the train station, Sharia Dahab and Sharia Soudani, or are partially buried in front of houses in the town centre. Most of the blocks do not merit close attention. Worth noting is a basalt block with a dovetail cramp slot and a block decorated with horizontal bands (pl. XIV, 1).[47] This was recently found in nearby Mehalla Abu Ali. In addition to the relief blocks with torus mouldings (**7**, **8**, **9**, **10**, **12**, **19**, **20**, **26** and **42**), a further ten blocks featured the torus roll, but without visible decoration on the face. This could be due to weathering or the decoration not having been begun. In three cases, the torus has not been completely finished, the bottom part still presenting a 'working' square section.

The most imposing and informative of the anepigraphic blocks are the remnants of the temple's pink granite columns (pl. XIV, 2–4). Six pink granite column drums[48] and six fragments of palm-leaf capitals survive. The drums, all of similar scale, have an average height of 0.46 m, with an average diameter of 1.15 m. Each had a series of vertical niches cut into the outer surface, which vary considerably in spacing, even upon each drum. All six examples preserve evidence of later re-use as millstones (pl. XIV, 2). Six partially preserved palmiform capitals survive (pl. XIV, 3–4),[49] allowing a reconstruction of a complete example. An abacus, square in plan, was provided, upon which the architraves would lie. Below this, the leaves would fan out. None of the six examples has more than parts of two leaves preserved, yet symmetry and spacing allow the reconstruction of these column capitals' original appearance. Each capital had eight leaves, one on each side of the square roof support, and one spanning each corner.[50] Examples of the latter are clear on one particular example (pl. XIV, 4). The estimated width of the largest horizontal area spanned by the 'palm-leaves' (i.e. from one tip to the symmetrically opposed tip) is 1.62 m.[51] Considering that the column drums have an average diameter of 1.15 m, this seems reasonable, allowing for the column drums to taper near the ceiling. A base to abacus height of some 7–8 m is plausible.[52] Such dimensions are considerably smaller than those found in the pronaos at Edfu,[53] but at Behbeit el-Hagar the only visible column drums are significantly smaller, though decorated.[54] Jéquier noted that Late Period and Graeco-Roman columns placed a decorative emphasis on the capital, the shaft receiving only

[46] E.g. Myśliwiec, *Royal Portraiture*, pl. xl (c).

[47] Parallels to this block were noted at Behbeit el-Hagar on a personal visit of 27 October 1998.

[48] One of the drums was recently recovered from Mehalla Abu Ali; another was found near the local school.

[49] Another block is pictured in N. Spencer, *EA* 14, 9.

[50] E.g. L. Borchardt, *Die aegyptische Pflanzensäule* (Berlin, 1897), 47.

[51] Derived from one capital fragment's top surface, where a half is preserved (0.81 m).

[52] E.g. Borchardt, *Die aegyptische Pflanzensäule*, 48. This is a Nineteenth Dynasty column from Soleb, but Graeco-Roman columns exhibited similar proportions.

[53] Diameter 2 m, capital's 'span' 3.5 m: D. Kurth, *Die Dekoration der Säulen im Pronaos des Tempels von Edfu* (GO IV/11; Wiesbaden, 1983), 5.

[54] Personal observation on 27 October 1998.

summary treatment.[55] Although the Samanud columns do fall into this category, they differ from the majority of Graeco-Roman examples in the restraint exhibited in the capitals' plant forms, resulting in a simple, elegant column.[56] Finally, two sandstone column drums were found in the town in May 1999; their diameter is 0.81 m.

The temple

First impressions from such material can suggest a very modest sanctuary. One of the advantages of the blocks' new display lies in how their imposing scale is made readily apparent, particularly that of the individual columns, as well as the total mass of them. The reliefs are too fragmentary to attempt placing them within certain areas of the temple or attributing them to various sanctuaries in the town. Nonetheless, certain conclusions can be formulated.

Being named a nome capital presumably implies a significant settlement with a fairly major temple, at least from the New Kingdom onwards.[57] However, meagre evidence of the pre-Thirtieth Dynasty temple survives. The predecessor of a Heliopolitan tomb owner bore the title of 'high priest of Onuris-Shu lord of *Ṯb-nṯr*' in the late Twenty-fifth or early Twenty-sixth Dynasty, in addition to occupying the same position at Athribis, Tell el-Balamun and Behbeit el-Hagar.[58] A statue found at Samanud bears an inscription referring to a 'priest of Onuris, Akanosh',[59] attesting to a temple in the early Saite Period. A fragmentary text from this period, preserved in Moscow, alludes to an official's involvement in construction activity at Athribis, Tell el-Balamun, Samanud and Behbeit el-Hagar.[60] The High Priest of Onuris, Nekhtnebef, dedicated a naophorous statue that was found at Kom Ebchan, some distance to the north of Samanud.[61] Alongside his principal title, Nekhtnebef is given the epithets 'excellent offspring of Mehit' and 'great in Hebyt'. The latter phrase would suggest a link to the temple at Behbeit el-Hagar, where this monument may have been dedicated. However, the internal evidence suggests the inscription is a mid- to late-Ptolemaic addition to the fourth century BC statue.[62]

[55] G. Jéquier, *Manuel d'archéologie égyptienne*, I. *Les élements de l'architecture* (Paris, 1924), 171.

[56] Compare to palmiform capital from Philae in Borchardt, *Die aegyptische Pflanzensäule*, 49.

[57] During the Ptolemaic Period, if not before, the nome lists in temples no longer truly reflected administrative boundaries: A.-P. Zivie, *Hermopolis et le nome de l'ibis: recherches sur la province du dieu Thot en Basse Egypte* (BdE 66; Cairo, 1975). Thus, 'nome capitals' were not all necessarily significant settlements.

[58] Cairo JE 38824: P. Vernus, *Athribis: textes et documents relatifs à la geographie, aux cultes et à l'histoire d'une ville du Delta egyptien à l'époque pharaonique* (BdE 74; Cairo, 1978), 77 [82].

[59] Cairo CG 657: Naville, *Mound of the Jew*, 24–5; L. Borchardt, *Statuen und Statuetten von Könige und Privatleuten*, III (CG; Berlin, 1930), 3–4; R. el-Sayed, 'Un grand prêtre de Sebennytos sous le règne de Psammétique I', *BIFAO* 81 (1981), 53–9.

[60] S. Hodjash and O. Berlev, *The Egyptian Reliefs and Stelae in the Pushkin Museum of Fine Arts, Moscow* (Leningrad, 1982), 174 [116]; Vernus, *Athribis*, 79. Studies of private involvement in temple construction during the first millennium and the Thirtieth Dynasty building programme form part of my doctoral thesis, *Sustaining Egyptian Culture: Royal and Private Construction Initiatives*, to be submitted to the University of Cambridge in late 1999.

[61] G. Daressy, 'Statue de Kom Ebchan', *ASAE* 12 (1913), 281–3; PM IV, 45; B. Hornemann, *Types of Ancient Egyptian Statuary*, I (Munksgaard, 1951), no. 293 (sketch); B. Grdseloff, 'L'insigne du grand juge égyptien', *ASAE* 40 (1940), 188, pl. 30; H. De Meulenaere, 'Trois personnages Saïtes', *CdE* 62 (1956), 252, no. 7–8; id., 'Une statue de prêtre Heliopolitain', *BIFAO* 61 (1962), 40, n. 2.

[62] H. De Meulenaere (personal communication, 17 June 1999).

The temple construction programme of Nectanebo I and II, encompassing the majority of Egypt's major temple sites, seems to have initiated building of a new temple at Samanud. Replacement of Saite structures is paralleled at other sites such as Tell el-Balamun,[63] Memphis[64] and possibly Behbeit el-Hagar.[65] At Samanud, the only remnant from the reign of Nectanebo I is a statue torso found in Mehalla el-Kubra.[66] The majority of Nectanebo II's reliefs preserved are dado blocks, all of approximately the same scale, showing processions of offering bearers.[67] Three types of procession were used as decorative features: female offering bearers (**36** and **37**), 'Hapy' figures (**2**, **34**, **38** and **39**) and male offering bearers without the Hapy features (not preserved from Samanud). **35** is to be placed with these reliefs, as it forms the beginning of one such procession, depicting pharaoh offering to the god receiving the procession. Such scenes are typical on dado decoration of contemporary temples at Behbeit el-Hagar,[68] Letopolis[69] and Elephantine.[70] To view these remains in a better preserved context, one must look at the dadoes in the Graeco-Roman temples at Edfu, Dendera and Philae, where all three types are used, in sanctuary, columned halls and side chapels or rooms;[71] the different types of offering bearer could alternate in a single procession and the dado register was often half the height of the main scenes. The core of the Samanud temple must have been operational in the Thirtieth Dynasty, as two naoi in the Cairo Museum were found at the site. One is complete, although one of the jambs is uninscribed, suggesting that it was unfinished (**32**). Only a fragment of the upper part of another naos is preserved (**33**), depicting two scenes of pharaoh offering wine before Onuris-Shu and Mehit.

The fact that a monument was left unfinished is reminiscent of the *Somnium Nectanebi*.[72] A myth known from Greek texts, it recounts how Isis appeared before Nectanebo II in a dream, urging him to complete the decoration of the temple at Sebennytos. Pharaoh hired a renowned sculptor to execute the task. Soon he became

[63] A. J. Spencer, *Excavations at Tell el-Balamun. 1991–1994* (London, 1996), 32–42.

[64] The *w'bt* of Necho II: M. Jones; 'The Temple of Apis in Memphis', *JEA* 76 (1990), 141–7.

[65] The extant structure was begun in the Thirtieth Dynasty, but texts attest to a Saite predecessor: Favard-Meeks, *Behbeit el-Hagara*, 445–50; D. Meeks, 'Les donations aux temples dans l'Egypte du 1er millénaire avant J.-C.', in E. Lipiński, (ed.), *State and Temple Economy in the Ancient Near East* (OLA 5–6; Leuven, 1979), II, 675.

[66] Edgar, *ASAE* 11, 96.

[67] **56** is also part of a dado procession, but bears no indication of date.

[68] Outer areas of temple and sanctuary: Favard-Meeks, *Behbeit el-Hagara*, 2–3, 25, 39, 65, 75, 91.

[69] H. Gauthier, 'Une liste de nomes à Létopolis', *ASAE* 32 (1932), 79–80; id., 'A travers la Basse Egypte', *ASAE* 23 (1923), 172–3; L. Habachi, 'Notes on the Delta Hermopolis', *ASAE* 53 (1955), 461.

[70] F. Junge, *Elephantine*, XI. *Funde und Bauleite 1.-7. Kampagne. 1969–76* (AV 49; Mainz, 1987), 68–72; E. Laskowska-Kusztal, *Elephantine*, XV. *Die Dekorfragmente der ptolemaïsch-römanischen Tempel von Elephantine* (AV 73; Mainz, 1996), pl. 3(4); Jenni, *Elephantine* XVII, pl. 49, no. 0058, pl. 50, nos. 0488, 0614, 0787.

[71] Chassinat, *Edfou* II, pls. xi–xiii, xv–xvii, xxxv (a–c), xciii (c), xciv (c), xcv (c), xcvi (b–c); Chassinat, *Edfou* IV, pls. dlxvi–dlxxiii; Chassinat, *Edfou* IX, pls. lxv–lxviii; Chassinat, *Edfou* X, pls. xciv–ci, cix–cxi. Chassinat, *Dendara* I, pls. lvii, lxxiii–lxxiv; Chassinat, *Dendara* III, pls. cclxxvii, ccxc, ccxcii, ccxcix, cccvi; Chassinat, *Dendara* VII, pls. dciv, dcxliii, dcxlix; PM VI, 47. For Philae see Vassilika, *Ptolemaic Philae*, 113. A very good analysis of a Roman dado procession is in C. Traunecker, *Coptos. Hommes et dieux sur le parvis de Geb* (OLA 43; Leuven, 1992), 61–139, 399–407.

[72] D. J. Thompson, *Memphis under the Ptolemies* (Princeton, 1988), 262–3; L. Koenen, 'The Dream of Nectanebus', *ZPE* 22 (1985), 171–94; B. E. Perry, 'The Egyptian Legend of Nectanebus', *Transactions of the American Philological Association* 97 (1966), 327–33. A new edition of a demotic copy is being prepared by Kim Ryholt at Copenhagen.

distracted by beer and women; the conclusion is lost. The undated **27** is also unfinished. One further monument of Nectanebo II is now in Samanud, though found in Mehalla el-Kubra; it may have been an altar or statue base (**1**).

Macedonian activity at the temple is well attested. Part of the structure was completed under Philip Arrhidaeus, as indicated by the three surviving cornices (**3–5**). His successor, Alexander II, also added to the temple (**6** and **41–45**). In 1827, Wilkinson saw a block bearing Alexander's titulary.[73]

The final king whose name survives on the blocks is Ptolemy II, though none now remain on site (**46–51**). Most interesting is **48**, which refers to making a 'high pylon (*qȝ sbȝ*)'.[74] The complete relief also features a blank Horus name in Ptolemy II's titulary.[75] In addition, several corner blocks survive (**46**, **48** and **52**).[76] After this reign, the only attestation of cult activity in Samanud comes from a hoard, containing 1.48 kg of silver coins, rings and statuettes, found in Samanud during the nineteenth century.[77] The inscriptions, palaeographically dated to the late Ptolemaic or early Roman Period, refer to four persons, three of which fulfil priestly functions.[78]

Apart from the dado remains and the cornices, all the reliefs depict typical offering scenes; any further interpretation is precluded by the lack of preserved inscriptions. **46** includes fragmentary passages of a sun-hymn. Offerings include *nw*-jars (**12**), incense (**15** and **46**), wine (**33** and **48**), papyrus (**50** and **58**) and probably myrrh (**6**). In addition there are examples of incensing (**15** and **46**) and oblations (**15** and **49**). The torus mouldings (**7–10**, **12**, **19–20** and **42**) were at the edges of walls. At Edfu and Dendera such decorative features are used only rarely.[79] It is clear that in some cases the torus moulding ran just below the cornice (**4**).

Several blocks can be grouped on the basis of other attributes: **7**, **8** and **25** are from the tops of walls, as they bear a *kheker*-frieze, with the dedicatory band of inscription below. Parallels are found at the Thirtieth Dynasty temple of Khnum at Elephantine, where the

[73] G. Wilkinson, *Modern Egypt and Thebes* (London, 1843), I, 432–3. This could be one of the other blocks in the corpus, but no further information is given.

[74] This block has been published by Naville, Kamal and Steindorff (cf. Appendix for full references), in three different ways. Naville published facsimile copies, presumably based on sketches made on site, while Kamal represented the text through the *ASAE*'s printers font. Finally, nearly 40 years later, Steindorff offered a photograph and English translation of the text. All three versions differ significantly, and the photograph reveals that in 1944 the column of text was illegible in many places. There is no doubt that a pylon is mentioned near the top of the block, and the phrase *mnw ir.n Wsr-kȝ-n-Rʿ*, 'monument made by Ptolemy II', occurred near the bottom of the column. Thus, a building dedication is being described. Steindorff interpreted the text as part of a sun-hymn; this is to be rejected, although the symbolism behind temple pylons obviously included solar connotations. Indeed, the word for 'pylon' on this block includes the horizon determinative showing the sun rising between the mountains.

[75] Steindorff proposed that the sculptor 'did not know the name' (*JWAG* 7–8, no. 8).

[76] Another corner block, **58**, was dated to the early Ptolemaic Period on stylistic grounds: Steindorff, *Catalogue*, 76.

[77] G. Botti, 'La deuxième trouvaille de Samanoud', *Bulletin de la Société Archéologique d'Alexandrie* 1 (1898), 25–38.

[78] Ibid. 38. The find was never fully published. Note Roman era coins from the nome: R. S. Poole, *Catalogue of the Coins of Alexandria and the Nomes* (London, 1892), 354–5; E. Christiansen, *Coins of Alexandria and the Nomes. A Supplement to the British Museum Catalogue* (BM Occasional Paper 77; London, 1991), 123.

[79] Edfu: screen walls at the front of the pronaos (Chassinat, *Edfou* II, pls. vi–vii), along the top of the outer stone wall (Chassinat, *Edfou* XIV, pls. dcxxxiv, dcxl), the outer face of the back wall (Chassinat, *Edfou* XIV, pls. dcxlii–dcxlv) and the front gate (Chassinat, *Edfou* XII, pl. dclv). Dendera: screen walls of roof kiosk (Chassinat, *Dendara* VIII, pl. dccviii).

line below *Bḥdt nṯr ʿ nb pt sʾb šwt* reads *di ʿnḫ ḏd wʾs nbw mi Rʿ ḏt*.[80] Two of the Ptolemaic reliefs (**48** and **51**) indicate that some walls included a frieze of cartouches flanked by falcons (perched on *nbw*-signs, wings outstretched) above both the dedicatory inscription and the main registers.[81] Other parts of the horizontal line of large hieroglyphs that formed the dedicatory inscriptions, both below and above the main registers, are attested (**48**, **49** and **51**).

The iconography present in the temple reliefs is similarly hard to reconstruct, due to the lack of original context and accompanying inscriptions. Nonetheless, some observations can be made, particularly with respect to head-dresses. Most common is the *atef*-crown, applied to pharaoh (**6** and **13**), Onuris-Shu (**13**) and all the representations of Mehit (**19**, **26**, **45** and **58**). Pharaoh is also depicted with the red crown (**42** and **48**), the double crown (**47** and **50**), the blue crown (**12**) and a tall plume of two feathers (**48** and **49**); no relief survives of pharaoh wearing the white crown. The typical head-dress of Onuris-Shu is the four tall feathers, seen on three of the Samanud reliefs (**6**, **45** and **58**). All of these types are found throughout the corpus of Ptolemaic temple reliefs.[82] Myśliwiec stated:

> It seems, therefore, that a leading and particularly inventive centre of artistic production in the reign of Nectanebo II was related to the temples of Sebennytos and Behbeit. As far as we can judge from the preserved relics, other Lower Egyptian workshops were more conservative in iconographic matters . . . The workshop connected with these temples, which continued to be active during the reign of the first Ptolemies, seems to have been the leading artistic centre of the XXXth Dynasty.[83]

His art historical study considered only blocks in museum collections; the blocks published here provide further evidence for Myśliwiec's conclusions. The relief style is very homogeneous, the only noticeable drop in quality being on **2**, where too much detail was included in a small area, creating a muddled impression.

The surviving blocks suggest a structure erected under the auspices of Nectanebo II, Philip Arrhidaeus, Alexander II and the early Ptolemaic kings. Similar construction histories are visible at Elephantine[84] and Behbeit el-Hagar.[85] At both these sites, interpretations have included attributing later decoration as mere additions to Nectanebo II's architectural achievements. However, I regard decoration as following closely behind the erection of walls. In either case, it is impossible to ascertain who erected an undecorated block.

With this sanctuary, as well as other Late Period Delta temples such as those at Bubastis[86] and Behbeit el-Hagar, the remains suggest a structure entirely of hard stone. However, it is likely that these temples contained significant amounts of limestone, long since destroyed by limeburners, particularly for non-decorated blocks. Two basalt, four quartzite and eight limestone blocks do remain, all anepigraphic. Another stone that was used is sandstone (**16** and **17**), though the source for this stone was further afield than that

[80] Jenni, *Elephantine* XVII, pl. 12, nos. 1242 and 1251; pl. 75, no. 1507.

[81] Parallel blocks of Ptolemy III at Behbeit el-Hagar feature a frieze of Hathor heads rather than falcons; see Favard-Meeks, *Behbeit el-Hagara*, 10.

[82] E.g. Vassilika, *Ptolemaic Philae*, 84–95, 293–326.

[83] *Royal Portraiture*, 82–3.

[84] Laskowska-Kusztal, *Elephantine* XV, 3–4.

[85] Favard-Meeks, *Behbeit el-Hagara*, 300–1.

[86] L. Habachi, *Tell Basta* (Cairo, 1957); E. Naville, *Bubastis* (MEEF 8; London, 1891), 2, 4, 56–60.

of limestone.[87] Granite, basalt, and other highly prized stones would have been reserved for naoi and reliefs in certain rooms, as seen in the temples standing in Upper Egypt. Several blocks are distinct within the corpus, principally due to their material; **11** and **22** are quartzite, **16** and **17** are sandstone. The workmanship on both pairs of blocks is very similar, being particularly fine on the quartzite blocks. The sandstone blocks were actually found within the same mosque, at Mehalla el-Kubra, and are likely to be from the same original structure. Due to the nature of these stones, a meaningful stylistic comparison of the relief with that on the granite blocks is not possible, but they could be the remnants of a part of Samanud's temple not built in granite (the inscription on **16** lends weight to this theory, appropriate to a temple featuring a cult of a lioness deity; see n. 32).

A reconstruction of Samanud's temple is impossible, yet comparison to other contemporary sites is informative. By the Thirtieth Dynasty, *Tb-ntrt* was an ancient nome capital, though apparently without particular historical importance. One site in particular is worth considering. Tell el-Balamun was a nome capital,[88] with significant temples built in the Ramesside era, the Third Intermediate Period, the Saite Period, and Dynasty XXX.[89] It was a site in the north-eastern Delta, which according to the preserved evidence, did not play a primary historical role. Its Thirtieth Dynasty temple enclosure measures 420 by 410 m, the principal temple being some 150 m long.[90] Samanud should be envisaged as having had a sacred complex of comparable scale. It may have been more grandiose: Manetho associated the site with the origins of the Thirtieth Dynasty, and prosopographical evidence contemporary with the dynasty indicate the officials who held the title 'mayor of Sebennytos' were close relatives of the pharaohs.[91]

Great temples did sometimes stand alone within their enclosures, such as the contemporary one at Behbeit el-Hagar. The textual evidence for elements of the Samanud temple is very limited.[92] Two blocks from Samanud itself mention the *Ḥwt-Qnw* (**13** and **54**). The *Ḥwt-Qnw*, translated as the 'Fortress of Valour', is known from texts at Edfu and Philae to have been the name of a sanctuary in the twelfth nome of Lower Egypt, presumably at Samanud.[93] Other inscriptions suggest that the term was also specifically applied to the room behind the sanctuary at Edfu itself.[94] **42** depicts sacred images and standards behind Ptolemy II; the accompanying inscriptions

[87] Sandstone is only found south of Esna, whereas limestone was quarried in the Memphite region: D. Arnold, *Building in Egypt. Pharaonic Stone Masonry* (Oxford, 1991), 27–30. An inscription at Tura attests to Thirtieth Dynasty quarrying for a temple at Hermopolis Parva in the central Delta: H. Brugsch, 'Das ägyptische Troja', *ZÄS* 5 (1867), 91.

[88] Only since the Eighteenth Dynasty. Previously it had been part of the Sebennytite nome: W. Helck, *Die altägyptisches Gaue* (TAVO Reihe B, 5; Wiesbaden, 1974), 180.

[89] A. J. Spencer, *Excavations at Tell el-Balamun. 1991–1994*; id., *Excavations at Tell el-Balamun.* Part II: *1995–1998* (London, 1999, in press). I would like to thank the author for allowing me to consult the latter volume. This comparison is not intended as thorough, merely to suggest an order of magnitude.

[90] A.J. Spencer, *Excavations at Tell el-Balamun. 1991–1994*, 32, 36.

[91] P.-M. Chevereau, *Prosopographie des cadres militaires égyptiens de la Basse Époque* (Paris, 1985), 156–7.

[92] A Greek text known to Wilkinson (*Modern Egypt* I, 433) referred to the temple of Mars, who was identified with Onuris.

[93] Wilson, *Ptolemaic Lexikon*, 633; Kurth, *Die Dekoration der Säulen im Pronaos des Temples von Edfu*, 258. For Philae, cf. H. Gauthier, *Dictionnaire des noms géographiques contenus dans les textes hieroglyphiques* (Cairo, 1925), IV, 135.

[94] C. De Wit, 'Les inscriptions des lions-gargouilles du temple d'Edfou', *CdE* 57 (1982), 40, n. 134b.

refer to a ritual which took place in the *ꜥprt*[95] and the *Pr-dwꜣt*.[96] Finally, the temple enclosure at Samanud is a candidate for containing the Thirtieth Dynasty royal tombs, alongside Mendes[97] and Behbeit el-Hagar.[98]

Unfortunately, the temple's remains offer no aid in the reconstruction of the associated myth and ritual; no long continuous texts survive, and the majority of reliefs depict typical offering scenes featuring pharaoh and the two principle deities. The local mythology was undoubtedly centred around Onuris-Shu and his consort Mehit, ubiquitous on the blocks. The mythology of Onuris-Shu was apparently much expanded in the Late Period.[99] A warrior-god, suitable as the divine image for the kings who repeatedly had to repel Persian attempts at invasion, the deity had acquired the aspect of universal creator god by the Late Period. His consort, Mehit, was attributed a Nubian origin in associated mythology. Her prevalence reflects heightened interest in the other lioness deities at this time.[100] The title *imy-is* denoted priests associated with the cults of Shu-Onuris and Mehit-Tefnut at both Samanud and This (Onuris is first attested in the Thinite nome during the late Old Kingdom).[101] A papyrus in the Brooklyn Museum contains a compilation of myths relating to various cult centres in the Delta, hence the term 'manual of religious geography' used to describe it by Meeks.[102] The section relating to the Sebennytic nome features obscure myths involving Geb and the Memphite priesthood; the following section concerns Behbeit el-Hagar.[103]

Pairs of deities are typically linked to a child-god at this time but we do not know of any associated child-god who would complete the Samanud triad. In light of Nectanebo I's activity in constructing the first known mammisis proper[104] at Dendera,[105] Philae[106] and possibly Tell el-Balamun,[107] such a structure may have also been erected at Samanud.

[95] Room for the storage of ritual equipment, derived from the verb *ꜥpr*, 'to equip'?

[96] 'House of the morning', where pharaoh was purified prior to performing rituals in the sanctuary: Wilson, *Ptolemaic Lexikon*, 355–6.

[97] Mendes was the site of the Twenty-ninth Dynasty royal cemetery. Fragments of shattered Thirtieth Dynasty relief were found in the royal tomb area: D. B. Redford, 'Interim Report on the Second Campaign of Excavations at Mendes (1992)', *JSSEA* (1994), 5, n. 9. The tomb of Nectanebo II has already been plundered, as the sarcophagus now in the British Museum (PM IV, 3–4) was found in a mosque in Alexandria. The case for Samanud as the site of the royal burials is based solely on its citation in Manetho as the dynastic place of origin. Sais and Mendes were referred to by Manetho as the birthplaces of the Twenty-sixth and Twenty-ninth Dynasties respectively; other textual and archaeological evidence is corroborating the link.

[98] P. Barguet, 'Quelques fragments nouveaux au nom de Nekhthorheb', *Kêmi* 13 (1954), 91; Favard-Meeks, *Behbeit el-Hagara*, 459.

[99] Junker, *Onurislegende*; H. Bonnet, *Reallexikon der ägyptischen Religionsgeschichte* (Berlin, 1952), 545–7.

[100] Cf. n. 32.

[101] J. Yoyotte, 'Prêtres et sanctuaires du nome héliopolitaine à la Basse Époque', *BIFAO* 54 (1954), 95.

[102] D. Meeks, 'Un manuel de géographie religieuse du Delta', in S. Schoske (ed.). *Akten des vierten Ägyptologen Kongresse 1985* (Hamburg, 1989), III, 297–304. This is only a brief survey of the contents; Meeks intends to publish the text fully.

[103] Ibid. 302.

[104] Sanctuaries to celebrate the birth of the child-god, who manifested himself in the reigning king, are attested textually from the Third Intermediate Period: H. De Meulenaere, 'Isis et Mout des Mammisi', in J. Quaegebeur (ed.), *Studia Paulo Naster Oblata*, II: *Orientalia Antiqua* (OLA 13; Leuven, 1982), 25–9.

[105] F. Daumas, *Les mammisis de Dendera* (Cairo, 1959), 1–84.

[106] F. Daumas, *Les mammisis des temples égyptiens* (Paris, 1958), 87–9.

[107] A. J. Spencer, *Excavations at Tell el-Balamun* II, 45, 56–7.

The nearby temple of Behbeit el-Hagar provides some further information on Sebennytic deities. The temple, known to the Greeks as the Iseum, was principally dedicated to the cults of Isis and Osiris-Hemag. However, inscriptions reveal that a form of the Samanud dyad received a cult in the *Pr-qȝ*, one of the roof chapels at Behbeit el-Hagar. They refer to '[Onuris] . . . . . who resides in the *Pr-qȝ*' and to 'Mehit, daughter of Re, ruler of *Ṯb-nṯrt*, who resides in the *Pr-qȝ*'.[108] Favard-Meeks sees a further connection between the sites through the nome symbol as it appears from the Twenty-fifth Dynasty, with calf and *nṯr*-sign. This provides a link to the mythology of the rejuvenation of Osiris at Behbeit el-Hagar; his cults were re-interpreted at this period, borrowing heavily from Busiris in the neighbouring nome.[109]

Conclusion

The Epigraphic Survey of Samanud succeeded in recording the fragmentary remains of an important Late Period and Ptolemaic Period temple. Future excavations will be sporadic, undertaken by the SCA when building work allows. Three areas of work should be priorities: examining the urban topography, reconstructing the ancient waterways in the local area,[110] and publishing any results of SCA excavations in the twentieth century. Due to the built-up nature of the modern town, advanced GPS equipment was the only feasible method of surveying the underlying *tell*; the results of a survey undertaken in October 1999 will form the core of a future article on the temple's urban context. Much information still remains to be extracted from Samanud.

Appendix: Blocks removed from Samanud

Listed below are those blocks taken from Samanud to museums, with exact provenance,[111] and those published earlier this century by visitors to the site, the whereabouts of which are unknown to me.

[108] Favard-Meeks, *Behbeit el-Hagara*, 214.

[109] Ibid. 461–3.

[110] The Geology Department of Mansoura University is examining the development of river and canal courses in the Samanud and Behbeit el-Hagar area. Prof. Gamili (personal communication, 22 October 1999).

[111] Several in museums were purchased, with the provenance given as either Samanud or Behbeit el-Hagar, both temples built by Thirtieth Dynasty and early Ptolemaic kings, and in a similar relief style (principally in granite). This confusion has previously been noted (Edgar and Roeder, *RT* 35, 90; Steindorff, *JWAG* 7–8, 44). The blocks in question are: Baltimore, WAG 22.120 (Steindorff, *JWAG* 7–8, no. 20; id., *Catalogue*, 76, pl. 47); Baltimore, WAG 22.176 (Steindorff, *JWAG* 7–8, no. 6; id., *Catalogue*, 77, pl. 47; Myśliwiec, *Royal Portraiture*, pl. ciii); Kelekian Collection, no number (Steindorff, *JWAG* 7–8, no. 18); Kelekian Collection, no number (Steindorff, *JWAG* 7–8, no. 21); Philadelphia University Museum E.16185 (Myśliwiec, *Royal Portraiture*, 72 (2d)); a block seen in Garden City, Cairo (Barguet, *Kêmi* 13, 88, fig. 1); Louvre E10970 (V. Rondot, 'Alexandre IV Aegos et Ptolémée Ier Soter au Musée de Besançon', *RdE* 48 (1997), 275, n. 13). **58** is included due to its content. Copenhagen Æ.I.N.1064 has recently been shown to be from Behbeit el-Hagar (Favard-Meeks, *Behbeit el-Hagara*, 222–3).

	Location	*Date*	*Comment*
31	(unknown)	Nectanebo II	cartouches[112]
32	Cairo CG 70012	Nectanebo II	green schist naos[113]
33	Cairo CG 70015	Nectanebo II	green diorite naos fragment[114]
34	Baltimore WAG 22.119	Nectanebo II	procession of three offering bearers[115]
35	(unknown)	Nectanebo II	pharaoh offering[116]
36	(unknown)	Nectanebo II	offering bearer[117]
37	(unknown)	Nectanebo II	offering bearer[118]
38	New York MMA 12.182.4B	Nectanebo II	Hapy figure with gifts[119]
39	Copenhagen Æ.5.I.1065	Nectanebo II	Hapy figure with gifts[120]
40	(unknown)	Nectanebo II	block with large cartouches[121]
41	(unknown)	Alexander II	altar, cartouche, foot of figure[122]
42	(unknown)	Alexander II	king in red crown[123]
43	(unknown)	Alexander II	text[124]
44	(unknown)	Alexander II	cartouche[125]
45	Copenhagen Æ.I.N.1061	Alexander II	king and lioness deity[126]
46	Baltimore WAG 22.8	Ptolemy II	king and goddess[127]
47	(unknown)	Ptolemy II	king's head, deity's sun-disc[128]
48	New York Kelekian Collection	Ptolemy II	building texts, king offering, Amun, winged vulture[129]
49	New York Kelekian Collection	Ptolemy II	king offering jar[130]
50	New York Kelekian Collection	Ptolemy II	king's head and cartouches[131]

[112] Sketch in a green SCA register book kept in the Tanta office, titled '2', page 28. Granite.

[113] Actually found in a Cairo hospital in 1901: Roeder, *Naos*, 42–3, pls. 14, 47b–c, e.

[114] Ibid. 47–8, pls. 63c–d, 83a–b; Myśliwiec, *Royal Portraiture*, pl. lxxxvii (c–d); Naville, *Details*, pl. xvii (a1–2).

[115] Steindorff, *JWAG* 7–8, no. 5; id., *Catalogue*, 74–5, pl. 47; Myśliwiec, *Royal Portraiture*, pl. xcii (d).

[116] Naville, *Mound of the Jew*, pl. vi (a.1); Kamal, *ASAE* 7, 89 (I).

[117] Naville, *Mound of the Jew*, pl. vi (a.3); Kamal, *ASAE* 7, 89 (II). This block later resurfaced in Cairo, split in two: Barguet, *Kêmi* 13, 87–91.

[118] Nestor l'Hôte ms 20396, 362 (in the Bibliothèque Nationale, Paris); built into a mosque in 1838–9 (PM IV, 43).

[119] Steindorff, *JWAG* 7–8, no. 4; Myśliwiec, *Royal Portraiture*, pl. xcii (c).

[120] Mogensen, *Glypothèque Ny Carlsberg*, 108 (A772), pl. 118.

[121] Naville, *Mound of the Jew*, pl. vi (a.2); Kamal, *ASAE* 7, 89 (II). The authors felt that this block joined to **36**, although on different sides.

[122] Kamal, *ASAE* 7, 90 (I)

[123] Edgar, *ASAE* 11, 93–4 (9).

[124] Naville, *Mound of the Jew*, pl. vi (c).

[125] Ibid, pl. vi (d); Kamal, *ASAE* 7, 90–1(ii); L*D* Text, I, 221; Nestor l'Hôte ms 20396, 362 (verso-lower) (in the Bibliothèque Nationale, Paris); Wilkinson ms xvii.H.34a (left) (in the Bodleian Library, Oxford).

[126] Mogensen, *Glypothèque Ny Carlsberg*, 108 (A773), pl. 118.

[127] Steindorff, *JWAG* 7–8, no. 9, id., *Catalogue*, 77, pl. 45; Myśliwiec, *Royal Portraiture*, pl. ciii (a–b); Naville, *Mound of the Jew*, 27, pl. vi (b); id., *Details*, pl. xvi (b1–2); Kamal, *ASAE* 7, 91(I); L*D* Text, I, 221 (middle left).

[128] Naville, *Mound of the Jew*, pl. vi (e); id., *Details*, pl. xvii (b). Considerable damage occurred to the stone in the seven years between which the two papercasts were made (Naville, *Details*, 67).

[129] The block is now split: (a) Kamal, *ASAE* 7, 92 (III); Naville, *Details*, pl. xvi (a.4); Steindorff, *JWAG* 7–8, no. 8; (b) Kamal, *ASAE* 7, 92 (III); Naville, *Details*, pl. xvi (a.3); Steindorff, *JWAG* 7–8, no. 8.

[130] Steindorff, *JWAG* 7–8, no. 10.

[131] Ibid. no. 11.

51	(unknown)	Ptolemy II	building texts, stars and winged vulture[132]
52	(unknown)	(Ptolemaic?)	lower part of pharaoh[133]
53	(unknown)	?	text[134]
54	(unknown)	?	text[135]
55	(unknown)	?	text[136]
56	(unknown)	?	dado procession[137]
57	(unknown)	?	fragmentary titulary and text[138]
58	Baltimore WAG 22.5	?	pharaoh offering to Onuris-Shu and Mehit[139]
59	(unknown)	?	two lines of text[140]

[132] The block is split in two: (a) Kamal, *ASAE* 7, 92–3 (IV); (b) Naville, *Details*, pl. xvi (a.1–2).
[133] Kamal, *ASAE* 7, 91–2 (II).
[134] Edgar, *ASAE* 11, 95 (11).
[135] Ibid. 95 (12).
[136] Ibid. 95 (13).
[137] Naville, *Details*, pl. xvii (c).
[138] Ibid., pl. xvii (d).
[139] Steindorff, *JWAG* 7–8, no. 19; id., *Catalogue*, 75–6, pls. 54–5; Myśliwiec, *Royal Portraiture*, pl. civ (b).
[140] J. Yoyotte, 'Promenade à travers les sites anciens du Delta', *BSFE* 25 (1958), 19 fig. 1. Photograph only; the caption refers to the block as Ptolemaic.

1. Block **1**

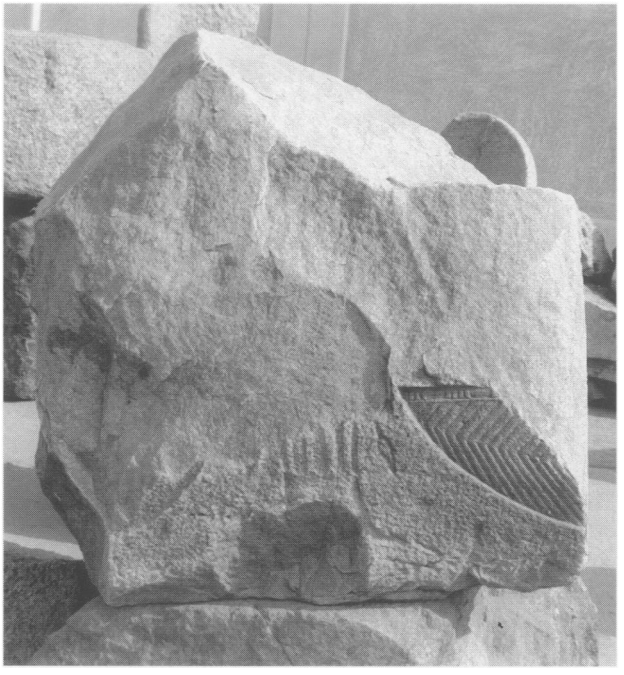
2. Block **2**

1. Block **3**

2. Block **6**

1. Block **8**

2. Block **9**

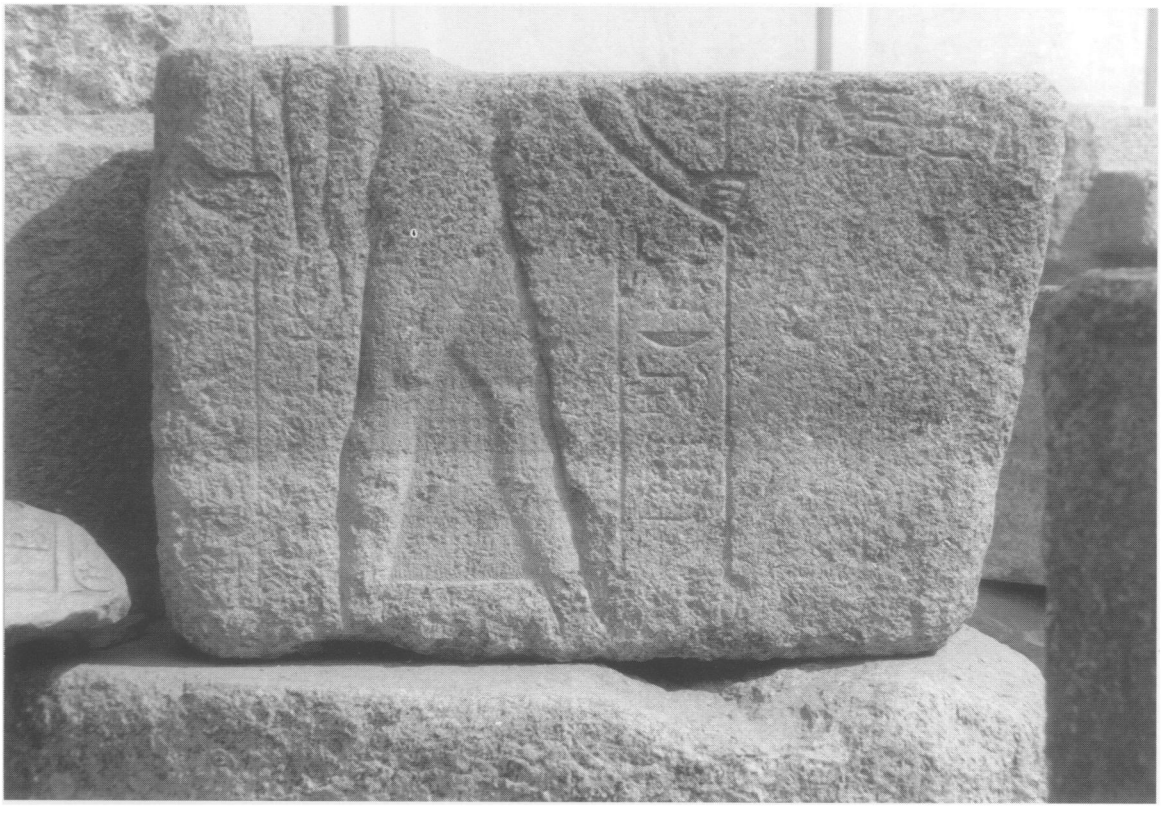


1. Block **11**

2. Block **12**

3. Block **13**

1. Block **14**



2. Block **15**

1. Block **18**

2. Block **21**

3. Block **22**

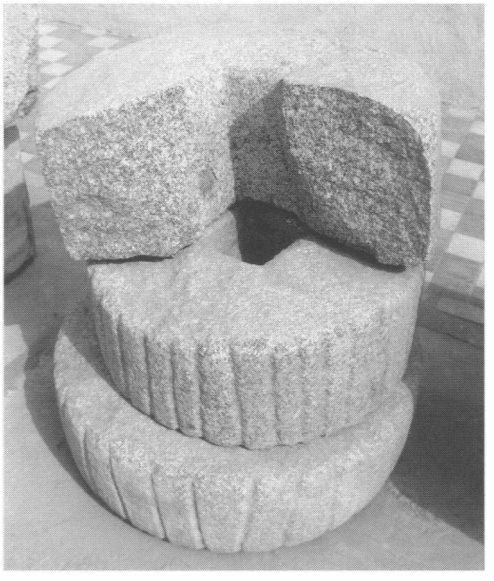
1. Block **24**

2. Block **26**

3. Block **27**

4. Block **29**

1. Block decorated with horiziontal bands



2. Granite column drums showing re-use as millstones

3. Granite fragments of palm-leaf capitals

4. Granite fragments of palm-leaf capital

BLACK-TOPPED WARE IN EARLY DYNASTIC CONTEXTS*

By KARIN N. SOWADA

Black-topped ware is commonly associated with the Predynastic era, but a handful of examples made in the Early Dynastic Period are known to exist. Generally these vessels are variations of the *hes*-jar shape; their findspots, in tombs or temples, associate this shape with ritual or funerary use. It is argued here that during the Early Dynastic Period, black-topped ware acquired a symbolic significance linked to the shape and colours of the vessel. This symbolism continued in the depictions of such vases on the walls of tombs although the ware itself was probably no longer produced after the Early Dynastic Period.

BLACK-TOPPED ware is a common Predynastic pottery type regarded as typical of the Naqada I and IIa–b periods in Upper Egypt. In Naqada IIc and IId it is less common, and by Naqada III only isolated examples are found in the Nile Valley.[1] However, a small body of material shows that black-topped ware was produced in the Early Dynastic Period and possibly the Old Kingdom, using the same firing technique. The range of shapes was limited, and the function of the vessels more specific. This study examines black-topped ware from this time, showing that by the early third millennium it had become a very specialised type used exclusively for ritual and funerary purposes.[2]

Predynastic black-topped ware, found in Nile Valley cemeteries and settlements, had both a utilitarian and funerary function.[3] Made of Nile silt and fashioned by coils or slabs, the exterior surface was usually coated with a red ochre slip, then burnished before

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[1] The ware was initially studied by Petrie: see W. M. F. Petrie and J. E. Quibell, *Naqada and Ballas* (ERA 1; London, 1896), 12, pls. xviii–xxi; W. M. F. Petrie, *Diospolis Parva* (EEF Special Publication; London, 1901), 13, frontispiece and pl. xiii. It was also noted in J. de Morgan, *Recherches sur les origines de l'Égypte*, I (Paris, 1896), 159, figs. 461–70, pl. 1. For other studies, see W. Kaiser, 'Zur inneren Chronologie der Naqadakultur', *Archaeologia Geographica* 6 (1957), 69–77; E. Finkenstaedt, 'The Chronology of Egyptian Predynastic Black-Topped Ware', *ZÄS* 103 (1976), 5–8; J. Crowfoot-Payne, *Catalogue of the Predynastic Egyptian Collection in the Ashmolean Museum* (Oxford, 1993), 29–32; S. Hendrickx, 'The Relative Chronology of the Naqada Culture: Problems and Possibilities', in J. Spencer (ed.), *Aspects of Early Egypt* (London, 1996), 36–69.

[2] Some preliminary remarks on this topic were made by the author in 1994, published in K. Sowada, 'Late Predynastic Egyptian "Black-Topped Ware": A Study in Ceramic Specialisation and Chronology', in C. C. Sorrell and A. J. Ruys (eds), *Proceedings of the International Ceramics Conference Austceram 9, 25–27 July 1994, Sydney Australia* (International Ceramic Monographs, 1; Sydney, 1994), 34–9.

[3] References to the ware in settlements are numerous, but see, for example, G. Brunton and C. Caton-Thompson, *The Badarian Civilization* (BSAE/ERA 46; London, 1928), 44–5, and for a vessel mended in antiquity, see pl. xxxv, Type B25o; B. Midant-Reynes et al., 'The Predynastic Site of Adaima: Settlement and Cemetery', in J. Spencer (ed.), *Aspects of Early Egypt*, 95.

firing.[4] The distinctive black top was produced during the firing process, the precise nature of which is still a source of considerable debate.[5] Recent research suggests that it was probably made during a single firing.[6]

The origin of the ware is found in Badarian black-topped red and brown bowls, a tradition with roots in the Western Oases and the ancient Sudan.[7] Early Naqada I shapes were predominantly open jars and bowls of varying heights; in the later part of Naqada I and early Naqada II, closed vessels in globular and ovoid shapes appeared.[8] Isolated examples exist in Naqada III, but whether these represent genuinely later types or pots gathered from earlier tombs requires further study.[9] Black-topped ware was evidently much admired, with Nile Valley 'imports' and/or regional variations in local shapes and clays found in Predynastic deposits at the Dakhleh Oasis,[10] Nubia,[11] Buto,[12] Maadi,[13] and possibly Southern Palestine.[14]

A corpus of Early Dynastic black-topped ware

A small number of black-topped ware pots have been discovered in Early Dynastic and Old Kingdom strata. The shapes are unknown in the Predynastic era, but have good parallels in the first three dynasties. All are genuine black-topped pots, evidently fired in the conventional way, rather than imitations with black-painted upper bodies. A small corpus of all vessels known to the writer is presented in the following section, but this group should grow as museums and excavators reassess the dates of individual pots based on typological criteria established here. Recent fieldwork at Hierakonpolis and Tell Ibrahim Awad has also yielded new material.

The corpus of eighteen vessels begins with those of three principal jar forms, followed by those of two less common shapes. Each vessel is described, followed by measurements,

[4] Crowfoot-Payne, *Egyptian Collection*, 30; S. Hendrickx et al., 'Experimental Archaeology Concerning Black-Topped Pottery from Ancient Egypt and the Sudan', *CCE* 6 (1998), in press.

[5] For a recent opinion, see Hendrickx et al., *CCE* 6, in press. See also Petrie, *Diospolis Parva*, 13; the work of H. C. Mercer, summarised in D. R. MacIver and C. L. Woolley, *Areika* (Oxford, 1909), 17–18; W. B. Pollard, 'Black-Topped Predynastic Pottery', *Cairo Scientific Journal* 6 (1912), 72–5; A. Lucas, 'Black and Black-topped Pottery', *ASAE* 32 (1932), 96; P. O. A. L. Davies, 'Red and Black Egyptian Pottery', *JEA* 48 (1962), 19–24; G. A. Reisner†, 'Black-Topped Pottery', *JARCE* 5 (1966), 7–10; Crowfoot-Payne, *Egyptian Collection*, 30–1; Do. Arnold and J. Bourriau, *An Introduction to Egyptian Pottery*, I (Mainz, 1993), 95.

[6] Hendrickx et al., *CCE* 6, in press.

[7] A. J. Arkell, 'The Origin of Black-topped Red Pottery', *JEA* 46 (1960), 105–6. See also Davies, *JEA* 48, 21; W. Kaiser, 'Zur Südausdehnung der vorgeschichtlichen Deltakulturen und zur frühen Entwicklung Oberägyptens', *MDAIK* 41 (1985), 80–1; C. A. Hope, 'Early Pottery from the Dakhleh Oasis', *BACE* 9 (1998), 56.

[8] Kaiser, *Archaeologia Geographica* 6, pls. 21–2.

[9] J. Crowfoot-Payne notes some Naqada III appearances of the ware in 'Predynastic Chronology at Naqada', in R. Friedman and B. Adams (eds), *The Followers of Horus. Studies Dedicated to Michael Allan Hoffman* (Oxford, 1992), 188–9.

[10] W. I. Edwards et al., *Ceramics from the Dakhleh Oasis. Preliminary Studies* (Burwood, 1987), 2–7.

[11] For example, see the pottery illustrated in G. A. Reisner, *The Archaeological Survey of Nubia. Report for 1907–1908*, I (Cairo, 1910), 317, fig. 278a.

[12] E. C. Köhler, *Tell el-Fara'in Buto*, III. *Die Keramik von der späten Naqada-Kultur bis zum frühen Alten Reich (Schichten III bis VI)* (AVDAIK 94; Mainz, 1998), 44.

[13] O. Menghin and M. Amer, *The Excavations of the Egyptian University in the Neolithic Site at Maadi. First Preliminary Report 1930–31* (Cairo, 1932), 24–5.

[14] E. Oren et al., 'Taur Ikhbeineh—Earliest Evidence for Egyptian Interconnections', in E. C. M. van den Brink (ed.), *The Nile Delta in Transition: 4th–3rd Millennium BC* (Tel Aviv, 1992), 369, 379, fig. 13.

fabric designations and the provenance, where known. The date cited is for the time of production, established by typological parallels and/or the date of the deposit. Where the latter varies from the probable production date, this is noted and discussed further.[15]

The typology is based on several key characteristics, notably the treatment of the shoulder and neck. The main type is a jar dating to the Early Dynastic Period with high, rounded shoulders and a body tapering to a narrow flat base, identified as an early form of *hes*-jar.[16] Adams and Friedman note that this shape is quite 'waisted', with the body tapering to a small flat base. This should be compared to an ovoid black-topped jar from Hierakonpolis Tomb 11, dating to Naqada IIIb, a jar illustrating links with Early Dynastic types.[17] Although the base is wider and the body more ovoid, this vessel is a clear precursor to later black-topped *hes*-jars. While the wider chronological development and significance of *hes*-jars is beyond the scope of this paper, these issues are touched on and may add to any debate on the meaning of the form.[18]

Type 1, with variations, is the most common black-topped shape from this period. Made as both full size and model jars, these vessels feature a broad neck and trimmed or carinated shoulder, forming a definite horizontal ridge between the shoulder and neck. This ridge was probably made using a tool while rotating the vessel on a turning device. Wide-neck jars with more rounded shoulders are also known. With Type 2, the neck and mouth become more constricted and vases are often made with flaring bases. The shoulders lose the heavy trimming, acquiring a more rounded appearance. The neck has become very narrow with Type 3, and a flat-topped ledge rim is added. Only two examples of this elegant type are known, with the best parallels dating to the Old Kingdom. Two other black-topped shapes (Type 4 and Type 5) are single examples, probably nothing more than one-off departures or 'experiments'.

Catalogue

Type 1: Wide-necked jars, with sharply trimmed shoulders forming a horizontal ridge, everted flat, roll or flaring rim, and a body tapering to a narrow flat base.

(1) Petrie Museum UC 17351 (fig. 1a, pl. XV, 1)
Jar with an everted, flat ledge rim. Base now missing. Chips missing from the rim to reveal a blackened section, and the slip flaking off. Coil-made in two parts and joined at the shoulder; the rim, neck and shoulder are finished on a turning device. The exterior is slipped red (2.5YR 4/6)

[15] The author examined and redrew many of the jars as adequately as conditions allowed during trips to several museums from 1993–5. Other information was gleaned from relevant excavation reports or from the excavators directly. Vienna System fabric 'families', as described in Arnold and Bourriau, *Egyptian Pottery* I, 168–82, are noted where appropriate. Vessels from Hierakonpolis are identified in accordance with the classification system developed for the site (see n. 23 below). Other fabrics not falling into these categories are described in detail. A 10× hand lens was used, in addition to *Munsell Soil Colour Charts* (Baltimore, 1973).

[16] G. A. Reisner, *The Early Dynastic Cemeteries of Naga-ed-Dêr*, I (Leipzig, 1908), 106, fig. 198.

[17] B. Adams and R. Friedman, 'Imports and Influences in the Predynastic and Protodynastic Settlement and Funerary Assemblages at Hierakonpolis', in van den Brink (ed.), *The Nile Delta in Transition*, 332–3. Examples of this type were also found in Tombs 1 and 10 at Hierakonpolis, but illustrations have not been published at the time of writing. A slightly later Narmer/Djer date has been given to the examples from these tombs: B. Adams, 'Elite Tombs at Hierakonpolis', in Spencer (ed.), *Aspects of Early Egypt*, 14.

[18] See, for example, J. Bourriau, *Umm el-Ga'ab. Pottery from the Nile Valley* (Cambridge, 1981), 230–1; H. Balcz, 'Die Gefässdarstellungen des Alten Reiches', *MDAIK* 5 (1934), 71–4.

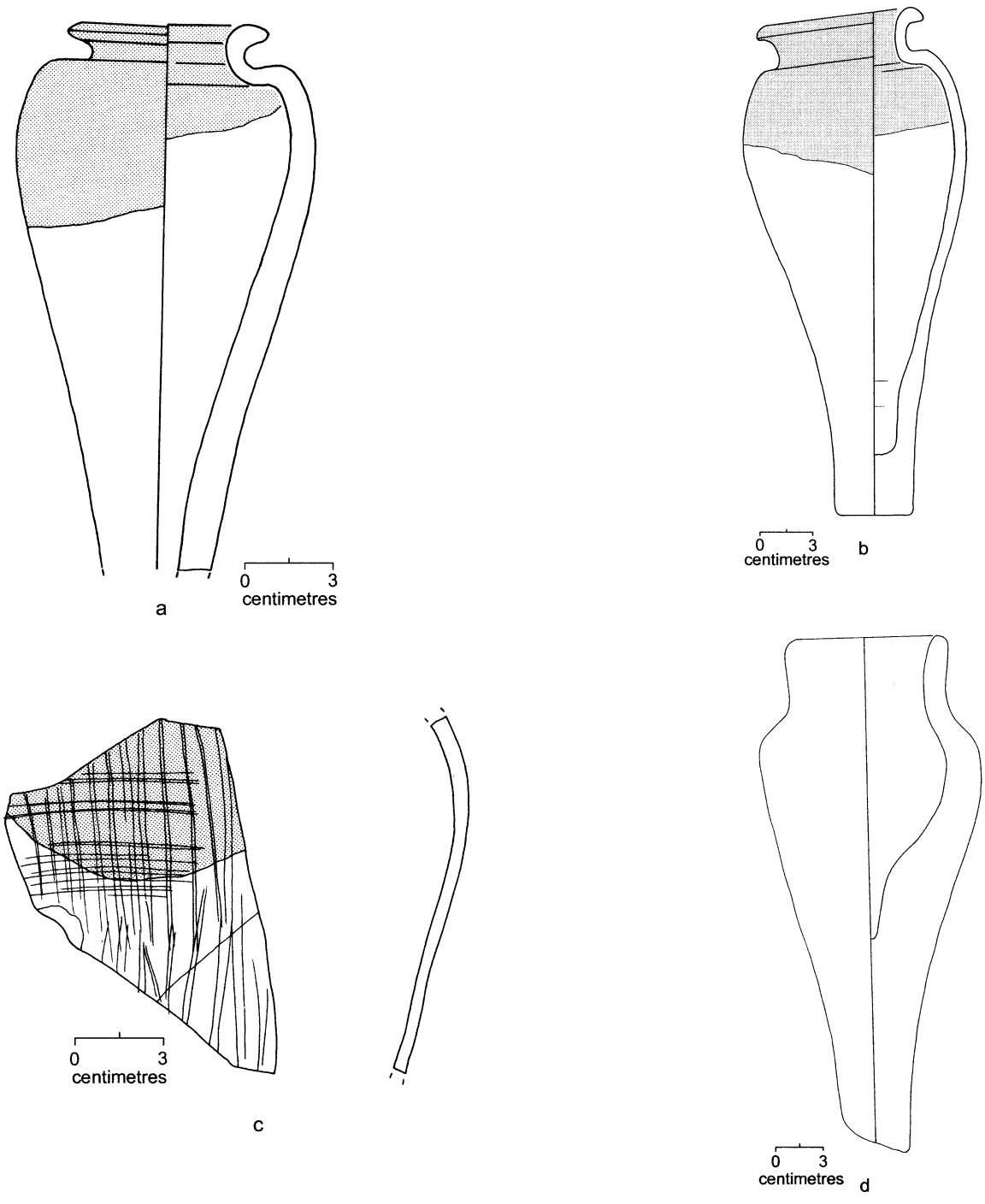


FIG. 1. Type 1: (a) Petrie Museum UC 17351 from the tomb of Djer (Tomb O), Abydos; (b) Petrie Museum UC 15094 from the Main Deposit, Hierakonpolis; (c) Petrie Museum UC 26730 from Badari; (d) Cairo Museum CG 11869 from Naqada (after Quibell).

with a black (7.5YR N2/0) upper body, rim and interior of the rim. A reddish-yellow (5YR 6/6) band, caused during firing, separates the red and black sections. Brown/grey interior. Burnished roughly in vertical strokes over the body and horizontally over the shoulders.
Fabric: Nile silt, homogenous in colour. The mixed clay contains moderate quantities of medium to coarse sand, mica and fine grog in a reddish-brown groundmass. No visible straw temper or calcareous material.
Dimensions: Height 16.0 cm Width max. 10.2 cm Rim diam. 6.9 cm
Provenance: tomb of Djer (Tomb O), Abydos
Date: First Dynasty, reign of Djer
Bibliography: W. M. F. Petrie, *Abydos,* I (MEEF 22; London, 1902), 6, pl. vi.10; Reisner, *Naga-ed-Dêr* I, 106, fig. 198; W. M. F. Petrie, *Ceremonial Slate Palettes and Corpus of Proto-dynastic Pottery* (BSAE 66 (A); London, 1953), pl. xix.74v; Adams and Friedman, *The Nile Delta in Transition*, 332–3, pl. 5; Sowada, *Ceramics Conference*, 36, fig. 1.
Parallels: **2**, from the Main Deposit, Hierakonpolis (see below).
Comment: Heavily trimmed shoulders first appear in Naqada IId1, then more frequently during Naqada III, primarily on marl clay and straw tempered Nile silt vessels.[19] This feature continues in the Early Dynastic era,[20] with a *hes*-jar from the Abydos tomb of Peribsen showing that in the mid-Second Dynasty such vases still display this characteristic.[21] Trimmed shoulders then largely disappear during the mid- to late Old Kingdom.[22]

1 was found in the same tomb as **18**. Although differing in surface treatments, there is no reason to doubt the contemporaneity of the two vessels.

(2) Petrie Museum UC 15094 (fig. 1b, pl. XV, 2)
Tall jar with an everted roll rim. Chipped on the rim but otherwise complete. Coil-made, probably in two parts and joined at the top of the shoulder; the neck and rim have been shaped with a tool on a turning device. The unslipped exterior surface is fired very dark grey (10YR 3/1) to light reddish yellow (5YR 6/4) and red (2.5YR 5/6) over the rest of the body, with a reddish yellow (7.5YR 8/6) band in between. The exterior is burnished to a smooth finish, in clear vertical strokes over the body, and in horizontal strokes over the shoulders.
Fabric: 'Hard Orange', the Hierakonpolis regional desert marl[23]
Dimensions: Height 27.5 cm Width max. 12.6 cm Rim diam. 11.0 cm
Provenance: Main Deposit, Hierakonpolis
Date: First–Third Dynasty

[19] Kaiser, *Archaeologia Geographica* 6, pl. 23; W. M. F. Petrie, *Corpus of Prehistoric Pottery and Palettes* (BSAE/ERA 32; London, 1921), pls. xlvi.31d and xlviii.36w.
[20] W. M. F. Petrie, *Royal Tombs of the First Dynasty*, I (MEEF 18; London, 1900), pl. xli.28 (Tomb Q); W. B. Emery, *Great Tombs of the First Dynasty*, II (MEES 46; London, 1954), fig. 222, Type D8 (Tomb 3503); see also vessels from Saqqara Tomb 3505 in W. B. Emery, *Great Tombs of the First Dynasty*, III (MEES 47; London, 1958), pl. 31, Types D6, D8, D12, E2 (Tomb 3505), and pl. 110, Type D8 (Tomb 3507). See also the vessels from Peribsen's tomb at Abydos (Petrie Museum UC 17548 and UC 17549) in Petrie, *Abydos* I, pl. vii.28.
[21] Petrie suggested that this jar forms a link with vessels of the Old Kingdom: *Prehistoric Pottery,* pl. l, Type L59B, and *Abydos* I, 6, pl. vii.28.
[22] For example, see the jar from Giza: G. A. Reisner, *A History of the Giza Necropolis*, II (Cambridge MA, 1955), fig. 90.G1201/2 (early to mid-Fourth Dynasty); R. Stadelman and N. Alexanian, 'Die Friedhöfe des Alten und Mittleren Reiches in Daschur', *MDAIK* 54 (1988), 307, fig. 6.4, dating to the early Fourth Dynasty.
[23] For a discussion of this fabric, see H. Hamroush, M. Lockhart and R. Allen, 'Predynastic Egyptian Finewares: Insights into the Ceramic Industry', in Friedman and Adams (eds), *Followers of Horus*, 44–52 and references cited therein.

Bibliography: J. E. Quibell and F. W. Green, *Hierakonpolis*, II (ERA 5; London, 1902), 31; B. Adams, *Ancient Hierakonpolis* (Warminster, 1974), 53, pl. 35.288, cat 288/35; Adams and Friedman, *The Nile Delta in Transition*, 332–3, pl. 4; B. Adams and K. M. Ciałowicz, *Protodynastic Egypt* (Princes Risborough, 1997), fig. 14.
Parallels: **1** tomb of Djer, Abydos; **4** Locality HK29A, Hierakonpolis; G. Dreyer, *Elephantine* VIII. *Der Tempel der Satet* (AV 39; Mainz, 1986), 82–3, 123, nos. 260–3, pl. 41; Third Dynasty stone vessel shape: G. A. Reisner, *Mycerinus. The Temples of the Third Pyramid at Giza* (Cambridge MA, 1931), 168, fig. 40.6.

(3) Petrie Museum UC 26730a and b (fig. 1c)
Two pairs of joining sherds from the upper body of a tapering jar with high rounded shoulders. The pairs share similar treatments of the surface and burnishing patterns, but do not themselves join. Both were coil-made. Exterior red-slipped and burnished in wide, diagonal criss-cross strokes across the black top, and vertically over the red area. (a) marked 24/3000/3 and 24/3000/3, (b) both marked 24/3000/3.
Fabric: a sandy, micaceous Nile silt, with very fine calcareous inclusions
Dimensions: (a) Height 12.3 cm Width 8.0 cm
(b) Height 8.0 cm Width 7.3 cm
Provenance: surface finds, Area 3000/3, Badari
Date: Early Dynastic Period
Bibliography: Brunton and Caton-Thompson, *Badarian Civilisation*, 44–5.
Parallels: **2** from the Main Deposit, Hierakonpolis.

(4) Hierakonpolis, number not known (not illustrated)
Upper half of a jar. High neck, wide mouth and everted roll rim. Shallow collar between neck and shoulder.
Fabric: unknown
Dimensions: Height remaining approx. 13.0 cm Rim diam. approx 14.0 cm
Provenance: pit in Locality HK29A, Hierakonpolis
Date: First Dynasty (Aha–Djer)
Bibliography: Adams and Friedman, *The Nile Delta in Transition*, 327, fig. 8a; R. Friedman, 'The Ceremonial Centre at Hierakonpolis Locality HK29A', in Spencer (ed.), *Aspects of Early Egypt*, 27, fig. 10a.
Parallels: **2** from the Main Deposit, Hierakonpolis.

(5) Cairo CG 11869 (fig. 1d)
Narrow tapering jar with a wide mouth, tall vertical neck and carination at the shoulder. Described by Quibell as 'interior of the fabric black. Handmade: rough: shallow vertical grooves on side made with the finger; base is lumpy and irregular, neck smoother: inside not smoothed at all. Most of inside the surface and half outside blackened by fire: tip of base broken off since the fire, the fractured edge showing red'.[24] Marked Ng 97.
Fabric: described by Quibell as 'soft coarse brown ware: chopped straw mixed with the clay'.
Dimensions: Height 33.0 cm
Provenance: royal tomb at Naqada
Date: early First Dynasty
Bibliography: J. de Morgan, *Recherches sur le origines d'Égypt,* II (Paris, 1897), 173, fig. 564; Quibell, *Archaic Objects* I–II, 172, no. 11869, pl. 36.11869.

[24] J. E. Quibell, *Archaic Objects,* I–II (CG; Leipzig, 1904–5), 172.

(6) Tell Ibrahim Awad A140/190/138/6 (pl. XV, 3 centre)
Jar with a high, wide neck, which slopes slightly inwards, and an everted roll rim. Flattened at the shoulders and sharply trimmed at the base of the neck. Flaring base. Exterior surface burnished. Almost complete.
Fabric: unknown
Dimensions: Height approx. 23.0 cm Width approx. 12.0 cm
Provenance: the temple complex, Tell Ibrahim Awad, in a context dating to the Fifth Dynasty
Date: early First Dynasty
Unpublished
Parallels: W. M. F. Petrie, *Tarkhan I and Memphis V* (BSAE/ERA 23; London, 1913), pl. liii.73f, 73h and 73k; K. Kroeper, 'The Excavations of the Munich East Delta Expedition in Minshat Abu Omar', in E. C. M. van den Brink (ed.), *The Archaeology of the Nile Delta. Problems and Priorities* (Amsterdam, 1988), fig. 99 (neck and shoulder).
Comment: Flaring bases are known in the Early Dynastic Period, where they are seen on wide-shouldered jars from Saqqara.[25] The Tarkhan parallel, cited above, also features a slightly flaring base.

A large number of *hes*-jars was found in the temple repository at Tell Ibrahim Awad.[26] The excavator, Willem van Haarlem, dates the context to the Fifth Dynasty, but fuller assessment of the stratigraphy and date of the objects must await fuller publication of the material.[27] On available parallels, an early First Dynasty date is probable for this example.

(7) Elephantine, number not known (not illustrated)
Ovoid jar with a high neck and an everted roll rim. Convex walls narrowing to a flat base. The neck slopes inward and the shoulder is sharply trimmed at the base of the neck. Vertical burnishing over the red area of the body. Complete (?)
Fabric: unknown
Dimensions: unknown
Provenance: Old Kingdom temple repository, Elephantine
Date: First Dynasty
Bibliography: W. Kaiser et al., 'Stadt und Tempel von Elephantine. Fünfter Grabungsbericht', *MDAIK* 31 (1975), 57, pl. 26c centre back.
Parallels: **6** Tell Ibrahim Awad (high inward sloping rim) and parallels; Emery, *Great Tombs* II, fig. 98, Type D10 (Tomb 3504); III, pl. 74, Type D10 (Tomb 3506).

(8) Petrie Museum UC 15073a–d (fig. 2a–d, pl. XVI, 1)
Three small black-topped tapering jars, and an upper body sherd of an over-fired fourth vessel (d). Jars (a)–(c) are missing pieces from the rim but are otherwise complete. Handmade and trimmed with a knife. The outer surface is fired black (7.5YR N2/0) near the rim. On (a), (b) and (c), the same vertical scoring and unburnished red slip (10R 5/0) as for UC 15074 is visible. Vessel (d) features finger indentations around the shoulder.

[25] Emery, *Great Tombs* III, pl. 74, Types D2-Type D10 (Tomb 3506) and pl. 110, Types D1–D13 (Tomb 3507).
[26] W. van Haarlem, 'Temple Deposits at Tell Ibrahim Awad—A Preliminary Report', *GM* 148 (1995), 45.
[27] Paper delivered on 5 September 1995 at the Seventh International Congress of Egyptologists, Cambridge, and personal communication. I am very grateful to him as Director of the excavations at Tell Ibrahim Awad, for allowing me to publish this and vessel **13**. The photographs are used by courtesy of the Netherlands Foundation for Archaeological Research in Egypt.

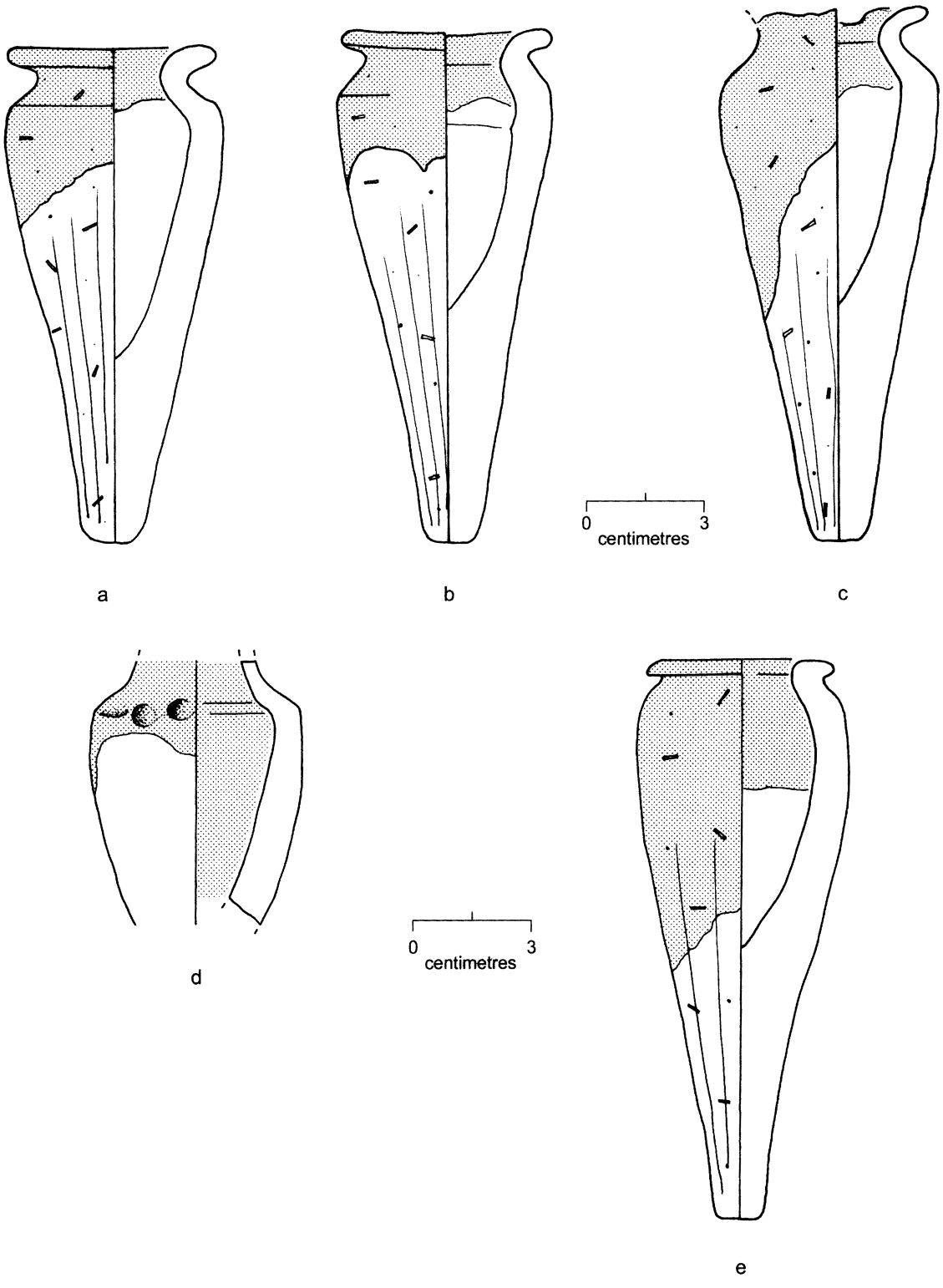


FIG. 2. Type 1: (a)–(d) Petrie Museum UC 15073a–d from the Main Deposit, Hierakonpolis; (e) Petrie Museum UC 15074 from the Main Deposit, Hierakonpolis.

Fabric: (a)–(c): Nile silt, with mica and fine pieces of chopped straw < 5mm; small quantitiy of medium and fine sand. Surface pitted with holes and straw impressions. Nile silt B1. (d): Nile silt A.

Dimensions:

(a)	Height 12.7 cm	Width 5.5 cm	Rim diam. 5.4 cm	Base diam. 1.1 cm
(b)	Height 12.3 cm	Width 5.5 cm	Rim diam. 5.3 cm	Base diam. 1.4 cm
(c)	Height 13.3 cm	Width 5.5 cm	Rim diam. 5.2 cm	Base diam. 1.3 cm
(d)	Height 6.6 cm		Rim diam. 3.0 cm	

Provenance: Main Deposit, Hierakonpolis
Date: First Dynasty
Bibliography: J. E. Quibell, *Hierakonpolis*, I (ERA 4; London, 1900), 11, pl. xxxv.12a and b; Adams, *Ancient Hierakonpolis*, 51, pl. 35.275, cat. 275/35.
Parallels: **2** and **10**, both from the Main Deposit. For a ceramic and faience wide-mouthed example from the Main Deposit, see Quibell and Green, *Hierakonpolis* II, pl. lxiii.14 and 15 (possibly later than the First Dynasty).
Comment: These jars were all made at the same time, except for possibly (d), and intended for the same purpose. They are identical to **10** on the basis of ware and technology.

(9) Cairo Museum JE 71453 (not illustrated)
Jar with trimmed shoulders, a high, wide concave neck and flat ledge rim. Ovoid body narrowing to a narrow flat base. Exterior surface burnished.
Fabric: unknown
Dimensions: Height approx. 13.0 cm
Provenance: from tomb 102, Nag Hash Abu Umuri, near Nag Hamadi, by M. Hamza in 1936
Date: Protodynastic Period – First Dynasty
Unpublished
Parallels: **2** Main Deposit, Hierakonpolis (neck and rim); **7** Elephantine (ovoid body).

(10) Petrie Museum UC 15704 (fig. 2e, pl. XVI, 1)
Handmade tapering jar. The outer surface was scored with a blunt object when leather hard, producing vertical striations prior to the application of a red slip (10R 5/6), now worn. Black top (7.5YR N2/0). Unburnished.
Fabric: identical to **8**
Dimensions: Height 13.9 cm Width max. 5.4 cm Rim diam. 4.9 cm Base diam. 1.1 cm
Provenance: Main Deposit, Hierakonpolis
Date: First Dynasty
Bibliography: Quibell, *Hierakonpolis* I, 11, pl. xxxv, 12b; Adams, *Ancient Hierakonpolis*, 51, pl. 35.276, cat. 276/35; Adams and Friedman, *The Nile Delta in Transition*, 332–3, pl. 4 left; Adams and Ciałowicz, *Protodynastic Egypt*, fig. 14, left.
Parallels: **8** Main Deposit, Hierakonpolis; for plain model vessels from the Main Deposit, see UC 15079 and UC 15084a–d in Adams, *Ancient Hierakonpolis*, 52, pl. 35.280, cat. 280/35, and 57, pl. 36.319, cat. 319/36; a faience example, Deposit M69: W. M. F. Petrie, *Abydos*, II (MEEF 24; London, 1903), pl. vii.110.

(11) Hierakonpolis, number not known (not illustrated)
Upper half of a small, wide-necked jar with a flaring rim.
Fabric: unknown
Dimensions: Height approx. 9.0 cm Width approx. 7.5 cm Rim diam. approx. 6.5 cm
Provenance: pit from Locality HK29, Hierakonpolis
Date: First Dynasty (Aha–Djer)

Bibliography: Friedman, *Aspects of Early Egypt*, fig. 10a.
Parallels: **8** Main Deposit, Hierakonpolis.

Type 2: Jars with rounded shoulders, roll rim and a more constricted neck than Type 1, body tapering to a narrow flaring base.

(12) Elephantine, number not known (not illustrated)
Tall jar with slightly flattened shoulders and a flaring base. Vertical burnishing over the exterior. Good condition. Complete (?)
Fabric: unknown
Dimensions: unknown
Provenance: Old Kingdom temple repository, Elephantine
Date: probably Early Dynastic
Bibliography: Kaiser, *MDAIK* 31, pl. 26c front centre.
Parallels: **14** Tell Ibrahim Awad; van Haarlem, *GM* 148, fig. 4, from the Fifth Dynasty temple at Tell Ibrahim Awad; Petrie, *Abydos* II, 39, pl. xlii.41 from M69; Emery, *Great Tombs* III, pl. 110, Type D8 (Tomb 3507).

(13) Tell Ibrahim Awad A140/190/Deposit 5 (pl. XVI, 2)
Model jar with rounded shoulders, short vertical neck and an everted roll rim. Straight sides tapering to a flat base. Missing chips from the rim but otherwise complete (?).
Fabric: unknown
Dimensions: unknown
Provenance: Fifth Dynasty temple repository, Tell Ibrahim Awad
Date: probably First Dynasty
Unpublished
Parallels: Petrie, *Abydos* II, 26, pl. vii.108 (BM EA 38013) and 109; A. J. Spencer, *Catalogue of Egyptian Antiquities*, V: *Early Dynastic Objects* (London, 1980), 73, pl. 59.529, cat. 529.

(14) Tell Ibrahim Awad B173.73 (fig. 3, pl. XVI, 3)
Narrow jar with high rounded shoulders, body tapering to a narrow, slightly flaring base. Neck and rim missing. Red slipped and burnished on exterior.
Fabric: Nile silt C
Dimensions: Height remaining 15.0 cm Width max. 5.2 cm
Provenance: Found north of the head of a body, Area B, Square B, Burial 1, Tell Ibrahim Awad
Date: First Dynasty, between the reigns of Aha and Den
Bibliography: E. C. M. van den Brink, 'The Amsterdam University Survey Expedition to the Northeastern Nile Delta (1984–1986)', in idem, *The Archaeology of the Nile Delta*, 81, pl. 20.73; Sowada, *Ceramics Conference*, 37, fig. 3.
Parallels: **2** Hierakonpolis (body shape); van Haarlem, *GM* 148, fig. 4, from the Fifth Dynasty temple; Petrie, *Abydos* II, 39, pl. xlii.41 from M69.
Comment: The neck and possibly part of the upper shoulder is missing, making the neck width difficult to ascertain. Initially identified by the excavators as a lamp because of the blackened top, parallels from Hierakonpolis mark this vessel as a model in the tradition of similar jars from that site.

Type 3: Narrow-mouthed jar with high, wide round shoulders, a constricted neck narrower than Type 2 and an everted flattened or roll rim; body tapering to a narrow flat base.

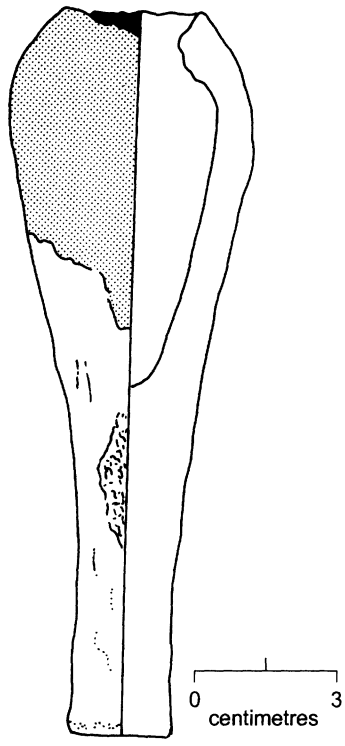


FIG. 3. Type 2: Tell Ibrahim Awad B173.73.

(15) Petrie Museum UC 17550 (fig. 4a, pl. XVII, 1)
Tall jar, handmade. The upper shoulders and neck have been turned. The rim is missing and the whole vessel is mended from nineteen fragments. Exterior surface is slipped and burnished. The upper part of the body is fired black (2.5YR N2.5/0) the rest of the body red (2.5YR 5/6) with a thin band of reddish yellow (5YR 6/6) discolouration in between, otherwise the colour is fairly even. '210–220 ⊖' written on the vessel.
Fabric: Nile silt with chopped straw impressions clearly visible on the surface. Hard Nile silt C.
Dimensions: Height 24.6 cm Width max. 10.8 cm Base diam. 4.5 cm
Provenance: Osiris/Khenti-amentiu Temple, Abydos, Level 210–20, context dated to the Fourth Dynasty (?)
Date: First–Fourth Dynasty (?)
Bibliography: Sowada, *Ceramics Conference*, 36–7, fig. 2.
Parallels: **16** Abydos, from the same context.
Comment: Petrie did not publish this vessel. The fabric and overall craftsmanship of the jar is coarser than **16**, found in the same deposit.

(16) Boston MFA 03.1955 (fig. 4b)
Jar, fragment missing from the rim and neck mended, but otherwise complete. Probably handmade: the smooth surface is unslipped, but fired red and black and finely burnished all over, including the base, with little apparent wear. '215' written near the base.
Fabric: fine Nile silt? unable to determine with certainty.
Dimensions: Height 23.6 cm Width max. 10.4 cm Rim diam. 5.7 cm Base diam. 3.7 cm

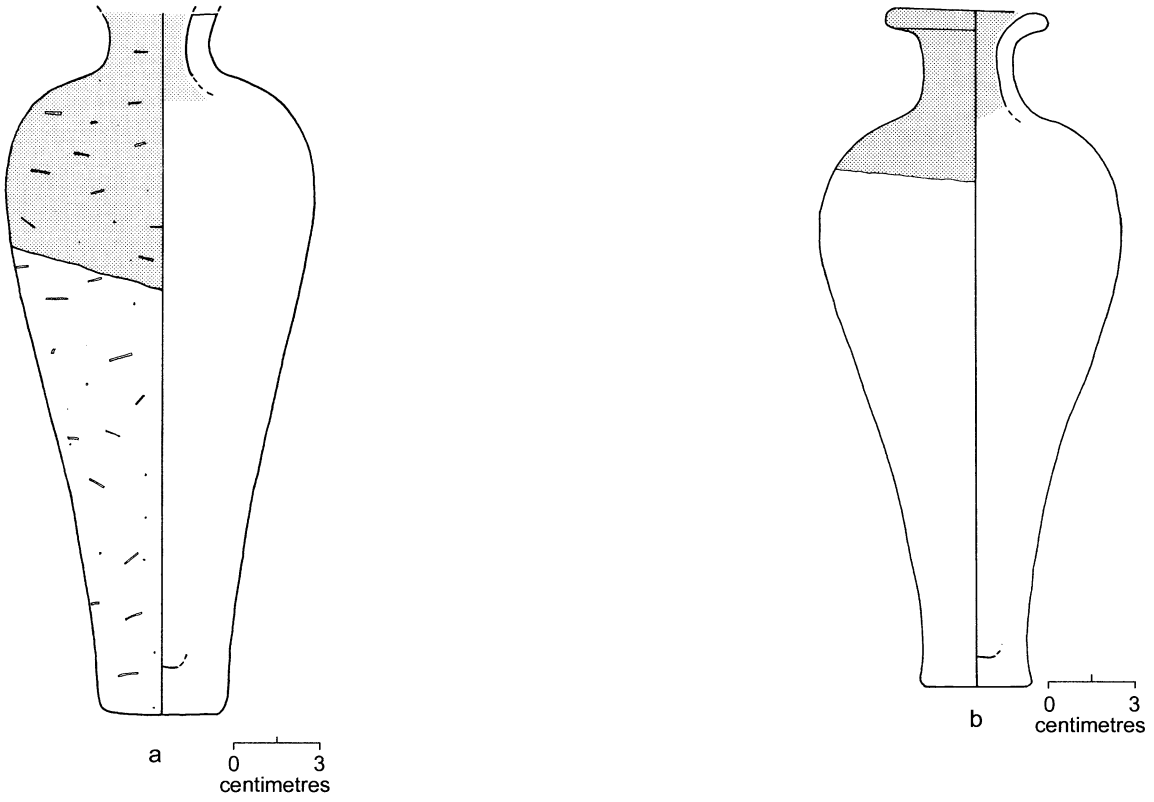


FIG. 4. Type 3: (a) Petrie Museum UC 17550 from the Osiris/Khenti-amentiu Temple, Abydos; (b) Boston MFA 03.1955 from the Osiris/Khenti-amentiu Temple, Abydos.

Provenance: Osiris/Khenti-amentiu Temple, Abydos, Level 215, context dated to the Fourth Dynasty (?)
Date: First–Fourth Dynasty (?)
Bibliography: Petrie, *Abydos* II, 39, pl. xliv.93; Petrie, *Protodynastic Corpus*, pl. xix.74v.
Parallels: **15** from the same context; Petrie, *Abydos* II, 29, pl. xliii, from the 'Mena' tomb at Naqada; W. M. F. Petrie, *Dendereh* (MEEF 17; London, 1900), pl. xvi.11, with a red slipped and unburnished surface (UC 17973); G. Brunton, *Qau and Badari*, I (BSAE/ERA 44; London, 1927), pl. xlii, lower left, no. 321.
Comment: Petrie published three similar jars in *Abydos* II, of which no. 93 is MFA 03.1955. According to the publication, all are from Levels 215–18. At Levels 210–20 in the West Square, Petrie mentions a pottery group in his field notes, from which our vessels must have come.[28] His report gives little information, other than to say that these vessels 'are never found in the town, but belong entirely to the temple about the IVth Dynasty'.[29] While this cannot be considered conclusive in any consideration of the date, other pots from these levels would be consistent with

[28] *Manuscript Notebook No. 5, Abydos 1903.* Petrie's notebooks are located in the Petrie Museum, University College London. I am grateful to Barbara Adams and Rosalind Janssen for facilitating access to this material.
[29] *Abydos* II, 39.

an early Old Kingdom date for the deposit.[30] However, as Kemp argues, dating Petrie's levels from the Abydos Temple is a problem; this issue is discussed in more detail below.

An early First Dynasty jar from Naqada shares similar features with **15** and **16**. Other good parallels come from the Old Kingdom. However, as the bulk of black-topped wares in the catalogue is Early Dynastic, this date is more likely for the Abydos jars, but given the nature of the deposit and the solid Old Kingdom parallels, a later, possibly Fourth Dynasty date, cannot be discounted.

Type 4: Wide-necked tall narrow jar with nearly straight sides, high narrow shoulders, short concave neck and everted roll rim. Possibly a flat base.

(17) Petrie Museum UC 15085 (fig. 5a, pl. XVII, 2)
Tapering jar, mended from fragments and missing the base. Coil-made, probably in two parts and joined at the shoulder. The rim is turned and finished with a tool. The exterior surface is unslipped and fired an uneven black (5YR 2.5/1) to reddish-brown (5YR 5/3) to red (2.5YR 5/6) over the rest of the surface. The smooth outer surface has been burnished in coarse strokes, vertically over the body, horizontally over the upper body. Inside, the vessel is blackened near the mouth only.
Fabric: 'Hard Orange', the Hierakonpolis regional desert marl
Dimensions: Height 28.6 cm Width max. 9.6 cm Rim diam. 9.0 cm
Provenance: Main Deposit, Hierakonpolis
Date: First Dynasty
Bibliography: Quibell, *Hierakonpolis* I, 11, pl. xxxv.13; Adams, *Ancient Hierakonpolis*, 50–1, pl. 35.274, cat. 274.
Parallels: Petrie, *Royal Tombs* I, 29, pl. xliii.111–14; idem, *Abydos* I, pl. vi.14; Petrie Museum UC 17381, published in Petrie, *Protodynastic Corpus*, pl. xix.74q; idem, *Abydos* II, 39.

Type 5: Trumpet jar, with a narrow flat base, flaring sides and a flat everted ledge rim.

(18) Petrie Museum UC 17352 (fig. 5b, pl. XVII, 3)
Trumpet jar, missing a chip on the rim but otherwise complete. The vessel is black-topped through the section, very dark grey (5YR 3/1) with the black extending down much of the interior and exterior. The lower part of the body is a dull brown (7.5YR 5/4). The exterior surface is unslipped, wet-smoothed and unburnished. Inside, a small 'lip' on the base and even, diagonal marks suggest the jar was made on a turning device. 'R.T. ZER 23' written on exterior surface in black ink; '023' written in blue.
Fabric: a micaceous Nile silt, containing fibrous temper and some medium to coarse sand < 1 mm. Some straw impressions on the surface < 5mm.
Dimensions: Height 15.55 cm Rim diam. 13.1 cm Base diam. 5.0 cm
Provenance: tomb O (Djer), Abydos, possibly subsidiary burial 23
Date: First Dynasty, reign of Djer
Bibliography: Petrie, *Abydos* I, 6, pl. vi.9; Petrie, *Protodynastic Corpus*, pl. iii.15d.
Parallels: Stone examples from Saqqara Tomb 3507: Emery, *Great Tombs* III, pl.103a and 104.d bottom row, third from right; see also a calcite vessel with a sharp plain rim, Type 13 from Tomb

[30] For the dating of this deposit, see B. J. Kemp, 'The Osiris Temple at Abydos', *MDAIK* 23 (1968), 148–53, and 'The Osiris Temple at Abydos—A Postscript to *MDAIK* 23 (1968) 138–155', *GM* 8 (1973), 23–5. For other ceramics from the same context, see Petrie, *Abydos* II, 39, pl. xliii.55, 80–1 and 111.

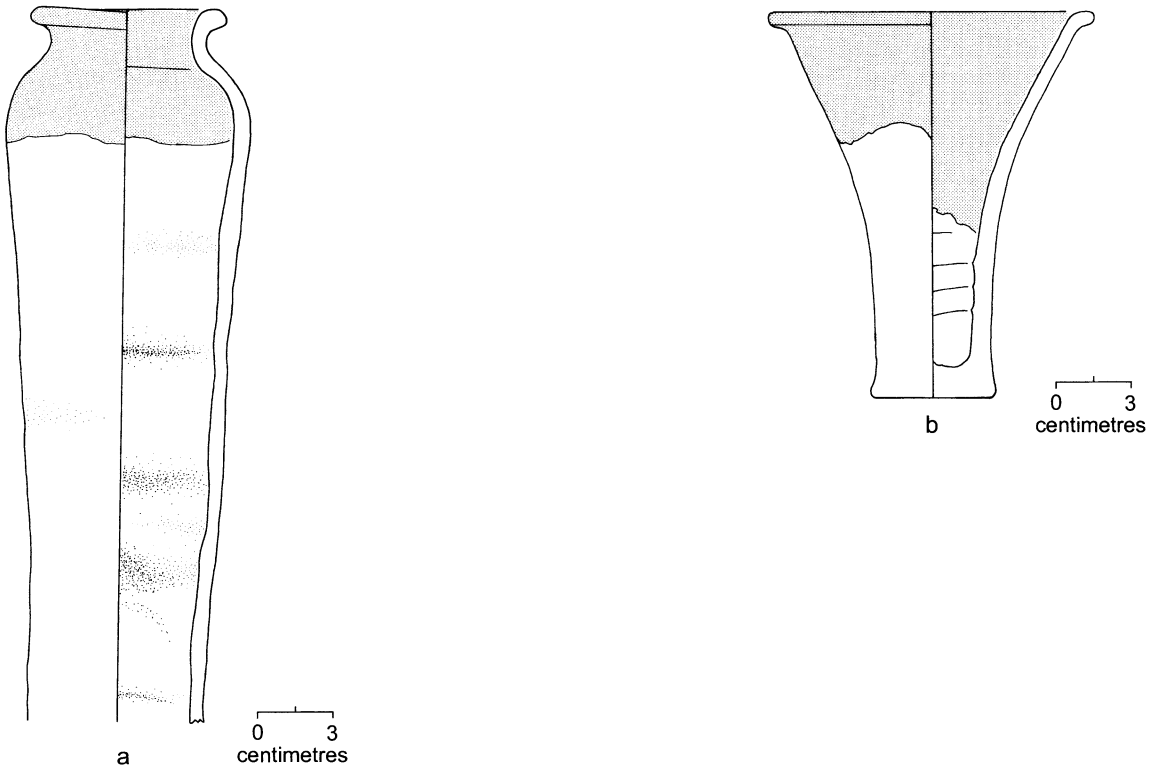


FIG. 5. Types 4 and 5: (a) Petrie Museum UC 15085 from the Main Deposit, Hierakonpolis; (b) Petrie Museum UC 17352 from the tomb of Djer (Tomb O), Abydos.

3504: Emery, *Great Tombs* II, fig. 104.13; fig. 222, Type S1 (more flaring base); see also fig. 212.5; W. B. Emery, *The Tomb of Hemaka* (Cairo, 1938), pl. 28, bottom right; Petrie, *The Royal Tombs of the Earliest Dynasties,* II (MEEF 21; London, 1901), pls. xlvi.7, xlviia.51, liiib.403, 4, 6 and lic.236.

Dating the corpus

While some jars come from securely dated contexts, others have been found in temple repositories at Elephantine, Hierakonpolis, Abydos and Tell Ibrahim Awad. These repositories appear to be mixed deposits of earlier and later temple equipment and votive material. However, as both the Main Deposit and the Osiris/Khenti-amentiu Temple excavations were conducted many years ago, the records must be treated with some caution. For example, Petrie gave level numbers to objects found in the Osiris/Khenti-amentiu Temple,[31] but as Kemp convincingly demonstrates, the relationship between the level numbers, the overall stratigraphy and Petrie's dating of the site is precarious. [32]

The temple repositories at Elephantine and Tell Ibrahim Awad have been excavated more recently, allowing a reliable assessment of the stratigraphy. Nevertheless the

[31] *Abydos* II, 3.
[32] See his discussion in *MDAIK* 23, 138–9, 148–55.

repositories at these two sites share a common problem with Abydos and Hierakonpolis: all are 'open' deposits of temple equipment with a potentially wide date range when appraised on stratigraphic grounds. For example, in his examination of Chamber M69 in the Abydos Temple, Kemp allows that 'some of the objects, by their style, do seem to belong to the first two dynasties'.[33] Petrie himself considered M69 as temple 'garbage' deposited around the middle of the Second Dynasty.[34] However, according to Kemp, the top of M69 is at the level of the Old Kingdom temple floor, resulting in a date of deposition for the objects as late as the Sixth Dynasty or even the early Eighteenth Dynasty, based on other evidence.[35] All that can be said with certainty is that while some material is undoubtedly early, later material is also probably included, making parallels drawn from M69 and similar open deposits less secure for dating purposes. As the problem posed by the repositories has been widely discussed by other scholars, further debate on the issue here is unnecessary.[36] As Kemp suggests, the only valid method for dating uninscribed objects from such contexts is stylistic parallel. Nevertheless, if most of the available parallels come from similar strata, a circular dating argument arises that cannot be tested against more clearly stratified material.

In the case of *hes*-jars as a group, further study would identify more precise typological changes. For most of the jars in the catalogue, parallels exist from beyond the temple repositories, either for the whole vessel, or for elements of the shape. Many of the wide-mouthed vessels (Types 1, 2, 4 and 5) either come from reliable Early Dynastic contexts or have parallels securing this date. A Third Dynasty date is also possible for **2**. At Elephantine and Tell Ibrahim Awad, temple deposits with black-topped pots date to the Old Kingdom (**6**, **7**, **12**), but typologically the vessels have closest links with those from the Early Dynastic Period. Paradoxically, they are in excellent condition. However, the narrow-necked jars from Abydos (**15** and **16**) may have a longer date range. Good parallels for this type come from the Old Kingdom, with only one similar Early Dynastic form known from Naqada.[37] This vessel was found many years ago in an excavation that cannot be regarded as reliable by modern standards.

Representations of *hes*-jars in two-dimensional art point to this type in the Early Dynastic Period.[38] In the Third Dynasty tomb of Hesi-Re at Saqqara, it appears as a hieroglyphic determinative with a horizontal line across the shoulders clearly indicating that a black-topped *hes*-jar is represented.[39] In discussing depictions of vases in the Old Kingdom, Heinrich Balcz assumed that representations of shapes were *older* than actual vases.[40] However, if **15** and **16** date to the Early Dynastic Period, clearly similarly-shaped *hes*-jars were made during the same time as comparable illustrations of the type. Nevertheless, Balcz was correct in stating that depictions of black-topped red *hes*-jars

[33] Ibid. 154.
[34] *Abydos* II, 23.
[35] *MDAIK* 23, 153–5.
[36] In addition to Kemp, see Dreyer, *Elephantine* VIII, 44–52; S. Harvey, 'A Decorated Protodynastic Cult Stand from Abydos', in P. Der Manuelian (ed.), *Studies in Honor of William Kelly Simpson* (Boston, 1996), I, 367–8.
[37] Petrie, *Abydos* II, 29, pl. xliii.
[38] Balcz, *MDAIK* 5, 71–4, fig. 99a–d.
[39] J. E. Quibell, *Excavations at Saqqara 1911–12. The Tomb of Hesy* (Leipzig, 1913), pl. xxxii; Balcz, *MDAIK* 5, fig. 99e.
[40] *MDAIK* 5, 71.

echo earlier traditions, but whether he was referring to Predynastic black-topped ware or the small number of Early Dynastic jars is unclear.

Representations continue in the Old Kingdom, with objects from Fourth Dynasty tombs at Giza depicting black-topped vases. Many are very similar in shape to Type 3. The well-known Fourth Dynasty slab stela of Wepemnofret shows him seated before a table of offerings which includes a black-topped jar amongst the schematic offering list.[41] The jar-determinative abbreviates the word *ḥnqt*, usually translated as 'beer' in an offering formula. The pot suggests that such vessels may have been used for the offering of ritual liquids in funerary rites. On the mid-Fourth Dynasty slab stela of Princess Nefertiabet,[42] the Type 3 shape signifies the word *ḥnqt* in an offering formula, and is found as a determinative for the word *šḫpt*, referring to a drink.[43] In addition, a black-topped vase on a stand is located to the right of the woman's head. The similarity of these vessels depicted on the stela with Type 3 is unmistakable. Even if actual black-topped jars were not used by this time, the symbolism of their use, linking the shape and red–black colour scheme, continued into the Old Kingdom.

Remarks on Early Dynastic black-topped ware production

To date, eighteen late black-topped vessels have been identified. Knowledge of the technique had not disappeared completely by this time, as all the pots were produced using the conventional firing process or something close to it.[44] However, potters did not slavishly copy black-topped ware production techniques of Naqada I–II. The relatively uniform dusky red slip and burnishing of earlier eras was replaced by more diverse approaches, ranging from red slip but no burnishing (**8** and **10**), to high burnishing but no slip (**16**) to none of these (**18**). Potters often used the natural clay colour to emphasise the contrast between the black and orange-red sections of the pot.

By the First Dynasty, black-topped ware shapes were less diverse, with varieties of early *hes*-jars dominating the repertoire (Types 1, 2 and 3). The antecedents of this shape can be found in Petrie's Naqada IIc–d Type B53 jars,[45] and the specimen from Hierakonpolis Tomb 11, dating to Naqada IIIb (see n. 17). These wide-necked pots are more ovoid and have a broader base, but by the First Dynasty, the tapering *hes*-jar shape begins to emerge, exemplified by jars **1** and **2**. The range of *hes*-jar shapes at this time is of itself interesting, and may represent a degree of experimentation on the part of workshops.

An exceptional type is the trumpet jar from Abydos (**18**). Found in the same tomb as **1**, it is very different in shape, fabric and treatment. Petrie was surprised to find these

[41] Berkeley Museum 6.19825. For references see PM III^2, 57. For a clear black and white reproduction, see W. S. Smith, *The Art and Architecture of Ancient Egypt*, revised ed. by W. K. Simpson (Middlesex, 1965), pl. 39a.

[42] Louvre E.15591. For references, see PMIII^2, 59. For a colour photograph, see J. Malek, *In the Shadow of the Pyramids* (London 1986), 78.

[43] Its precise meaning is not known. I am very grateful to Professor H. S. Smith for his advice on this matter.

[44] Far from being painted copies of earlier black-topped pots, as suggested by Adams and Ciałowicz (*Protodynastic Egypt*, 25), Early Dynastic examples are deliberately fired using the same or a similar technique to Naqada I–II black-topped ware.

[45] Petrie and Quibell, *Naqada and Ballas*, pl. xx, Type B53a and b.

vessels, saying '. . . few forms last beyond [SD] 60 and scarcely any after 70 . . . these . . . are very different in appearance to the earlier BT (sic), and are of forms unknown in the prehistoric; only the accidental blacking beneath the ashes resembles the early ware.'[46] Clearly this was not accidental, although the light brown, uncoated and unburnished surface on the trumpet jar is unusual. This delicate shape appeared at Saqqara and Abydos during the First Dynasty, with most direct parallels coming from the Abydos tomb of Djer. The trumpet jar was obviously popular in stone or ceramic during his reign.

Ceramic and faience black-topped model vases appeared in both Upper Egypt and the Delta during the First Dynasty.[47] In Chamber M69 of the Abydos temple, two faience imitation black-topped model jars were discovered (pl. XVII, 4); one is now in the British Museum (BM EA 38013), but the whereabouts of the other is unknown. Spencer suggests a First or Second Dynasty date for BM EA 38013. Dreyer dates similar plain faience jars from Elephantine to the Early Dynastic Period, although at least one was found in a good Fifth Dynasty context.[48] Nevertheless, as the findspots suggest, these models were probably made for some votive, ritual or funerary purpose, imitating their larger black-topped counterparts.

Conclusions

The vessels in the corpus are all from cemetery or cultic deposits. In fact, the majority are from temple repositories at Abydos, Elephantine, Tell Ibrahim Awad and Hierakonpolis. The appearance of black-topped vessels in Old Kingdom wall scenes probably echoes the actual use of such jars in Early Dynastic temple or funerary ritual. By the Old Kingdom, these jars existed only in temple storerooms as special relics of the past, before being ritually deposited. One or two examples may have even been manufactured at this time, but the evidence is inconclusive. Nevertheless, the imagery of a two-tone *hes*-jar was sufficiently potent to warrant its continued representation in two-dimensional art throughout the dynastic age.[49]

During the Predynastic Period and the First Dynasty, stone craftsmen produced two-tone vessels. Segmented jars, with the top half made of basalt and the lower part of limestone, are known from Saqqara, Naga ed-Der, Abydos and Minshat Abu Omar.[50] Black-topped ceramic jars were possibly an attempt by potters to copy stone jars in clay, or vice-versa.

[46] *Abydos* I, 6.

[47] Petrie, *Abydos* II, 26, pl. vii.108 (BM EA 38018) and 109; Spencer, *Early Dynastic Objects*, 73, pl. 59.529, cat. 529.

[48] *Elephantine* VIII, 82–3, 123, nos. 260–3, fig. 41.

[49] See, for instance, the tomb of Sennedjem at Deir el Medineh: L. Lesko (ed.), *Pharaoh's Workers. The Villagers of Deir el-Medineh* (Cornell, 1994), pl. 4a.

[50] Emery, *Great Tombs* II, fig. 224; G17, pl. liii, top right; idem, *Hemaka*, pl. 33.19 and pl. 36.46; G. A. Reisner, *The Early Dynastic Cemeteries of Naga-ed-Dêr*, II (Leipzig, 1909), 45; Petrie, *Royal Tombs* II, pl. xlviib, nos. 75 and 78; K. Kroeper and D. Wildung, *Minshat Abu Omar* (Munich, 1985), 84–5. The vessel from Abu Roash cited by R. Amiran in 'The Egyptian Alabaster Vessels from Ai', *IEJ* 20 (1970), 171, pl. 40a, is not a segmented jar, but rather a drawing of the upper part of a jar mended from fragments. See A. Klasens, 'The Excavations of the Leiden Museum of Antiquities at Abu-Roasch, Report of the Third Season. I', *OMRO* 41 (1960), 89, fig. 19.221.

But why would craftsmen seek to create two-tone vessels? The manufacturing process was surely costly and time consuming, in stone at least. By the First Dynasty, the black/red–dark/light contrast of black-topped ware seems to have acquired some particular symbolic significance linked to the ritual function of the vessel. This may have emerged at Hierakonpolis where a Predynastic cult structure was recently discovered. Discussing the ceramics from the temple, Renée Friedman highlights the preponderance of black-polished jars and matt-red slipped pots in the Naqada IIc phase. She suggests that 'the distinction [between the surfaces] . . . may . . .have been invested with symbolic significance'.[51] Very few sherds of black-topped ware were found relative to black-polished and matt-red slipped fragments in the cult structure's remains. In the Main Deposit, the relative proportions of black-topped to black-polished and matt-red slipped ware cannot be ascertained. Either way, black-topped ware of the Early Dynastic era may have been invested with the same symbolic significance which Friedman identifies in the early assemblage from the Naqada II structure at Hierakonpolis.

Many scholars have already pointed to the symbolic nature of colour use in Egyptian art. Red and black had their own intrinsic meanings. Amongst other things, red was associated with chaos, the desert and death. On the other hand, black was the colour of the fertile earth, resurrection and the underworld.[52] This opposing reality of colours was plainly evident to the Egyptians in the very land they inhabited, and in the concept of life and death embodied in the landscape around them. Each year the Nile deposited dark silt, renewing life against the stark backdrop of the lifeless desert. The contrast between life and death was ever present. It seems almost too logical to associate the black/red effect with the Egyptian's own view of their environment: *Kmt,* 'Black Land', and *Dšrt,* 'Red Land'. In temple rituals and in representations of black-topped *hes*-jars, the black/red possibly symbolised the land of Egypt, in addition to the separate but dual concepts of life and death. The liquid contents then represented the Nile or the life-giving qualities of renewal and purification associated with its water. By the First Dynasty, black-topped ware may have been a ceramic attempt to reconcile these dualities in the body of a single vessel. However, the extent to which this interpretation is determined by our own sense of order is difficult to determine.

[51] *Aspects of Early Egypt*, 29.

[52] For a summary, see R. Wilkinson, *Symbol and Magic in Egyptian Art* (London, 1994), 104–25, and references; see also E. Brunner-Traut, 'Farbsymbolik', *LÄ* II, 122–7.

1. Petrie Museum UC 17351

2. Petrie Museum UC 15094

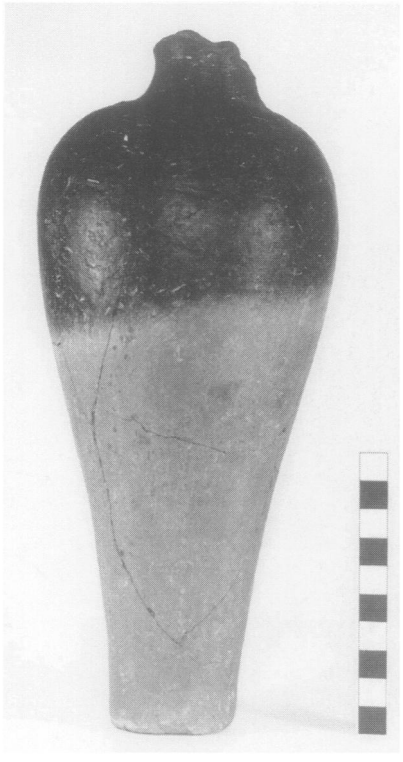
3. Tell Ibrahim Awad A140/190/138/6 (centre)

BLACK-TOPPED WARE IN EARLY DYNASTIC CONTEXTS (pp. 85–102)

1. (From left) Petrie Museum UC 15073a-c and UC 15074

2. Tell Ibrahim Awad
a140/190/Deposit 5

3. Tell Ibrahim Awad B173.73



1. Petrie Museum UC 17550

2. Petrie Museum UC 15085

3. Petrie Museum UC 17352

4. British Museum EA 38013

BLACK-TOPPED WARE IN EARLY DYNASTIC CONTEXTS (pp. 85–102)

THE NAMES OF HATSHEPSUT AS KING*

By GAY ROBINS

Although for most of her reign Hatshepsut was depicted with the traditional image of a male king, the names that she used as king were formed with grammatically feminine participles, thus openly acknowledging her female status. In addition, these names were deliberately constructed to incorporate references to goddesses, references that were probably intended to allude to Hatshepsut's divine aspect as king and to reinforce the legitimacy of her rule. The inclusion of these divine references was only possible because of the feminine participles used, and this type of wordplay is not, therefore, found in the names of male kings.

WHEN Hatshepsut became king, she took the Horus name *wsrt-kꜣw*, the Nebty name *wꜣḏt-rnpwt*, the Golden Horus name *nṯrt-ḥꜥw*, the first cartouche name *mꜣꜥt-kꜣ-rꜥ*, and added the epithet *ḥnmt-jmn* to her birth name.[1] Although it is uncertain how the names of any given king were selected, there were clearly rules governing the composition of such names and a limited number of models on which they were patterned. The structure of the first four names of Hatshepsut follows a traditional pattern of participle plus a direct genitive which had been in use for royal names since the Old Kingdom.[2] However, Hatshepsut's names begin with a feminine participle, thus openly acknowledging her identity as a woman, in contrast to the male image used to depict her in art. Similarly, Hatshepsut is often called *ḥrt*, 'the female Horus', *nṯrt nfrt*, 'perfect goddess', and *sꜣt rꜥ*, 'daughter of Ra', all feminine forms of traditional kingly titles.

Although her names are constructed according to traditional models, using mostly familiar elements, the feminine forms differentiate Hatshepsut's names from those of her male predecessors. An analysis suggests that these names were carefully chosen to take advantage of the fact that she was a female king.

Titulary

The Horus name: wsrt-kꜣw, 'powerful of kas'

The masculine form *wsr* is attested as the first element in the Horus names of Khafra (*wsr-jb*), Neferirkara (*wsr-ḥꜥw*), and Thutmose II (*wsr-pḥtj*); in the Nebty name of the Seventeenth Dynasty king, Rahotep (*wsr-rnpwt*); and the Golden Horus name of the Thirteenth Dynasty king, Sebekhotep IV (*wsr-bꜣw*).[3] It is much more difficult to find a precedent for the use of *kꜣw*,[4] but there are several possibilities that might explain why

* I would like to thank John Baines for reading this paper and for all his helpful advice and suggestions, especially regarding the reading of the first cartouche names of Hatshepsut and Neferusobek.

[1] J. von Beckerath, *Handbuch der ägyptischen Königsnamen* (MÄS 20; Munich and Berlin, 1984), 226, no. 5.

[2] In addition to the model participle + direct genitive used in Hatshepsut's names, other models use a participle + direct object (e.g. *sḫtp-tꜣwj*, Horus name of Teti; *ṯs-tꜣwj*, Golden Horus name of Ahmose; *jṯj-tꜣw-nbw*, one of Thutmose I's Nebty names—this is the pattern of *ḥnmt-jmn*, found in Hatshepsut's second cartouche name) or a participle + prepositional phrase (e.g. *ḥꜥj-m-wꜣst*, *ḥꜥj-ḥr-nst.f*, and *ḥꜥj-m-ḥḏt*, Horus names of Tao II, Kamose and Thutmose I respectively).

[3] Von Beckerath, *Handbuch*, 179, no. 4; 181, no. 3; 224, no. 4; 220, no. 2; 206, no. 24.

[4] Some kings have throne names that end with *-kꜣw-rꜥ* rather than *-kꜣ-rꜥ*, but the link with Ra makes it unlikely that the usage relates to the *kꜣw* of Hatshepsut's Horus name.

this element was selected for Hatshepsut. In the Eighteenth Dynasty, beginning with Ahmose, the element *kꜣ*, 'bull', entered the Horus name.[5] Thutmose I, II and III all used the epithet *kꜣ nḫt*, 'strong bull', as the first element in their Horus names,[6] which subsequently became standard for all New Kingdom kings. Hatshepsut does not customarily include *kꜣ nḫt* in her Horus name, probably because the bull was a symbol of male strength and potency, and would neither have been particularly appropriate for a woman, nor easily feminized.[7] However, there was a connection between *kꜣ*, '*ka*', and *kꜣ*, 'bull',[8] so that her predecessors' use of *kꜣ*, 'bull', might have inspired the adoption of *kꜣw*, '*kas*', a word that would not have carried the masculine connotations of *kꜣ*, 'bull'. In addition, the Horus name is closely connected to the royal *ka*, and frequently forms part of the image of the royal *ka* when the latter appears as a human figure or in emblematic form. The generic name used for manifestations of the royal *ka* is *ḥntj-kꜣw-ʿnḫw*, 'foremost of all the living *kas*'.[9] Hatshepsut may therefore have drawn the second element of her Horus name from the generic royal *ka*-name. The royal *ka* and its name played an important part in the Opet festival,[10] and Hatshepsut is the first king known to have depicted the Opet festival on her monuments. Finally, *kꜣw* also means 'nourishment',[11] and might have been chosen as a reference to Hatshepsut's duty as king to ensure the nourishment of Egypt.

The Nebty name: wꜣḏt-rnpwt, 'flourishing of years'

Although neither *wꜣḏ* nor *rnpwt* appears to have been particularly common in previous Nebty names or in royal names in general, *wꜣḏ* had been used in the Horus names of Wenis (*wꜣḏ-tꜣwj*) and two Thirteenth Dynasty kings, Dedumose and Neferhotep III (both *wꜣḏ-ḥʿw*); in the Nebty name of Sebekhotep IV of the Thirteenth Dynasty (*wꜣḏ-ḥʿw*); and in the first cartouche name of Kamose (*wꜣḏ-ḫpr-rʿ*).[12] *rnpwt* had appeared in the Nebty name of king Rahotep of the Seventeenth Dynasty (*wsr-rnpwt*), and in the Golden Horus names of Sekhemrakhutawy of the Thirteenth Dynasty (*ʿnḫ-rnpwt*), Amenhotep I (*wꜣḥ-rnpwt*), and Thutmose I (*nfr-rnpwt-sʿnḫ-jbw*).[13] An alternative Golden Horus name of Thutmose I, found on his Karnak obelisk, includes the group *wꜣḏ-rnpwt*,[14] which is thus the masculine form of Hatshepsut's *wꜣḏt-rnpwt*.

The Golden Horus name: nṯrt-ḥʿw, 'divine of appearances/manifestations/crowns'

Both elements of Hatshepsut's Golden Horus name occur in earlier royal names. Djoser's Horus name was *nṯrj-ḥt* and, in the middle of his reign, Nebhepetra Montuhotep's was *nṯrj-ḥḏt*.[15] In the Twelfth Dynasty, Senwosret III's Horus name was *nṯrj-ḫprw* and his

[5] Von Beckerath, *Handbuch*, 224, nos. 1–2.
[6] Ibid. 225–6 nos. 3–4, 6.
[7] *kꜣ nḫt* was used by Tawosret at the end of the Nineteenth Dynasty, by which time the combination had become a fixed formula in the Horus name.
[8] L. Bell, 'Luxor Temple and the Cult of the Royal *Ka*', *JNES* 44 (1985), 259.
[9] Ibid.
[10] Ibid.
[11] R. Hannig, *Grosses Handwörterbuch Ägyptisch-Deutsch (2800–950 v. Chr.)* (Mainz, 1995), 872.
[12] Von Beckerath, *Handbuch*, 183, no. 9; 208, no. 37; 209, i; 206, no. 24; 223, no. 15.
[13] Ibid. 220, no. 2; 201, no. 3; 224, no. 2; 225, no. 3.
[14] Ibid. 225, no. 3, G3.
[15] Ibid. 176, no. 2; 194, no. 5.

Nebty name *ntrj-mswt*.[16] *ntrj-bꜣw* was used by Neferkauhor of the Eighth Dynasty and Amenemhat VII of the Thirteenth Dynasty as their Horus and Nebty names respectively.[17] More recently, Thutmose II's Nebty name had been *ntrj-nsjjt*.[18]

The element *ḥꜥw* had had an illustrious history by the time Hatshepsut used it. In the Fifth and Sixth Dynasties, it was included as the second element in the Horus names of Sahura (*nb-ḥꜥw*), Neferirkara (*wsr-ḥꜥw*), Shepseskara (*šḥm-ḥꜥw*), Neferefra (*nfr-ḥꜥw*), Menkauhor (*mn-ḥꜥw*), Djedkara (*ḏd-ḥꜥw*), Merenra (*ꜥnḫ-ḥꜥw*), and Pepy II, whose name *ntrj-ḥꜥw* is the masculine form of Hatshepsut's name.[19] *ḥꜥw* was also used in the Horus names of Dedumose and Neferhotep III of the Thirteenth Dynasty (both *wꜣḏ-ḥꜥw*); in the Nebty names of Amenemhat VI (*šḥm-ḥꜥw*), Sebekhotep I (*ḏd-ḥꜥw*), Hor I (*nfr-ḥꜥw*), and Sebekhotep IV (*wꜣḏ-ḥꜥw*) of the Thirteenth Dynasty; and in the Golden Horus names of Neferusobek (*ḏdt-ḥꜥw*), Senwosret IV of the Thirteenth Dynasty (*nfr-ḥꜥw*), Nebirau of the Seventeenth Dynasty (*nfr-ḥꜥw*), and Thutmose III in the early part of his reign (*ḏsr-ḥꜥw*).[20]

The first cartouche name: mꜣꜥt-kꜣ-rꜥ, 'true one of the ka *of Ra'*

The first cartouche name, which is found from the Fifth Dynasty onward,[21] almost always contains the element *rꜥ*, and makes a statement about the king's relationship to Ra, while referring to the king. First cartouche names ending with the group *-kꜣ-rꜥ* are well known. The most illustrious predecessors of Hatshepsut with this type of first cartouche name were Neferirkara and Djedkara of the Fifth Dynasty, Pepy II of the Sixth Dynasty (*nfr-kꜣ-rꜥ*), Senwosret I of the Twelfth Dynasty (*ḫpr-kꜣ-rꜥ*), and in the Eighteenth Dynasty, Amenhotep I (*ḏsr-kꜣ-rꜥ*) and Thutmose I (*ꜥꜣ-ḫpr-kꜣ-rꜥ*).[22] In all these names, the first element is a masculine participle referring to the king.[23]

At first sight Hatshepsut's name appears to be constructed differently because the writing of the element *mꜣꜥt* with the image of the goddess seems to suggest that the reference is to the goddess Maat rather than to the name-holder, Hatshepsut, giving a reading: 'Maat is the *ka* of Ra'. Yet, if we look past the writing of *mꜣꜥt* with the goddess's image, we can understand it as a feminine participle from the verb *mꜣꜥ*, 'to be true'. It would then mean 'the true one of the *ka* of Ra', grammatically identical, for example, with *ḏsr-kꜣ-rꜥ*, 'the sacred one of the *ka* of Ra', and would thus conform perfectly to the general model.

The element *mꜣꜥ* does not, however, figure among the common first elements of any royal names.[24] It occurs only in the Golden Horus name of Amenemhat II (*mꜣꜥ-ḫrw*) and

[16] Ibid. 198, no. 5.
[17] Ibid. 188, no. 16; 203, no. 15.
[18] Ibid. 225, no. 4.
[19] Ibid. 181–3, nos. 2–5, 7–8; 185, nos. 4–5.
[20] Ibid. 208, no. 37; 209, i; 202, nos. 7, 12; 203, no. 14; 206, no. 24; 200, no. 8; 209, g; 221, no. 6; 226, no. 6.
[21] The use of two cartouches was not fully established until later. Userkaf, Sahura, Raneferef, Menkauhor, Wenis and Teti have only one cartouche name, as do the first three kings of the Theban Eleventh Dynasty.
[22] Von Beckerath, *Handbuch*, 185, no. 5; 197, no. 2; 224, no. 2; 225, no. 3.
[23] R. Krauss, *Das Ende des Amarnazeit* (HÄB 7; Hildesheim, 1978), 122–32.
[24] *mꜣꜥt* as a noun occurs as the second or third element in Horus names: e.g. *nb-mꜣꜥt* (Sneferu), *jrj-mꜣꜥt* (Userkaf), *ḥkn-m-mꜣꜥt* (Amenemhat II), *mrjj-mꜣꜥt* (Thutmose I); in Nebty names: *šḫꜥj-mꜣꜥt* (Senwosret II), *wp-mꜣꜥt* (Neferhotep I); in the Golden Horus name of Sebekhotep III, *ḥtp-ḥr-mꜣꜥt*; and in the first cartouche name of Amenemhat III, *nj-mꜣꜥt-rꜥ*.

in three first cartouche names prior to Hatshepsut: those of Amenemhat IV (*mȝʿ-ḫrw-rʿ*), of Sebekhotep IX of the Thirteenth Dynasty (*mȝʿ-rʿ*), and of a Hyksos king Sheshi (*mȝʿ-jb-rʿ*).[25] None of these seems to offer a compelling model for Hatshepsut, and there is likely to have been some other reason behind the unusual choice.

Whatever this was, it may perhaps account for the writing of the participle *mȝʿt* with the goddess's image, rather than by spelling it out phonetically, as one would expect. The one *-kȝ-rʿ* name that does not conform to the normal structure of first cartouche names is that of Neferusobek: *sbk-kȝ-rʿ*.[26] The name is written with the crocodile image of Sobek on a shrine and at first sight produces a sentence: 'Sobek is the *ka* of Ra'. However, contrary to all previous first cartouche names, this would make no statement about the king. Perhaps one should understand it instead as 'the one of Sobek, the *ka* of Ra'. Neferusobek's first cartouche name, like her birth name, would then relate the ruler to Sobek, as well as to Ra. If this reading is correct, Sobek should theoretically be in a feminine adjectival form and one would have to assume that the grammatical ending (*t*) was not written, perhaps because its inclusion would have spoiled the look of the cartouche.

Neferusobek, ruling at the end of the Twelfth Dynasty, some three hundred years prior to Hatshepsut, was the last woman before her to have taken the titles of king.[27] It is possible that Hatshepsut and her advisors knew of her, since monuments from her reign were probably still visible and, even though her first cartouche name is garbled in the Turin Canon, it may well have been preserved correctly in other king lists. Hatshepsut's advisors may thus have been well aware of Neferusobek's unusually formed first cartouche name and have used it as a model for Hatshepsut's own, writing *mȝʿt*(*t*) with the goddess, to produce a reading, 'the one of Maat, the *ka* of Ra', in addition to the rendering 'the true one of the *ka* of Ra', given above. In this case, Hatshepsut's first cartouche name would have been deliberately constructed so that it could be read in two ways. One reading followed the traditional structure of such names, whereas the second would have looked back to the last woman who had sat on the throne of Egypt. The ability to incorporate such a dual reading might explain the unusual choice of the element *mȝʿt*.

There are yet further reasons that might have influenced the way in which the element *mȝʿt* was written. First, Thutmose I's Horus name had been *mrjj-mȝʿt* where *mȝʿt* clearly refers to the goddess.[28] The incorporation of the goddess into Hatshepsut's first cartouche name might thus have been intentional, in order to include a reference to her father's Horus name. Second, the king ruled according to *mȝʿt* and had a cosmic duty to uphold *mȝʿt* and establish it in the place of chaos. Hatshepsut's writing of her first cartouche name with the image of the goddess ensured that everywhere her name appeared an image of Maat was displayed, thus presenting Hatshepsut as the legitimate champion of Maat. In addition, Maat was one of the goddesses identified as the daughter of Ra. As a female king, Hatshepsut too bore the title 'daughter of Ra', so she may also have been claiming obliquely to be a manifestation of the goddess.

[25] Von Beckerath, *Handbuch*, 198, no. 3; 199, no. 7; 211, q; 216, a.
[26] Ibid. 200, no. 8.
[27] J. von Beckerath, 'Sobeknofru', *LÄ* V, 1050–1.
[28] Von Beckerath, *Handbuch*, 225, no. 3.

The birth name: ḥꜣt-špswt, 'foremost of noble women'

Unlike the birth names of preceding kings of the Eighteenth Dynasty, that of Hatshepsut contains no reference to a deity. However, when Hatshepsut took the full titulary of a king, she added the epithet *ḥnmt-jmn*, 'united/imbued with Amun'. In her texts, Hatshepsut claimed a close relationship with Amun: he was her physical father, he chose her as king, and she enhanced his cult, building extensively for him at Thebes and organizing the expedition to Punt to bring back exotic goods for his use. The epithet *ḥnmt-jmn* embodies and displays this relationship.

Female deities in Hatshepsut's first four names

Bearing in mind that the initial participle in Hatshepsut's first cartouche name can also be interpreted as the goddess Maat, let us look again at her first three names: *wsrt-kꜣw*, *wꜣḏt-rnpwt*, and *nṯrt-ḥ ʿw*. Is it coincidence that the first elements of these names can be interpreted as the goddess Wosret,[29] the goddess Wadjet, and the generic term for goddess, *nṯrt*? Unlike *mꜣʿt*, none of these is written in an obviously divine form. However, if we look at other elements that can appear in the first position of royal names of the type used by Hatshepsut consisting of a participle followed by a direct genitive (*ʿꜣ*, *wꜣḥ*, *wꜣḏ*, *wsr*, *mn*, *mrj*, *nb*, *nfr*, *nṯrj*, *sḫm*, *špsj*, *špss*, *ḏsr*, *ḏd*),[30] there are only four, *wꜣḏ*, *wsr*, *nṯrj*, and *sḫm*, that in a feminine form could refer to a goddess.[31] That three of these four were selected, from all the possibilities, as the first elements of Hatshepsut's Horus, Nebty, and Golden Horus names is unlikely to have occurred by chance.

If Hatshepsut's names were carefully chosen to include references to goddesses, it is probable that the order in which they were arranged was not left to chance. If the Nebty name *wꜣḏt-rnpwt* contains an allusion to Wadjet, goddess of Lower Egypt, then we might expect it to be preceded by a reference to Nekhbet of Upper Egypt. Instead, the preceding Horus name includes the element *wsrt*, ostensibly the name of a Theban deity, best known from the name Senwosret 'man of Wosret', but probably an epithet of Hathor,[32] who was prominent on the west bank at Thebes, especially at Deir el-Bahri. Because Nekhbet's name is derived from the name of the city Nekheb and means 'the one of Nekheb', it could hardly form part of a royal name. Of the other possible elements in royal names that would form a divine name, *sḫmt* refers to the consort of Ptah of Memphis in Lower Egypt, and *nṯrt* is generic and has no geographic reference. Only *wsrt* has an Upper Egyptian connection, enabling this goddess to substitute for the unusable Nekhbet, thus allowing Hatshepsut's first two names to contain a reference to the duality of Egypt, whose two parts are united in the legitimate king, Hatshepsut. This reference to the duality of Egypt repeats the same notion embodied in the *nbtj* ('the two ladies') and *nsw bjtj* ('dual king') titles of the king.

[29] As pointed out by K. Sethe, 'Altes und Neues zur Geschichte der Thronstreitigkeiten unter den Nachfolgern Thutmosis' I', *ZÄS* 36 (1898), 49; E. Graefe, 'Das sogenannte Senenmut-Kryptogramm', *GM* 38 (1980), 46, 51.

[30] Based on the information given in von Beckerath, *Handbuch*.

[31] None of the first elements found in the models participle + direct object or participle + prepositional phrase could have referred in their feminine forms to deities.

[32] Sethe, *ZÄS* 36, 49; Graefe, *GM* 38, 51.

The Horus and Nebty names are followed by the Golden Horus name *ntrt-hʿw*. *ntrt* could refer to Hatshepsut's divine aspect as legitimate king, also featured in her title *ntrt nfrt*, 'perfect goddess'. Finally, her first cartouche name displays the image of the goddess Maat, who embodies the correct order of the universe, which the legitimate king maintains, and who, like Hatshepsut, is *sꜣt rʿ*. The order of the divine elements incorporated into Hatshepsut's names follows the order of the king's titles *nbtj*, *ntrt nfrt*, and *sꜣt rʿ* in the royal titulary.

Since none of the elements traditionally placed first in kings' names alludes to the name of a male deity, the type of wordplay seen in Hatshepsut's names was only possible because she was a woman. Such wordplay was not extended to the epithet added to her birth name because here, instead of being linked with a female deity, she was concerned to display her special relationship with the god Amun.

The uraeus cryptogram

On two of his statues, Hatshepsut's official Senenmut is shown kneeling and presenting a group consisting of a rearing cobra, crowned with the sun disk and horns, rising out of the arms of the *kꜣ*-hieroglyph.[33] The inscriptions on both refer to Renenutet, and the back pillars carry similar, although not identical, inscriptions. The better preserved of these runs in part: 'The steward of Amun Senenmut. He carries Renenutet of the granary of the god's offering of Montu, Lord of Armant. He causes her to appear and he lifts up her splendour on behalf of the life, prosperity and health of the king of Upper and Lower Egypt (Maatkara) living enduringly . . .'

Two further statues showing Senenmut presenting a sistrum include the same group within the naos of the sistrum.[34] The text of one statue refers to Hathor,[35] while the other refers to 'the one of Armant who resides in Armant', presumably Renenutet.[36] Yet another statue shows Senenmut holding the same group within a cartouche placed on a *nbw*-sign,[37] while another depicts him with a measuring cord, below which is modelled the same group also resting on a *nbw*-sign.[38] A sistrophorous statue of the steward of the god's wife Djehutynefer also displays the same group within the naos sistrum, together with a text referring to Hathor. The statue is undated but stylistically may come from

[33] Brooklyn Museum of Art 67.68: B. V. Bothmer, 'Private Sculpture of Dynasty XVIII in Brooklyn', *BMA* 8 (1966–7), 61–3, figs. 5–8; T. G. H. James, *Corpus of Hieroglyphic Inscriptions in the Brooklyn Museum* (Brooklyn, 1974), 75–7, no. 177, pl. 46; R. A. Fazzini et al., *Ancient Egyptian Art in the Brooklyn Museum* (Brooklyn, 1989), no. 34; C. Meyer, *Senenmut. Eine prosopographische Untersuchung* (HÄS 2; Hamburg, 1982), 47, no. 19; 211; P. Dorman, *The Monuments of Senenmut: Problems in Historical Methodology* (London and New York, 1988), 189–90, no. 4. Kimbell Art Museum, Forth Worth AP 85.2 (previously in a private collection in Paris): B. V. Bothmer, 'More Statues of Senenmut', *BMA* 11 (1969–70), 130–4, figs. 2–5; Meyer, *Senenmut*, 48, no. 20; 214–17; Dorman, *Monuments*, 193–4, no. 14, pl. 21.

[34] MMA 48.149.7: W. C. Hayes, 'Varia from the Time of Hatshepsut', *MDAIK* 15 (1957), 84–8; Meyer, *Senenmut*, 45, no. 17; 205–8. Munich ÄS 6265: Bothmer, *BMA* 11, 134–8, figs. 6–8; Meyer, *Senenmut*, 50, no. 22; 219–22; Dorman, *Monuments*, 194–5, no. 17, pl. 20.

[35] Hayes, *MDAIK* 15, 86, fig. 4.

[36] Dorman, *Monuments*, 194, no. 17; Meyer, *Senenmut*, 219. (*jwnjt* = the one/she of *jwnj*, that is, Armant.)

[37] Cairo JE 34582: Bothmer, *BMA* 11, 140–3, figs. 15–18; Meyer, *Senenmut*, 49, no. 21; 217–18; Dorman, *Monuments*, 192, no. 10.

[38] Louvre E 11057: Meyer, *Senenmut*, 46, no. 18; 209–11, pl. 6; Dorman, *Monuments*, 194, no. 15; G. Andreu et al., *L'Egypte ancienne au Louvre* (Paris, 1997), 108, no. 44.

Hatshepsut's reign.[39] The same group was used as a frieze in parts of Hatshepsut's funerary temple, in the small temple at Medinet Habu, and in the temple of Amun-Kamutef, built originally by Hatshepsut near the Mut precinct at Karnak.[40] Later, the *kꜣ*-element was hacked out of the friezes.

The group has been interpreted as a cryptographic writing of Hatshepsut's first cartouche name, *mꜣʿt-kꜣ-rʿ*, with the cobra reading *mꜣʿt* and the sun disk *rʿ*.[41] However, it has been pointed out that other examples of the group occur after the reign of Hatshepsut,[42] and that where texts are found with the group, the goddesses named are Renenutet,[43] Hathor,[44] and Nekhbet,[45] but not Maat.[46] The strongest connection is with the harvest goddess Renenutet, who regularly appears elsewhere as a cobra or a woman with a cobra's head. That the cobra in the group represents Renenutet is reinforced by the presence of the *kꜣ*-sign, also used in the writing of *kꜣ(w)*, 'nourishment/sustenance'.[47] One of Renenutet's most frequent titles is *nbt kꜣ(w)*,[48] and Graefe suggests that this title is also incorporated in the group when it rests on a *nbw*-sign or that the uraeus itself could be read *nbt*.[49] In addition, he points out that an Eighteenth Dynasty stela depicts a rearing cobra that is called Nekhbet-Renenutet-Hathor,[50] who are precisely the three goddesses named in conjunction with the uraeus group on the statues of Senenmut, Djehutynefer and Setau.

There can be little doubt that the group primarily refers to Renenutet and by extension to the goddesses with whom she is associated. However, its appearance on six statues of Senenmut and as a frieze in buildings of Hatshepsut suggests that it had a special significance during Hatshepsut's reign, presumably because it could also be read as *mꜣʿt-kꜣ-rʿ*. Indeed, although none of the statues refers to Maat in its texts, Renenutet was also connected with the maintenance of cosmic order and in this aspect identified with Maat, reinforcing a possible reading of the uraeus as *mꜣʿt*.[51] Further, on Brooklyn 67.68, the text says that Senenmut 'carries Renenutet', referring to the group that he is presenting, and he 'lifts up her splendour on behalf of the life, prosperity and health of the king of Upper and Lower Egypt Maatkara', with the latter name also represented by the group. That the group can indeed be read as *mꜣʿt-kꜣ-rʿ* is strengthened by two more

[39] Louvre E 5416: E. Graefe, *Untersuchungen zur Verwaltung und Geschichte der Institution der Gottesgemahlin des Amun vom Beginn des Neuen Reiches bis zur Spätzeit* (ÄA 37; Wiesbaden, 1981), 236–7 P34.

[40] Meyer, *Senenmut*, 83, nn. 2–5; 87, nn. 2–3.

[41] E. Drioton, 'Deux cryptogrammes de Senenmout', *ASAE* 38 (1938), 231–46; Fazzini et al., *Ancient Egyptian Art*, no. 34; James, *Corpus*, no. 177; M. Eaton-Krauss, in *Ägyptische Kunst aus dem Brooklyn Museum* (Berlin, 1976), no. 34; Dorman, *Monuments*, 138.

[42] Statue of Setau, Louvre N 4196, reign of Amenhotep II–III: Andreu et al., *L'Egypte ancienne*, 116, no. 49; TT 48 of Amenemhat Surero, reign of Amenhotep III: T. Säve-Södebergh, *Four Eighteenth Dynasty Tombs* (Oxford, 1957), 42, pl. 42.

[43] Brooklyn 67.68; Kimbell Art Museum, Fort Worth AP 85.2; Munich ÄS 6265 ('she of Armant, who resides in Armant'), as well as Louvre E 11057, where the measuring cord held by Senenmut also had connections with Renenutet; see Säve-Söderbergh, *Four Eighteenth Dynasty Tombs*, 42, pl. 42.

[44] MMA 48.149.7; Louvre E 5416.

[45] Louvre N 4196.

[46] Meyer, *Senenmut*, 83–92; Graefe, *GM* 38, 45–51.

[47] *Wb.* V, 91–2. Both *kꜣ* and *kꜣw* occur with the same meaning.

[48] J. Broekhuis, *De Godin Renenutet* (Assen, 1971), 143–4.

[49] *GM* 38, 48–9.

[50] Ibid. 49; Broekhuis, *De Godin Renenutet*, fig. 5.

[51] Eaton-Krauss, *Ägyptische Kunst*, no. 34; Broekhuis, *De Godin Renenutet*, 151.

facts. First, on Cairo JE 34582, it is enclosed in a cartouche, something one would not expect at this period for the name or epithet of a goddess. Second, the friezes in Hatshepsut's buildings were later attacked and the *kꜣ*-sign hacked out. There would be no reason for this mutilation if the signs were simply part of *nbt kꜣ(w)*, and the destruction must surely relate to the widespread attack on Hatshepsut's name and image during Thutmose III's sole rule: the *kꜣ* was removed to destroy the reading *mꜣʿt-kꜣ-rʿ*, leaving only an unexceptionable frieze of uraei crowned with the sun disk and horns.

The group must therefore be read both as a cryptographic writing of Renenutet *nbt kꜣ(w)* and of Hatshepsut's first cartouche name, with the further implication that Hatshepsut is linked with Renenutet because it was her responsibility as ruler to ensure the prosperity of Egypt. Indeed, since there is a clear connection between *kꜣ*, '*ka*', and *kꜣ(w)*, 'nourishment', I have already proposed that a reference to 'nourishment' might also be included in the Horus name *wsrt-kꜣw*. One might even suggest that the uraeus cryptogram had yet another reading, *wsrt-kꜣ(w)*, understanding the uraeus as *wsrt*, since the goddess Wosret was probably a form of Hathor, whose cobra aspect is well known.[52]

The rearing cobra was also both a determinative for *nṯrt*, 'goddess', and the image of the goddess of Lower Egypt, Wadjet. The cobra in the cryptogram could therefore allude to the first elements of Hatshepsut's Horus, Nebty and Golden Horus names as well as to her first cartouche name. In any case, whether or not the uraeus carries any reference to the first three names of Hatshepsut, the reading of the group as *mꜣʿt-kꜣ-rʿ* depends upon equating the uraeus with the goddess Maat, and this is only possible because the feminine participle of the first cartouche name was written with the image of this goddess. Thus, the unusual choice of *mꜣʿ* as the initial element of her first cartouche name produced for Hatshepsut the feminine form *mꜣʿt* that enabled the image of Maat to be incorporated into the name. As a result, the Renenutet group could also be interpreted as a cryptographic writing of *mꜣʿt-kꜣ-rʿ*, through a process that would have been impossible for the name of a male king.[53]

Discussion and conclusions

As with all kings, the validation and display of Hatshepsut's legitimacy as ruler were primary functions of her texts and images. However, Hatshepsut's legitimacy may well have been uncertain for two reasons. First, it was abnormal for a woman to be king, the last female ruler having lived three hundred years earlier. Second, the throne was already occupied by a legitimate king. Although the institution of coregency allowed there to be two kings at one time, the model was for an older king to appoint his usually younger heir as coregent in order to facilitate the successful transfer of power at the death of the senior king.[54] Hatshepsut, however, would hardly seem to be the obvious heir of Thutmose III, who in fact outlived her by several decades, so that she never ruled alone.[55] Hatshepsut's

[52] Sethe, *ZÄS* 36, 49.

[53] In the first cartouche names *nb-mꜣʿt-rʿ* (Amenhotep III), *mn-mꜣʿt-rʿ* (Sety I) and *wsr-mꜣʿt-rʿ* (Ramses II), the second element is, of course, the noun *mꜣʿt*.

[54] W. Murnane, *Ancient Egyptian Coregencies* (SAOC 40; Chicago, 1977).

[55] It is possible that, because of his youth, Thutmose III had no heir at the time Hatshepsut became king. Her accession might therefore have been a response to some crisis, such as a serious illness, that threatened Thutmose's life and risked leaving Egypt without a king. If so, the necessity of the moment would have

need to establish her position as legitimate king, despite the unusual circumstances of her accession, was therefore considerable. Texts and images were constructed to show that she was the physical offspring of Amun-Ra (a claim probably made for all legitimate rulers); that her father appointed her as his successor during his lifetime; and that she was proclaimed king by an oracle of the god. It is only to be expected, then, that her advisors put considerable thought into constructing her names as king.

The elements that were used to form royal names make up a fairly small group. They were combined and recombined to produce different names, although repetition of names was also possible, if uncommon. Hatshepsut's names, formed on the traditional pattern of participle + direct genitive, draw mostly on these same elements, thus echoing elements used not only in the names of her immediate predecessors, Amenhotep I, Thutmose I, and Thutmose II and her coregent, Thutmose III, but also in the names of kings of the Third, Fourth, Fifth, Sixth, Eleventh, Twelfth, Thirteenth, and Seventeenth Dynasties. The construction of her names, therefore, places Hatshepsut firmly in the line of legitimate Egyptian kings.

The only truly unusual elements are ***kꜣw*** **in** ***wsrt-kꜣw*** and *mꜣʿt* in *mꜣʿt-kꜣ-rʿ*. The choice of *kꜣw* may have been influenced by the **generic name** for the royal *ka*, *ḥntj-kꜣw-ʿnḫw*, and by the homonym, *kꜣw*, 'nourishment', playing off Hatshepsut's association with Renenutet *nbt kꜣw*. The possibilities engendered by the use of *mꜣʿt* were also rich. The participle could be written with the image of the goddess Maat, who personified the cosmic order according to which the legitimate king ruled, thus providing another device for constructing and displaying Hatshepsut as a legitimate ruler. The writing of *mꜣʿt* with the goddess made possible the use of the Renenutet cryptogram to refer to *mꜣʿt-kꜣ-rʿ* and to display Hatshepsut in her role as nourisher of Egypt, an idea that could also have been incorporated in her Horus name. In addition, the writing with the goddess echoed the unusual first cartouche name of the female ruler Neferusobek, *sbk-kꜣ-rʿ*. Since there is no reason to believe that Neferusobek was not regarded as a legitimate king with her place in the king lists, the use of her name as a model for *mꜣʿt-kꜣ-rʿ* would link Hatshepsut to a previous female ruler of accepted legitimacy.[56]

Since Hatshepsut's names as king were constructed to take advantage of the fact that she was a woman, they contrast with the representations depicting her with a male image which they accompany. To modern viewers this male image has often seemed to provide evidence of Hatshepsut's deviousness—a sort of sleight of hand to disguise her female identity. In fact, early images of Hatshepsut as king showed her in female dress,[57] but these are few in number, and we must assume that it was not long before the male image

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legitimized in practical terms Hatshepsut's assumption of kingship, but undoubtedly there would still have been a need to construct a framework of ideological legitimacy.

[56] It is possible that Neferusobek's Golden Horus name *ḏdt-ḥʿw* influenced the choice of *ḥʿw* as the second element in Hatshepsut's Golden Horus name, but this must remain uncertain, since *ḥʿw* was common as a second element in kings' names. Clearly, Neferusobek's Horus and Nebty names *mrjjt-rʿ* and *sꜣt-sḫm-nbt-tꜣwj* bear little similarity to those of Hatshepsut. None of the first elements of Neferusobek's four names as king contains any allusion to a female deity, so that this type of wordplay must have been invented for Hatshepsut.

[57] Block from Karnak: Chevrier, 'Rapport sur les fouilles de Karnak (1933–1934)', *ASAE* 34 (1934), 172, pl. 4. Block from Serabit el-Khadim: J. Černý et al., *The Inscriptions of Sinai*, II (London, 1955), no. 177, pl. 56. Two statues from Deir el-Bahri, MMA 29.3.3: R. Tefnin, *La statuaire d'Hatshepsout: portrait royal et politique sous la 18ᵉ Dynastie* (MonAeg 4; Brussels, 1979), pl. 1b-c, G. Robins, *The Art of Ancient Egypt* (London and Cambridge, Mass., 1997), fig. 144; MMA 30.3.3: Tefnin, *La statuaire d'Hatshepsout*, pl. 1a; H. E. Winlock, 'The Egyptian Expedition 1929–1930', *BMMA* 25/2 (Dec. 1930), fig. 7.

was adopted. The question is why a female image was rejected for Hatshepsut but not the feminine grammatical gender used in her names, titles and texts. One answer might be that the female image would not have immediately told viewers that they were looking at a king, and presumably the unequivocal identity of the figure as king was more important than the reality of Hatshepsut's biological sex. She was playing a male gender role and for the role to be recognized, it had to be given its traditional male form.

The accompanying texts were somewhat different. Their format and content alone would have identified them as relating to the king and no one else, whatever the grammatical gender employed. Further, the change in texts from masculine to feminine grammatical gender was far less radical than the replacement of the typical male image of a king by an image with female dress and physique, especially as more people would be aware of the visual impact of the images than would have occasion to read the texts even if literate. It seems unlikely, then, that Hatshepsut was trying to disguise her biological sex, but rather that she was making clear her identity as king, for which role only male iconography existed. This being so, there was no reason why Hatshepsut's female identity should not be exploited to produce a set of names for her use as king that incorporated various wordplays linking her to deities and notions of divinity in a way that was impossible for male kings.

THE FATE OF SENNEFER AND SENETNAY AT KARNAK TEMPLE AND IN THE VALLEY OF THE KINGS

By M. EATON-KRAUSS

The 'artists' signatures' on the statue of Sennefer and Senetnay are revealed to be additions dating to the Third Intermediate Period. A review of the circumstances of the statue's excavation at Karnak leads to reconsideration of the so-called 'chapel of Hatshepsut'. Budge's account of the chapel's discovery is shown to be credible after all, with North Karnak proposed as its location. Finally, the arguments for the attribution of a tomb in the Valley of the Kings (KV 42) to Sennefer and his wife are analyzed, and the implications for the Valley's history in the aftermath of the New Kingdom explored.

THE statue of Sennefer, Mayor of Thebes under Amenhotep II,[1] and his wife, the royal nurse Senetnay[2] (Cairo CG 42126; pl. XVIII, 1) is a frequently illustrated sculpture from ancient Egypt. The number of bibliographical references listed in PM II^2, 283–4, can be considerably augmented, in particular by entries in the catalogue of the exhibition planned for 1970 to coincide with the centenary of both the Metropolitan Museum of Art and Boston's Museum of Fine Arts,[3] and in the official catalogue of the Egyptian Museum, Cairo.[4] It will also figure in the introduction of a book that I have been commissioned to write on Egyptian art.

The impulse to include the sculpture in my book was its stylistic affinity not only to the group depicting Thutmosis IV and his mother Tiaa (Cairo CG 42080),[5] which is similarly scaled and carved from the same material, but also to other royal sculptures, some dating as early as the reign of Thutmosis III. The corpus of these statues, which is the subject of a study in preparation by Biri Fay,[6] can be associated with a master sculptor who was active in an atelier at Karnak Temple for some thirty years during the earlier Eighteenth Dynasty from about 1430 to 1400 BC.

A detail that distinguishes CG 42126 from contemporaneous non-royal sculpture and simultaneously associates it with royal commissions is the block border framing the texts and representations on the sides of the seat (pl. XVIII, 2). This feature is normally

[1] For his career, see P. Der Manuelian, *Studies in the Reign of Amenophis II* (HÄB 26; Hildesheim, 1987), 160–2. Abbreviations here and below follow the usage of the *LÄ*.

[2] In Sennefer's tomb TT 96, figures of his wife carry three different labels, viz. Senetnay, Senetnefert, and Meryt. In support of the plausible idea that Senetnay and Senetnefert are one and the same woman, see C. Roehrig, *The Eighteenth Dynasty Titles Royal Nurse (mnʿt nswt), Royal Tutor (mnʿ nswt) and Foster Brother/Sister of the Lord of the Two Lands (sn/snt mnʿ n nb tꜣwy)* (doctoral dissertation, University of California, Berkeley, 1990/UMI 9103856; *Royal Nurse* below), 148–51. For the identification of all three as a single wife, interpreting Meryt as an epithet associating Senetnay/Senetnefret with Isis and Hathor in the context of Sennefer's 'rebirth' in the hereafter, see *Sen-nefer. Die Grabkammer des Bürgermeisters von Theben*, with contributions by C. Desroches Noblecourt et al. (catalogue of an exhibition at the Römisch-Germanisches Museum, Cologne; Mainz, 1986), 43.

[3] E. L. B. Terrace and H. G. Fischer, *Treasures of Egyptian Art from the Cairo Museum* (London, 1970), 113–16.

[4] M. Saleh and H. Sourouzian, *The Egyptian Museum Cairo. Official Catalogue* (Mainz, 1987), no. 140.

[5] Pointed out by G. Legrain in his description of Sennefer's statue in the *Catalogue général*, (*Statues et statuettes de rois et de particuliers*, I (Cairo, 1906), 78). See now B. M. Bryan, 'Portraits of Thutmose IV', *JARCE* 42 (1987), 8–9, comparing and contrasting the groups.

[6] I am indebted to her for discussing her research with me.

attested only in statuary depicting royalty and the gods.[7] The border is not found on another statue of Sennefer and Senetnay, now in London, which has not previously been illustrated (pl. XIX, 1–2).[8] Like CG 42126, it is made of dark hardstone, but the headless figures are only about half the size of the group in Cairo. The sculpture depicts the couple twice, essentially reduplicating the pose of CG 42126, with the two figures of Sennefer and Senetnay in the middle 'embracing' their spouses on either side.[9] Both Sennefer's torsos are trim and muscular, in contrast to the fat folds of CG 42126, and he is devoid of the Gold of Favour so conspicuous in the large-scaled Cairo group. The inscriptions down the front of Sennefer's figures on the London statue invoke Amun-Re, while one of Senetnay's texts mentions Hathor and the other names Osiris, as does the offering formula associated with their daughter Nefertiry depicted in relief on the proper left side of their seat. The cutting of the hieroglyphs and of the relief figure of Nefertiry is mediocre. The proper right side of the seat and the back of the backslab are uninscribed, whereas the analogous surfaces of CG 42126 bear, respectively, a representation of the couple's other daughter Mutnefert and offering formulae in favour of both Sennefer (invoking Osiris) and Senetnay (calling upon Hathor and Anubis).

Yet another sculpture of Sennefer, a block statue in black granite now in University College London,[10] should be mentioned here, because a text cut across the top of the block unequivocally calls it a 'royal favour',[11] as is certainly to be inferred for CG 42126. It does not come from Karnak, however, but was excavated by Petrie at Coptos.

A second inducement to include the Cairo statue of Sennefer and Senetnay in my book on Egyptian art is the presence of an inscription naming two men carved on the proper left side of the seat beside a figure of the couple's daughter Nefertiry.[12] Georges Legrain first drew attention to these vertical columns of text, suggesting that they 'semblent être les signatures des sculpteurs de ce monument'.[13] The descriptions in the recent publications cited above are only the latest to follow Legrain's interpretation.[14] This 'artist's signature' seemed well suited to introduce a discussion of how artists viewed themselves and their works. However, a check of Legrain's rendering of the inscription in the

[7] Cf. the occurrence of royal features in Sennefer's tomb, cited n. 67 *infra*.

[8] British Museum EA 113; basalt (?); preserved h. 49 cm; w. 57 cm; cf. *BM Stelae* VIII, 7–8 with pl. viii illustrating the texts. Richard Parkinson of the Department of Egyptian Antiquities of the British Museum kindly supplied information on the group. I am also indebted to Biri Fay for taking photographs of it and to W. V. Davies, Keeper, for permission to use two of them to illustrate the statue here. The prints were computer-enhanced by Jürgen Liepe.

[9] The only other group combining two seated men and two seated women known to J. Vandier, *Manuel d'archéologie égyptienne*, III (Paris, 1958), 448, was Cairo CG 621; cf. B. Hornemann *Types of Ancient Egyptian Statutary* (Copenhagen, 1951–69), 1453. The sculpture is not strictly comparable because the gestures uniting the couples who comprise the group are not the same. Once the woman lays her arm around her husband with her hand on his far shoulder; in the second case, her right arm is sharply bent at the elbow with the hand on his left shoulder. The torso of one of the male figures is bare, with fat folds; the second male figure wears a short-sleeved tunic over a trim torso.

[10] UCL 14639; h. 45.6 cm; A. Page, *Egyptian Sculpture. Archaic to Saite. From the Petrie Collection* (Warminster, 1976), 59–60.

[11] For the correct understanding of the inscription (which was misread ibid.), see the original publication W. M. F. Petrie and J. E. Quibell, *Naqada and Ballas 1895* (BSAE 1; London, 1896), 68 with pl. lxxviii. Texts of this type are discussed by F. Pumpenmeier, *Eine Gunstgabe von seiten des Königs. Ein extrasepulkrales Shabtidepot Qen-Amuns in Abydos* (SAGA 19; Heidelberg, 1998), 47–8.

[12] The exhibition catalogue *Sen-nefer*, 21, incorrectly locates the inscription on the back of the group.

[13] *Statues et statuettes* I, 78.

[14] See nn. 3 and 4, above; so, too, W. K. Simpson, 'Sennefer', *LÄ* V, 856.

Catalogue général (fig. 1), reveals that the text does not name sculptors at all, but outline draughtsmen. It might be suggested that these men were responsible for designing the relief representations of Sennefer's daughters and apportioning the texts among the figures. They would then have been the last members of the 'team' responsible for the statue to lay hands on it.

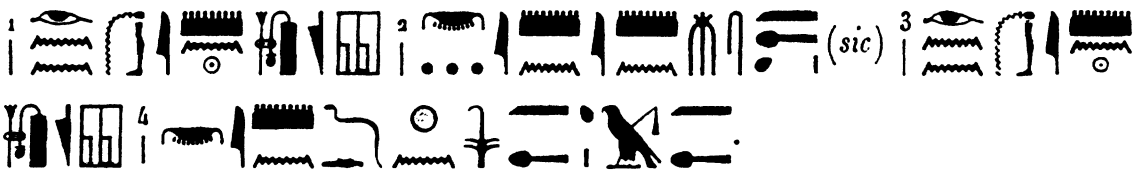


FIG. 1. From Legrain, *Statues et statuettes* I, 78.

However, the text provides additional information that invalidates this interpretation. The formula that introduces the titles and names of both men is not compatible with an Eighteenth Dynasty date nor is the name of one of the draughtsmen.[15] In fact, both the formula[16] and the name Djedkhonsu[17] are typical of the Third Intermediate Period. Furthermore, the photograph of the side of the statue with the text (pl. XVIII, 2)[18] shows a disparity between the cutting of it and the label of Sennefer's daughter immediately above. Obviously the inscription of Djedkhonsu and Amenmose, colleagues in the 'Two Treasuries of Amun',[19] is not contemporaneous with the carving of CG 42126 but was added to the statue, perhaps as much as 400 years after Sennefer flourished.

Neither outline draughtsman is known with certainty from other sources. Klaus Ohlhafer called my attention to a possible connection with the owner of TT 259 who was named Hori, like Djedkhonsu's father. This Hori was a *wab*-priest and 'head' of outline draughtsmen in the House of Gold in the estate of Amun, titles comparable with those of Djedkhonsu in the inscription on CG 42126. However no son figures in the decoration and texts of TT 259.[20]

I am likewise indebted to Ohlhafer for references to the person of Djedmontu(iuef-ankh), the owner of a coffin (AMM 18) and funerary papyrus (AMS 36) in Leiden who is datable to the early Twenty-second Dynasty. The father of this man, 'head' of outline draughtsmen in the estate of Amun, was a certain Djedkhonsu, *wab*-priest of Amun and

[15] W. Helck apparently registered this discrepancy, for he did not include the text in his handcopy of the inscriptions on Sennefer's statue (*Urk.* IV, 1435–6 (433)).

[16] Dedicatory inscriptions of this type are discussed in the doctoral dissertation of S. Grallert, *Bauen. Stiften. Weihen: Die ägyptischen Bau- und Restaurierungsinschriften von den Anfangen bis zur 30. Dynastie*, which she is currently preparing for publication. I am indebted to her for sharing her data on this formula with me.

[17] Ranke, *PN* I, 412 (3), citing this example among others.

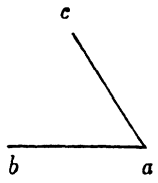
[18] Illustrated previously only in the initial edition of *Sen-nefer*, 21. Later editions of the catalogue omit this photograph.

[19] According to W. Helck, *Materialien zur Wirtschaftsgeschichte des Neuen Reiches*, I (Wiesbaden, 1960), 47, the inscription is the only occurrence of this designation in a title.

[20] For the dating of TT 259 towards the end of the Twentieth Dynasty, see E. Feucht, 'Fragen an TT 259', in J. Assmann et al. (eds), *Thebanische Beamtennekropolen* (SAGA 12; Heidelberg, 1995), 55–61.

outline draughtsman[21] in the estate of Amun. The identification of Djedmontu(iuef-ankh)'s father with the Djedkhonsu who added his name to CG 42126 is perhaps less tenuous than a possible association of Djedkhonsu with the owner of TT 259.

Legrain gave the following account of the discovery of CG 42126:



Trouvé le 18 décembre 1903 au nord de la grand salle hypostyle du temple d'Amon de Karnak. La place exacte peut être déterminée de la façon suivante:

a étant l'angle du montant ouest de la porte nord de la salle hypostyle, *ab* le mur historique de Seti I^er^ à l'ouest de la porte nord, *ac* faisant avec *ab* un angle de 65°, le groupe de Sonnofir se trouve sur la ligne *ac* à une distance de 45 m. 80 cent. du sommet de l'angle.

La base reposait sur de la terre battue. L'altitude de la base était 76 m. 165 mill. quand celui de la salle hypostyle est de 74 m. 25 cent. Le groupe était donc 1 m. 915 mill. au-dessus du niveau de la salle hypostyle. Il regardait vers le sud.

Quelques jours après, non loin de là, on découvrait quelques stèles en calcaire et une statue en granit gris, haute de 0 m. 40 cent., anépigraphe, représentant un homme accroupi.

Le déblaiement a montré depuis qu'un monument en briques crues existait en cet endroit. Nous n'avons pu encore en déterminer un plan certain.[22]

Figure 2 plots the location on a detail of the plan of Karnak Temple.[23] The discovery of Sennefer and Senetnay's statue in this sector of the temple precinct, which remains largely unexplored down to the present, was directly related to restoration work in the Hypostyle Hall following on the 'catastrophe' of 3 October 1899, when several columns collapsed, bringing down their architraves with them. To raise the fallen elements into place, Legrain constructed earthen ramps on the ancient model to the north of the Hypostyle Hall. The statue and related monuments mentioned in the *Catalogue général* were found when the terrain was explored preliminary to building the ramps.[24] The depth at which the group was found—almost 2 m below the level of the Hypostyle Hall—resting on a surface of beaten earth and in some relationship to brickwork is noteworthy. The description calls to mind the account that E. A. Wallis Budge gave of the approximately contemporaneous discovery at Karnak of the so-called 'chapel of Hatshepsut'.[25]

[21] Ohlhafer called my attention to P. Boeser's incorrect transcription (*Leiden* X) of the *qd*-sign in the title on the coffin as the bookroll, yielding 'scribe' instead of 'outline draughtsman', an error unremarked by A. Niwiński, *21st Dynasty Coffins from Thebes. Chronological and Typological Studies* (Theben 5; Mainz, 1988), 146 (no. 225); see now R. van Walsem's review in *BiOr* 50 (1993), 68 (124). Similarly Niwiński misread the same title in the papyrus: *Studies on the Illustrated Theban Funerary Papyri of the 11th and 10th Centuries BC* (OBO 86; Freiburg and Göttingen, 1989), 316 (Leiden 17).

[22] *Statues et statuettes* I, 78.

[23] I am indebted to J.-F. Carlotti who drew the plan for allowing me to reproduce this detail and for taking the time to go over the site with me in April 1998. Cf. also the comments of P. Barguet, *Le temple d'Amon-Rê à Karnak* (Cairo, 1962), 14 n. 3, placing Sennefer's statue 'dans l'enceinte de la chapelle éthiopienne'.

[24] So G. Legrain, 'Rapport sur les travaux exécutés à Karnak du 28 séptembre 1903 au 6 juillet 1904', *ASAE* 5 (1904), 269, making first mention of the group. For a description of the disaster and subsequent reconstruction work, see C. Traunecker and J.-Cl. Golvin, *Karnak, résurrection d'un site* (Fribourg, 1984), 163.

[25] PM II², 278–9.

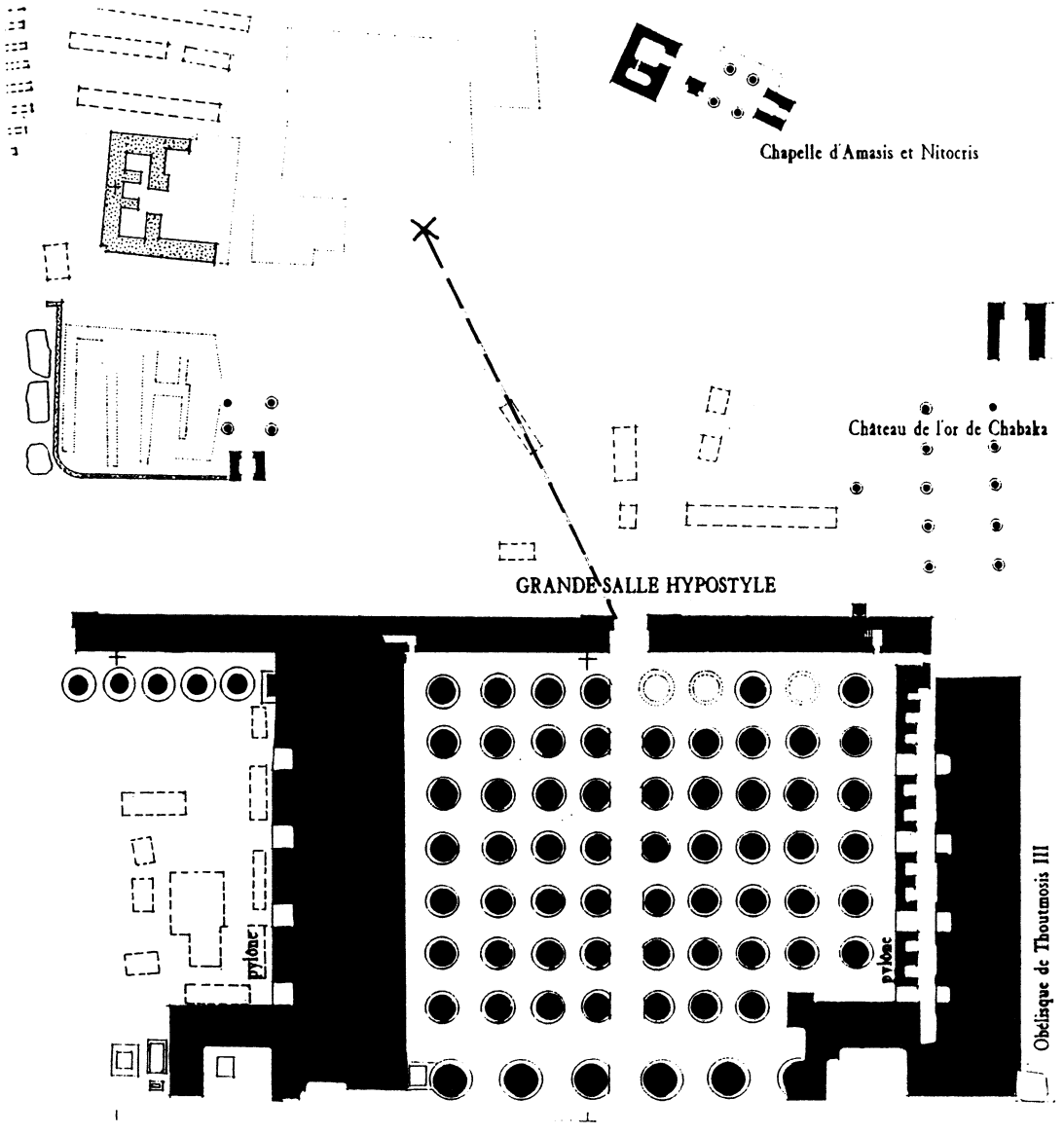


FIG. 2. Plan of Karnak Temple, detail. Courtesy of J.-F. Carlotti.

The 'chapel of Hatshepsut'

According to Budge's memoir, in about 1900 he and Legrain had uncovered a

> 'brick-lined underground chapel or chamber which lay close to the main walls of the Temple of Karnak. Want of funds on my part delayed the excavation of the chamber for two winters, and when during the third winter we actually got to work, we found that the statue of the queen . . .had cracked and fallen to pieces . . .'[26]

[26] *By Nile and Tigris* (London, 1920), II, 368–9.

In addition to the statue of Hatshepsut, the chamber purportedly held two statues of her steward Senenmut, which Budge was able to acquire for the British Museum along with five others and two stelae which he attributed to the find.

Several years have elapsed since T. G. H. James cast doubt on the ancient association of these monuments, citing discrepancies between the account of the chamber's discovery published by Budge in 1920 and a report he had written about the acquisitions some years earlier, in 1906, for the departmental files.[27] In the latter source, Budge described the circumstances of the find, which was said to have been made six or seven years earlier, that is about 1900,

> '. . . in a sort of underground *cella* or shrine close to the portion of the temple of Karnak which was built by the early Tuthmoside kings. . . It seemed that the chamber was a sort of private chapel, above which there had once stood a large chamber . . . As soon as possible the owner of the land on which the "find" was made had the statues and stelae removed to his house.'[28]

Budge named Muhammad Mohassib, a well-known dealer in antiquities at Luxor, as the owner of the house.[29] Reviewing the evidence, James concluded that Muhammad Mohassib had purposefully 'furnished' the chamber with statues and stelae of diverse Theban provenance only shortly before Budge was shown it.[30] Because Budge referred to 'the owner of the land on which the "find" was made', James deduced that the chamber lay on private property, that is, outside the temple precinct, and he proposed to locate it to the east of the temenos wall, 'peut-être non loin de la grand porte orientale'.[31]

I believe that both of Budge's accounts are reliable in the essentials and that they can be reconciled by suggesting a different location for the chamber, viz. outside the north gate in the temenos wall giving access to the Montu Temple.[32] It was here that Legrain had to intervene in the early summer of 1902 because *sebakhin* had unearthed a new temple. Antiquities from these clandestine excavations had made their way to the Luxor market; Muhammad Mohassib was mentioned by name.[33] Legrain described the location of this small temple, dedicated to Osiris Neb-djet, 'à 25 métres environs à l'ouest de la porte de *Thoutmôsis Ier* [my italics], adossée au mur de l'enceinte ouest de la porte de Montu'.[34]

[27] 'Le prétendu "sanctuaire de Karnak" selon Budge', *BSFE* 75 (1976), 7–30.

[28] Cited by James, *BSFE* 75, 25.

[29] See W. R. Dawson and E. P. Uphill, *Who Was Who in Egyptology*[3], revised by M. L. Bierbrier (London, 1995), 290.

[30] Although James did not doubt a chamber existed, his opinion on its antiquity is equivocal.

[31] Presumably James had in mind the East Temple of Thutmosis III (PM II[2], 215–18), to satisfy Budge's specification of the chamber's position in the unpublished report 'close to the portion of the temple of Karnak which was built by the early Tuthmoside kings'.

[32] Which was apparently not the site of a temple for Montu in the early Eighteenth Dynasty; see L. Gabolde and V. Rondot, 'Le temple de Montou n'était pas un temple à Montou (Karnak-Nord 1990–1996)', *BSFE* 136 (1996), 27–41.

[33] See Legrain's report on the subsequent excavation of the area, 'Notice sur le temple d'Osiris Neb-djeto', *ASAE* 4 (1903), 181–4.

[34] Cf. PM II[2], 17–19, with plan II: J. For the association of this building with Taharqa, see J. Leclant, *Recherches sur les monuments thébains de la XXV[e] dynastie dite ethiopienne* (BdE 36; Cairo, 1965), I, 99–105; idem, 'Taharqa', *LÄ* VI, 161 with n. 108.

These data suit both Budge's accounts as to (1) the chronology of the chamber's discovery and eventual clearance, (2) the involvement of both Legrain and Mohassib, and (3) the location of the chamber.[35] For the identification of the site, it is immaterial that the 'gateway of Thutmosis I' was actually built by Hatshepsut and Thutmosis III.[36] What matters is that at the beginning of the twentieth century it was attributed to Thutmosis I. On the other hand, an association of the 'chamber' with structures now attributed to Hatshepsut is significant because of the supposed existence of her statue in the chamber. Other monuments of Senenmut from the same general area include a block statue[37] and the much discussed donation stela excavated from a small mudbrick chapel to the west of the Montu Temple.[38] Excavations at North Karnak continue to augment the data associating the early Thutmosides with this general area.[39]

Additional circumstantial evidence for the location of the chamber at North Karnak is provided by the documentation for Pes-shuper, chamberlain and scribe of the Divine Adoratress Amenirdis I. A fragmentary statue of him was among the objects from the site of the temple of Osiris Neb-djet which Legrain recovered from Mohassib. Two other sculptures of Pes-shuper are known; one of them is a headless block statue subsequently excavated from a deposit in the Montu Temple,[40] not far from the temple of Osiris Neb-djet. The third statue, which depicts Pes-shuper as a scribe, is the best preserved; it comes from Budge's 'chapel of Hatshepsut'.[41]

There can be no guarantee that all the objects attributed by Budge to the group were actually found together.[42] However, there are grounds for suspecting that at least the lost statue of Hatshepsut and the sculptures of her steward stood together when they were first set up, perhaps in proximity to structures of the queen nearby the site where I propose they were eventually found. The inscriptions on both Senenmut's statues, which are his earliest known monuments,[43] are in pristine condition. The fact that his name and Hatshepsut's show no trace of damage in the texts is compatible with an association of them and a statue of the queen that somehow survived the *damnatio* to which her

[35] Whether above or below ground. James (*BSFE* 75, 29) questioned the existence of underground 'chapels' *per se* in ancient Egypt. But subterranean complexes featured in the cult of Osiris to whom the small temple cleared by Legrain was dedicated. It is also noteworthy that the area between the central temple at Karnak and the precinct's enclosure wall to the north was sacred to Osiris from the Third Intermediate Period down through Ptolemaic times. With all due circumspection, I mention the possibility that the statue of Sennefer and Senetnay which was found 'installed' within this sector had come to be associated with the worship of Osiris by the Late Period, if not earlier.

[36] For this attribution, see C. C. Van Siclen, 'Amenhotep II's Bark Chapel for Amun at North Karnak', *BIFAO* 86 (1986), 359, with a plan of the area on p. 358.

[37] H. Jacquet-Gordon, 'Concerning a Statue of Senenmut', *BIFAO* 71 (1972), 139–50.

[38] P. F. Dorman, *The Monuments of Senenmut: Problems in Historical Methodology* (London and New York, 1988), 29–31, reviewing the literature on the dating of the stela which he would assign to Hatshepsut's Year 8.

[39] For an overview of the site's topography in the early Eighteenth Dynasty, see H. Jacquet-Gordon, *Karnak-Nord* VI. *Le trésor de Thoutmosis I^er^. La decoration* (FIFAO 32; Cairo, 1988), 231–2. The reused blocks of Hatshepsut found at North Karnak subsequently studied by L. Gabolde and V. Rondot do not necessarily derive from structures that originally stood there; cf. 'Une chapelle d'Hatshepsout remployée à Karnak-Nord', *BIFAO* 96 (1996), 177–227, and especially p. 213.

[40] PM II^2, 8.

[41] BM EA 1514; see James's description and illustration in *BSFE* 75, 22–4. All Pes-shuper's attestations are considered by E. Graefe, *Untersuchungen zur Verwaltung und Geschichte der Institution der Gottesgemahlinnen des Amun vom Beginn des Neuen Reiches bis zur Spätzeit* (ÄgAbh 37; Wiesbaden, 1981), I, 85–6.

[42] The possibilty of a Karnak provenance for the stelae is taken up at the end of the Appendix.

[43] See the second of my 'Four Notes on the Early Eighteenth Dynasty', *JEA* 84 (1998), 207–9.

monuments were subjected. Furthermore, the name of Amun that occurs frequently in Senenmut's titles and in the dedication and offering formulae of the statues escaped the notice of Akhenaten's agents, like the texts of one other pre-Amarna sculpture purportedly from the chamber,[44] and those of a well-preserved statue which Legrain excavated from the temple of Osiris Neb-djet.[45]

A word of caution must be sounded here, following a cursory survey of evidence for Amarna Period erasures at Karnak where the campaign against Amun was doubtless officially pursued. My sample comprised only those non-royal, pre-Amarna sculptures cited in PM II^2 for the precinct, including North Karnak and the Mut Temple, and I was dependent on the references cited there which are not necessarily reliable, since some erased and carefully restored examples of Amun's name will have escaped notice.[46] I included only those statues whose texts named Amun, even if the god was mentioned solely in the owner's name or in a single title. (Thus statues from the Mut Temple with texts naming Mut but not Amun were omitted from my tabulation.)[47] A number of sculptures were excluded because the available publications of them do not provide unequivocal information about the condition of the citation naming Amun.

Although I suspected that inscriptions borne by royal statuary had been much more consistently and systematically attacked than the sculptures of non-royal persons, it was nevertheless surprising to find nearly half the non-royal statues that could be evaluated were missed by Akhenaten's agents. As might be expected, numerous inconsistencies in the damaged texts are attested; for instance, Amun may be erased in the offering formula but left intact in the owner's name and vice versa. Of the damaged texts, about half were subsequently restored. Thus for whatever reasons, a significant amount of non-royal statuary was left untouched during the iconoclastic phase of Akhenaten's reign.

Those sculptures which eventually ended up together in the 'chapel of Hatshepsut' need not have necessarily formed a group before the Third Intermediate Period, when activity at the site of the temple of Osiris Neb-djet is documented by the discovery there of the donation stela of Karomama (Cairo JE 36159) which is dated to Year 25 of Takelot II.[48] An even later date may be indicated if the statues of Pes-shuper and Wennefer which, according to James, could be as late as the Ptolemaic Period,[49] be credited to the chamber.

[44] BM EA 888: see *BM Stelae* V, pl. 25. 'Amun' is intact in the texts of another pre-Amarna statue (BM EA 480), also said to come from the 'chamber': see ibid., pl. 30. But the inscriptions are not contemporary with this stelophorous figure. I am indebted to Hassan Selim who is preparing a catalogue of stelophorous statues in the British Museum for calling my attention to this fact. Given the proximity of the Montu Temple to the location I propose for the 'chamber', it may well not be coincidental that the man who usurped this statue (the owner of the Ramesside tomb TT 274) was a priest of Montu; see L. Habachi, 'Amenwahsu Attached to the Cult of Anubis, Lord of the Dawning Land', *MDAIK* 14 (1956), 61. Because the mention of Amun in the texts of yet another statue that Budge stated came from the chamber in his unpublished report (BM EA 708; James, *BSFE* 75, 15–17; *BM Stelae* V, pls. 32–3) were by contrast damaged and restored, the figure's attribution to the group is perhaps questionable.

[45] Cairo CG 42120; temp. Thutmosis III; Legrain, *ASAE* 4, 182.

[46] Cf., e.g., Jacquet-Gordon's comments on the inscriptions of Senenmut's block statue from North Karnak (*BIFAO* 71, 147–8).

[47] It is worth noting in passing that such statues did *not* reveal damage to her name—i.e. in Mut's cult centre the prime target of the iconoclasts was Amun.

[48] For its association with the site, see Legrain, *ASAE* 4, 183 and Maspero's 'Note additionnelle', 185–6.

[49] *BSFE* 75, 24.

The name of Amun is also untouched in the inscriptions of CG 42126, the statue of Sennefer and Senetnay.[50] The only damage to the texts on the group is the obliteration of the hieroglyphs at the beginning of the vertical columns of text calling for invocation offerings which start on the laps of the couple and continue over their knees and down the front of their garments to the feet.[51] These texts are well preserved only down the front of the figures; on their laps where the name(s) of the god(s) that Sennefer and Senetnay called upon for invocation offerings were inscribed, the text is worn away.[52] This type of abrasion, which resulted from the ministrations of pious visitors to the temple in antiquity, is known from other sculptures, notably from two pairs of scribe statues representing Amenhotep, son of Hapu, and Paramessu, found in front of Pylon X.[53] The inscriptions around the bases of all four statues appeal directly to visitors, which is not the case with CG 42126. And Sennefer, unlike Amenhotep, makes no claim to intercede on behalf of the pious.[54]

The gradual wearing away of the texts from the laps of the figures in the composition of CG 42126 could, in theory, have begun before the Amarna Period, but the added inscriptions of the draughtsmen are suggestive of a significantly later date. I suspect the imposing appearance of the group, not least the Gold of Favour worn by Sennefer, was responsible for attracting the attention of Djedkhonsu and Amenmose to the statue, rather than any living memory of the long-dead mayor and his wife. Possibly the draughtsmen's text could relate to setting up the statue within a mudbrick 'chapel' or enclosure whose remains were found by Legrain. The text of a stela purchased by Petrie at Abydos and dated to the reign of Osorkon I describes comparable activity on the part of its owner, a fourth prophet of Amun. The inscription relates how the owner during a stroll in the desert, presumably at Abydos, found a stela which he cleared, 'surrounded with boundary stones', and endowed with offerings.[55]

Such actions could be considered typical of the pious regard accorded the past, long considered characteristic of the Third Intermediate Period. The rescue of royal mummies from plundered tombs,[56] their restoration, and reburial in caches under the Theban

[50] Amun occurs in the title 'chantress of Amun' borne by the couple's daughter Mutnefret in the inscriptions identifying both her figure in the round, standing between Sennefer and Senetnay, and in relief on the proper right side. 'Amun-Re, Lord of the Thrones of the Two Lands' is invoked in the offering formulae for both daughters on the sides of the statue. Needless to add, 'Mut', where the goddess's name occurs in the label of Mutnefret, is also intact.

[51] Cf. the remarks of Fischer, *Treasures*, 113.

[52] Amun-Re might be expected here since he is the god named in the offering formulae associated with the figures of both daughters in relief on the sides of the statue. But Osiris and Hathor are the gods named by Sennefer and Senetnay, respectively, in the offering formulae on the back. Whether the invocation of these gods is significant remains questionable, since no study has been made of the occurrence of gods' names in offering formulae on statuary from Karnak Temple. As noted above, the inscriptions down the front of both Sennefer's figures in the group BM EA 113 invoke Amun-Re while Senetnay's texts name Hathor and Osiris.

[53] PM II^2, 188 (584), adding C. Desroches Noblecourt (ed.), *Ramsès le grand* (exhib. cat.; Paris, 1976), 14–19 for Cairo JE 44863, one of Paramessu's statues.

[54] A. Varille, *Inscriptions concernant l'architecte Amenhotep, fils de Hapou* (BdE 44; Cairo, 1968), 18–31.

[55] UCL 14496; first published by H. K. Jacquet-Gordon, 'The Illusory Year 26 of Osorkon I', *JEA* 53 (1967), 63–8; see now H. M. Stewart, *Egyptian Stelae, Reliefs and Paintings from the Petrie Collection*, III. *The Late Period* (Warminster, 1983), 4 with pl. 3. I am indebted to K. Jansen-Winkeln for bringing this stela to my notice.

[56] Not only in the Valley of the Kings. In addition to mummies belonging to members of the Seventeenth Dynasty royal family found in DB 320 which clearly did not come from the Valley of the Kings, see also the 'cache' identified by A. Dodson and J. J. Janssen, 'A Theban Tomb and its Tenants', *JEA* 75 (1989), 125–38.

'priest kings' of the Twenty-first Dynasty have been viewed in this light. But recent studies dealing with the later history of the Valley of the Kings have challenged such an interpretation.[57] One inscription cited in this connection is a graffito at the entrance to KV 42 that reads:

> 3rd month of summer, day 23; work was begun on this tomb by the necropolis team when the scribe Butehamun went to the town to see the general's arrival in the north.[58]

Karl Jansen-Winkeln (see n. 57) argues that this text refers to the opening and clearance of KV 42 in accordance with the wishes of the High Priest Piankh (the 'general' of the graffito) mentioned in a letter (P. BM 10375) addressed to him by officials at Deir el-Medineh, Butehamun among them. The motive of this action, according to Jansen-Winkeln, was fundamentally mercenary, an officially sanctioned plundering of the royal burials in the Valley of the Kings, which he believes had remained essentially intact down through the end of the New Kingdom.[59]

The ownership of KV 42

Coincidentally, KV 42 has been associated with Sennefer and Senetnay ever since Howard Carter published a report on its clearance in 1901.[60] In his capacity as Chief Inspector of Antiquities for Upper Egypt Carter had made an agreement with the 'native' (sic)[61] authorized to excavate the tomb that the latter might retain half the objects discovered or claim half their value. No list of finds—among them, 'many duplicates'[62]—was included in Carter's published report. There he remarked the presence of a complete set of canopic jars belonging to Senetnay, a set of canopic jar lids with bearded heads (which he attributed to Sennefer), a set of canopic jars 'in a fragmentary condition' and a small offering table inscribed for the 'royal ornament' Baketre,[63] an unspecified number of imitation vessels inscribed for both Sennefer and Senetnay, a group of 'twenty or thirty, whole and broken, rough earthen jars, some with their sealings intact', and wooden debris which he identified as the remains of sledges and coffins.

[57] See K. Jansen-Winkeln, 'Die Plünderung der Königsgräber des Neuen Reiches', *ZÄS* 122 (1995), 62–78, citing the earlier literature. His arguments were immediately assimilated by N. Reeves and R. H. Wilkinson, *The Complete Valley of the Kings. Tombs and Treasures of Egypt's Greatest Pharaohs* (London, 1996), 204–7.

[58] So rendered by Reeves and Wilkinson, *Complete Valley*, 103.

[59] The attribution of the tomb and its archaeology, discussed below, did not enter into Jansen-Winkeln's interpretation of the graffito.

[60] 'Report on the Tomb of Sen-nefer Found at Biban el-Molouk near that of Thotmes III, No. 34', *ASAE* 2 (1901), 196–200.

[61] The concession lay with two Copts, Chinouda Macarious and Boutros Andraos, as Carter reported in *ASAE* 2, 196.

[62] For these particulars, see the excerpt from Carter's letter of 19 December 1900 to Lady Amherst, quoted by T. G. H. James, *Howard Carter: The Path to Tutankhamun* (London, 1992), 76, and by N. Reeves and J. H. Taylor. *Howard Carter Before Tutankhamun* (London, 1992), 69–70.

[63] Two canopic jars of this woman had already been recovered from the Valley in January 1859. Both were registered in the *Journal d'entrée*, but when G. A. Reisner compiled the *Catalogue général* volume on canopics, only JE 3399 (to which was assigned Cairo CG 4506) could be located; JE 3400 had disappeared. The identification of Baketre with Baky, the wife of TT 85's owner, was suggested by E. Thomas, *The Royal Necropoleis of Thebes* (Princeton, 1966), 80, but rejected by Roehrig, *Royal Nurse*, 171—see n. 68 *infra*.

Catherine Roehrig traced three of Senetnay's canopic jars[64] and twenty-five of the imitation vessels,[65] and she noted that 'more than a dozen' of the storage jars had remained in KV 42 at least until 1987 when she visited the tomb (for these, see *infra*).[66] In her review of the finds, Roehrig proposed that Senetnay was originally buried in the Valley of the Kings, not in but near KV 42, while demonstrating that conclusive evidence for Sennefer's being granted the same privilege is lacking.[67] Senetnay owed her special status to the fact that Amenhotep II was her nursling.[68] Roehrig cited the precedent of Hatshepsut's authorization of interment in the Valley for her nurse Sitre-In, whose coffin and mummy were recovered from KV 60.[69] Finally, Roehrig concluded that Senetnay was reburied in KV 42 'perhaps during Dynasty 21'. In favour of the idea that KV 42 served as a cache is the presence of equipment belonging not only to Senetnay but also to Baketre[70] and a third (male) person as well, represented by the set of bearded canopic jar lids.

The original ownership of KV 42 is disputed.[71] The strongest argument in favour of the tomb's attribution to a king, and to Thutmosis II in particular, is the presence of an unfinished quartzite sarcophagus in it.[72] Aidan Dodson[73] and Louise Bradbury[74] arrived

[64] One in the Egyptian Museum, Cairo (JE 36369, registered in 1903); the other two that came to the Kestner Museum, Hannover, in 1935 from the von Bissing collection, are illustrated by Reeves and Taylor, *Howard Carter Before Tutankhamun*, 69.

[65] For these jars which are divided between the Kestner Museum (two illustrated by Reeves and Taylor, *Howard Carter Before Tutankhamun*, 69), the British Museum, the Metropolitan Museum of Art, Medelhavsmuseet (Stockholm), Staatliche Sammlung Ägyptischer Kunst (Munich), the Oriental Institute Museum (Chicago), the Fleming Museum (Berlington, Vermont), and the Egyptian Museum, Cairo, see Roehrig, *Royal Nurse*, 159 n. 508. Note that one of the two jars in Cairo (CG 24974 = JE 33847) was registered in 1899; apparently it was found by Loret outside the tomb before the clearance of 1900; cf. Carter's comment, *ASAE* 2, 196. The other is JE 36372, which was registered in 1903 with the canopic jar mentioned in n. 64.

[66] At my request and with the kind permission of Mohamed Saleh, Director of the Egyptian Museum, Susanne Petschel checked the *Journal d'entrée* for other items deriving from the clearance of 1900. In fact, JE 36369–77 inclusive are registered with the provenance 'tomb of Sennefer' (i.e. KV 42). In addition to the canopic jar and the imitation vase mentioned in the last two notes (JE 36369 and 36372, respectively), the objects include five more 'faux vases' (one of them described as bearing an inscription), an offering table (that of Baketre, mentioned by Carter?), and a 'ceinture copte'. I hope to track down these pieces during my next stay in Cairo.

[67] Sennefer will have been laid to rest in the 'Tomb of the Vines,' actually the burial chamber of TT 96. E. Hornung, *Tal der Könige. Die Ruhestätte der Pharaonen* (Zurich and Munich, 1982), 56, noted that the piers in the burial chamber were inspired by royal prototypes, and he also remarked the occurrence of the kingly motif of a vulture with outstretched wings among the grape vines painted on the ceiling of the chamber.

[68] Yet another royal nurse of Amenhotep II, the wife of TT 85's owner, may also have been buried in the Valley. Texts in the tomb describe this woman, named Baky, as 'mistress of a tomb upon the west of Thebes among the favourites of the Good God'. The possibility (expressed by Roehrig, *Royal Nurse*, 171) that this unique epithet refers to Baky's interment in the Valley of the Kings is tempting, despite the fact that an identification of her with the Baketre of KV 42 is to be dismissed.

[69] Roehrig presumed KV 60 was Sitre-In's original tomb, but it now seems likely that she and another woman found with her in KV 60 were cached there; see Reeves and Wilkinson, *Complete Valley*, 186–7.

[70] As Roehrig, *Royal Nurse*, 161 n. 514, notes.

[71] Cf. the paragraphs that follow with the recent review of the question by P. F. Dorman, 'Two Tombs and One Owner', *Thebanische Beamtennekropolen*, 141–2, and A. Dodson, 'The Tombs of the Kings of the Early Eighteenth Dynasty at Thebes', *ZÄS* 115 (1988), 120–3. See also my remarks in *BiOr* 49 (1992), 709 (see n. 82, below).

[72] For the monument, see W. C. Hayes, *Royal Sarcophagi of the XVIII Dynasty* (Princeton, 1935), 48–50.

[73] *ZÄS* 115, 121–2.

[74] 'Nefer's Inscription: On the Death Date of Queen Ahmose-Nefertary and the Deed Found Pleasing to the King', *JARCE* 22 (1985), 93–4.

independently at the conclusion that this sarcophagus initiates the series of Eighteenth Dynasty royal sarcophagi, displacing Hatshepsut's sarcophagus (Cairo JE 47032) from her queenly tomb and thus reversing the order proposed by Hayes for these monuments. But Luc Gabolde, who would dissociate Thutmosis II from KV 42, argued that the rectangular form of the sarcophagus shows that it was made for a queen rather than a king, whose burial, in his view, would have required a cartouche-shaped box.[75] The implication is that the sarcophagus in KV 42 was made for Hatshepsut-Merytre, wife of Thutmosis III and mother of Amenhotep II, to whom KV 42 has also been assigned (see immediately below).

In fact, the cartouche-shaped sarcophagus was an innovation of the joint reign of Hatshepsut and Thutmosis III. The close correspondence in design of the third and last sarcophagus made for Hatshepsut (Cairo JE 37678) and the sarcophagus of Thutmosis III (in KV 34), as well as the sarcophagus that Thutmosis III used for the reburial of Thutmosis I in KV 38 (Cairo JE 52344), suggests their common inspiration, and perhaps even near simultaneous commissioning, late in the reign of the queen and her coregent. Surely by this time a tomb had been begun for Thutmosis III in the Valley.[76] That both Hatshepsut's earlier sarcophagi (Cairo JE 47032 and Boston MFA 04.278) were rectangular is not related to her sex, but to the wooden coffins that served as the prototype for them and for the box in KV 42 as well.[77] Furthermore the alteration of Hatshepsut's second sarcophagus for the reburial of her father Thutmosis I[78] shows that the rectangular form was not deemed inappropriate for a man. Finally, there is no example of a sarcophagus from the Valley of the Kings that was made for anyone other than a ruler down through the end of the Eighteenth Dynasty; those members of the royal family then buried in the Valley, regardless of sex, were not provided with sarcophagi.[79]

Another argument used against the assignment of KV 42 to Thutmosis II supposes that the typology and regularity of its published plan[80] are later than those of KV 34, the tomb of Thutmosis III.[81] The appropriate comparison, however, is not to sepulchres in

[75] 'La chronologie du règne de Thoutmosis II . . .', *SAK* 14 (1987), 77; idem, 'La montagne thébaine garde encore des secrets', *Les dossiers d'archéologie* 149/150 (May/June 1990), 58.

[76] E. Hornung, 'Das Grab Thutmosis' II.', *RdE* 27 (1975), 130 n. 20, mentions the possibility, only to reject it, that this was KV 42, abandoned in favour of KV 34 after Thutmosis III assumed sole rule. For the mention of the king's funerary temple in the texts of the Red Chapel, see P. Lacau and H. Chevrier, *Une chapelle d'Hatshepsout à Karnak*, I (Cairo, 1977), 80.

[77] Cf. Hayes, *Sarcophagi*, 49–50.

[78] See now C. E. Loeben and P. Der Manuelian, 'New Light on the Recarved Sarcophagus of Hatshepsut and Thutmose I in the Museum of Fine Arts, Boston', *JEA* 79 (1993), 121–55.

[79] The sarcophagus that Akhenaten commissioned for his mother's burial at Amarna is a special case; see M. Raven, 'A Sarcophagus for Queen Tiy and other Fragments from the Royal Tomb at el-Amarna', *OMRO* 74 (1994), 7–20. It is rectangular, but so are the sarcophagi of Akhenaten, Tutankhamun, Ay, and Horemheb; see my *The Sarcophagus in the Tomb of Tutankhamun* (Oxford, 1993), 5–8, figs. 1–4.

[80] Drawn by É. Baraize, who was trained as a technical draughtsman, not by Carter, *pace* Dodson, *ZÄS* 115, 120. It will nevertheless need to be compared to the plan prepared by the Theban Mapping Project when it becomes available. According to K. Weeks, 'The Berkeley Map of the Theban Necropolis: Report of the Third Season, 1980', *NARCE* 113 (winter 1980), 31, KV 42 was mapped in 1980. The table providing this information labels the tomb 'temp. Thutmosis III' without commentary.

[81] See, e.g., Thomas, *Royal Necropoleis*, 80, who opts in favour of assigning the tomb to a son of Amenhotep II, citing Thutmosis IV's supposed initiation of a tomb (WV 22) for his heir Amenhotep III. For another suggestion regarding the intended ownership of WV 22, see my review of Reeves and Wilkinson, *Complete Valley*, in *BiOr* 56 (1999), in press.

the Valley, where the attributions of the tombs predating KV 34 are controversial,[82] but to the tomb executed for Hatshepsut in the Wadi Sikket Taqa el-Zeide when she yet styled herself royal wife, as Hayes pointed out.[83] The similarity of this tomb to KV 42 is noteworthy. The absence of a 'well' from KV 42, which has been cited as an argument against its attribution to a king, can just as easily be used in favour of dating the tomb *before* KV 34, the first tomb in the Valley of the Kings with a 'well'. Another significant typological feature of KV 42's plan is the presence of two piers in the burial chamber. In the Valley, piers were restricted down through the end of the Eighteenth Dynasty to kings' tombs. KV 42 has only two; KV 20 three; and KV 34 four, as well as four side-chambers, by contrast to the single side-chamber of KV 42.[84]

Attributing the cutting of KV 42 to the reign of Thutmosis II need not imply that his burial remained in the tomb for long, if indeed it was ever made there. Hayes, who cited the conspicuous absence from any site of funerary equipment that can be associated with Thutmosis II and the fact that the lid of the sarcophagus in KV 42 was apparently never placed on the box, concluded that the king was originally interred elsewhere.[85]

In 1921, some twenty years after KV 42's initial clearance, Carter returned to the site where he reported finding four foundation deposits in front of the entrance containing objects inscribed for Hatshepsut-Merytre.[86] Their positions are marked on his map of this part of the Valley,[87] but nowhere did he provide a list or even a cursory description of the items they contained. Three calcite vessels inscribed for the queen in the Metropolitan Museum of Art—two imitation ointment jars (MMA 32.2.18–19) and a 'saucer' (MMA 32.2.20)[88]—have been attributed to these deposits;[89] they were acquired from the Luxor antiquities dealer Sayed Molattam in 1932, along with five complete imitation vases bearing the names of Sennefer and Senetnay which apparently derive from the *initial* clearance of KV 42 in 1900.[90] An irregular feature of the pieces associated with a foundation deposit in front of KV 42 is the fact that the inscriptions naming Queen

[82] KV 38: commissioned by Thutmosis I or commissioned for his reburial during the sole reign of Thutmosis III? KV 20: initiated by Hatshepsut or commissioned by Thutmosis I and subsequently enlarged/modified by Hatshepsut for her common burial with her father? Cf. the comments about the attribution of these tombs in my review of C. N. Reeves, *Valley of the Kings. The Decline of a Royal Necropolis* (London and New York, 1990) (*Decline* below), in *BiOr* 49 (1992), 709.

[83] *Royal Sarcophagi*, 9, 16.

[84] See especially Hornung's comments, in *RdE* 27, 125–31, with a review of other criteria in support of kingly ownership of the tomb; cf. in general idem, 'Struktur und Entwicklung der Gräber im Tal der Könige', *ZÄS* 105 (1978), 59–66.

[85] *Royal Sarcophagi*, 11–12, 15; so, too, Hornung, *RdE* 27, 130–1. Neither, however, doubted the docket identifying the mummy Cairo CG 61066 from DB 320 as Thutmosis II, which Gabolde, *SAK* 14, 74–5, does. Note that Reeves and Wilkinson, *Complete Valley*, 92, repeat Reeves's earlier, tentative proposal (*Decline*, 18–19) that DB 358 was Thutmosis II's intended tomb.

[86] H. Carter and A. C. Mace, *The Tomb of Tut.ankh.Amen*, I (London, 1923), 84.

[87] Illustrated by Reeves, *Decline*, pl. xv (314–17).

[88] For this type of object, see J. Weinstein, *Foundation Deposits in Ancient Egypt* (doctoral dissertation, University of Pennsylvania 1973/UMI 73.24237), 123–6.

[89] Reeves, *Decline*, 24, 32 n. 106, citing the earlier literature and unpublished data. Cf. my commentary in *BiOr* 49, 709 n. 11.

[90] Cf. W. C. Hayes, *The Scepter of Egypt*, II (New York, 1959), 146. Carter's 1921 clearance yielded only *fragmentary* limestone vessels; cf. Reeves, *Decline*, 329 (Site 13/finds 310–3). The Metropolitan Museum of Art had earlier acquired the inlaid gold rosette, mentioned by Carter in his report on the initial clearance, with the Theodore Davis bequest of 1915; it was accessioned in 1930 under the number 30.8.252. Hayes (above) described it as a necklace element. My sincere appreciation is due Dorothea Arnold, Curator, who

Hatshepsut-Merytre are inscribed in ink and in hieratic; texts on such jars are customarily written in incised hierogyphs, often filled with blue pigment.[91]

An unpublished, faded photograph among Carter's papers at the Griffith Institute[92] records one of the foundation deposits unearthed outside KV 42 (pl. XIX, 3).[93] It shows no trace of brickwork, which is consistent with a pit cut in the bedrock.[94] Two vessels at the top of the photograph are clearly ointment jars of the same general shape and size as the pieces in the Metropolitan Museum of Art. The single piece of pottery with a discernible shape is a wide-mouthed jar of a type wholly consistent with the contents of contemporary foundation deposits.[95] While it is not possible to associate the jars in the Metropolitan Museum specifically with this particular deposit, the photograph does confirm the presence of such objects in the foundation deposits Carter excavated.[96] Even if the foundation deposits are the only evidence associating KV 42 with Hatshepsut-Merytre, they cannot be dismissed, as Dodson has emphasized.[97] He suggests that they could have been secondary, to lay claim to KV 42 for the queen when it was left unoccupied by Thutmosis II.

Reeves believes the deposits are original and that they document the cutting of KV 42 for Hatshepsut-Merytre, but he is unconvinced that she was actually interred there. Instead he proposes that her son Amenhotep II buried the queen in his tomb, KV 35.[98] However, attestation of Hatshepsut-Merytre in KV 35 is limited to a fragmentary staff inscribed with her name[99] from among the broken and scattered equipment recovered by Loret. Furthermore, Charles C. Van Siclen has pointed out the likelihood that Hatshepsut-Merytre survived Amenhotep II.[100] In the absence of any object that can be convincingly associated with her burial, he conjectures that it remains undiscovered, like that of Thutmosis II, the other putative owner of KV 42.

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allowed me to consult the files of the Egyptian Department. I am likewise indebted to Marsha Hill for discussing the deposits with me, and to Catharine Roehrig for promptly responding to my postal queries about these objects.

[91] The only other foundation deposit objects with hieratic ink inscriptions in Weinstein's corpus come from the temple of Amenhotep, son of Hapu (*Foundation Deposits*, 216); see Varille, *Inscriptions*, 101 with figs. 22–3.

[92] Ref. I.A.240.

[93] I am grateful to Jaromir Malek for permission to use this photograph; Diana Magee and Sue Hutchinson helped me obtain a colour slide of it. The computer-enhanced print illustrated here was prepared by Jürgen Liepe.

[94] Cf. Weinstein, *Foundation Deposits*, 104.

[95] Cf. now, e.g., the pottery from a deposit of Thutmosis III at Karnak Temple: S. Abd el-Hamid, 'Discovery of a New Foundation Deposit of Thutmosis III at the East of Karnak. A Preliminary Report', *Karnak* VIII *(1982–1985)* (Paris, 1987), 44 fig. 2.

[96] Had these items remained for a decade in Carter's possession, along with the imitation vessels from the earlier clearance? Carter's notebooks, in which he summarily recorded his acquisition and disposition of antiquities, might provide evidence of dealings with Sayed Molattam.

[97] *ZÄS* 115, 120.

[98] *Decline*, 24; cf. now Reeves and Wilkinson, *Complete Valley*, 102–3.

[99] Cairo CG 24112: Reeves, *Decline*, 222 n. 129. Despite the epithet 'justified with Osiris' that qualifies her name, the staff can hardly be considered unequivocal evidence of her burial with her son, as, for instance, a canopic vase might be.

[100] 'Queen Meryetre-Hatshepsut and the Edifice of Amenhotep I at Karnak', C. J. Eyre (ed.), *Seventh International Congress of Egyptology, Cambridge, 3–9 September 1995. Abstracts of Papers* (Oxford, 1995), 167–8. Van Siclen's suggestion that she 'fell from grace' after her son's death is not compelling in the abbreviated form presented in the abstract.

Reeves has pointed to the remains of blocking at the entrance to the tomb and the presence of the storage jars[101] inside—both described by Carter in his report—as unequivocal evidence that a primary interment was made in KV 42.[102] Initially he hypothesized that Amenhotep II had granted Sennefer and Senetnay burial in the empty tomb.[103] This solution to the dilemma posed by KV 42 is implausible, given the restrictions on non-royal burials in the Valley that prevailed during the Eighteenth Dynasty. Simple, undecorated shaft or staircase tombs were the order of the day for such burials.[104] Even the parents-in-law of Amenhotep III Tuyu and Yuya did not merit a tomb on the scale of KV 42.[105]

Reeves and Wilkinson now propose that Senetnay and Baketre were cached in KV 42 'at the end of the New Kingdom'.[106] Following Jansen-Winkeln's lead, they interpret the graffito at the tomb's entrance to refer to the subsequent clearance (= plundering) of their burials by Butehamun's men. Alternatively, the graffito could refer instead to preparations for the caching of the women, together with the anonymous man, and what remained of their equipment in KV 42 following their removal from original, disturbed burials elsewhere in the Valley.

There are no grounds for conjecturing a connection between Senetnay's reburial in KV 42 and the contemporaneous 'refurbishment' of the statue depicting her with her spouse by two draughtsmen at Karnak Temple, even if both activities were inspired by the same spirit, as I suggest was the case.

Appendix: The stelae British Museum EA 1515 and EA 1516

In his study of Hatshepsut's 'chapel', James remarked that both limestone stelae reported to derive from it, BM EA 1515 and EA 1516, are attributable to the Nineteenth Dynasty.[107] The upper register of the latter depicts an offering table before enthroned figures of Amenhotep I and Ahmose-Nefertari; below, the owner kneels in adoration. The inscription identifies him as the ill-fated foreman Neferhotep who lost his life during the insurrection of Amenmese and was presumably interred in his tomb, TT 216, at Deir el-Medina.[108]

The ownership of the second stela, EA 1515, is problematic. The scene which takes up about three-quarters of the surface depicts Thutmosis IV at the right offering a bouquet and incense to an enthroned figure of Amun. Ahmose-Nefertari, labelled 'god's wife', stands behind Amun. Both

[101] No data is available on either their form or contents. Storage jars were standard components of Eighteenth Dynasty burials; see S. T. Smith, 'Intact Tombs of the Seventeenth and Eighteenth Dynasties from Thebes and the New Kingdom Burial System', *MDAIK* 48 (1992), 212–13. The contents of such jars range from provisions to embalming material. (Note that some of the burials included by Smith actually represent reburials and/or caches.)

[102] Note, however, the blocking of the entrance to the pit-tomb KV 61 which remained unused in antiquity: Reeves and Wilkinson, *Complete Valley*, 187.

[103] *Decline*, 25. Years earlier Hayes had made essentially the same proposal (*Sarcophagi*, 15). Van Siclen, *Abstracts*, 168, writes that the tomb was used 'for the burial of supporters of Tuthmosis IV (and his mother Tiaa)'. Presumably he means Sennefer and Senetnay.

[104] Hornung, *RdE* 27, 131. See the review of such tombs provided by Reeves and Wilkinson, *Complete Valley*, 174–87.

[105] For a conspectus of their burial, see Reeves and Wilkinson, *Complete Valley*, 174–8.

[106] *Complete Valley*, 103. They credit Roehrig in the text (without citing *Royal Nurse* in the bibliography), but emend her proposed dating of the reburial to the Twenty-first Dynasty.

[107] *BSFE* 75, 21.

[108] The stela was subsequently published, in 1982, by M. L. Bierbrier, in *BM Stelae* X, 27 with pl. 64. For Neferhotep's tomb, see PM I^2, 312–15.

Amun and Thutmosis IV are invoked in the text below. A representation of the kneeling donor, his hands raised in adoration, occupies the lower right-hand corner of the stela.

James noted that this stela was traditionally assigned to the 'Chief in the Great Place' Khai, owner of TT 8, whose intact burial chamber was discovered in 1906 by Schiaparelli.[109] The latest king named in the inscriptions on objects from among Khai's funerary equipment is Amenhotep III. However, Khai's wife was named Merit, whereas the woman mentioned at the end of the donor's inscription on the stela EA 1515 is Henutdjuu. Her titles style her 'servant of the god's wife in the place of truth'.

Noting that Khai could be an abbreviated form of Inherkhai, James acknowledged a reference provided by Jaroslav Černý to a foreman (temp. Ramesses II) at Deir el-Medina called Inherkhai, owner of TT 299, whose wife was named Henutdjuu.[110] James expressed himself dissatisfied with this solution, especially because he considered the style of the stela typical for the earlier era when the owner of TT 8 lived, but he did not pursue the matter. By contrast, I. E. S. Edwards, who had published the stela in 1939, asserted that 'the style of decoration of the monument suggests that it is the work of the XXth-XXIst Dynasties'.[111]

Before proposing a solution to this dilemma, it should be mentioned that two other publications concur in assigning the stela to the owner of TT 8. Although J. Vandier d'Abbadie did not attribute EA 1515 to Khai's tomb, she included an illustration and description of the stela among his monuments in her publication of the decoration of TT 8,[112] while Michel Gitton dated the stela to the time of Thutmosis IV in a list of the posthumous attestations of Ahmose-Nefertari.[113] However, both he and Vandier d'Abbadie neglected to consider the disparity between the name of Khai's wife and that of the woman mentioned on the stela.

I believe both attributions of EA 1515 are correct; that is, the stela was commissioned by Khai, owner of TT 8, and subsequently reused by Inherkai, owner of TT 299. Scrutiny of the published photograph of the stela led me to doubt that the figure of Amun was original. At my request, Richard Parkinson and Biri Fay examined the stela, and they were able to confirm my suspicion that the god's figure as it now stands represents a restoration after it had been damaged, doubtless during the Amarna Period. James's observation about the style is accurate as far as the figures of Khai and Thutmosis IV are concerned, while Amun's top-heavy proportions (and perhaps Ahmose-Nefertari's profile, which seems to have been recut after having sustained damage when Amun was attacked) may well have prompted Edwards's judgment. Restoration and appropriation will have included applying a fresh coat of paint, which remains a striking feature of the stela, and adding the last two short columns of text to Khai's inscription. These, which give the name and title of Inherkai's wife, are 'merely painted', by contrast to the carved hieroglyphs of the foregoing columns.[114]

BM EA 1515 and EA 1516 have a depiction of Ahmose-Nefertari in common. Since their owners were associated with Deir el-Medina where the queen's cult flourished, the village would seem to be a more likely provenance for the stelae than Karnak Temple.[115] However, excavations of the 'Treasury of Thutmosis I' at North Karnak have unearthed evidence for the cult of Ahmose-Nefertari and Amenhotep I there. None of the blocks, which bear reliefs and inscriptions naming the queen and her son, were found *in situ*, but the circumstances of their reuse suggested

[109] PM I^2, 16–18.
[110] For TT 299, the dating of its owner and his association with BM EA 1515, see now PM I^2, 721.
[111] *BM Stelae* VIII, 53 n. 1.
[112] *Deux tombes de Deir el-Médineh*, I. *La chapelle de Khâ* (MIFAO 73; Cairo, 1939), 15–16 with pl. xii.
[113] *L'épouse du dieu Ahmes Néfertary. Documents sur la vie et son culte posthume* (Paris, 1975), 46 (18).
[114] An anomaly noted by Edwards, *BM Stelae* VIII, 54.
[115] Cf. James, *BSFE* 75, 22.

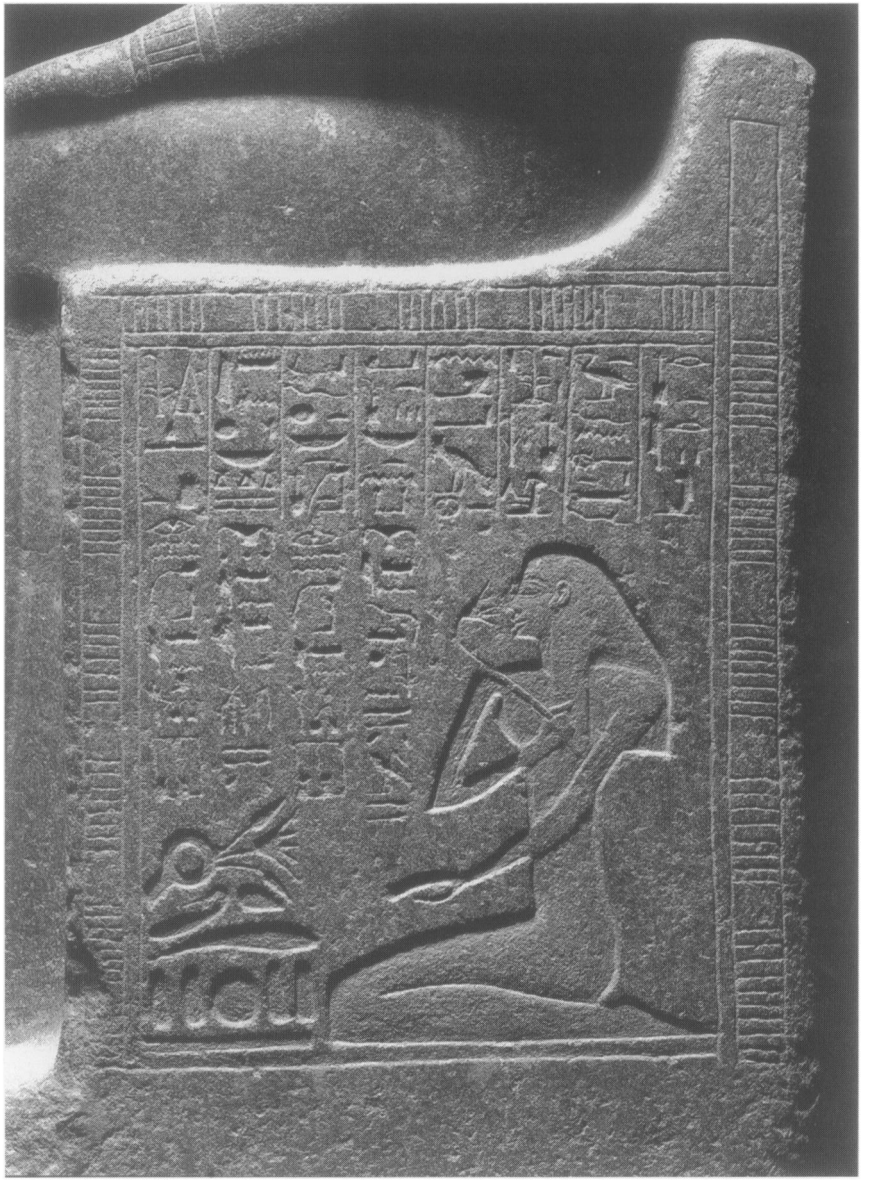
to the excavator that the association of the cult with the site dates back to the time of Ramesses II.[116] The possibility that the two stelae in the British Museum do indeed come from North Karnak cannot therefore be ruled out.

Postscriptum

After this article went to press, I saw that G. Robins, *The Art of Ancient Egypt* (London, 1997), 208, had cited the stela UCL 14496 in the same sense as I did (see p. 121 with n. 55, above). In a different context, Robins also referred to D. B. Redford's article 'New Light on Temple J at Karnak', *Or* 55 (1986), 1–15, where (pp. 1–3) he similarly interpreted the find of earlier sculpture at that Third Intermediate Period installation.

[116] J. Jacquet, *Karnak-Nord*, VII. *Le trésor de Thoutmosis Ier. Installations antérieurs ou postérieures au monument* (FIFAO 36; Cairo, 1994), 64, 71. These blocks and a fragmentary, non-royal stela of the Nineteenth Dynasty from the same site with a representation of the owner adoring Ahmose-Nefertari and her husband Ahmose will be published by H. Jacquet-Gordon, *Karnak-Nord* VIII, in preparation.

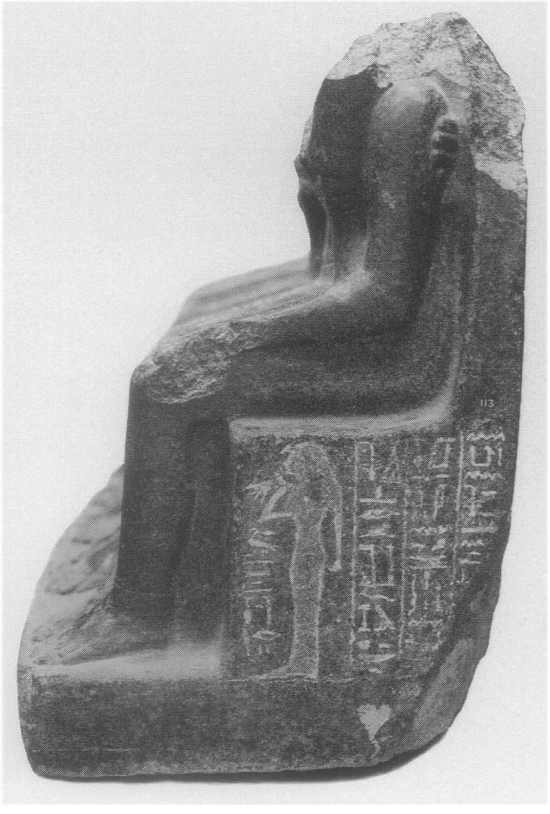
1. Cairo CG 42126 (*photograph by Jürgen Liepe*)



2. Cairo CG 42126, detail (*photograph by Jürgen Liepe*)

THE FATE OF SENNEFER AND SENETNAY (pp. 113–29)

1. BM EA 113 (*photograph by Biri Fay; computer-enhanced by Jürgen Liepe*)



2. BM EA 113 (*photograph by Biri Fay; computer-enhanced by Jürgen Liepe*)

3. Foundation deposit outside KV 42 (*Courtesy of the Griffith Institute. Photograph computer-enhanced by Jürgen Liepe*)

THE DECORATIVE PHASES OF THE TOMB OF SETHOS II AND THEIR HISTORICAL IMPLICATIONS*

By AIDAN DODSON

A consideration of the decoration of the tomb of Sethos II in the Valley of the Kings and the implications of its sequence of development for the history of the late Nineteenth Dynasty. It is argued that the decoration of the tomb, which may show up to eleven separate phases, is best explained by the assumption that the king's reign was interrupted by the rule, in Upper Egypt, of Amenmesse.

IN discussions of the chronological and political problems of the later part of the Nineteenth Dynasty,[1] the tombs of the principal protagonists, all in the Biban el-Moluk, have important parts to play.[2] Study of the changes to the decorative scheme and the possible motivations behind them may shed light on interruptions in the dynastic sequence and illuminate political events. From this point of view, as well as others, the ongoing clearance, after generations of neglect, of KV 10 (Amenmesse) and KV 13 (Bay), is most heartening,[3] and has already added valuable data to the available corpus. Nevertheless, much crucial information is still to be gleaned from such long-open sepulchres as KV 14 (Tawosret, usurped for Sethnakhte) and KV 15 (Sethos II). The former has been studied in detail by Altenmüller's team, with important results,[4] while the evidence from KV 15's decorative programme has been cited by a number of scholars in the debate as to whether Sethos II's reign followed or was interrupted by that of Amenmesse. In this debate, the critical areas concern the discontinuity or discontinuities

* My thanks go to Ray Johnson and other staff members at Chicago House, Luxor, for their hospitality in December 1996 while carrying out research for this paper. I am also indebted to the *JEA*'s referees for various helpful suggestions.

[1] A bibliography of discussions of the subject down to the mid-1970s is given in R. Krauss, 'Untersuchungen zu König Amenmesse (1. Teil)', *SAK* 4 (1976), 162 n. 9. Subsequent contributions include: id., 'Untersuchungen . . . (2. Teil)', *SAK* 5 (1977), 131–74; id., 'Untersuchungen . . .: Nachträge', *SAK* 24 (1997), 161–86; A. Dodson, 'The Takhats and some other Royal Ladies of the Ramesside Period', *JEA* 73 (1987), 224–7; id., 'King Amenmesse at Riqqa', *GM* 117–118 (1990), 153–4; id., 'Amenmesse in Kent, Liverpool and Thebes', *JEA* 81 (1995), 115–28; id., 'Messuy, Amada and Amenmesse', *JARCE* 34 (1997), 41–8; L. Habachi, 'King Amenmesse and the Viziers Amenmose and Khaʿemtore: Their Monuments and Place in History', *MDAIK* 34 (1979), 66–7; K. A. Kitchen, 'Amenmesses in Northern Egypt', *GM* 99 (1987), 23–5; J. Osing, 'Zur Geschichte der späten 19. Dynastie', *SAK* 7 (1979), 252–71; A. Spalinger, review of R. Drenkhahn, *Die Elephantine-Stele des Sethnakht und ihr historischer Hintergrund*, in *BiOr* 39 (1982), 272–88; F. J. Yurco, 'Amenmesse: Six Statues at Karnak', *MMJ* 14 (1980), 15–31; id., 'Was Amenmesse the Viceroy of Kush, Messuwy?', *JARCE* 34 (1997), 49–56.

[2] H. Altenmüller, 'Bemerken zu den Königsgraben des Neuen Reiches', *SAK* 10 (1983), 25–62; A. H. Gardiner, 'The Tomb of Queen Twosre', *JEA* 40 (1954), 40–4; A. Dodson, 'The Tomb of King Amenmesse: Some Observations', *DE* 2 (1985), 8–9.

[3] H. Altenmüller, 'Zweiter Vorbericht in die Arbeiten des Archäologischen Instituts der Universität Hamburg am Grab des Bay (KV 13) im Tal der Könige von Theben', *SAK* 19 (1992), 15–36; id., 'Dritter Vorbericht . . .', *SAK* 21 (1994), 1–18; E. L. Ertman, 'A First Report on the Preliminary Survey of Unexcavated KV 10 (the Tomb of King Amenmesse)', *KMT* 4/2 (1993), 46 n. 4; O. J. Schaden, 'Amenmesse Project Report', *NARCE* 163 (1993), 1–9; id., 'Some Observations on the Tomb of Amenmesse (KV-10)', in B. Bryan and D. Lorton (eds), *Essays in Egyptology in Honor of Hans Goedicke* (San Antonio, 1995), 243–54.

[4] H. Altenmüller, 'Das Grab des Königin Tausret im Tal des Könige von Thebes', *SAK* 10 (1983), 1–24; id., 'Bemerkungen zu den neu gefundenen Daten im Grab der Königin Twosre (KV 14) im Tal der Könige von Theben', in C. N. Reeves (ed.), *After Tutʿankhamūn* (London, 1992), 141–64.

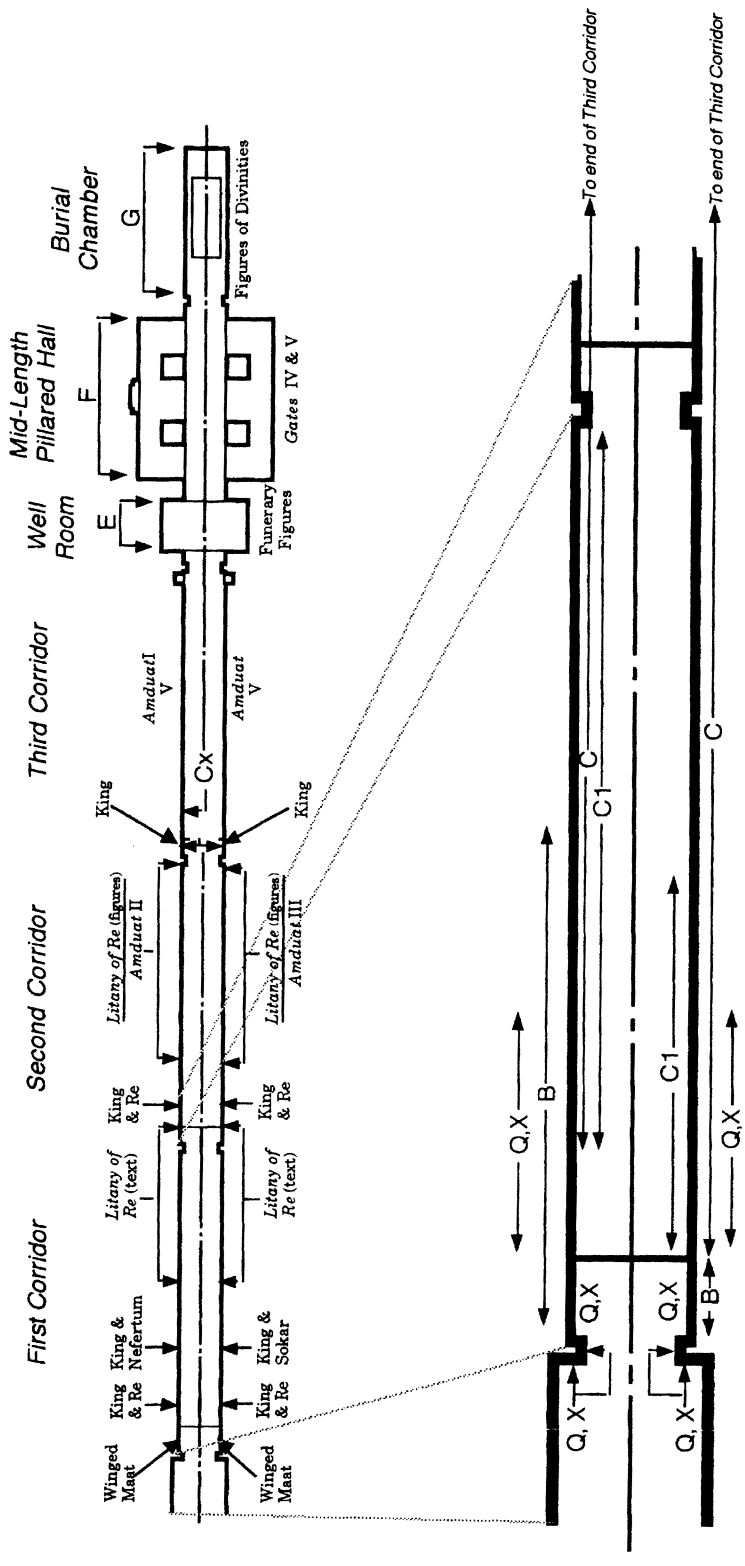


FIG. 1. The tomb of Sethos II (KV 15). Decoration and decorative phases.

observable in the decorative scheme, together with the deletions and replacements of royal names seen in certain areas of the tomb. It is this paper's intention to review the various periods of connected activity that may be observable, and to re-evaluate their possible historical implications.

KV 15[5] is cut at the end of one of the 'arms' of the Valley of the Kings, forming a group with the contemporary/near contemporary KV 14 (Tawosret) and KV 13 (Bay). Like Amenmesse's KV 10, it represents a much shallower-descending version of the tomb plan established by Merenptah, on the basis of developments under Ramesses II (fig. 1). Also like KV 10, KV 15 was never finished: the Mid-Length Pillared Hall is not entirely carved, while the burial took place in the incomplete corridor leading from the Mid-Length Pillared Hall, the remainder of the tomb never having been cut. Apart from a preliminary cutting in the left wall of the Mid-Length Pillared Hall, which may be intrusive,[6] no chambers aside from those on the main axis were attempted.[7]

The decoration

The basic decorative scheme envisaged at the beginning of the tomb's construction, and seen at least as far into the sepulchre as the Well Chamber, would have covered the first two corridors with the *Litany of Re*, and the third by the *Amduat*; parts of the latter are also found at the end of the Second Corridor. This scheme was established by Sethos I in KV 17, the first of all royal tombs to be decorated from the very entrance.[8] A decorated lintel is supported by a pair of inscribed door-jambs, the inner thicknesses of which are decorated by kneeling figures of Maat. The phases, or potential phases, of the decoration are summarised below.

Phase A: The decoration of the exterior lintel. The usual solar disk and supporting goddesses adorned the entrance to the tomb, but their style of execution clearly differs from decorative work elsewhere in the tomb in the orthography adopted for the royal cartouches, one which seems to occur exclusively in this place (fig. 2).[9] The carving of this lintel would logically fall at the very beginning of the reign, both on the basis of its location at the beginning of the tomb, and the fact that such a singular writing of the royal names might be better expected while the royal titulary was still in the process of standardisation.

Phase B: The decoration of both inner sections of the entrance, and the first part of left-hand wall of the First Corridor. The scheme on the first part of the left-hand wall of the First Corridor was very similar to that found in the tomb of Merenptah (KV 8),[10] with a fine raised-relief tableau of the king before Re-Harakhty (pl. XX, 1) directly preceding the

[5] PM I^2, 532–3; E. Thomas, *Royal Necropoleis of Thebes* (Princeton, 1966), 111–14; for other references, see below.

[6] Thomas, *Necropoleis*, 112.

[7] The tomb has never been published, the fullest treatment being the summary included in E. Lefébure, *Les hypogées royaux de Thebes*, II (Cairo, 1889), 146–55. For other references, see PM I^2, 532–3, and below.

[8] Cf. E. Hornung, *Valley of the Kings: Horizon of Eternity* (New York, 1990), 208–10, for a tabulation of the changing decorative scheme of the royal tomb.

[9] Cf. K*RI* IV, 272 (25 A).

[10] PM I^2, 507.

Prenomen 1	Prenomen 2	Nomen 1	Nomen 2
Amun represented by ideogram	Amun spelled out	Uses Seth-ideogram	Uses Osiris-ideogram
 of *mry* written out	*mry* written as  only	Ptah's name written with determinative	Ptah's name written without determinative
		n omitted from 'Merenptah'	All elements of 'Merenptah' present

FIG. 2. Cartouches on outer lintel of KV 15.

Litany of Re. At least the upper texts accompanying the king and the god were originally carved in raised relief, upon raised rectangles of stone (pl. XX, 2). This still remains so in the top left-hand corner of the scene, but is no longer present elsewhere (see Phase Q).

Phase C: Modification of the ongoing decoration of left-hand wall of the First Corridor, and marking out of both sides of first two corridors to revised design; C_1: carving the new design. After the first columns of the left-hand wall's *Litany of Re* had been marked out, and over a dozen actually carved in whole or in part,[11] it was decided to add an additional tableau (of the king and Nefertum) beyond that already carved of the king and Re-Harakhty.[12] Accordingly, the existing carved surface was removed and the new scene added, this time in sunk relief. The upper accompanying texts, however, seem to have been inscribed in sunk relief into a raised area of stone. Sunk texts are found in the lower sections of both tableaux. This change is shown most obviously by the fact that the first two columns of the re-instated *Litany*, now beginning after the new figure of Nefertum, are carved over the last columns which had been cut under the old scheme.[13] The Phase B hieroglyphs and column borders are visible in pristine condition where the covering plaster has fallen away (pl. XX, 3).

In addition, scarring can be seen at both margins of the king and Nefertum tableau, where 1 or 2 mm of the original wall thickness had been taken away (pl. XX, 1).[14] On the right-hand wall, two tableaux were carved on apparently virgin rock, in the same style of sunk relief as the king and Nefertum example opposite them (pls. XX, 4–XXI, 1). No indications survive to suggest that any carved surface had been changed on this wall, although the parallel of KV 8 would suggest it would have been initially planned that the

[11] To judge by the spacing of the columns of *Litany of Re* texts further along the corridor.

[12] Amongst Nineteenth Dynasty royal sepulchres, this multiplication of king-and-god tableaux is unique to KV 15 and the partially-contemporary KV 14, although the queenly nature of the latter makes the comparison less apposite. Under Siptah (KV 47), only one tableau is found, on the left wall only, the rest of the First Corridor being taken up with the *Litany of Re* (PM I^2, 565), reverting to the pattern found in the tomb of Merenptah (KV 8).

[13] The carving of the Phase B portion was incomplete, with only the lower parts having been fully executed.

[14] Cf. E. Hornung, quoted by Krauss, *SAK* 4, 182.

Litany of Re take up the entire wall, without any king-and-god tableaux. Work then continued on the outlining and carving of the *Litany* on both walls of the corridor.

On the left-hand wall, the *Litany* is completely carved as far as the doorway leading into the Second Corridor. On the right-hand wall, however, work has only proceeded two-thirds of the way along the surface,[15] leaving the remainder in red ink sketch only.[16] Of the immediately preceding columns, some are only partly carved and/or painted. With two exceptions (see Phase D), the doorway leading into the next corridor, and the whole of the latter, has the figures from the *Litany of Re* and the Second and Third Hours of the *Amduat* fully drawn in red ink alone.[17]

It should be noted that a further sub-phase (C_x) is to be seen on the left wall of the beginning of the Third Corridor. Initially, a figure of the king in offering-pose was sketched-in but was almost immediately replaced by the beginning of the Fourth Hour of the *Amduat*.

Phase D: Summary carving of the royal figures at the beginning of the Third Corridor. The decoration of the whole of the Second and Third Corridors remains purely in red ink, with the exceptions of door-jambs at the entrance to the Third Corridor and the wall surfaces just inside. The former have had their texts reinforced in black (pl. XXI, 2), while the blue-crowned royal figures that lie on both walls just beyond the doorway have been summarily carved, and cartouches added in black ink (pl. XXI, 3).[18] The figures are in very slightly raised relief, with details, especially the eyes, added in ink. The cartouches are interesting in that the *mn*-signs are of a distinctive type, relatively narrow, with only four very prominent playing-pieces shown (to be dubbed the 'four-spike' type – see figure 3).

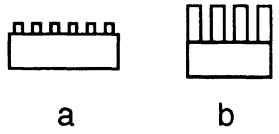


FIG. 3. Principal variants of the *mn*-sign found within KV 15.

Phase E: Decoration of the Well Room. In contrast to the previous parts of the tomb, which were all either carved or intended to be carved, the Well Room (which never had its shaft cut) was decorated in paint; it is not possible to be sure whether any outlining from Phase C survives underneath this. Based on the parallels of KV 8 and KV 11 (Ramesses III), the room should have been adorned with scenes of various major funerary deities.[19] Instead, however, it received depictions of gilded statuettes of the king and funerary divinities,[20] actual examples of which were found in KV 62,[21] with fragments known

[15] A section of this wall is now BM EA 1378 (PM I^2, 533).

[16] The transition is shown well in Hornung, *Valley of the Kings*, 44.

[17] An ape-vignette from the Third Hour is pictured in Hornung, *Valley of the Kings*, fig. 16.

[18] Compare the similar use of black to highlight certain features of the unpainted reliefs in TT 55: e.g. N. de G. Davies, *The Tomb of the Vizier Ramose* (London, 1941), pls. xliv, xlvi-xlvii.

[19] Cf. PM I^2, 508 (12, 13), 523 (31, 32).

[20] The decoration of the chamber is shown in full, and in colour, in Hornung, *Valley of the Kings*, figs. 133–8.

from a number of other royal tombs.[22] Their unique depiction here might give rise to speculation as to the adequacy of the equipment actually provided for Sethos II's burial. In this connection, one might note that the king's two alleged fragmentary faience shabtis may actually belong to Sethos I.[23]

Phase F: Decoration of the Mid-Length Pillared Hall. The decoration of the Mid-Length Pillared Hall is in painted sunk relief, of much lower quality than that seen in the First Corridor; a considerable portion is unfinished and/or unpainted. A double offering scene was applied to the area above the descending ramp, and divinities to the pillars. The remainder of the room was adorned with the Fourth and Fifth Divisions of the *Book of Gates*.

Phase G: Improvisation and decoration of the Burial Chamber. On the evidence of the very similar tombs of Amenmesse and Siptah, the Mid-Length Pillared Hall should have been followed by at least two further corridors, giving access to a pillared burial hall. Instead, only the descending slope and part of the following corridor were cut, the latter being adapted as the royal burial chamber. The 'chamber' thus produced was so small—of no more width than the original corridor—that it was only capable of holding what was clearly intended to be the innermost of a nest of sarcophagi, after the model of Merenptah in KV 8.[24]

The decoration of this space does not seem to follow any previously-established scheme. Rather than the astronomical ceiling used since the time of Sethos I, a crude figure of Nut was painted on the ceiling. On the left wall are two registers of divinities, with three mummiform figures below; on the right are two registers of divinities in shrines, with an enshrined Anubis-jackal nearest the entrance doorway.

Phase Q: Erasure of Sethos II's names. The king's names have been removed from the entrance of the tomb and the first part of the First Corridor. Elsewhere in the sepulchre they are intact. On the outer lintel, the very shallow relief employed meant that only a little stone needed to be removed to obliterate the names. Similarly, the interiors of the cartouches that accompany the winged figures of Maat just inside the tomb entrance have been fairly neatly removed. However, to judge by their complete re-carving in Phase X, leaving no trace of the original surface, it would appear that the door-jambs suffered more extensive mutilation, both on their outer and side planes.

[21] PM I^2, 574–5, 585.

[22] E.g. PM I^2, 553 (KV 34), 555 (KV 35), 560–1 (KV 43), 569 (KV 57).

[23] MMA 10.130.1074 A-B (gift of Helen Miller Gould, 1910, from the collection of Chauncey Murch), mentioned in W. C. Hayes, *The Scepter of Egypt*, II (New York, 1959), 362. Both pieces, comprising the lower portion of the legs and feet, bear only the nomen 'Sethy-Merenptah', and there seems to be nothing to distinguish them from the numerous smaller faience examples of Sethos I. My thanks go to Diane Craig Patch for access to these objects.

[24] For which, see E. C. Brock, 'The Tomb of Merenptah and its Sarcophagi', *After Tutʿankhamūn*, 122–40; on the possible fate of the outer sarcophagus intended for Sethos II, see A. Dodson, 'Was the Sarcophagus of Ramesses III begun for Sethos II?', *JEA* 72 (1986), 196–8. It should be noted that the head from the broken lid of the inner sarcophagus of Sethos II, now Louvre E 6205 (PM I^2, 533), is actually from the Nut-figure on its underside. The king's own head, together with most of the upper part of the lid, remains lost.

The surviving original texts accompanying the Phase B tableau on the left side of the First Corridor are carved in raised relief on a panel standing proud of the surrounding stone surface. From the visible scarring, it may be seen that the same was true of the label-texts bearing the king's names both on this tableau and also on the three of Phase C_1, in spite of the fact that these figures were actually carved in sunk relief, rather than the Phase B tableau's raised relief. It is very clear in three out of four cases that a large rectangular panel has been removed (see pls. XX, 2, XXI, 4). The state of the wall in the fourth instance is less clear-cut, but given that the adjacent, contemporarily-carved tableau has certainly had its panel removed, it would seem most likely that a panel had previously existed here as well. It is unclear whether the total excision of the panel was the work of the agent who removed the king's names, or resulted from the removal of mutilated remains to make way for new carving; the latter would seem more likely (cf. the situation on the outer door-jambs).

None of the remaining cartouches in the tomb shows any signs of erasure or other mutilation. This contrasts with the situation in KV 47, where the complete interiors of the cartouches in the *Litany of Re* texts were removed, as well as those of the more monumental examples at the entrance to the tomb.

Phase X: Restoration of Sethos II's names. All of the cartouches which had been erased or mutilated in Phase Q seem to have been reinstated subsequently. On the outer lintel, the cartouches were simply filled with fine plaster and recarved. On the Maat-panels inside the entrance, however, the cartouches were also expanded downwards and, in at least six cases, on one side as well (pl. XXI, 4). The old base-lines and superseded frame-segments are visible where the fresh plaster for the restorations has dropped out. As already noted, the whole of the adjacent door-jambs have been recarved as from new, the workmanship and style differing somewhat from that employed elsewhere in the front part of the tomb.

All four king-and-god tableaux had any remains of the old text-panels between the pharaoh and the deity removed, and new sunk relief titles and cartouches inserted on the fresh flat surface. It is not certain that the replacement texts were necessarily exact copies of the originals. As the scenes now stand, there are sunk relief texts in the lower parts of the scenes which do not seem to have been placed over erased raised text-panels, despite including the king's nomen.

All certain name restorations share the distinctive feature of the 'four-spike' *mn*-sign, already noted as present in Phase D, and contrast with the more conventionally formed *mn*-signs in the *Litany of Re* slightly further along the corridor. These show the more usual proportions for this hieroglyph, and usually display five playing-pieces—the minimum generally found.[25] All other *mn*-signs in the tomb are of this conventional kind, regardless of the decorative phase to which they belong. This unusual form of the sign suggests a connection between the restorations in the First Corridor and the summary carving and labelling of the figures in the entrance of the Third Corridor in Phase D. It would also suggest that some detail work on the figures in the tableaux was carried out at the same time, since their 'sporran' texts also display the 'four-spike' *mn*-sign.

[25] Four playing-pieces *are* found in the fourth column from right on the right wall, but it does not have the characteristic elongated form of the 'four-spike'.

The sign-form is to be found on a series of faience plaques bearing Sethos II's names,[26] probably from a foundation deposit,[27] on a series of faience cartouches,[28] and on one of the earrings from KV 56.[29] Otherwise, it is fairly rare, the next 'cluster' of appearances seeming to occur in the early years of Ramesses III.[30] It is found in the *Litany of Re* texts in KV 11, where it was consistently employed in Ramesses III's prenomen. However, it is not found in the main body of these particular texts, which had been inscribed under Sethnakhte.[31] 'Four-spikes' are also found deeper inside KV 11, although often mixed with more conventional 'five-spike' signs. While the 'four-spike' variant is not a feature in the princes' tombs in the Valley of the Queens, which generally date to the first part of Ramesses III's reign, a number of examples of the *mn*-sign with unusually massive playing pieces may be seen there.[32]

Discussion

The dates of the erasure and the reinstatement of Sethos II's names in KV 15 are crucial to the interpretation of the phases of decoration of the sepulchre. The erasure of the cartouches is careful, and clearly intended physically to remove the name of the king from those parts of the monument.

A number of explanations have been put forward for this erasure and subsequent reinstatement. Recently, Frank Yurco has suggested that the 'damage to the front of the tomb' was caused by 'Pa-neb's nefarious robbing of stone from this pharaoh's tomb, mentioned in Papyrus Salt 124'.[33] However, the papyrus states that Paneb 'cut stones

[26] One unprovenanced example is in Turin (Cat. 6388: A Fabretti, F. Rossi and R. V. Lanzone, *Regio Museo di Torino, antichità egiziane*, II (Turin, 1888); W. M. F. Petrie, *A History of Egypt*, III[3] (London, 1924), fig. 47).

[27] Presumably from his mortuary temple, a structure which, however, is yet to be identified. Fragments of probably similar plaques were found at the Ramesseum (J. E. Quibell, *The Ramesseum* (London, 1898), 9, pl. xviii), leading Petrie to suggest that they might have been 'spares' from Sethos II's temple, which accordingly ought to have lain quite near. However, no traces seem ever to have been located. The possibility that either of the mortuary temples of Siptah or Tawosret, lying to the north and south respectively of the Ramesseum, could have been usurped from Sethos is apparently negated by the lack of foundation deposits of that king, contrasting with the plentiful deposits of the later rulers (cf. PM II[2], 429, 447).

[28] Examples are known from Karnak (Cairo JE 47296: M. Pillet, 'Rapport sur les traveaux de Karnak', *ASAE* 22 (1922), 252), Medinet Habu (U. Hölscher, *The Excavation of Medinet Habu*, IV: *The Mortuary Temple of Rameses III*, II (Chicago, 1951), pl. 36t, lower part only), and Mit Rahina (JE 30283: Pillet, *ASAE* 22, 253). Other examples are in Cairo (JE 40426: ibid), Copenhagen (Nationalmuseet), Leiden (RMO G 571: C. Leemans, *Monumens égyptiennes du Musée d'antiquités des Pays-Bas à Leide*, II (Leiden, 1842), pl. xliii), New York (MMA 10.130.1677–81, ex-Murch Collection), and London (BM EA 67970: R. Parkinson, *Cracking Codes: The Rosetta Stone and Decipherment* (London, 1999), 109 (31e)).

[29] Cairo CG 52397–8 (C. Aldred, *Jewels of the Pharaohs* (New York, 1978), pl. 93). While one bears the 'four-spike' version of the sign, the other has an even more minimalist 'three-spike' variant.

[30] The posthumous representations of Sethos II in KV 14 utilize conventionally proportioned *mn*-signs, as do the cartouches of Sethnakhte there.

[31] The Ramesses III cartouches here are all painted upon the plaster filling of his father's names.

[32] E.g. C. Leblanc, *Ta Set Neferou: une necropole de Thebes-Ouest et son histoire*, I (Cairo, 1989), pl. lxxxiii (QV 42), C.A (QV 44); one 'four-spike' example may be seen on his pl. cxxxvi (QV 55).

[33] *JARCE* 34, 56 n. 37.

from the top of the work of Sethos II', from which he made 'four columns in his tomb'.[34] This is clearly full quarrying activity,[35] not the removal of discrete elements of text from KV 15's reliefs.

Cyril Aldred held the view that the erasures had been carried out by Siptah, and the restorations by Tawosret, following Siptah's death, in parallel with her replacement of Siptah's names by those of Sethos II in KV 14.[36] However, there is no other evidence for explicit hostility by Siptah (or, given his age at accession, his supporters) towards the late Sethos II,[37] in spite of the former's probable filiation from Amenmesse.[38]

Hartwig Altenmüller[39] suggests that Phases Q and X are both part of a 'reconsecration' ritual by Sethnakhte (or perhaps Ramesses III), on reburying Sethos II in KV 15 after his removal from KV 14, where he had allegedly been interred by Tawosret. He suggests that this activity also included the completion of the tomb's decoration (our Phases E to G). This view might be made attractive by the fact that the 'four-spike' *mn*-sign is demonstrably current in the early years of the Twentieth Dynasty. However, it is *also* demonstrably current under Sethos II himself, unless one were to try to make the faience plaques noted above also creations by Sethnakhte/Ramesses III—something lacking a shred of *a priori* support.

Altenmüller's view also relies, of course, on there having been a need for a reburial in the first place. This in turn depends on the interpretation of a graffito in the First Corridor of Tawosret's KV 14 tomb, recording 'Year 1, IV *prt* 11', presumably of Siptah, as the 'day of the burial of Userkheper[u]re'.[40] Altenmüller takes this as meaning that Sethos II was interred by his widow in her own tomb. However, given that work continued in KV 14 for another eight years,[41] it seems distinctly unlikely that the mummy of Sethos II could have been permitted to lie in a place where it would be passed daily by those quarrying the inner part of the tomb. Surely a more likely explanation is that the notation merely records the funeral of Sethos II in the directly adjacent KV 15—the entrance of the as-yet unfinished KV 14 would have been an obvious resting-place for those engaged in burying the late king.[42]

Elizabeth Thomas's opinion leant towards the erasures antedating Sethos II's interment, but she never fully articulated her reasoning, apart from linking it to the actions of

[34] P. British Museum EA 10055, recto 2, 5–6. Document published by J. Černý, 'Papyrus Salt 124 (Brit. Mus. 10055)', *JEA* 15 (1929), 243–58.

[35] Presumably above the entrance to the tomb; the fine quality of the limestone in this part of the Valley of the Kings is remarkable. For other ideas concerning the nature of Paneb's depredations. see Thomas, *Necropoleis*, 267.

[36] 'The Parentage of King Siptah', *JEA* 49 (1963), 44–5.

[37] Cf. J. E. Harris and E. F. Wente, *An X-Ray Atlas of the Royal Mummies* (Chicago, 1980), 147; Spalinger, *BiOr* 39, 283.

[38] Cf. Aldred, *JEA* 49, 45–8; Dodson, *JEA* 73, 226–7; *pace* Spalinger, *BiOr* 39, 279–80 and Harris and Wente, *X-Ray Atlas*, 147.

[39] *SAK* 10, 52–7.

[40] Altenmüller, *After Tutʿankhamūn*, 148, Abb. 19.

[41] Cf. ibid. 159–60.

[42] The Chief Workman Paneb is recorded as having entered the burial place of Sethos II, stolen wine and oil, and sat on the king's (occupied) sarcophagus in P. British Museum EA 10055, recto 1, 11–12 (n. 34, above). His career seems to have ended soon after Year 8 of Tawosret (M. L. Bierbrier, *The Late New Kingdom in Egypt (c. 1300–664 B.C.)* (Warminster, 1975), 23). Unfortunately, while the implication may be that Sethos II was lying in his own tomb (KV 15) at the time, it is not impossible that the outrage could have occurred while a putative temporary interment in KV 14 was awaiting removal to KV 15.

Paneb.[43] Anthony Spalinger proposed Bay as the eraser, and Sethnakhte as the restorer, although reaching this conclusion only as a result of ruling out all the other candidates on a variety of grounds.[44] Finally, the possibility that Amenmesse was the agent for the erasures was suggested by Alan Gardiner,[45] and argued for by Rolf Krauss and the present writer,[46] based on the reconstruction which places Amenmesse as a *Gegenkönig* within the reign of Sethos II. Amenmesse would then have mutilated the cartouches of his predecessor on seizing power in Thebes, restorations being made by Sethos II once the usurper had been driven out. Following this view, the decoration of the inner parts of the tomb would have been carried out in the last year or two of Sethos II's reign, after he recovered the throne at Thebes.[47]

This last option has the advantages of simplicity and fairly transparent motivation.[48] The limited scale of the erasures in KV 15 might thus appear curious, but all the prominent cartouches were certainly removed. The fact that the remainder were left, including small-sized examples within the *Litany of Re* and ink versions further inside, could simply be attributed to a lack of time, effort, or personal motivation on the part of those charged with executing the erasures.[49] On the other hand, both issues would be addressed if the erasures represented an initial plan by Amenmesse to take over KV 15, replaced almost immediately by the decision to construct KV 10 from scratch instead. The care with which the interiors of at least some of the cartouches were removed, as noted above, might support such a view.

The extent of Amenmesse's usurpation of predecessors' monuments remains unclear. There is no doubt that many of the extant statues ultimately bearing the names of Sethos II had been usurped, although only in particular cases has it been possible to be certain that the former owner was Amenmesse.[50] Still more moot is how many may have had an owner prior to Amenmesse. One definite example is Cairo CG 1198,[51] where Amenmesse clearly usurped a statue from a predecessor, before having it taken from him in turn by Sethos II. Although Yurco proposed that the original owner was Ramesses II or, preferably, Merenptah,[52] the stylistic arguments used are by no means conclusive, and they cannot exclude the much greater probability that the original maker was Sethos II,[53] prior to the interruption of his reign.[54]

[43] *Necropoleis*, 124 n. 123, 266–7.
[44] *BiOr* 39, 283.
[45] *Egypt of the Pharaohs* (Oxford, 1961), 277.
[46] For references, see n. 1, above.
[47] Cf. Krauss, *SAK* 24.
[48] As compared to the putative interment in KV 14 by Tawosret. This also suffers from the absence of any credible symbolism of such an activity: parallels might be drawn with Hatshepsut's burial of Tuthmosis I alongside herself in KV 20, but if John Romer's arguments that this was actually Hatshepsut usurping her father's tomb are accepted ('Tuthmosis I and the Bibân el-Molûk: Some Chronological Considerations', *JEA* 60 (1974), 119–33), this approach becomes far less tenable.
[49] There are numerous examples of such careless or hurried erasures in a wide range of Egyptian monuments of all periods and locations.
[50] In particular, there is the quartzite statue series at Karnak, clearly made as a group, on some of which traces of Amenmesse's palimpsest names may be read (Yurco, *MMJ* 14, 28–31).
[51] PM II^2, 52.
[52] *MMJ* 14, 28, n. 36, still accepted in *JARCE* 34, 55 n. 25.
[53] A central point of all discussions of the statue's date of original manufacture is that the figure and titles of the *s3t-nsw ḥmt-nsw wrt* Takhat remained unaltered throughout its history. In *JEA* 73, 226, the writer has argued that this would suggest that Takhat stood in the same relationship to the statue's last owner as she did

Taking Amenmesse as the mutilator and Sethos II himself as the restorer of KV 15, one could suggest that the decorative phases within KV 15 could have been undertaken in the following order:

Year 1	Sethos II	Phases A, B, C, C_1 and C_x
Year 1	Amenmesse	Phase Q
Year 5	Sethos II	Phases X and D
Years 5–6	Sethos II	Phase F
Year 6	Sethos II	Phases E and G

The contemporaneity of Phases X and D has already been suggested on the grounds that both utilise the 'four-spike' form of the *mn*-sign. That carving of the previously outlined decorative scheme was only recommenced at the beginning of the Third Corridor might suggest that a degree of urgency was felt to be appropriate. This impression is reinforced by the fact that nothing more was done in that corridor, while work was instead switched shortly afterwards to the Mid-Length Pillared Hall. The poor workmanship in this room, in contrast to the magnificent relief work in the First Corridor,[55] also suggests that attempts were being made to push work ahead as rapidly as possible.

Yurco[56] attempts to attribute the incomplete decoration of KV 15 to the simultaneous work on KV 14 and KV 13 diverting labour from Sethos II's own sepulchre. While such considerations might explain the failure of the tomb to extend further into the hillside by the king's death, they can hardly apply to the decoration, since the reliefs of the First Corridor of KV 14 date to the reign of Siptah, as is shown by the latter being represented there.[57]

That even this accelerated programme was insufficient is shown by the fact that the carving of the Mid-Length Pillared Hall was not actually finished, and that painted decoration alone was hurriedly applied to the Well Room and (improvised) Burial Chamber. The makeshift nature of these last phases is further illustrated by the

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to its first. In addition, her titles would also have had a relevance to its intervening owner, Amenmesse. The only obvious sequence of ownership would be Sethos II → Amenemesse → Sethos II, with Sethos II and Takhat being Amenmesse's parents. This conclusion is reinforced by the evidence of Yurco's Karnak statue 2, where Takhat was initially Amenmesse's *mwt-nsw*, and then Sethos II's *s3t-nsw ḥmt-nsw* (Yurco, *MMJ* 14, 18–20).

[54] Concerning the Queen Takhat who appears on the Karnak statues, Yurco attempts (*JARCE* 34, 55 n. 25) to resurrect the old equation of the two ladies represented in KV 10 (the *mwt-nsw* Takhat and the *ḥmt-nsw* Baketwernel) with the mother and wife of Amenmesse, *contra* Thomas, *Necropoleis*, 110–11, and Dodson, *JEA* 73, 224–5. In doing so, he quotes E. Ertman as stating that the 'Takhat' figure in KV 10 is 'Dynasty 19'. Ertman's suggestion is based on parallels between the intrusion of parts of the KV 10 figures into scene borders, and similar instances seen in KV 14 and QV 66 (*KMT* 4/2, 45; QV 38 may also be added to his list). However, the 'diagnostic' feature in question is also to be seen in QV 52 (Leblanc, *Ta Set Neferou*, pl. cxxiv – ears of dog-headed deity), whose owner, Tyti, is most likely the spouse of Ramesses X (see Dodson, *JEA* 73, 227–9, with references). Concerning the artistic style of the surviving queenly figure in KV 10, of Baketwernel (pictured in Ertman, *KMT* 4/2, 39, 45), my own examination (courtesy of Otto Schaden) suggests that it is only possible to declare the image 'Ramesside', albeit noting strong similarities with images of Queen Iset, mother of Ramesses VI, in QV 51 (e.g. Leblanc, *Ta Set Neferou*, pl. cxi).

[55] And the raised relief which seems to have been intended for the Phase D figures.

[56] *JARCE* 34, 56 n. 37.

[57] For the primacy of Siptah's cartouches, see Gardiner, *JEA* 40, 41–2.

anomalous nature and selection of motifs, and can only have been occasioned by the death of the king, and a desire to bury him as rapidly as possible. The fact that the tomb was made speedily ready for the burial is a further factor against Altenmüller's suggestion of a burial of Sethos II in KV 14. One might speculate that a desire for dispatch was engendered by a need to legitimize the accession of Siptah by speedily burying his predecessor.[58] The Chancellor Bay's well-known boast of 'placing the king on the seat of his father' suggests that Siptah's accession was not wholly straightforward.[59]

A different 'outline draughtsman' was employed in these final stages, as compared with the work in Phases X and D, as nowhere in the rear chambers of the tomb do we find the characteristic 'four-spike' form of the *mn*-sign.[60] Given the reappearance of this version of the sign a decade later in the early years of Ramesses III, it would be interesting to know whether the same individual was involved and, if so, the reason for his break in service in the Valley of the Kings.

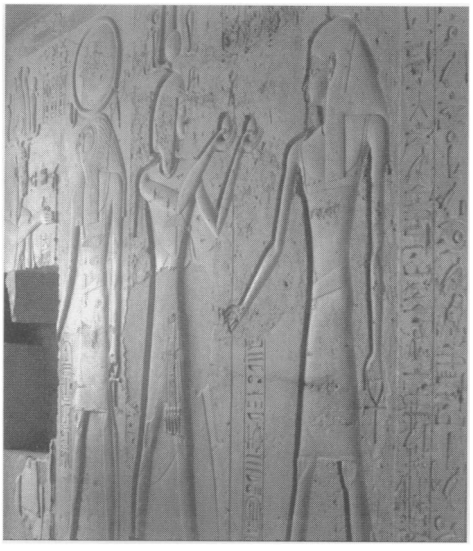
Of course, this solution is predicated on the acceptance of the Amenmesse-as-*Gegenkönig* hypothesis. However, as has been noted above, the other solutions all labour under various disabilities, and the relative simplicity of the scenario in which Amenmesse was responsible for the erasures may be seen as a supportive argument in the ongoing debate.

The decorative history of the tomb of Sethos II was unusually complex. However, an analysis of it suggests that it is best explained by the interruption of the temporary usurpation of the throne by Amenmesse, and a desire to fit out the tomb rapidly for a burial within a relatively short period of Sethos II's recovery of Thebes.

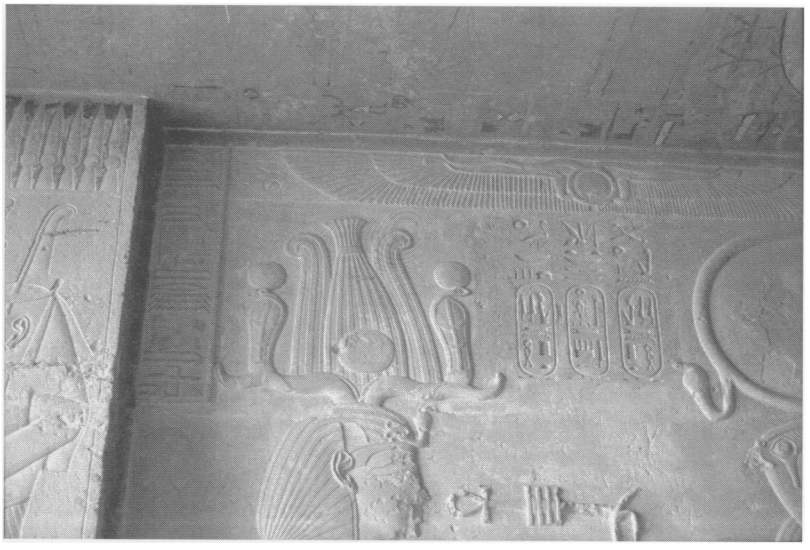
[58] Cf. Ay *vis à vis* Tutankhamun: K. A. Kitchen, *The Third Intermediate Period in Egypt (1100–650 BC)*[3] (Warminster, 1995), 333 n. 498.

[59] *KRI* IV, 364, 371; cf. n. 38, above.

[60] One cartouche has a *mn*-sign with four playing-pieces, but it does not have the narrow form of definite Phase X examples, has the playing-pieces irregularly disposed, and is most likely to reflect the hurried drawing of the sign ('harpooning figure', right-end wall of Well Room: Hornung, *Valley of the Kings*, fig. 136).

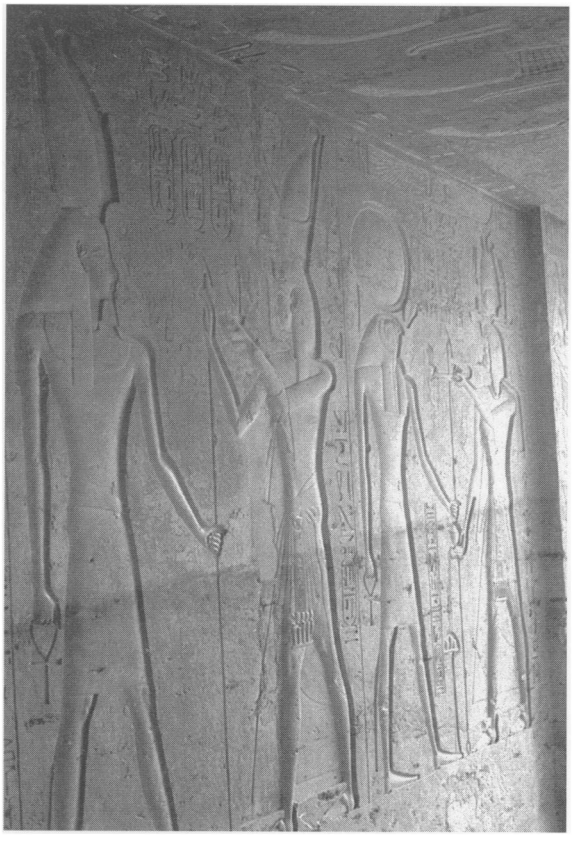


1. First and second scenes, left wall of First Corridor



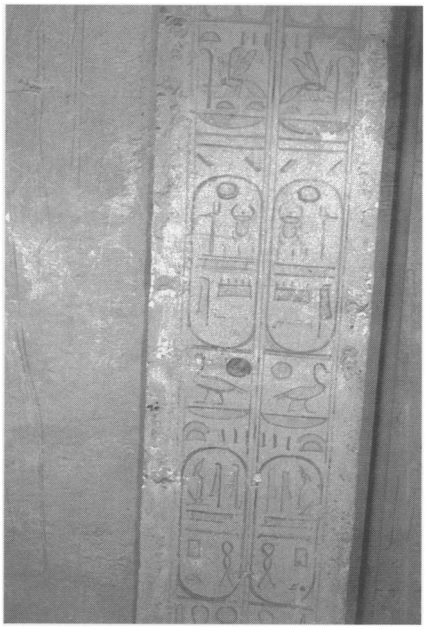
2. Upper part of first scene, left wall of First Corridor

3. Beginning of the *Litany of Re* from the left wall of the First Corridor



4. First and second scenes, right wall of First Corridor

1. Upper part of first scene, right wall of First Corridor



2. Inner face of left-hand door-jamb at entrance to Third Corridor

3. Summarily carved figure of king from left side of beginning of Third Corridor

4. Figure of Maat from interior of right-hand side of entrance

THE REHABILITATION OF BOCCHORIS: NOTES AND QUERIES FROM ITALY*

By DAVID RIDGWAY

It has been suggested that the pharaoh Bocchoris was famous for his wisdom, and that accordingly, the production of items bearing his cartouche is unlikely to have been confined to his short reign (720/19–715/14 BC, corresponding to the Twenty-fourth Dynasty). The latter therefore cannot provide a valid *terminus post quem* for contexts in the Classical world in which such Bocchoris-related artefacts occur. This suggestion is reviewed, and found wanting. It is noted that the evidence against 'Bocchoris the Obscure' comes from later Classical sources rather than from the Egypt of his own time. Elsewhere, his dates have never been required to provide more than general support for a long-established chronological scheme involving Corinthian pottery and the foundation-dates of Greek colonies in Sicily, via the Bocchoris scarab from Euboean Pithekoussai (Ischia). The immediate context of this piece is briefly re-assessed.

IN a recent short paper, David Gill and Michael Vickers have argued energetically for what might be described as the rehabilitation of Bocchoris.[1] They suggest that the reputation in antiquity of this pharaoh was such that the manufacture of items bearing his cartouche is not likely to have been confined to his brief reign, the most probable dates for which they accept as 720–715 BC—'or very possibly 719–714'.[2] It follows that if Bocchoris is to be regarded as a much more significant figure in the history of Egypt than he has been hitherto, he must lose his incidental importance for modern archaeologists elsewhere. The seemingly indefinite extension of the *terminus post quem* status hitherto enjoyed by the barely six years of his reign means that Bocchoris-related artefacts can no longer be treated as the vehicles of a particularly useful (because narrowly focused) chronological fixed point. This in turn means that the absolute dates conveyed by such artefacts to non-Egyptian contexts can now be unshackled and allowed to move, presumably in the direction—downwards—and to the extent long advocated for the early Greek world by Vickers and the late E. D. Francis.[3]

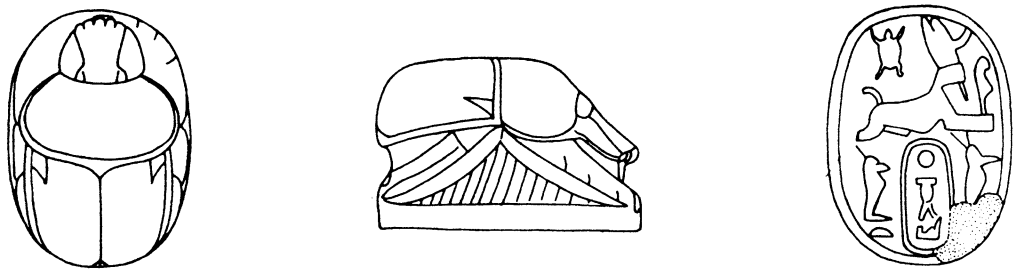
This revelation, if that is what it really is, concerns the chronological status of three artefacts, all of faience, from major centres in Italy: a scarab found at Pithekoussai (fig. 1a) and two situlae, respectively from Motya and Tarquinia (fig. 1b). The latter pieces need not detain us here: as Gill and Vickers rightly note, universal agreement has not yet been reached on the long-standing and still crucial question of their status as Egyptian

* Although the subject matter of this article is outside the normal scope of *JEA*, the editor has decided to include it in order to draw our Egyptological readership's attention to the ways in which Egyptian material is being used in related fields and to the sometimes controversial deductions being drawn from it.

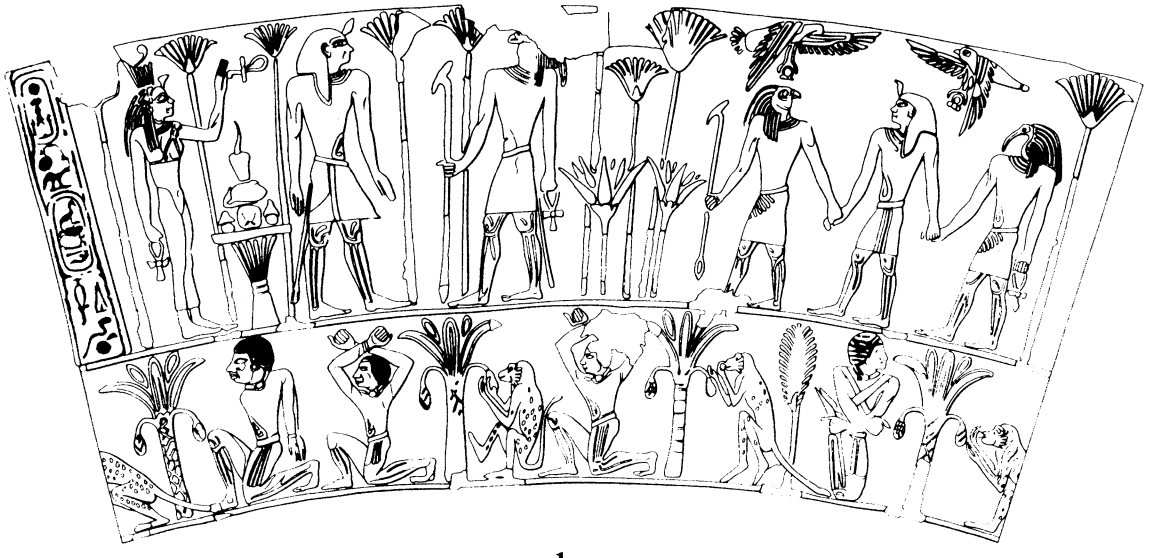
[1] D. Gill and M. Vickers, 'Bocchoris the Wise and Absolute Chronology', *Römische Mitteilungen* 103 (1996), 1–9 (hereafter *GV*). I thank Nicolas Coldstream, Annette Rathje and Francesca R. Serra Ridgway for their observations and comments on the slightly earlier version of the following notes (and queries) regarding this item that I submitted to the *Redaktion* of *Römische Mitteilungen* in March 1997. I gladly acknowledge the courtesy of Florian Seiler in considering it for publication there, even though his final decision was that 'Wir konnten auch in Ihrem Fall leider keine Ausnahme von dem Grundsatz machen, keine Repliken in den *RM* abzudrucken' (*in litt.*, 18 December 1997). Throughout, responsibility for the views expressed, emphases and tone rests entirely with myself.

[2] *GV*, 3.

[3] A well-referenced account of the Vickers–Francis campaign and its reception will be found in W. R. Biers, *Art, Artefacts, and Chronology in Classical Archaeology* (London, 1992), 82–5 with 99–101 nn. 7–9.



a



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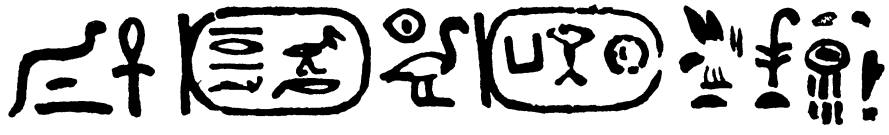

c

FIG. 1. a: the Bocchoris scarab from Pithekoussai, grave 325 (after De Salvia, *Pithekoussai* I, 777 fig. 1). b: scene on the Bocchoris situla from Tarquinia (after E. Schiaparelli, *Monumenti Antichi* 8 (1898), pls. iii–iv). c: Bocchoris (Bakenranf) name, Memphite Serapeum (after Petrie, *Egypt, XIXth-XXXth Dynasties*, 316 fig. 134).

originals or Phoenician versions.[4] I would add that the potential value of these two much-discussed items for establishing absolute chronology in their last resting-places has always been fatally compromised by the lack of reliable information as to the precise identity of their immediate associations.[5] In any case, arguments concerning the post-715 BC production of situlae need not necessarily be valid for a scarab. Estimates (for what they are worth) of time-lag, degree of wear and the like[6] should take account not only of the functional differences between the two artefact categories but also of the very different geographical and cultural circumstances of Phoenician Motya in Sicily, Etruscan Tarquinia on the Tyrrhenian seaboard and Euboean Pithekoussai (Ischia) on the Bay of Naples. The last-named centre provides a reliably excavated context, definitively published in 1993, for the Bocchoris scarab discussed by Gill and Vickers, and it is with this piece and its context that I am primarily concerned here.

The reputation of Bocchoris in antiquity

There is much that is salutary in many of the proposals made by Vickers and his colleagues in the course of their long campaign to obtain recognition for what they believe to be an improved system of absolute dating in Classical lands. True, in the words of one admirably even-handed observer, their new low chronology 'has not won many adherents'; but, and in my view much more significantly, their efforts have '. . . forced students to re-evaluate the old chronology and look again at the evidence in light of new information and the new challenges. It is painfully clear, after working through all the evidence and arguments, that relatively few of the fixed points can stand up to a determined attack and scholarly skepticism'.[7] As regards Bocchoris, however, I am not convinced that the case Gill and Vickers have made is a particularly good one. Although it is difficult for a non-Egyptologist to assess all its aspects, the question of Bocchoris' wisdom and renown (or obscurity) is not in itself relevant to the non-Egyptian field with which Gill, Vickers and I are most closely concerned in the present exchange. What is important to that field is the quality of their inference concerning absolute chronology, and under that heading I believe that the application of elementary logic provides at least one serious reason for doubting the validity of the equation 'Bocchoris the Wise = Bocchoris the Chronologically Less Useful'.

[4] *GV*, 6–7 with nn. 56–7. Note the title of a pioneer treatment of the Tarquinia situla: E. Schiaparelli, 'Di un vaso fenicio rinvenuto in una tomba della necropoli di Tarquinia', *Monumenti Antichi* 8 (1898), 89–100; see further A. Rathje, 'Oriental Imports in Etruria in the Eighth and Seventh Centuries BC', in D. and F. R. Ridgway (eds), *Italy before the Romans* (London, 1979), 150–2.

[5] To the references cited by *GV*, 6–7 nn. 52–65 add: A. Momigliano, 'An Interim Report on the Origins of Rome', *JRS* 53 (1963), 105; M. Cristofani, in M. Cristofani (ed.), *Civiltà degli Etruschi* (exhibition catalogue, Florence; Milan, 1985), 93–5 cat. nos. 3.13.1–14 (with a fascinating reference to the surviving 'fascicoli di scavo' of the Tarquinia Bocchoris tomb, which was discovered in 1895). Note that at *GV*, 7 n. 62 'Coldstream (1968) 317' is cited as authority for the statement in the text that '[t]he earliest type of pottery found with the Motya situla is E[arly] P[roto-]C[orinthian]'. In fact, the only reference to Motya at J. N. Coldstream, *Greek Geometric Pottery* (London, 1968), 317 (hereafter Coldstream, *GGP*) is at 317 n. 3, where 'the presence of an almost identical vase [to the Tarquinia situla]' is noted 'at the Phoenician colony of Motya, founded at least as early as EPC': *associations* are not mentioned.

[6] *GV*, 4–5 with nn. 38–40; 7 with n. 65.

[7] Biers, *Art, Artefacts and Chronology*, 84.

Let us assume that Gill and Vickers are right in their most significant conclusion, and that accordingly the well-known scarab bearing the cartouche of Bocchoris (fig. 1a) found in Pithekoussai grave 325[8] *could* have been made after the end of his reign, i.e. not only after 720 BC but also after 715 BC. This does not mean that the scarab in question *must* have been made after 715 BC and that it *could not* have been made before 715 BC. Indeed, any chronological argument that actually *required* the scarab to have been made after 715 BC would self-evidently rest on a postulate that is no less (and perhaps even more?) tenuous than those rightly or wrongly denounced by Gill and Vickers.[9] If Gill and Vickers are right, then, we should certainly accept that a chronological peg—the Bocchoris scarab at Pithekoussai—is looser, and hence less useful, than it has been hitherto. Rather than conclude that it has been completely dislodged, however, I submit that scholars engaged in the quest for lower dates, no less than those who are content with the orthodox chronology, should treat it as a *memento mori*. At most, Gill and Vickers have sounded a warning note rather like that emitted a good quarter of a century ago by A. M. Snodgrass: '[t]he extreme obscurity of this Pharaoh has been used as an argument for dating these objects, and with them the graves, close to his lifetime; but it is hardly a very compelling one. . . . scarabs can still lead to serious difficulty'.[10]

But are Gill and Vickers right? Their case concerning the Bocchoris scarab at Pithekoussai rests fairly and squarely on the questions of Bocchoris' fame and of the effect of this on the reproduction and use of his cartouche after the end of his reign. Gill and Vickers do not hesitate to accuse J. N. Coldstream, R. M. Cook and D. A. Amyx of 'trying [*sic*] to make [Bocchoris] out to have been insignificant' between 1968 and 1989: '[m]ake Bocchoris insignificant and it would be difficult to argue that the scarab was made posthumously. Have him famous, not simply in Egypt, but in Greece and doubtless Phoenicia, and one of the very few chronological 'fixed points' disappears'.[11] Had the scholars named in fact been attempting to behave in the manner described, they would not have had to 'try' very hard to find evidence for the obscurity of Bocchoris in the standard histories of Egyptian civilization. His achievements do not seem to have impressed either W. M. F. Petrie or J. H. Breasted, for example: '[t]he XXIVth dynasty, of only 6 years of Bakenranf, was a brief rebellion in the midst of three generations of the Ethiopian Dominion';[12] and '[w]e know nothing from the Egyptian monuments regarding his brief reign; the only contemporary monument bearing his name is an inscription [fig. 1c here] dating the burial of an Apis bull in the Memphite Serapeum in his sixth year'.[13] A. H. Gardiner merely assigns him a reign of six years, mentions the miracle of the speaking lamb recounted by Manetho and the burial of the Apis bull in his Year 6, and lists Classical citations.[14] Moreover, in announcing the identification of the Bocchoris cartouche on the scarab in Pithekoussai grave 325 (then 102), the Italian Egyptologist S. Bosticco noted that '[l]'emissione dello scarabeo tuttavia va riferita al regno di Bocchoris,

[8] *GV*, 4–6: but see n. 30 below, and the Appendix.
[9] *GV*, 5 with n. 47 (contra Coldstream).
[10] *The Dark Age of Greece* (Edinburgh, 1971), 117.
[11] *GV*, 3–4 with nn. 28–31.
[12] W. M. F. Petrie, *A History of Egypt from the XIXth to the XXXth Dynasties* (London, 1905), 267; and see too 283 with 316–17 (whence fig. 134 = fig. 1c here).
[13] J. H. Breasted, *A History of Egypt from the Earliest Times to the Persian Conquest* (London, 1906), 546–7.
[14] *Egypt of the Pharaohs* (Oxford, 1961), 335, 340, 449.

escludendo la possibilità di una replica posteriore, dato che non si tratta di un sovrano celebre il cui nome sia stato successivamente riprodotto sopra monumenti postumi'.[15]

In the circumstances, outsiders may perhaps be forgiven if they notice that for Manetho, an Egyptian priest writing in Greek at a comparatively early date (the third century BC), Bocchoris' reign ended when he was captured and burnt alive by his immediate successor Shabako.[16] This being the case, they may wonder whether the latter's reign, variously estimated at eight and twelve years,[17] will have been an auspicious period for the reproduction and application of Bocchoris' cartouche, and they may note, finally, that the Twenty-fifth or Ethiopian Dynasty inaugurated by Shabako is said to have lasted for 40 or 44 years,[18] after which supreme power reverted to the Saite princes last represented by Bocchoris. It is not clear to me whether we are required by Gill and Vickers to think in terms of a production of Bocchoris scarabs that simply continued without a break after the end of Bocchoris' reign, or of a production that was interrupted but resumed after a short or a long interval.

However these things may be, is it not the case that 'Very little is known of Bocchoris apart from the evidence of the Classical authors'?[19] But the point at issue, namely the absolute chronology of the late eighth and early seventh centuries BC, depends on Bocchoris' reputation at home and abroad not in Classical and Hellenistic times but during his own lifetime and during the half-century or so immediately after his death.

Absolute chronology

I conclude that Gill and Vickers have overstated their case. This in itself does not mean that the case does not exist. Indeed, as a result of reading their paper, I freely admit my own keen regret at not paying more attention to A. M. Snodgrass' earlier warning, cited above. I hope it may also be admitted that, whatever the truth about Bocchoris, the consequences for the absolute chronology of the early Greek world are unlikely to be very great: the real chronological significance of this enigmatic figure has always resided in his ability to provide independent *general* support[20] for certain hypotheses based on Thucydides' dates for the foundation of the Sicilian colonies—and already developed to an advanced stage by H. Payne long before the discovery and identification of the Bocchoris scarab at Pithekoussai.[21]

[15] 'Scarabei egiziani della necropoli di Pithecusa nell'isola di Ischia', *Parola del Passato* 12 (1957), 225.

[16] Manetho frr. 66.1, 67(a).1, 67(b).1: W. G. Waddell, *Manetho with an English Translation* (Loeb Classical Library; London and Cambridge, Mass., 1940), 166–9.

[17] Eight years: Manetho fr. 66.1. Twelve years: frr. 67(a).1, 67(b).1.

[18] 40 years: Manetho fr. 66. 44 years: frr. 67(a), 67(b). Cf. Breasted, *History*, 601: 'minimum 50 years', i.e. 712 – 663 BC.

[19] A. Burton, *Diodorus Siculus Book I: A Commentary* (Leiden, 1972), 194 *apud* Diodorus Siculus i.65.1 (cf. *GV*, 1 with n. 4).

[20] Obviously of 'very considerable importance' (*GV*, 4 n. 36), if reliable: but still as no more than independent general support.

[21] *Protokorinthische Vasenmalerei* (Berlin, 1933), 20. For more recent discussions of the foundation dates provided indirectly for a number of the Sicilian colonies by Thucydides (vi.3–5), see Coldstream, *GGP*, 322–7; C. W. Neeft, *Protocorinthian Subgeometric Aryballoi* (Amsterdam, 1987), 363–71 (hereafter Neeft, *Aryballoi*); Biers, *Art, Artefacts and Chronology*, 64–5; and, especially for useful comments on the different kinds of 'foundation' that Thucydides could have had in mind, A. Di Vita, 'Town Planning in the Greek Colonies of Sicily from the Time of their Foundations to the Punic Wars', in J.-P. Descœudres (ed.), *Greek Colonists and Native Populations* (Canberra and Oxford, 1990), 343–63, esp. 345–6. In the light of these items,

In this connection, it can indeed be said that 'Thucydides' usefulness, and hence Payne's dates, are not as good as they should be'; and it is certainly prudent to bear in mind that 'Thucydides' account of the Sicilian colonies might be regarded as marginal'.[22] On the other hand, alas, ordinary mortals have long found that two substantial straws in a fairly strong west wind are quite difficult to deflect, especially in the absence of any obviously more robust or coherent alternative (which we have never been offered). The same is more or less true of one-and-a-half straws, which is what we must make do with if we demote the Pithekoussai scarab to its worst-case function as a *memento mori*. Or must we? We need not forget that there is also an east wind, and that it has its own straw. At least some degree of comfort for the orthodox chronology may still, I believe, be derived from the sack of the Aramaean citadel of Hama by the Assyrian king Sargon II (722–706 BC). The date of 720 BC for this event is provided by the Assyrian records.[23] Caution has understandably been urged in respect of its status as a *terminus ante quem* for a handful of unstratified Euboean and/or Cycladic Late Geometric sherds from the site;[24] to the best of my knowledge, it remains true that although Greek merchants were seemingly allowed to remain at the coastal emporium of Al Mina, Greek pottery vanishes altogether from the Syrian hinterland after the fall of Hama.[25]

Be that as it may, much time and effort would be saved for better causes in this sector if it could only be realized by non-Egyptologists that attention to minute differences between the various dates proposed for Bocchoris' reign ('720–715'/'719–714'/'718–712' etc)[26] implies a degree of chronological precision elsewhere—for instance, at Pithekoussai—that cannot reasonably be expected. It is worth remembering that, even at a later stage in the Greek experience than that treated here, the periods that archaeologists seek to date can amount to no more than a very approximate guide to what mattered at the time, and matters to us now:

> The Archaic Age is usually made to end with the Persian Wars, and for the purposes of political history this is the obvious dividing line. But for the history of thought the true cleavage falls later, with the rise of the Sophistic Movement. And even then the line of demarcation is chronologically ragged. In his thought, though not in his literary technique, Sophocles (save perhaps in his latest plays) still belongs entirely to the older world; so, in

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I regard the diagnosis by P. James et al., *Centuries of Darkness* (London, 1991), 102, as unnecessarily (and misleadingly) melodramatic: '[t]o hang the Protocorinthian sequence from a date based upon a single find [i.e. the Bocchoris scarab at Pithekoussai] is a dangerous, though currently expedient, exercise'.

[22] H. Bowden, 'The Chronology of Greek Painted Pottery: Some Observations', *Hephaistos* 10 (1991), 49; 50 (cited with approval by *GV*, 5 with n. 50).

[23] J. D. Hawkins, 'The Neo-Hittite States in Syria and Anatolia', in *CAH*^{2}, III.1 (Cambridge, 1982), 417.

[24] A. R. Burn, review of *CAH*^{2}, III.1, in *Classical Review* 33 (1983), 250; E. D. Francis and M. Vickers, 'Greek Geometric Pottery at Hama and its Implications for Near Eastern Chronology', *Levant* 17 (1985), 131–8; Bowden, *Hephaistos* 10, 56 fig. 3 (flow diagram: 'unravelling a factoid'); James, *Centuries of Darkness*, 103–6. For the sherds in question, see P. J. Riis, *Sukas* I: *The North-east Sanctuary and the First Settling of Greeks in Syria and Palestine* (Copenhagen, 1970), 154 with 160 fig. 55; and cf. Coldstream, *GGP*, 311.

[25] J. N. Coldstream, *Geometric Greece* (London, 1977), 359. For a distinctly sceptical view of the dates usually assigned to the Assyrian destructions at Samaria (722/20 BC) and Tarsus (696 BC), see the posthumously published doctoral thesis of S. Forsberg, *Near Eastern Destruction Datings as Sources for Greek and Near Eastern Iron Age Chronology* (*Boreas* 19; Uppsala, 1995); the tragically premature death in 1993 of this talented scholar (who was no stranger to Pithekoussai) robbed us of the planned extension of his investigation to the case of Hama.

[26] For example, *GV*, 2–3.

> most respects, does his friend Herodotus . . . Aeschylus, on the other hand, struggling as he does to interpret and rationalise the legacy of the Archaic Age, is in many ways prophetic of the new time.[27]

That said, I should nevertheless like to take this opportunity of expressing the hope that Gill and Vickers will feel able to examine the published evidence from Pithekoussai more thoroughly than they have done so far. I do so in the conviction that they, of all people, ought to be aware of the first rule of chronological studies—formulated, as it happens, with reference to a pioneer attack on the orthodox chronology of the decades around 700 BC:

> . . . specialized learning and ingenuity, however dexterous, cannot justify the turning of archaeology into one's own private game of cleverness. Free play for fresh ideas, by all means; but free play means knowing the rules of the game, which are public, not private, rules. And the game is a team game, in which the too epideictic individual may very easily find himself off-side.[28]

The context of the Bocchoris scarab

Applying this rule to Gill's and Vickers' 1996 account of the Bocchoris scarab at Pithekoussai and its implications, I am bound to point out that they have confined their investigation to a remarkably narrow range of the secondary sources, and that they have taken no cognizance whatsoever of the mass of relevant primary data and exegesis that has been readily accessible since 1993. As a result, their paper gives a curiously, not to say culpably, outdated and misleading picture both of the archaeological context with which they purport to deal and of its wider setting.

Gill and Vickers deal with one scarab in one Pithekoussan grave, and they are less than well-informed as to the artefactual associations of the former and the human occupants of the latter.[29] They demonstrate no awareness that the grave in question has been published with full description and illustration of its contents in the definitive report on the 1952–61 excavations conducted by Giorgio Buchner in the San Montano cemetery at

[27] E. R. Dodds, *The Greeks and the Irrational* (Berkeley, 1951), 50 n. 1. I have recently had occasion to quote these wise words elsewhere, in connection with Italian Iron Age archaeological dates, which 'are in no sense as immutable as lists of Roman emperors and their reigns': D. Ridgway, 'The Villanovan Cemeteries of Bologna and Pontecagnano', *JRA* 7 (1994), 303. See also Bowden, *Hephaistos* 10, 52.

[28] T. J. Dunbabin and C. F. C. Hawkes, review of Å. Åkerström, *Der Geometrische Stil in Italien* (Lund, 1943), in *JRS* 39 (1949), 142 [Hawkes].

[29] *GV*, 5. There are, for example, no 'EPC . . . deep kotylai' among the fifteen items (see fig. 2 and the Appendix) associated with the Bocchoris scarab in Pithekoussai grave 325. The grave itself is not 'a child's grave' (*GV*, 4—twice) but the 'sepoltura simultanea' of a young boy aged 10 and a female child aged 2½ (as *GV*, 4 n. 37; this archaeological fact had not been established by the excavator in time to be relayed by R. M. Cook, 'A Note on the Absolute Chronology of the Eighth and Seventh Centuries BC', *Annual of the British School at Athens* 64 (1969), 13–15). For the full details, and a summary of the implications of this grave for both relative and absolute chronology, see G. Buchner and D. Ridgway, *Pithekoussai* I. *La necropoli: tombe 1–723* = *Monumenti Antichi* (serie monografica) 4 (Rome, 1993), 378–9 with 215 n. 4 [Buchner] (hereafter *Pithekoussai* I); and see too Neeft, *Aryballoi*, 372–8. As a matter of historical interest, it may be mentioned that an illustration of the ceramic associations of the Pithekoussai scarab was published before its cartouche had been identified (n. 15 above): M. W. Stoop, 'Some Observations on the Recent Excavations on Ischia', *Antiquity and Survival* 1/4 (1955), 265 fig. 17, noted by e.g. Coldstream, *GGP*, 104.

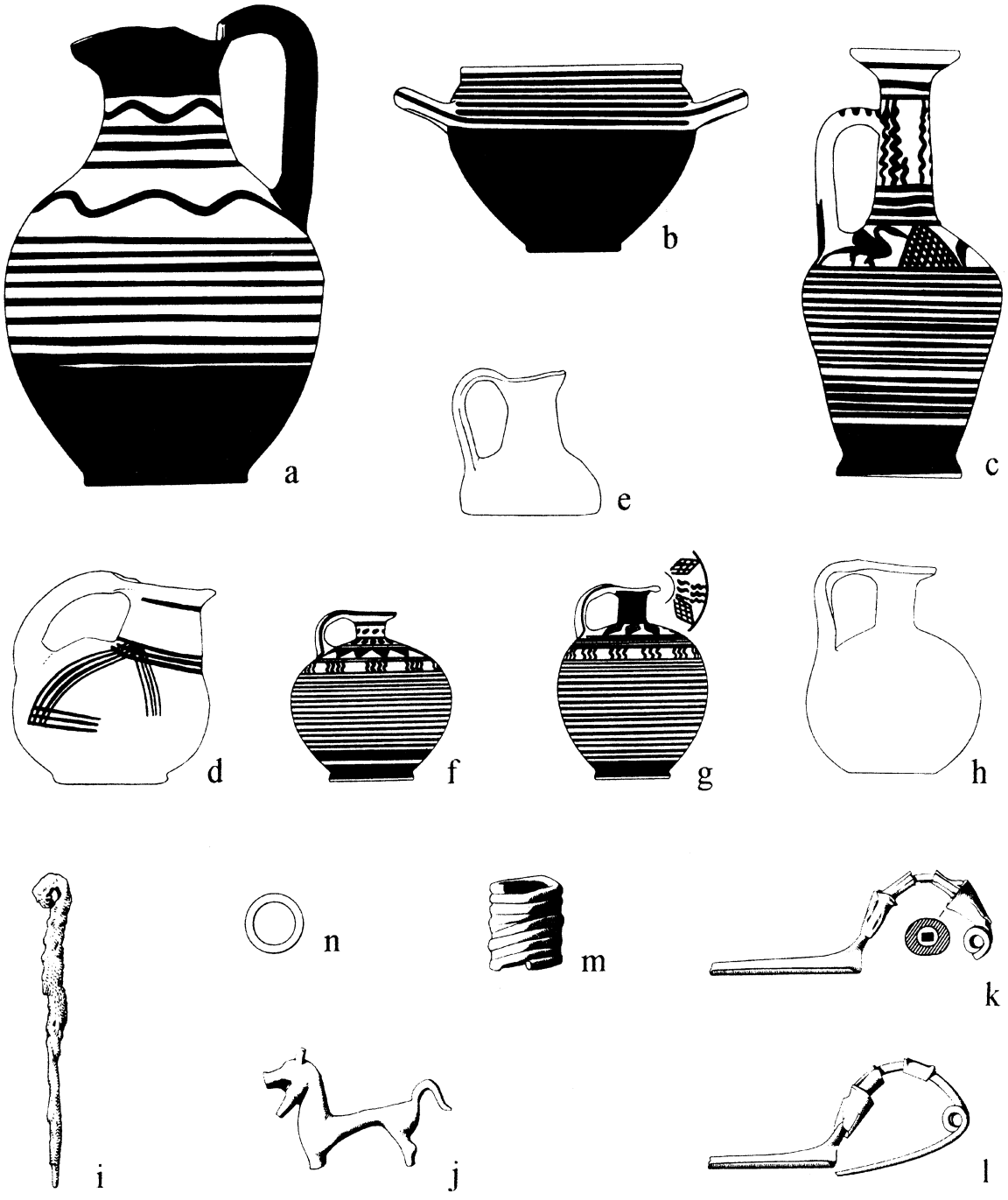


FIG. 2. The associations of the Bocchoris scarab from Pithekoussai, grave 325 (after *Pithekoussai* I, pls. 122 [a-h] and 123 [i-n]).

Pithekoussai.[30] They tell us that '[w]e should note the appearance of Egyptian scarabs elsewhere at [Pithekoussai]', but in fact specify only one that has been cited in a secondary source,[31] ignoring the fact that the Pithekoussai report contains a complete catalogue and analysis of all the *aegyptiaca* recovered from the San Montano cemetery between 1952 and 1961.[32] In addition to the Bocchoris scarab in grave 325, a further 61 artefacts 'di tipo egiziano' were found in 44 other graves assigned to the half century or so corresponding to the local Late Geometric I and II periods, conventionally dated *c.* 750 BC – *c.* 725 BC – *c.* 700 BC; they are dealt with by F. De Salvia, who in earlier papers has examined the circumstances in which this category of object reached the Bay of Naples,[33] a topic that is surely not without relevance to many of the subjects with which Gill and Vickers concern themselves. On a broader front, *aegyptiaca* in Italy as a whole (including Pithekoussai) have been catalogued and analysed in depth in a major work by G. Hölbl,[34] who has also written on the same subject with particular reference to the time of Bocchoris.[35] On the Greek side, I cannot believe that I am the only reader of Gill and Vickers who (on the specific subject of Bocchoris and absolute chronology) would like to know their views on the scheme of relative and absolute chronology proposed by C. W. Neeft on the basis of his major classification of Protocorinthian aryballoi,[36] naturally including the three Early Protocorinthian globular specimens (fig. 2f, g) associated with the Bocchoris scarab in Pithekoussai grave 325.[37]

As it is, Gill and Vickers have preferred to limit themselves to exposing what they regard as the errors—or worse—that they claim to have found in comments published several years ago by selected individuals. Not one of the post-1969 Pithekoussan items cited in the previous paragraph appears in their bibliography. It gives me no pleasure at

[30] *Pithekoussai* I, 378–82 with pls. xlvii and 4 (excavation), clvii, 122 and 123 (whence fig. 2 here: the contents of the grave); see too 379 [Buchner] with plans A II (cremations) and A III (inhumations) for the position in the cemetery of grave 325 (inhumations in a fossa). It is overlain by grave 142 (a cremation tumulus), which contains a Middle Protocorinthian ovoid aryballos virtually identical to the specimen from Cumae (London, British Museum inv. no. 1885.6–13.1 [A 1054]) which bears the well-known Tataie inscription: Neeft, *Aryballoi*, 106–7 with fig. 32 and list liii, nos. A-3 and A-5 (nos. A-2 and A-4 in the same list are from Motya and Tarquinia respectively).

[31] *GV*, 4 n. 35.

[32] F. De Salvia, 'I reperti di tipo egiziano', in *Pithekoussai* I, 761–811; the Bocchoris scarab: 779–80 with 777 fig. 1 (whence fig. 1a here); and 770 for a tabulated summary of the funerary contexts of the *aegyptiaca* recovered during the 1952–61 campaigns in the Pithekoussai cemetery (the Bocchoris scarab in grave 325 is one of 23 faience scarabs found in 20 Pithekoussan graves assigned to the local period, Late Geometric II, that corresponds to EPC). See too A. F. Gorton, *Egyptian and Egyptianizing Scarabs: A Typology of Steatite, Faience and Paste Scarabs from Punic and other Mediterranean Sites* (Oxford, 1996), 34–8, on the Bocchoris scarab (type xii, no. 22), and 159, for a list of Pithekoussai graves with scarabs (including 325) 'dated 725–700'.

[33] See, for example, F. De Salvia, 'Le prime testimonianze dell'Egitto in Italia: tempi e modi di una relazione culturale', *Antiqua* 1 (1976), 3–25; id., 'Un ruolo apotropaico dello scarabeo egizio nel contesto culturale greco-arcaico di Pithekoussai (Ischia)', in M. B. de Boer and T. A. Edridge (eds), *Hommages à Maarten J. Vermaseren* (Leiden, 1978), III, 1003–61.

[34] *Beziehungen der ägyptischen Kultur zu Altitalien*, I–II (Leiden, 1979). Pithekoussai: II, 177–96, cat. nos. 740–856*ter*.

[35] 'Die Aegyptiaca des griechischen, italischen und westphönikischen Raumes aus der Zeit des Pharao Bocchoris (718/17–712 v. Chr.)', *Grazer Beiträge* 10 (1981), 1–20.

[36] Neeft, *Aryballoi*, 299–359 (relative chronology), 361–80 (absolute chronology); see too 404–7 (Index *s.v.* 'Lacco Ameno': nos. 1118–271) for the aryballoi from Pithekoussai, published and (otherwise) unpublished; and in general J. L. Benson, *Earlier Corinthian Workshops: A Study of Corinthian Geometric and Protocorinthian Stylistic Groups* (Amsterdam, 1989).

[37] Neeft, *Aryballoi*, 46, list xv, nos. 11 and 24; 51, list xix, no. C-1.

all to end this brief note with the words that David Gill once applied elsewhere to certain omissions perceived by him in a paper co-authored by myself: '[i]t is unclear if this shows an unwillingness to engage in debate, or whether it reflects an unwillingness to revise one's position formulated over a period of years'.[38]

Appendix

I append a check-list of the contents (fig. 2) of the Pithekoussai grave, 325, that yielded the Bocchoris scarab (fig. 1a) treated above. Full descriptions and further illustrations of these items will be found in the Pithekoussai report;[39] more information about the artefact categories represented is also available elsewhere.[40] Suffice it to say here that of these fifteen items only the Calabrian askos 325–4 is so far the sole example of its kind at Pithekoussai, and that the nature and geographical range of the external contacts suggested by the contents of this grave are anything but unusual in the Pithekoussai cemetery during the second half of the eighth century, a situation that is readily comprehensible 'against a background where mobility was easy, and even normal, and where large numbers of ships and people were continuously and familiarly moving around the Mediterranean'.[41]

325–1 (fig. 2a). Locally-made oinochoe; ht. 18.6 cm

325–2 (fig. 2b). Imported Early Protocorinthian skyphos; ht. 7.2 cm; 'Late Thapsos' type

325–3 (fig. 2c). Locally-made lekythos; ht. 16.4 cm

325–4 (fig. 2d). Imported Calabrian askos; ht. 8.1 cm

325–5 (fig. 2e). Imported 'Argive Monochrome' small conical lekythos; ht. 5.5 cm

325–6 (fig. 2f). Imported Early Protocorinthian globular aryballos; ht. 6.7 cm

325–7 (fig. 2g). As last; ht. 7.7 cm

325–8 (not illustrated here). As last; ht. 7.4 cm

325–9 (fig. 2h). Imported 'Kreis-und Wellenbandstil' aryballos; ht. 8.3 cm. This type was most probably produced by an expatriate Phoenician workshop on Rhodes.

325–10 (fig. 2i). Iron pin; length 6 cm

325–11 (fig. 2j). Part of a bronze fibula, with bow in the shape of a 'lion' (?); preserved length 3.5 cm

325–12 (fig. 2k). Bronze fibula, originally set with five segments of locally (?) worked shell; length 5.7 cm

325–13 (fig. 2l). As last; preserved length 5.4 cm

325–14 (fig. 2m). Bronze spiral finger (?) ring; diam. 1.4 cm

325–15 (fig. 2n). Plain bronze ring; diam. 1.1 cm

325–16 (fig. 1a). The Bocchoris scarab; 1.53 x 1.16 x 1 cm

[38] Review of R. D. De Puma and J. P. Small (eds), *Murlo and the Etruscans* (Madison, WI, 1994), in *Bryn Mawr Classical Review* 6/4 (1995), 291; the passage quoted refers to the contribution by F. R. Ridgway and myself ('Demaratus and the Archaeologists', 6–15). Many will find it equally difficult to understand why, in their treatment of the Bocchoris scarab, Gill and Vickers are apparently unaware of the invitation that Giorgio Buchner and I extended to all interested parties in the preface to our Pithekoussai report: '[m]a se qualcuno desiderasse utilizzare questo volume come base per lo sviluppo di qualche tema particolare, o per l'analisi di una delle tante classi del materiale qui presentato, diciamo che per noi ciò sarebbe il compenso più ambito delle nostre lunghe fatiche' (*Pithekoussai* I, 11).

[39] See n. 30 above, and n. 32 for the Bocchoris scarab (325–16 in the list that follows). On the probable division of the goods between the two young occupants of this grave, see *Pithekoussai* I, 378–9 [Buchner]: as already mentioned (n. 29 above), the depositions were clearly simultaneous.

[40] D. Ridgway, *The First Western Greeks* (Cambridge, 1992), 45–82 with 149–51; and n. 37 above for directions to Neeft's classification of the three EPC aryballoi 325–6 (fig. 2f), –7 (fig. 2g), –8.

[41] R. Osborne, *Greece in the Making, 1200–479 BC* (London, 1996), 129.

A NEW BILINGUAL FRAGMENT FROM THE BRITISH MUSEUM (PAPYRUS BM EA 69574)

By JOACHIM FRIEDRICH QUACK

Publication of the Late Period papyrus BM EA 69574. The text is highly remarkable for being laid out in verse-lines, each containing a Middle Egyptian and an early demotic (in hieratic script) version of the same text. Several general remarks on the grammar are included, especially concerning the vernacular version and its value in elucidating Middle Egyptian phenomena. The contents of the fragments are difficult to clarify. In general, they point towards a sort of 'sapiental' composition in dialogue form. While the setting among herdsmen is clear, a connection with the youthful Horus remains more speculative.

THE papyrus published here for the first time[1] was acquired in 1985 by the British Museum from a London dealer and registered as BM EA 69574. It is reported to have been in private possession for a considerable time. Nothing is known about its provenance, and there are no internal indications giving any clues to its place of origin.

The papyrus in its present state is reduced to two fragments, the right-hand one measuring 20.8 × 12.7 cm, the other 17.7 × 12.7 cm. The original height seems quite well preserved,[2] but the length is unknown and most of the text may have been lost. The colour is nowadays very pale, perhaps due to prolonged exposure to sunlight in modern times. Furthermore, the considerable rubbing of the surface has probably contributed to its light appearance. A sheet-join is visible about 2–2.5 cm from the left margin of the right fragment, so the original sheet-width must have been at least 18 cm. The fibres are rather coarse, but due to much wear, the papyrus seems relatively thin and translucent in most places. The hand is clearly of the Late Period, and as clearly pre-Ptolemaic. Given the well-known difficulties in dating uncial hands of the Late Period, I would not venture beyond a guess of 'probably Dynasties Twenty-six to Twenty-seven'.[3]

Previous references to the papyrus have been sparse. It has been briefly mentioned as a literary text in the British Museum book for the general public on papyrus.[4] Apart from that, it has been more specifically cited as a duplicate of the *Teachings of Ani*.[5] Despite a vague resemblance of fragment A, 3 to Ani B 21,12f., this identification can safely be discarded.[6]

The most prominent outward feature of the text is the organisation in verse-lines of unequal length. This device is comparatively rare in earlier periods,[7] but becomes

[1] My special thanks go to Dr Stephen Quirke who first pointed out to me the interest of this papyrus, to him as well as to Carol Andrews and Dr Richard B. Parkinson for giving me the opportunity to study the original twice, once in June 1996 and again in July 1997, and to the Keeper of the Department of Egyptian Antiquities at the British Museum, W. V. Davies, for permission to publish the papyrus.

[2] Probably a quarter of a very high roll.

[3] The new palaeography of Late Period hieratic announced by U. Verhoeven could not be consulted.

[4] R. Parkinson and S. Quirke, *Papyrus* (London, 1995), 92a.

[5] S. Quirke, 'Archive', in A. Loprieno (ed.), *Ancient Egyptian Literature. History and Forms* (PÄ 10; Leiden, 1996), 390.

[6] For the teachings of Ani, see now the new edition by J. F. Quack, *Die Lehren des Ani. Ein neuägyptischer Weisheitstext in seinem kulturellen Umfeld* (OBO 141; Freiburg and Göttingen, 1994); the Saqqara fragment has recently been published by C. Eyre, in H. D. Schneider, *The Memphite Tomb of Ḥoremḥeb, Commander in Chief of Tutʿankhamūn*, II. *A Catalogue of the Finds* (EES Excavation Memoir 60; London, 1996), 67–73.

[7] See the short remarks of H. Grapow, *Sprachliche und schriftliche Formung ägyptischer Texte* (LÄS 7; Glückstadt, 1936), 40 and 64 n. 61.

considerably more popular by the Late Period. Well-known examples include the British Museum copy of the *Instruction of Amenemope* (P. BM 10474)[8] and columns 1–21 of P. Bremner Rhind (P. BM 10188);[9] other cases are, for instance, P. Schmitt (Berlin 3057), columns 1–11; 23–31[10] or P. BM 10081, columns 8–15.[11] The stichic line-arrangement is also well-known from demotic texts, where it occurs in wisdom texts,[12] poetry[13] and some mortuary texts.[14]

An additional speciality of the present papyrus is a small empty space within each line, separating the two different versions of basically the same text. The right-hand one is Middle Egyptian, while the left-hand one, in spite of its hieratic script, should for linguistic reasons be classified as early demotic. As such, the papyrus enters into the rather small corpus of translations within Egyptian.[15] The language of the 'Middle Egyptian' section is rather hard to describe in detail, this section having suffered considerably more from external damage. In general, it falls within the parameters of ordinary Middle Egyptian in late orthography. There are two elements not quite proper to pure Middle Egyptian. The possessive article *pȝy* = *n*, 'our', (B, 2) is a rather vulgar form, though appearing already in everyday texts of the later Middle Kingdom; it might simply be the result of a textual corruption, as proposed in the philological commentary. The preposition *r-qri* (B, 4) is, according to *Wb.* V, 59, a Late Egyptian form.

For the translation, a classification as early demotic is based on the following points. The adjective-verbs regularly employ the *nȝ*-prefix, as attested in *nȝ-km* = *f* (A, 4) and *nȝ-ḥsj* = *f* (A, 5), probably also *nȝ-wnš* = *f* (B, 2). This is typical for demotic as contrasted with Late Egyptian.[16] In fragment A, 3, *n-im* = *w* should be considered as an example of attaching the determined direct object by means of *n/n-im* = in a durative tense. This usage is fully developed by early demotic,[17] while unknown in Late Egyptian.[18] The preposition *i:ir-ḥr* (B, 6) is typical for demotic, but otherwise not attested except in

[8] Photographic edition by E. A. W. Budge, *Hieratic Papyri in the British Museum, Second Series* (London, 1923), pls. i-xiv.

[9] Photographic edition by E. A. W. Budge, *Facsimiles of Egyptian Hieratic Papyri in the British Museum* (London, 1910), pls. i-vii.

[10] See G. Möller, *Hieratische Paläographie*, III (Leipzig, 1902), 4.

[11] The songs for introducing the multitude on the last day of Thot, mentioned by S. Schott, 'Die Deutung der Geheimnisse des Rituals für die Abwehr des Bösen', *AAWLM* 1954 5, 152–3, and J.-C. Goyon, 'La littérature funéraire tardive', in *Textes et langages de l'Égypte pharaonique. Cent cinquante années de recherches 1822–1972* (BdE 64/3; Cairo, 1972), III, 78 n. 6.

[12] E.g. Papyrus Insinger and its parallel texts (with the exception of P. Carlsberg 2), *Ankhsheshonqy*, P. Louvre N 2414 and many of the (mostly unpublished) copies of the *Book of Thot*.

[13] The poem of the harpist (P. Vienna KM 3877) and the unpublished P. Carlsberg 69; see K.-Th. Zauzich, in P. J. Frandsen (ed.), *The Carlsberg Papyri*, I. *Demotic texts from the Collection* (Copenhagen, 1991), 7.

[14] P. BM 10507, published by M. Smith, *Catalogue of Demotic Papyri from the British Museum*, III: *The Mortuary Texts of Papyrus BM 10507* (London, 1987).

[15] For these, see P. Vernus, 'Entre néo-égyptien et démotique: la langue utilisée dans la traduction du rituel pour repousser l'agressif (Étude sur la diglossie I)', *RdE* 41 (1990), 153–208, and Quack, *Lehren des Ani*, 49f. Recently, parts of P. BN 149 have been recognised as a translation of a text related to the book of traversing eternity; see F.-R. Herbin, *Le livre de parcourir l'éternité* (OLA 58; Leuven, 1994), 31.

[16] See Vernus, *RdE* 41, 170–2; J. F. Quack, 'Über die mit *ʿnḫ* gebildeten Namenstypen und die Vokalisation einiger Verbalformen', *GM* 123 (1991), 96; idem, 'Ein neuer ägyptischer Weisheitstext', *WdO* 24 (1993), 6.

[17] For important discussions of the rule concerning the direct object, see R. A. Parker, 'The Durative Tenses in P. Rylands IX', *JNES* 20 (1961), 180–7; J. Johnson, *The Demotic Verbal System* (SAOC 38; Chicago, 1976), 55–65; L. Depuydt, 'On a Late Egyptian and Demotic Idiom', *RdE* 45 (1994), 49–73; R. Simpson, *Demotic Grammar in the Ptolemaic Sacerdotal Decrees* (Oxford, 1996), 151–6.

hieratic texts also linguistically proto-demotic or early demotic.[19] The other grammatical features of the text, while not exclusively demotic, are quite normal for it.

The most conspicuous point in the verbal system is the relatively frequent use of the emphatic form *i:irj = f sḏm* (A, 1.2; B, 1.5). These examples are all the more welcome for providing fresh instances of Middle Egyptian *sḏm = f* and *sḏm.n = f* being rendered by unmistakeably 'emphatic' forms, especially given the tendency of some modern linguists seriously to doubt Polotsky's 'classical' analysis of the 'substantivised forms'.[20] It should be remembered that one of the earliest supporters of Polotsky's theories based his ideas on the demotic translation of a classical Egyptian text.[21] Those and other similar examples[22] should provide a good starting point for discussion, the vernacular language having the considerable advantage of rendering easy the morphological identification of emphatic forms.

Of special interest is fragment A, 1, as providing the emphatic form within a circumstantial clause,[23] translating the Middle Egyptian *sḏm.n = f is*. It seems, actually, that all Middle Egyptian examples of that construction[24] can be convincingly understood as subordinations of emphatic constructions. It should be pointed out that such an understanding can seriously affect the meaning of some sentences. A case in point is *Admonitions* 12,1 *ꜥnḏ idr = f irj.n = f is hrw r nwj st*. The standard translation 'When his herds are few, he passes the day to gather them together'[25] makes the person in question kind and caring. A more correct translation 'His herd is small, while/though it is gathering them that he has spent the day', however, reproaches him with serious incompetence.[26]

[18] *Wenamun* 2,19, often alleged to be an early example of that construction, is, as a matter of fact, a case of the 'emphasised direct object' with a Second Tense; the two quite distinct categories have most recently been confused by H. Satzinger, *LingAeg* 5 (1997), 174 n. 11, who has, moreover, overlooked that *ꜥm* can regularly be constructed with *m* according to *Wb.* I, 184, 20.

[19] See the examples for *i:ir-ḥr* in G. Posener, *Le papyrus Vandier* (Cairo, 1985), 43–4; for the linguistic affiliation of the text see A. Shisha-Halevy, 'Papyrus Vandier *Recto*: An Early Demotic Literary Text?', *JAOS* 109 (1989), 421–35; J. F. Quack, 'Notes en marge du papyrus Vandier', *RdE* 46 (1995), 163–70.

[20] For H. J. Polotsky's original theories, see especially *Études de syntaxe copte* (Cairo, 1944); 20–98; 'The Emphatic *sḏm.n = f*', *RdE* 11 (1959), 109–17; 'Egyptian Tenses', *The Israel Academy of Sciences and Humanities, Proceedings* II. 5 (Jerusalem, 1965); 'Les transpositions du verbe en égyptien classique', *IOS* 6 (1976), 1–50. For recent doubts, see e.g. M. Collier, 'The Circumstantial *sḏm(.f)/sḏm.n(.f)* as Verbal-Forms in Middle Egyptian', *JEA* 76 (1990), 73–85; idem, 'Grounding, Cognition and Metaphor in the Grammar of Middle Egyptian. The Role of Human Experience in Grammar as an Alternative to the Standard Theory Notion of Paradigmatic Substitution', *LingAeg* 4 (1995), 57–87; T. Ritter, *Das Verbalsystem der königlichen und privaten Inschriften. XVIII. Dynastie bis einschließlich Amenophis III.* (GOF 4/30; Wiesbaden, 1995); A. Loprieno, *Ancient Egyptian. A Linguistic Introduction* (Cambridge, 1995), 147–50, 183–220.

[21] R. A. Parker, 'The Function of Imperfective *sḏm.f* in Middle Egyptian', *RdE* 10 (1955), 49–59.

[22] For a collection of clearly emphatic forms in the proto-demotic translation of *Urk.* VI, see Vernus, *RdE* 41, 180–8.

[23] This construction is typical for Late Egyptian and early demotic, dying out later; see J. F. Quack, 'Grammatische Bemerkungen zu einer Formel der Eheverträge, *Enchoria* 19/20 (1992/93), 223.

[24] For a good collection and analysis see M. Gilula, *Enclitic Particles in Classical Egyptian* (Dissertation; Jerusalem, 1968; in Hebrew), 162–75.

[25] So in the *editio princeps* by A. H. Gardiner, *The Admonitions of an Egyptian Sage* (Leipzig, 1909), 78.

[26] See also Loprieno, *Ancient Egyptian. A Linguistic Introduction*, 154, whose translation, however, does not reflect the time value of the *sḏm.n = f*, which is well rendered in the translation of R. B. Parkinson, *The Tale of Sinuhe and Other Ancient Egyptian Poems 1940–1640 BC* (Oxford, 1997), 185.

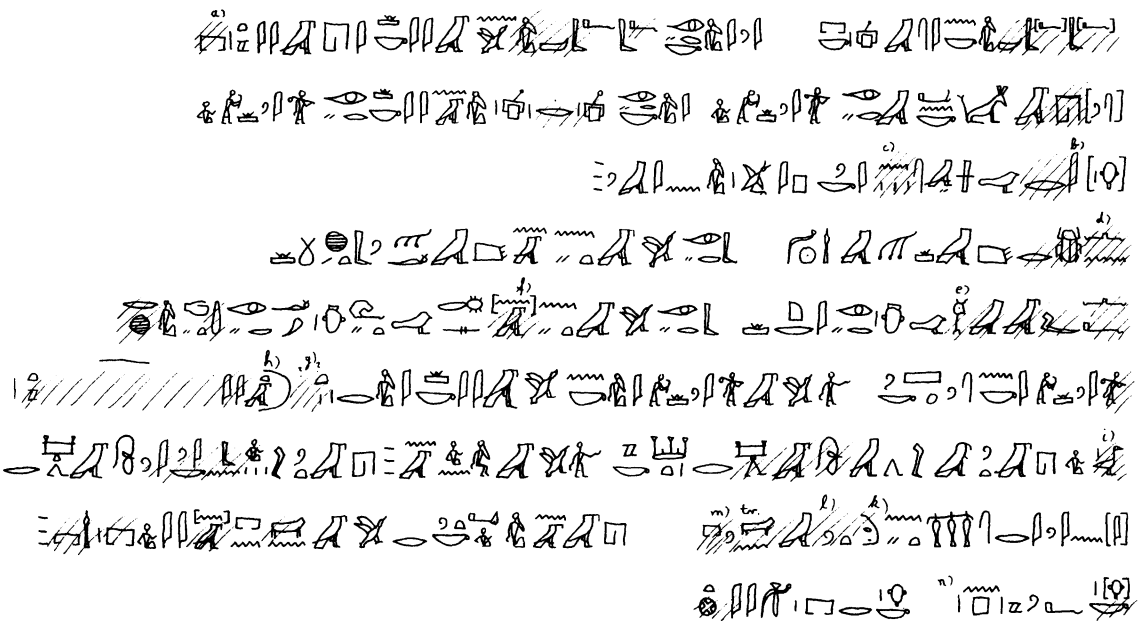


Fig. 1. P. BM EA 69574, Fragment A.

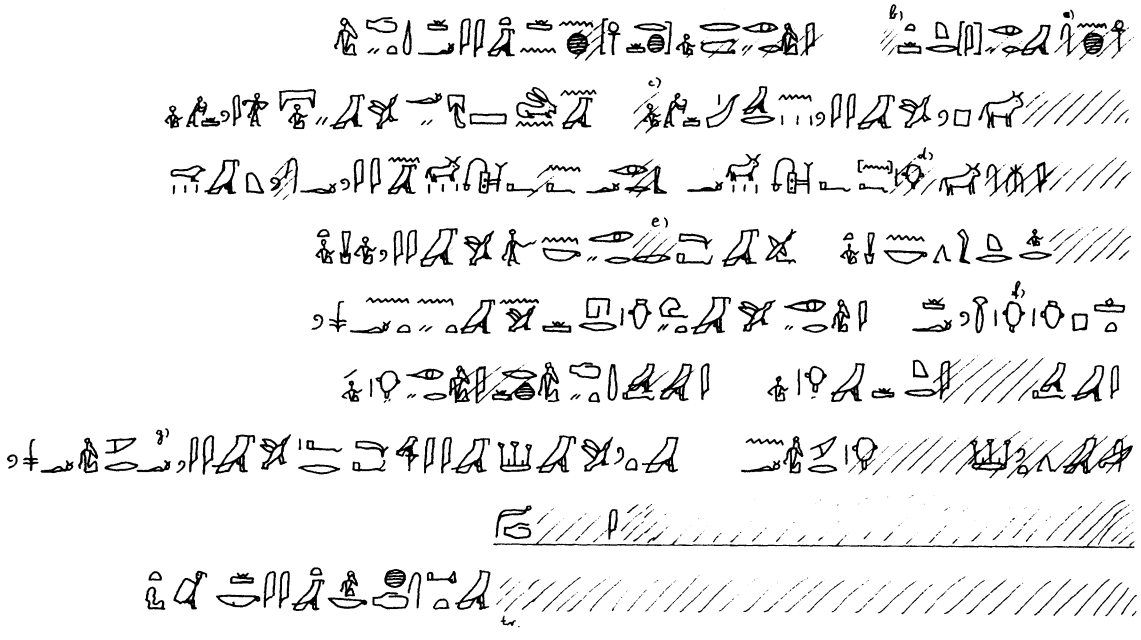


Fig. 2. P. BM EA 69574, Fragment B.

Noteworthy also is the irrealis converter written *hn* in fragment A, 8 in an orthography closer to Late Egyptian spelling than the form *hwn-nfr.w* attested in demotic.[27] It would be all the more important to know its Middle Egyptian counterpart. Unfortunately, the reading is beset with problems. The enigmatic *[i]n-iw* at the beginning might be an interrogative particle, even though I fail to see what sense it might bear in this position. Afterwards, we have *ir* followed by a verbal form, but this verbal form is difficult to identify. Due to a lacuna and distortions to the fibres, it is not possible to decide on a palaeographical basis between *sḫnti.n(= i) tw* and *sḫnti(= i) tw*. However, the meanings of *ir* plus *sḏm = f* are well-known,[28] and it is not likely to correspond to the true irrealis construction of the demotic version. *ir sḏm.n = f* is a rare and much-discussed form in Middle Egyptian, mainly owing to the fact that one of its attestations might be crucial for interpreting the *Instructions of King Amenemhet*, where, to confound matters even worse, not even the reading as a *sḏm.n = f* form is assured.[29] Without seeing much profit in entering into a detailed discussion, I can at least state that our passage where the reading as *sḏm = f* or *sḏm.n = f* is also in doubt at least proves, by its demotic translation, that an irrealis[30] can be constructed in Middle Egyptian by using *ir* with some inflected verbal form.

The enclitic personal pronoun 2nd sing. masc. is attested as *tw = k* in fragment A, 8. It is of a formation well-known from earlier Late Egyptian and demotic.[31]

Notes to the transcription

Fragment A (fig. 1; pl. XXII)

a) The lower ends of  move close together, but the sign is hardly meant to be  .
b)–c)  is set deeper than the rest of the line; is slightly more probable than  ; the reading  is fairly uncertain.
d) Traces of two horizontal strokes speak in favour of reading  .
e) The form is strange, but hardly to be read otherwise.
f) Only slight traces of the base are preserved, a reading as  or cannot be excluded.
g) Very unclear traces.
h) A large curved stroke separates the end of the line.
i) Traces of the ideogram-stroke and the tail of the duck are preserved.

[27] See W. Spiegelberg, *Demotische Grammatik* (Heidelberg, 1925), §496, and Simpson, *Demotic Grammar*, 140. The spelling *hwn-nfw* is already attested in the Saite Period papyrus Louvre 7854, l. 4. Though the Coptic ϵNϵ looks like the circumstantial of the imperfect, as pointed out by H. Quecke, review of J. H. Johnson, *The Demotic Verbal System*, in *Or* 48 (1979), 446, the demotic writing proves its different origin.

[28] See most recently H. Satzinger, 'Die Protasis *ir sḏm.f* im älteren Ägyptisch', *LingAeg* 3 (1993), 121–35.

[29] The most recent discussions with references are by K. Jansen-Winkeln, 'Das Attentat auf Amenemhet I. und die erste ägyptische Koregentschaft', *SAK* 18 (1991), 241–64, esp. 253–4; idem, 'Zu den Koregenzen der 12. Dynastie', *SAK* 24 (1997), 128–31; C. Obsomer, *Sésostris Ier. Etude chronologique et historique du règne* (Brussels, 1995), 115–22.

[30] The difference between irrealis and realis of the past elaborated by Obsomer, *Sésostris Ier*, 119, is, in my mind, an Indo-European concept hardly applicable to Egyptian grammar.

[31] See J. F. Borghouts, 'Object Pronouns of the *tw*-type in Late Egyptian', *OLP* 11 (1980), 99–109; J. Winand, *Études de néo-égyptien*, I. *La morphologie verbale* (Liège, 1992), 98–100, 156–60.

k)-l) A small fragment is distorted. The odd curve at the lower left part of  seems too small to represent  . There might have been a  above the  .
m) The reading seems very doubtful.
n) Traces of ink washed out.

Fragment B (fig. 2; pl. XXIII)

a) The top of the sign is still largely intact and hardly allows different readings.
b) Faint traces which might be either  or just stray ink.
c) A small distorted fragment.
d) Traces of top and bottom are recognisable; before it there is room for  .
e) A small fragment wrongly mounted with the verso fibres on top. Above the  , there might have been  .
f) The corner with the top of the sign is folded over.
g) There is an additional stroke in fainter ink in the head of the sign, perhaps representing an abandoned earlier try.

Translation, Fragment A

1: While it is about your stable that you have boasted.
While it is about your stable that you have boasted.

2: You have vaunted your job as a herdsman,
You have glorified (?) your jobs as a herdsman,

3: [While] oppressing (?) what is in it.
While despising them.

4: What is black will not become white.
What is black is not white.

5: There is no neglectful one who does a good job.
The one whose heart is faint does not work competently.

6: Herdsman, I am your tampon.
O Herdsman, I am your tampon (?).

7: Son of striding, be not far from your fields.
Son of stridings, you shall not be far from your [field].

8: Would, if I had promoted you into [my] . . .,
If I would have placed you within my treasuries,

9: Your face be towards (?) the region of Pe?
Your face would be towards Buto.

Philological commentary

1: The reading *ʿbʿb*, although damaged in both versions, seems reasonably certain. For the construction *sḏm.n* = *f is* and its demotic counterpart, see the general introduction.
2: The traces of the beginning warrant the restoration of *[sw]ḥꜣ* with the characteristic determinative of the Seth-animal. In the demotic version, it is replaced by an otherwise unknown word *srs* in 'syllabic' orthography. I can propose nothing better than a connection with Coptic **ⲥⲟⲗⲥⲉⲗ**, 'adorn, comfort, console for' (W. E. Crum, *Coptic Dictionary* (Oxford, 1939), 331*b*-3*a*); for the lacking final consonant see e.g. the variation between **ⲥⲟⲡⲥ** and **ⲥⲟⲡⲥⲉⲡ**.
3: Given the short size of the lacuna, the restoration of the preposition *ḥr* with an infinitive following is the only way to obtain a grammatically correct construction in the older version. The verb *ir* (so to be read rather than *id*) might be a late writing of *ꜣr*, in spite of the lacking determinative 𓂻. Its demotic translation *piṯ*, or rather *pṯꜣ*[32] is clearer in meaning. While the demotic *n-im* = *w* is obviously the direct object introduced by the preposition *n*/*n-im* = in a durative tense, the badly legible Middle Egyptian *imj* = *sn*, 'what is in them', is more difficult to understand.
4: For the adjective-verb in *nꜣ*-, see above p. 154.
5: *ʿm ib*, erroneously entered as 'bereuen' in *Wb.* I 184, 15, has long been recognised as meaning 'to be neglectful, become unconscious'; see especially K. Sethe, *Dramatische Texte zu altägyptischen Mysterienspielen* (UGAÄ 10; Leipzig, 1928), 166f; T. G. H. James, *The Ḥeḳanakhte Papers and other Early Middle Kingdom Documents* (New York, 1962), 110. The demotic translation given here fully vindicates this interpretation. There still remains, however, the question whether *ib* is subject or object of the verb *ʿm*. Although the consensus seems to be always to regard it as the object (see James, *Ḥeḳanakhte Papers*, 110 n. 2), the evidence is rather against it. That is most clear in the constructions with preceding *rḏj* which James analyses as an infinitive, calling the construction 'clumsy'. It should be obvious, however, that after *rḏj* the subjunctive is used, and so in *rḏj ʿm ib*, *ib* is the subject of a *sḏm* = *f* form *ʿm*. So the earlier view that *ib* is sometimes subject, sometimes object (*Wb.* I 184, 14f.; A. H. Gardiner, *Ancient Egyptian Onomastica* (Oxford, 1947), I, 2) should be reinstated. The question is of some relevance for analysing the Middle Egyptian version. If *ib* is subject, then *n*(*n*) *ʿm ib irj iqr* would mean 'The heart of him who works competently will not swallow'. With *ib* as object, it would be 'there is no one swallowing his heart who works competently'. I have retained the second solution as more probable as it corresponds to a rather well-known type of sentence construction[33] and provides a better (though still not exact) grammatical parallel to the demotic construction of the negative Aorist.
6: The writing of *ink* is strange in both versions, but there is no room for alternative interpretations. *swš* is known principally from the medical texts where it means something like a tampon or a cushion.[34] In the late version, the reading of its counterpart is far from certain. The last part of the word seems to be 𓂋𓏤 (a reading as 𓋹 would not give any known Egyptian word) and some uncertain determinative. The most plausible reading *ir* should be considered as a variant of the word entered in the form *ꜣr.t*, *inr* (*il*) and *ir* in *Wb.* I 11, 17f.; 98, 11 and 106, as a headcloth and which I take to be etymologically related to demotic *ꜣl*. That word was translated as 'strip, rag' by F. Ll. Griffith and H. Thompson, *The Demotic Magical Papyrus of London and Leiden*, III (London, 1909), 12, but in its actual occurrences at P. Mag. LL vs. 6,3; vs. 6,5 and vs. 7,3, it is used for introducing medicine into the vagina; so it should rather be a sort of tampon, and thus a good equivalent for *swš*. The meaning of this sentence, however, completely eludes me. The rest of the line contains the final words of the following line set off by a hand-drawn curved stroke.

[32] See Quack, *Die Lehren des Ani*, 113 n. 105.
[33] A. H. Gardiner, *Egyptian Grammar*[3] (Oxford, 1957), §§108, 144,4 and 394.
[34] See H. von Deines and W. Westendorf, *Wörterbuch der medizinischen Texte* (Berlin, 1962), 733.

7: I take the word *hwt* to be not the much-discussed designation of persons[35] but the even rarer verb 'to err, stray' from which it is derived.[36] The verb seems to provide a more meaningful context, 'son of striding(s)' designating somebody prone to wander about, and thus providing clear antithesis to 'be not far from your field'.
8: For the grammatical intricacies of the Middle Egyptian version, see above p. 157, as well as for the dependent pronoun *tw* = *k* in the demotic translation.
9: The late version is quite clear, but the Middle Egyptian text is difficult. To restore [*ḥr*] at the beginning is obvious, but  is difficult to analyse. Separating *w*, 'region', seems logical but leaves ⌜ in limbo. One would expect the preposition *r*. The enigmatic writing of  for *r*[37] can hardly be expected in this otherwise 'normal' text.

Translation, Fragment B

1: A man (?) lives by doing a competent job.
A wise man lives by his business.

2: Our (?) overseer of horns is a cattle-thief (?).
He is wolf-like, this herdsman.

3: He does not care for his feeble (?) ones.
He is not lenient towards his stupid ones.

4: [Take m]e near you, my brother.
Take (it) (?) towards you, o my brother.

5: The heart is content with his 'green'.
The heart is content with what is his own.

6: Put a competent [job] before me,
Put wisdom before me,

7: And fa[te] will lead you towards what it loves.
And fate will guide (you) towards what it loves.

8: [. . .]
[. . .] saying:

[35] For the principal studies see H. O. Lange, *Das Weisheitsbuch des Amenemope aus dem Papyrus 10474 des British Museum* (Copenhagen, 1925), 133; Gardiner, *Ancient Egyptian Onomastica*, I, 215*; I. Grumach, *Untersuchungen zur Lebenslehre des Amenemope* (MÄS 23; Munich, 1972), 174; R. A. Caminos, *A Tale of Woe from a Hieratic Papyrus in the A. S. Pushkin Museum of Fine Arts in Moscow* (Oxford, 1977), 31. It should be pointed out that an additional example in the writing  is attested in P. Carlsberg 7, l. 28 (misread in Iversen's edition).

[36] See for this J. Osing, *Die Nominalbildung des Ägyptischen* (Mainz, 1976), 731.

[37] See A. de Buck, in H. Frankfort, *The Cenotaph of Seti I at Abydos* (MEES 39; London, 1933), 77 n. 3 and 84 n. 15.

9: [. . .]
[. . .] after you had impeded your mother.

Philological commentary

1: should be considered as a very aberrant writing of *si*, 'man', given its demotic counterpart *rmṯ*. Perhaps it came about by a further shortening of the orthography not uncommon in late hieratic, and probably the origin of the demotic group for *si*,; see S. Vleeming, *The Gooseherds of Hou* (StD 3; Leuven, 1991), 233–4, against G. Vittmann's, review of it in *Enchoria* 21 (1994), 184. I have restored *rmṯ* [*rḫ*] in the late version since that expression is frequent in demotic, and *rḫ* corresponding to *iqr* is also attested in A, 6. It has to be noted, however, that the translation is somewhat free in shifting the 'capable, knowing' from the adverbial complement to the subject.
2: Though unattested elsewhere, *nꜣ-wnš* is obviously an adjective-verb with *nꜣ*-prefix; see above p. 154. The formation of an adjective-verb from a substantive is quite remarkable. Only  and faint traces before it are preserved of the Middle Egyptian equivalent. I propose to restore *ḫnp-kꜣ*, 'cattle-thief' (*Wb.* III, 291, 4, although only as an expression for the Nile inundation), which would be compatible with the traces and give at least a loose parallel to the vernacular version. The title *imi-r ꜥbw*, 'overseer of horns', occurs in its characteristic late orthography; see the examples of *Wb.* I, 173, 13 and esp. 175, 2 (mistakenly attributed to another word *ꜥb*), and further Gardiner, *Onomastica* II, 36*f., 276*; for the title see W. Ward, *Index of Egyptian Administrative and Religious Titles of the Middle Kingdom* (Beyrut, 1983), 14f., nos. 62–4. The form *pꜣy* = *n*, 'our', is linguistically surprising in the Middle Egyptian version, and even more so for corresponding to a simple *pꜣi* in the demotic version. Perhaps an original demonstrative *pn* has been misunderstood as a late writing of *pꜣy* = *n* and transposed before the noun.
3: It seems inevitable to take as a determinative to *nᶜᶜ* in both versions, though unattested elsewhere to my knowledge. For the semantics of *nᶜ*(ᶜ), see Quack, *Ani*, 93 n. 31. *swqꜣ* should be a writing of *swg*, 'stupid'. The demotic version can be translated, assuming the loss or assimilation of the preposition *n* before *nꜣy* = *f*, as 'he is not lenient towards his stupid ones'. The Middle Egyptian version raises greater problems. A possible restoration might be [*nn*] *ims*[= *f*] *ḥr nᶜᶜ.w* = *f*, 'he will not care about his feeble ones', assuming that *nᶜᶜ*, in this case, has developed a pejorative nuance out of the attested meaning 'tender'. A remarkable point in that solution would be that the two instances of *nᶜᶜ* do not parallel each other. Rather, *nᶜᶜ*, 'be lenient', would translate older *ims*, while older *nᶜᶜ*, 'tender, feeble', would be translated as demotic *swg*, 'stupid'.
4: For the preposition *r-qri*, see *Wb.* V, 59, 6, although its presence raises doubts about the purity of the 'Middle Egytian' in the original version. The writing *r-ir-n* = , 'towards', is typical of demotic orthography; see the examples *apud* Spiegelberg, *Demotische Grammatik*, §390. Perhaps 'take towards you' is idiomatic for 'take heed of it'. There seem to be traces of in the Middle Egyptian version probably not corresponding to anything in the demotic rendering and of rather unclear purpose.
5: The Middle Egyptian *wꜣḏ* = *f* is in itself rather enigmatic but the demotic *pꜣ nti ntf sw*, 'what is his own', considerably clarifies the general meaning of the phrase. Perhaps *wꜣḏ* can be compared with the equally enigmatic *wꜣḏ* in *tꜣ* = *n pw wꜣḏ* = *n pw*: *Admonitions* 3,13.[38]

[38] See there e.g. the rather different translations by Gardiner, *Admonitions*, 34; R. O. Faulkner, 'Notes on "The Admonitions of an Egyptian Sage" ', *JEA* 50 (1964), 26; G. Fecht, *Der Vorwurf an Gott in den "Mahnworten des Ipuwer"* (AHAW 1972.1; Heidelberg, 1972), 20; and W. Helck, *Die "Admonitions". Pap. Leiden I 344 recto* (Wiesbaden, 1995), 15.

6: For the demotic preposition *i:ir-ḥr*, see above p. 155.
7: For demotic *ṯ3j ˁ*, 'guide', see most recently J. F. Quack, 'Die Konstruktion des Infinitivs in der Cleft Sentence', *RdE* 42 (1991), 195, and R. Jasnow, *A Late Period Hieratic Wisdom Text* (SAOC 52; Chicago, 1992), 72–3. The demotic construction *p3y = f mrj = f sw* is an erroneous conflation of *p3y = f mrj.ti*, 'his beloved', and *p3 nti mrj = f sw*, 'the one whom he loves'.
8: The preserved traces could plausibly be restored as *i[w = f] ḏd*, 'saying'.
9: For *sḫd*, 'impede', see Jasnow, *Late Period Hieratic Wisdom Text*, 64f.; Quack, *Ani*, 95 n. 34.

Discussion

The sense of the text as it is so far translated is not immediately obvious. On the contrary, it seems quite hard to identify in it a clear sequence of thought and, most importantly, to assign it with any degree of probability to a specific genre of text. Problems already arise concerning the order of the two fragments. The arrangement given here simply follows the order in which the fragments are at present mounted without a commitment to any actual sequence. There might be slight circumstantial evidence in favour of putting fragment B first. The main points are based on the material structure of the fragments. Fragment B is considerably more damaged, which is more typical for the outer parts of a roll—unless it had been rolled inside out by its last ancient user. Normally, rubbing of the surface is most intensive in the area around the sheet-joins.[39] On fragment A, we have extensive rubbing around the preserved sheet-join at the left hand, and also at the very right margin of the fragment, probably indicating the proximity of a sheet-join. On fragment B, rubbing is extensive at the right margin, again probably indicating the proximity of a sheet-join. If fragment B came after A, we would have to reconstruct at least one sheet that is largely lost, ending in a sheet-join, and afterwards fragment B. Thus, there would be at least one whole page missing. If, however, fragment B is put first, then fragment A could be the page directly following, with only a small area around the sheet-join broken away. Such an almost direct continuation might be more convincing, given the otherwise relatively complete preservation of the papyrus. Besides, it should be noted that the right-hand part of the upper margin of fragment A is partly broken away, and that just about the same height of papyrus on fragment B is preserved in a sort of short 'nose' protuding a little from the rest of the papyrus. This might be the result of one single crack in the papyrus sloping slightly down to the right. It caused a piece to break away from fragment A, while a corrsponding smaller piece remained adhering to fragment B. Still, all this hardly constitutes definite proof.

The contents of the text point to the existence of a dialogue between two male speakers, as demonstrated by the frequent presence of 'I' and 'you' (always a grammatically masculine form). Fragment B, 8 represents, in all probability, a change of speaker. The almost complete loss of that line has deprived us of knowing at least one of the protagonists by name. Catchwords like 'herdsman', 'stable' and 'field' point to a pastoral setting. Still, it can hardly be considered a bucolic idyll. In fact, the chain of thought rather points towards a more 'sapiential' composition. It can be summarized as follows: in fragment A, the speaker is admonishing the addressee because his behaviour (as a herdsman) is not of a high standard, especially contrasting boasting and reality. This is

[39] A good example is the main hieratic manuscript of the Book of the Fayum published by G. Botti, *La glorificazione di Sobk e del Fayyum in un papiro ieratico da Tebtynis* (AnAe 8; Copenhagen, 1958), pls. i-ix.

concluded by a general remark about a person not being able to change his character to its opposite. Another general observation, this time about the incompetence of a neglectful and lazy person, leads towards new direct admonitions. The addressee, rather given to digressions, should not stray away, but attend to his assigned work. The argument in fragment B is in a similar vein: a general remark about the success of the wise and competent is applied to the present situation. A rather exacting and irritable chief should be heeded. By adopting his standards, his heart would become satisfied. So, in showing good work, the addressee can leave his hopes of success in the hands of fate.

Obviously, questions of outward format must also come into consideration in deciding the character of the text. The two main features are the bilingualism and the verse-line layout. Translation within Egyptian is generally restricted to texts of greater cultural importance, especially religious texts. The main exception is the earliest preserved text, P. BM 10298, described as a hieratic school-book by its editor.[40] Compared to our present text, however, it is much more loosely organized, and hardly a good choice for comparison, though a recent rereading[41] has done something to enhance understanding of it. In spite of its digressions, the present text has a discernible thread of thought and is likely to come from a coherent and organized text. The fact that it was translated points to this text's being regarded as of an important kind. As far as it is understood here, the text is most plausibly a wisdom text, although of a rather peculiar kind. I have rejected above the attribution of it to the *Instructions of Ani*, not only because the text does not parallel any of the preserved parts of *Ani*, but more specifically because the style and the language do not really match. Indeed, this curious grouping of generalised statements and practical applications, set in the context of a bucolic landscape, does not recall any of the well-known ancient Egyptian wisdom texts. Relatively good cross-cultural comparisions might, however, be found in Sumerian culture, where there are examples of wisdom texts set in an agricultural context.[42] A verse-line arrangement would be acceptable, and in the Late Period even quite normal for wisdom compositions.[43] Still, translations are not normal for wisdom texts, although the title of the *Instructions of Ani* is attested in a bilingual version on a writing-board.[44] Another uncommon feature for an Egyptian didactic wisdom text is, of course, the dialogue structure (though quite normal in texts from the ancient Near East). Apart from the epilogue of *Ani*, the only real dialogue wisdom text in Egypt known to me is the still largely unpublished *Book of Thot* featuring a dialogue between the wisdom-seeker and the god Thot.[45]

An unfortunate lacuna (B, 8) has deprived us of the name of any of the protagonists. Still, the text shows that there are two males speaking and that one of them is addressing

[40] R. A. Caminos, 'A Fragmentary Hieratic School-Book in the British Museum (Pap. B.M. 10298)', *JEA* 54 (1968), 114–20.

[41] H.-W. Fischer-Elfert, 'Vermischtes IV. Randnotizen zur spätägyptischen Diglossie (P. BM 10298)', *GM* 127 (1992), 44–7.

[42] See e.g. B. Alster, 'The Instructions of Urninurta and Related Compositions', *Or* 60 (1991), 141–57; M. Civil, *The Farmer's Instruction. A Sumerian Agricultural Manual* (Barcelona, 1994).

[43] See the references in n. 12 above.

[44] Quack, *Ani*, 11 and 47f., arguing against the assumption of a translation of the whole instruction.

[45] Preliminary report by R. Jasnow and K.-Th. Zauzich, 'A Book of Thot?', in C. Eyre (ed.), *Proceedings of the Seventh International Congress of Egyptologists* (OLA 82; Leuven, 1998), 607–18; published manuscripts are P. Vienna D 6336 + 6343 (E. Reymond, *From Ancient Egyptian Hermetical Texts* (Vienna, 1977), pls. iv-v); P. Berlin 8027 (W. Spiegelberg, *Demotische Papyrus aus den königlichen Museen Berlin* (Leipzig, 1902), T. 72–4); P. Louvre Corpus Papyrorum I, iv, Nr. 30, pls. xxx-xxxiii.

the other as his brother (B, 4). This is also rather atypical for Egyptian didactic wisdom texts, which are normally couched in the form of an instruction of a father to his son. There is one possible hint for elucidating the situation. The one place-name mentioned in the text is Pe, or Buto. This city is well known for being the place where Horus spent his youth, hidden in the Delta swamps. There is also evidence that Horus spent a good part of his youth as a herdsman. Spell X of the magical Papyrus Harris (P. Harris 501, 10,1–11,1) shows him herding cattle in the fields and crying out for magical help. In addition, the epithet *ip ib* of Horus refers to his aspect as herdsman, since it is most often associated with the offering of milk or with other typical herdsman activities such as driving the calves.[46] Further proof is adduced by the unpublished *Book of the Temple*. In its section on the duties of the chief herdsman (*imi-r iḥ.w*), it mentions two of them, one being equated with Horus *ip ib*, the other broken away, but probably equated with Anubis. This corresponds to Anubis and Horus *ip ib* being mentioned as herdsmen in the great Tebtunis onomasticon.[47] An interesting reflection of Horus as a herdsman[48] is to be found in the general setting of the demotic story of king Petubastis and the strife over the benefice of Amun.[49] There, a young priest of Horus of Buto is demanding the office of his dead father from a powerful military leader who has taken it. The priest is being helped by a group of thirteen herdsmen.[50] The general allusion to the myth of Horus demanding the office of his dead father from a powerful figure who has misappropriated it should be obvious, especially given the young priest's connection with Horus of Buto. So the support of the Horus figure by the herdsmen should reflect Horus' background among a herdsmen community in the Delta.[51] If there is any connection between this mythological background and our curious text about herdsmen with a mention of Buto, we could identify one of the protagonists as Horus, the other being most probably Anubis.[52] But there seems ample leeway for speculation on quite different lines, and so the text remains fascinating but at the same time frustrating. Still, even so, it seems worthwhile to present it to others who may puzzle over it.

[46] See A. Egberts, *In Quest of Meaning. A Study of the Ancient Egyptian Rites of Consecrating the* Meret-*Chests and Driving the Calves* (EU 8; Leiden, 1995), 306. The direct identification with Anubis proposed there seems a bit too simplistic, though Anubis in his pastoral aspect and Horus as a herdsman are closely connected.

[47] J. Osing, *The Carlsberg Papyri*, II. *Hieratische Papyri aus Tebtunis*, I (Copenhagen, 1998), 173, 177–8, pl. 14.

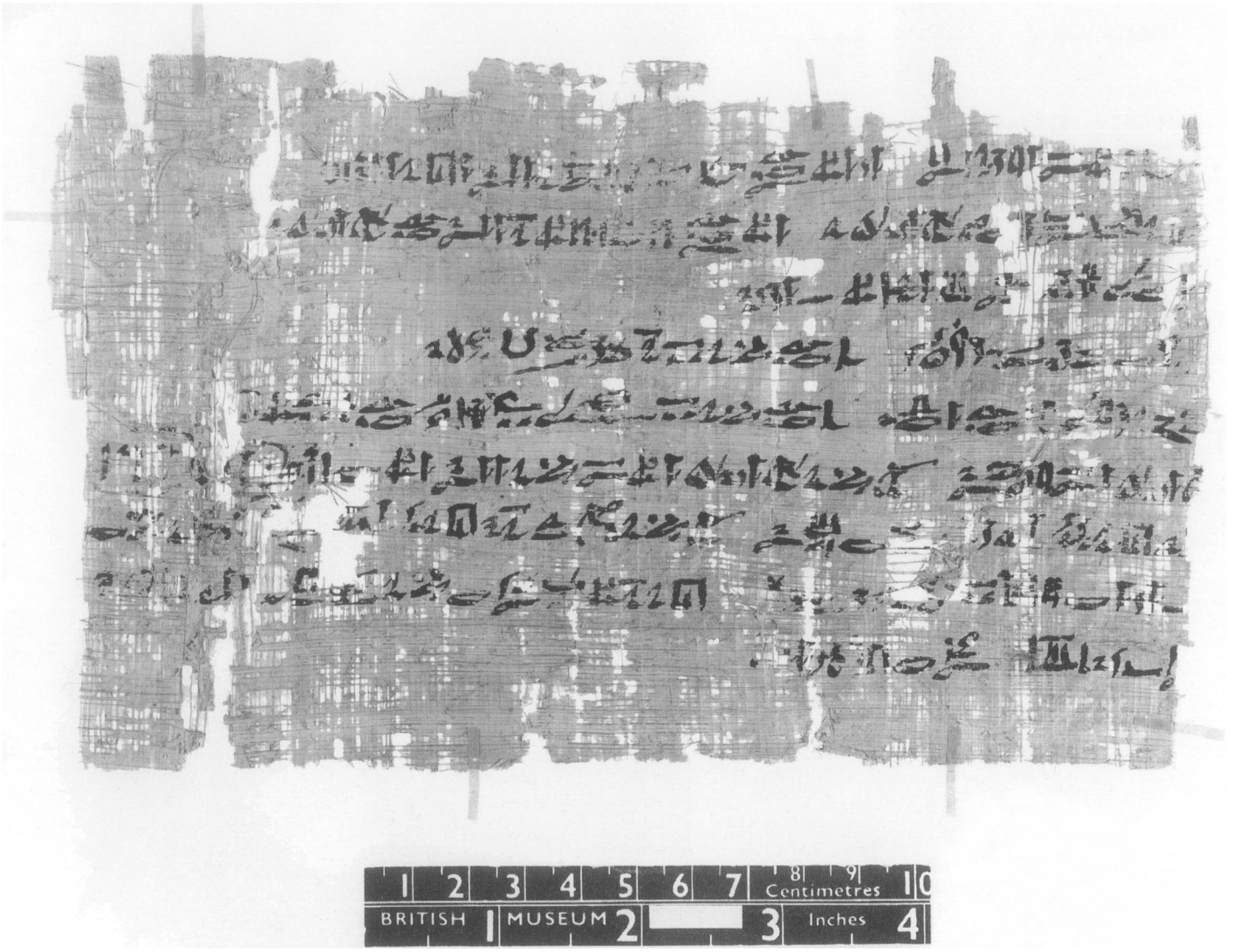
[48] It should also be pointed out that in the story of Horus and Seth, Isis portrays Horus as the son of a herdsman and himself looking after cattle (P. Chester Beatty I 5,10; 6,8–9 and 7,4). Although her story is obviously invented, besides playing on the similar sound of 'cattle' and 'office', a real tradition of Horus as a herdsman would give it some additional depth.

[49] Edition by W. Spiegelberg, *Der Sagenkreis des Königs Petubastis* (Dem St. 3; Leipzig, 1910).

[50] The word *ʿ3m* in the demotic text has to be translated as 'herdsman', in accordance with all other demotic and Coptic examples. Spiegelberg's mistranslation as 'Asiatic' has resulted in total misunderstanding of the plot of the story up to now.

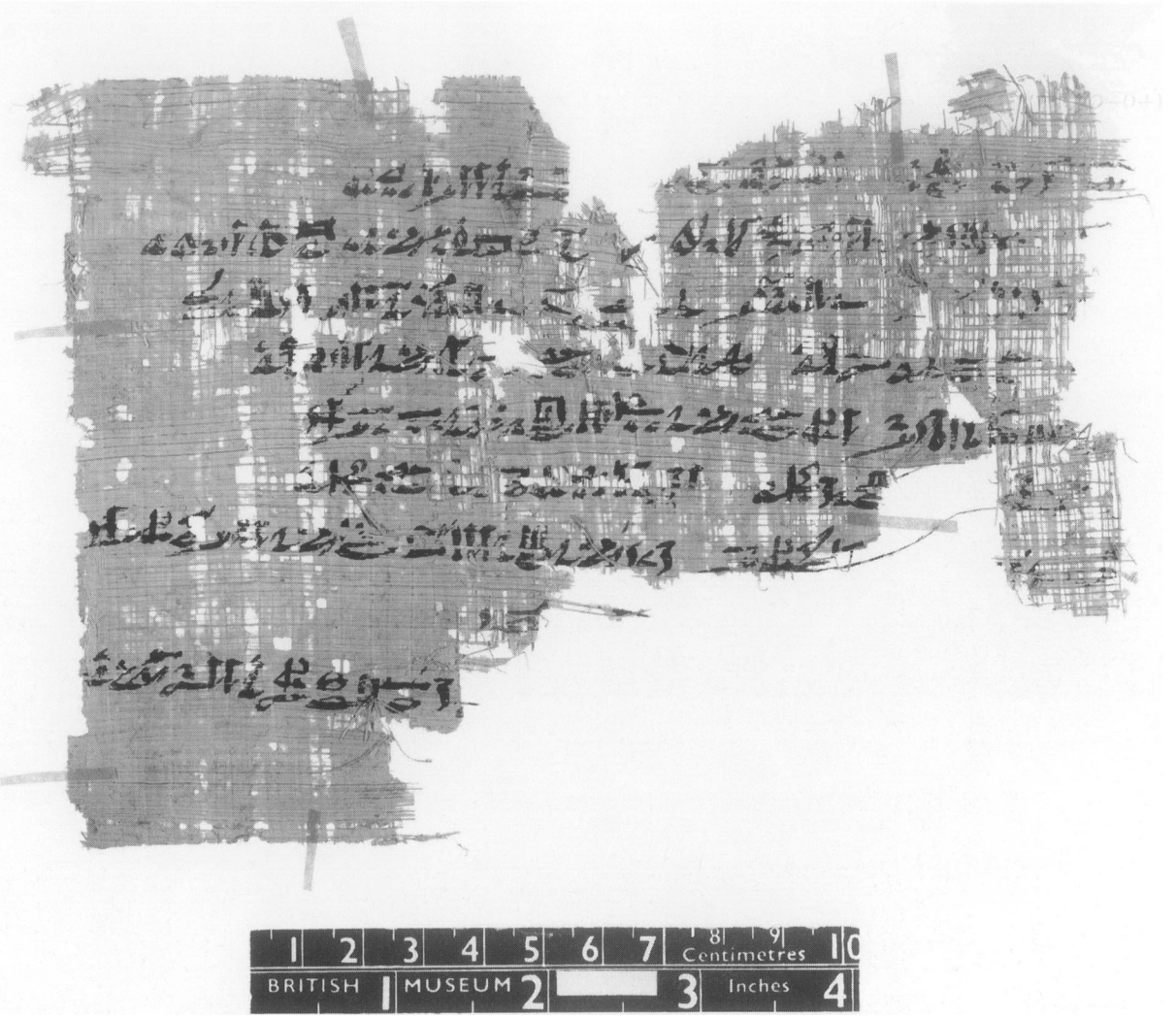
[51] The unpublished P. Carlsberg 69 furnishes a further association of the youthful Horus with herdsmen from the swamps of the eastern Delta.

[52] For the pastoral aspect of Anubis, see Egberts, *In Quest of Meaning*, 339–40; Osing, *Hieratische Papyri aus Tebtunis* I, 177–8.



Papyrus BM EA 69574 Fragment A (*Copyright the British Museum*)

A NEW BILINGUAL FRAGMENT FROM THE BRITISH MUSEUM (pp. 153–64)



Papyrus BM EA 69574 Fragment B (*Copyright the British Museum*)

A NEW BILINGUAL FRAGMENT FROM THE BRITISH MUSEUM (pp. 153–64)

EMPHASIZING AND NON-EMPHASIZING SECOND TENSES IN THE *MYTH OF THE SUN'S EYE**

By GHISLAINE WIDMER

The main functions of the Second Tenses in the Leiden version of the *Myth of the Sun's Eye* are examined, with particular attention to those instances which are not best described as serving to stress an adverbial adjunct. In fact, Second Tenses, as a means of structuring a text, appear to have a broader range of usages; in particular, they are used to delimit a macrosyntactic unit, to convey a temporal/conditional or an injunctive force and to mark contrastive or restrictive emphasis. Their key role in this rather elaborate text is probably that of introducing glosses.

THE aim of this paper is to investigate the main usages of the Second Tense form *iir = f sḏm* in the Leiden version of the *Myth of the Sun's Eye*.[1] The text presents us with roughly one hundred instances of a form written *iir = f sḏm*, but not all of these are Second Tenses, since both the Conditional (*iw = f sḏm*) and the basic Future (*iw = f (r) sḏm*) can be written *iir = f sḏm* as well, particularly when the subject is the second person singular feminine suffix pronoun (= *t*).[2] Although some cases will necessarily remain

* This paper is a condensed form of the M. Phil. thesis which I wrote under the supervision of Dr Mark Smith and submitted in June 1995 at the Oriental Institute of Oxford University. I should like to express my gratitude to the many persons who helped me, in particular Mark Smith, who not only taught me Demotic but has also given me a great deal of assistance and support in my research. I would also like to thank Prof. John Baines, Dr Mark Collier and Dr Didier Devauchelle for their enlightening advice and encouragement. My thanks go to the *JEA* referees as well for their valuable comments and to Prof. John Tait for his help in the final improvements of this paper. My period of study in Oxford was supported by the Berrow Scholarship from the Berrow Trust.

[1] W. Spiegelberg, *Der ägyptische Mythus vom Sonnenauge (Der Papyrus der Tierfabeln —'Kufi') nach dem Leidener demotischen Papyrus I 384* (Strassburg, 1917) and F. de Cenival, *Le Mythe de l'Oeil du Soleil* (Demotische Studien 9; Sommerhausen, 1988). In this paper I shall abbreviate the most frequently cited Demotic (and hieratic) texts as follows:

Magical = F. Ll. Griffith and H. Thompson, *The Demotic Magical Papyrus of London and Leiden* (London, 1904–9).

Myth. = Spiegelberg, *Der ägyptische Mythus vom Sonnenauge* (see above).

Onch. = S. R. K. Glanville, *Catalogue of Demotic Papyri in the British Museum*, II. *The Instructions of Onchshenshonqy (British Museum Papyrus 10508)* (London, 1955).

P. Carlsberg I = O. Neugebauer and R. A. Parker, *Egyptian Astronomical Texts*, I. *The Early Decans* (Brown Egyptological Studies 3; London, 1960), 37–80.

P. Insinger = F. Lexa, *Papyrus Insinger: Les enseignements moraux d'un scribe égyptien du premier siècle après J.-C.; Texte démotique avec transcription, traduction française, commentaire, vocabulaire et introduction grammaticale et littéraire* (Paris, 1926).

P. Rylands IX = F. Ll. Griffith, *Catalogue of the Demotic Papyri in the John Rylands Library*, III (Manchester, 1909).

P. Vandier = G. Posener, *Le Papyrus Vandier* (Cairo, 1985).

Petub. = W. Spiegelberg, *Der Sagenkreis des Königs Petubastis* (Leipzig, 1910).

Setne = F. Ll. Griffith, *Stories of the High Priests of Memphis* (Oxford, 1900).

[2] As already noted by F. de Cenival, 'Le système verbal démotique', *CdE* 55 (1980), 93–4, for instance. This confusion could also occur with other persons; thus, the scribe of *Magical* did not seem to distinguish the Future from the Second Tense and, in the second person singular masculine, wrote them both *iir = k sḏm* (cf. J. H. Johnson, *Demotic Verbal System* (SAOC 38; Chicago, 1976), 153). Besides, although it is not directly relevant to our subject matter, in *Mythus* and in several other Demotic papyri, *iir* also occurs—apparently for phonetic reasons—after the imperfect marker (*Myth.* 7,27–8: [27]/ . . . *nꜣy nꜣ spsp.w r-ḥwn-nꜣ.w iir = f ir*

questionable for this reason, nevertheless a substantial and coherent corpus of unambiguous examples of the Second Tenses in the *Myth of the Sun's Eye* can be compiled, providing a representative sample of the range of meanings usually conveyed by this form.[3]

It is generally considered that Second Tenses are used to 'nominalize a clause' in order to 'stress the adverbial adjunct'.[4] In the present paper I intend to discuss four additional usages of the Second Tenses which I have been able to identify in *Mythus*, for which the explanation of the Second Tense as simply 'emphasizing' an adverbial complement seems inappropriate. I will conclude by briefly alluding to what is probably the key role of the Second Tenses in *Mythus*: introducing a gloss, i.e. an explanation which is to be taken on a different level than the main text.[5]

Introductory remarks

Little research has been carried out on Demotic Second Tenses.[6] In fact, it is generally thought that, for the later stages of the Egyptian language at least, Second Tenses are fairly well understood, whereas in Middle Egyptian, this form, and in particular the concept of emphasis, is still under intense discussion. One feature indubitably facilitates research: in Late Egyptian as well as in Demotic, Second Tenses are outwardly distinguishable from 'First Tenses', as they appear in a separate writing (*iir = f sḏm*). But there are still too many missing links to establish a continuous sequence of development for this form from Middle Egyptian to the later phases of the language.[7]

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n-im = w n tȝ [28]*/ ntr.t*) or the particle *hmy* (for example, *Onch.* 10,22: *hmy iir ꜥty.t šp pȝy = s kȝ*); in the latter, it clearly appears to be a variant for *iw*, as is suggested by subsequent instances of *hmy iw*.

[3] As already noted by most translators, the levels of language of *Mythus* seem to vary from one section of the text to another, making it difficult to classify it as belonging to one particular stage of the language or category of texts. Accordingly, setting out comparisons with other texts, even from different stages of the language, may be meaningful. However, since my approach was and is still that of a philologist and not a linguist, I will deliberately avoid theoretical debates and discussion of parallels with other Semitic languages.

[4] Johnson, *Demotic Verbal System*, 107.

[5] This point was already briefly mentioned by F. de Cenival, 'Notes de grammaire et de lexicographie à propos du Mythe de l'Oeil du Soleil', in F. Junge (ed.), *Studien zu Sprache und Religion Ägyptens zu Ehren von Wolfhart Westendorf überreicht von seinen Freunden und Schülern* (Göttingen, 1984), I, 218–20. Considerations of space and time have led me to present this particular function in more detail, together with my own translation of columns 5–9, in a separate study where I shall try to mark out precisely the structure of the glossed text.

[6] With the exceptions of R. J. Williams, 'On Certain Verbal Forms in Demotic', *JNES* 7 (1948), 223–35 and Johnson, *Demotic Verbal System*, allusions are scattered in numerous articles on various subjects (most recently, A. Shisha-Halevy, 'Work-Notes on Demotic Syntax, I', *Or.* 58 (1989), 49–51 and R. S. Simpson, *Demotic Grammar in the Ptolemaic Sacerdotal Decrees* (Oxford, 1996), 171–7).

[7] The main difficulty lies in explaining the existence of so many different forms in Middle Egyptian which supposedly—in a stage of the language generally concerned with marking out differences morphologically—came to be replaced by a quasi-unique orthography (*iir = f sḏm*), inasmuch as in Coptic we find again four different Second Tenses, corresponding to the four basic tenses. H. J. Polotsky came to the conclusion that the periphrastic form derives from Middle Egyptian *sḏm.n.f*, but the fact that there are clear examples of a *sḏm.n.f* translated into another stage of the language by the periphrastic form means only that their functions were similar (see *Urk.* VI, 63, 2–8 (= Ex. 20) where *pr.n.i m Ỉwnw* is rendered as ***iir.i pr n Ỉwnw***). Similarly, R. A. Parker, 'The Function of the Imperfective *sḏm.f* in Middle Egyptian', *RdE* 10 (1955), 49–58, concluded from a comparison of the hieratic and the Demotic in P. Carlsberg I that the scribe used the Imperfective *sḏm.f* to emphasize an adverbial adjunct. J. Winand, *Etudes de néo-égyptien* 1. *La morphologie verbale* (Aegyptiaca Leodiensia 2; Liège, 1992), 284, conjectures that the different auxiliaries of the

In all stages of the language, there are still many elements which remain uncertain regarding the Second Tenses, and in particular, their precise nature has yet to be defined. Among other controversies is the much-discussed question of whether the generally invariable orthography *iir = f sḏm* represents a single verb form, unmarked for tense, or three different verb forms expressing Past, Present and Future.[8]

A few texts do seem to make an attempt (though not consistently) to distinguish between Present (*iir*), Past (*r-ir*) and possibly Future (*iir = f r sḏm*):[9]

(Ex. 1) *Setne* I, 5,3: ***iir = s iy*** *r bw-nꜣy r wšte m-bꜣḥ Pth pꜣ ntr ꜥꜣ*

She comes here, in order to worship before Ptah, the great god.

(Ex. 2) *Setne* I, 5,30: ***r-ir Stn nhse*** *iw = f ḫn wꜥ.t s.t ḫrꜣ.t*

When Setne awoke, he was in a heated place.

In *Mythus*, the one comparable instance remains ambiguous, partly because of the poor state of preservation of the papyrus at the relevant point, but mainly because the subject is the second person feminine singular suffix pronoun:

(Ex. 3) *Myth.* 2,2: ***iir = t r ir*** *n = t* [*m*]*tre.t r sḫn nfr nb*

You should make for yourself a teaching concerning all good fortune.

The preposition *r* being historically unexpected in a Second Tense formation, one could have here either an instance of the basic Future written *iir = t r sḏm* (reflecting the Coptic pronunciation ⲉⲣⲉ) or one of the rare examples of a possible distinct Second Tense of the Future.[10]

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periphrastic and 'emphatic' formations (*ir.n.f sḏm*; *ir.f sḏm*; *irr.f sḏm*) attested in the Eighteenth and Nineteenth Dynasties might have evolved into the same orthography. In Coptic, all dialects seem to have used a Second Present derived from the Demotic *iir = f sḏm* (ⲉⲩⲥⲱⲧⲙ), whereas the Second Past, outwardly similar to the Past Relative (there might have been distinctions in the pronunciation) shows more variants in its forms: in Fayumic, for instance, the commonest form was ⲁⲁⲩⲥⲱⲧⲙ (var. ⲁⲩⲥⲱⲧⲙ), but ⲛⲧⲁⲩⲥⲱⲧⲙ is also attested. According to J. D. Ray, 'How Demotic is Demotic ?', *EVO* 17 (1994) (= *Acts of Fifth International Conference for Demotists, Pisa*), 251–64, and L. Depuydt, 'On a Late Egyptian and Demotic Idiom', *RdE* 45 (1994), 49–73, this fact is likely to be explicable as the marginalization of older forms (ⲁⲁⲩⲥⲱⲧⲙ var. ⲁⲩⲥⲱⲧⲙ) and their replacement by the new formation ⲛⲧⲁⲩⲥⲱⲧⲙ. See also R. Kasser, 'Les temps seconds dans le Papyrus bilingue (copte et grec) de Hambourg', in D. W. Young (ed.), *Studies Presented to Hans Jakob Polotsky* (East Gloucester, Mass., 1981), 211–19. For a comparison of Coptic Second Tenses with Arabic, see L. B. Mikhail, 'The Second Tenses in Coptic', *ZÄS* 113 (1986), 137–41; id., 'The Second Tenses', *ZÄS* 114 (1987), 88–90; id., 'The Second Tenses in Practice. The Bohairic Dialect', *ZÄS* 115 (1988), 61–8; id., 'The Second Tenses in Practice. The Sahidic Dialect', *ZÄS* 116 (1989), 60–71.

[8] See the discussion by Depuydt, *RdE* 45, 53–9, and Winand, *Etudes de néo-égyptien* 1, §450 in particular (for Late Egyptian).

[9] See Johnson, *Demotic Verbal System*, 102 n. 167.

[10] The supposed existence of a distinct Second Tense of the Future was first postulated by C. F. Nims, 'A Problem of Syntax in Demotic Documents', in W. Helck (ed.), *Festschrift für Siegfried Schott zu seinem 70. Geburtstag am 20. August 1967* (Wiesbaden, 1968), 94–8, and then adopted by G. R. Hughes, 'Review of E. Lüddeckens *et alii*, *Demotische und koptische Texte*', in *JNES* 32 (1973), 246, and Johnson, *Demotic Verbal System*, among others, but it is still much discussed. J. F. Quack, 'Die Konstruktion des Infinitivs in der Cleft Sentence', *RdE* 42 (1991), 193 n. 39, notes that instances of *iir = f r sḏm* seem to be attested in early Demotic only.

In a second case, the fact that the scribe chose to write *mtw* = *f sḏm* in a question where a Second Tense is expected[11] could foreshadow the new Coptic formation ⲛⲧⲁⲩⲥⲱⲧⲙ.

(Ex. 4) *Myth.* 9,19–20: [19]/ . . . ***mtw = k ˁq r tne mtw = k šm r tne*** [20]/ *ḥ3.t = y*

Where did you enter? Where did you go before me?

However, the import of the questions asked here by the goddess is not totally clear—she seems to insist on her pre-eminence in contrast with the condition of the baboon—thus making the interpretation of the passage even more difficult.[12]

As for the problems of the compatibilities and incompatibilities of this formation[13] and the nature of the relationship between *iir* = *f sḏm* and other verbal constructions converted into Second Tenses by means of the morpheme *iir*,[14] I will refrain from

[11] For the presence of Second Tenses in question formations, see the next section.

[12] Likewise, *Myth.* 5,5–7 presents us with a sequence of five examples of *nt iw* = *f sḏm* which cannot be interpreted as relatives, since the resumptive pronouns are missing. For that reason, they have generally been understood as writings of the 'Second Past' (Spiegelberg, *Der ägyptische Mythus vom Sonnenauge*, no 445; Johnson, *Demotic Verbal System*, 116–17), although they could equally correspond to a Conjunctive (attested in *Mythus* also under the spelling *nt iw*). Another possible writing of the 'Second Past', not attested in our text, is *iw sḏm.f* (*Magical* 19,10–15 and *Petub.* 3,8—although the latter (*iw gm = k s tne* instead of *iir = k gm s tne*) could be explained by haplography, since *ir* and the initial sign of *gm* are similar in writing); cf. Johnson, *Demotic Verbal System,* 117–18). Alternatively, one could probably understand Ex. 4 as a cleft sentence consisting of an independent pronoun and an active participle.

[13] According to Johnson, *Demotic Verbal System*, 102, 'all the examples of the Second Tense [in the four texts investigated by her] are main clauses'; there are, however, as she notes, exceptions to this statement and the same exceptional occurrences are generally quoted (cf. Johnson, *Demotic Verbal System*, 102–3; A. Shisha-Halevy, 'Papyrus Vandier *Recto*: An Early Demotic Literary Text', *JAOS* 109 (1989), 428 and Simpson, *Demotic Grammar in the Ptolemaic Sacerdotal Decrees*, 100). *Mythus* also supplies two or possibly three cases of *ḏ* (ϫϵ) introducing a Second Tense formation after *rḫ* (*Myth.* 12,11; 12,8 and probably 21,1–2). In Late Egyptian, the 'emphatic' formation could be preceded by the direct (*ḏ*, *r-ḏ*) or indirect (*iw*, *wn*, *nty*) indicators of initiality (see J. Černý, and S. Groll, *A Late Egyptian Grammar*[3] (Rome, 1984), §26.2 and 26.3, for instance); similarly, *mtw ḫpr* and possibly *iw.f ḥr ḫpr* could be followed by *iir.f sḏm* (functioning as its subject)—cf. P. J. Frandsen, *An Outline of the Late Egyptian Verbal System* (Copenhagen, 1974), 165, M. Collier, 'A Note on the Syntax of *ḫpr* and Omitted Impersonal Subjects in Late Egyptian', *Wepwawet* 3 (1986), 15, and P. Vernus, 'Entre Néo-égyptien et Démotique: la langue utilisée dans la traduction du Rituel de repousser l'Agressif', *RdE* 41 (1990), 167–8. The latter records several possible instances in the *Ritual* and in P. Boulaq 6 of a Circumstantial Second Tense after the impersonal *ḫpr*. As for Middle Egyptian, H. J. Polotsky, *Egyptian Tenses* (Jerusalem, 1965), 9, argued that the Second Tense is incompatible with *iw*, although some isolated exceptions occur. As far as we can say, there are noticeable differences in the structure of each stage of the language.

[14] J. H. Johnson, in her grammar, lists our formation among the converted forms, and, like the Imperfect, the Circumstantial and the Relative, the Demotic Second Tenses often seem to be simply prefixed to a main clause (for a converted Present, see Ex. 42 (***iir Ḥˁpy iy***); for a converted Aorist, see Ex. 19 (***iir ḫr sḏr = y***); for the converted *sḏm* = *f* of an adjective verb, see *Myth.* 20,17 (***iir n3.w-nḏm***) and, in other texts, *Onch.* 19,24 (***iir n3-nfr pḫr.t***), *P. Insinger* 8,4 (***iir n3-ˁn sḥm.t***) and 30,1 (***iir n3-ˁn ˁrḏ***; compare with P. Berlin 13544, 9–10 and 18–20 (***iir ˁn = f***)). The Past behaved differently, since it was usually not rendered by a converted *sḏm* = *f* (unless we suppose a transfer of the subject up to the auxiliary: **iir sḏm = f* > *iir = f sḏm*) and the Future, with one exception, shows no *iw* after the auxiliary. This exception occurs in *Magical*, which is thought to represent one of the latest stages of Demotic, where one finds a Coptic gloss (ⲉⲣⲉ)—probably indicating the correct way of pronouncing the spell—above the auxiliary *iiry* preceding a Future:

ⲉⲣⲉ

Magical 7,1: *i p3 ḥbs* ***iiry iw = y r ti*** *n = k n t3 ḥe.t n t3 iḥ.t*

As for Coptic, H. J. Polotsky, 'The Coptic Conjugation System', *Or.* 29 (1960), 398, considers that 'Second Tenses are on syntactic grounds better kept apart from the converted tenses'; similar syntactic discrepancies are attested in Demotic as well. Consequently, several grammarians (for instance, H. Quecke, 'Review of J. H.

examining these questions in this paper. As regards the subjects of a Second Tense formation, both nouns and pronouns are attested, though examples with nouns occur only ten times in *Mythus*:[15]

(Ex. 5) *Myth.* 5,25–6: [25]/ . . . ***iir = f d*** *wnḥy.t* [26]/ *ꜥn r pꜣ mwḥrr r-ir pr n tꜣ qrṯ.t*

It is about the scarabeus who came out of dirt that *he* said 'dung', as well.

(Ex. 6) *Myth.* 6,3–4: [3]/ . . . ***iir nꜣ tw.w wtwt*** *n* [4]/ *wy.t n mꜣꜥ.t m-qty pꜣ mꜣqr n ḏwf nt rṯ*

It is through real green stone that *the mountains* are green like the reed of the papyrus that grows.

The subject is normally followed by an infinitive or stative, as in the examples just cited. However, on seven occasions the verb is omitted, a pattern which has almost no antecedent in earlier stages of the language:[16]

(Ex. 7) *Myth.* 11,2: ***iir = w*** *n ihꜣy ḥn Be-wkm*

But in *Be-wkm* they are in jubilation.

No category of verbs is excluded from the Second Tense formation.[17] As far as the so-called verbs of 'incomplete predication'[18] are concerned—which seem in Middle Egyptian and in Late Egyptian, but not in Coptic, to occur regularly with an 'emphasizing' form[19]—*Mythus* provides us with several examples which could equally be interpreted as necessitated by this type of verb (which requires an adverbial adjunct to make sense, i.e. in that case, there would be no need to 'emphasize' the 'predicate') or by the scribe's desire to focus upon the adverbial element, since all cases we are faced with include an adverbial adjunct. Thus, in the following example, *gm* is found in a seemingly narrative context:[20]

Johnson, *The Demotic Verbal System*', in *Or.* 48 (1979), 437–47; Shisha-Halevy, *Or.* 58, 33–60, and Simpson, *Demotic Grammar in the Ptolemaic Sacerdotal Decrees*, 171), have thought to distinguish between the periphrastic *iir = f sḏm*—a conjugation form still used in Demotic to focalize a 'predicate'—and the morpheme *iir*—which developed in a second stage—used as a converter to create Second Tenses.

[15] *Myth.* 3,28; 3,32a; 3,32b; 3,33a; 3,33–4; 6,1; 6,3; 8,6; 9,25; 11,4.

[16] The one exception seems to be P. BM 10052, 5,22 (Winand, *Etudes de néo-égyptien* 1, ex. 675 and Černý, and Groll, *Late Egyptian Grammar*[3], ex. 1075). For more examples in Demotic, see Simpson, *Demotic Grammar in the Ptolemaic Sacerdotal Decrees*, 174 (H. 17 *iir = f n ḥms* 2), and M. Gilula, 'Setni 6/4', *Enchoria* 6 (1976), 125. This pattern is more frequent in Coptic (ϵϥⲘⲘⲁⲩ, cf. H. J. Polotsky, *Or.* 29, 497, §30). The other occurrences in the text are *Myth.* 3,32a; 3,32b; 3,33a; 3,33–4; 7,21–2; 11,4.

[17] The most frequently attested verbs in *Mythus* are *d*, *ir*, *ti* and *iy* (*in-iw*, in the stative, as opposed to *iw*; the latter however, occurs in *Mythus* (for instance, *Myth.* 3,13; 9,13; 12,9 and 22,6), but not with the Second Tense formation. J. Winand ('Le verbe *iy/iw*: une unité morphologique et sémantique', *LingAeg* 1 (1991), 372) indicates that this form appears to be outside the general system).

[18] For the inconvenience of using the terms 'predicate' and 'predication', see below note 24.

[19] See E. Doret, *The Narrative Verbal System of Old and Middle Egyptian* (Cahiers d'Orientalisme 21; Geneva, 1986), n. 727, and F. Junge, 'Mehrfache adverbielle Bestimmungen nach zweiten Tempora', *ZDMG* Suppl. II (1974), 33–41.

[20] It is puzzling that in Late Egyptian, Second Tenses tend not to occur in a narrative context, whereas they did in Middle Egyptian; the *iir = f sḏm* form is then used mainly to focalise a phrase or a clause and no longer to create a backgrounding situation (cf. M. Collier, *Middle Egyptian Course 1995–1996: Introduction to the Ancient Egyptian Language and Script* (1995), 230). And yet in Demotic this practice is attested again: cf.

(Ex. 8) *Myth.* 3,5–6: [5]/ . . . ***iir*** = **[*f*] *gm*** *pȝ ḏbȝ ḥr pȝ* [6]/ *šnȝ nt iw* [*tȝ nry.t*] *ḥr ȝt.ṯ* = *f*

He found the avenger *under the tree* on which [the vulture] was.

Another verb occurring very frequently in the Second Tense is *mwt*:

(Ex. 9) *Myth.* 5,32–3: [32]/ . . . *ȝn-nȝ.w msḥ ꜥ(ȝ)w n ms n* [33]/ *ꜥ.wy nb* ***iir*** = ***f mwt*** *n tȝ ḥny.t nt iw tȝy* = *f niw.*(*t*) *tȝy*[21]

When a crocodile grows old in any place, it is *in the canal* which is his city that he dies.

Cases of extraposition occur with different patterns. To end these general remarks, I will quote one particularly interesting instance where a very long subject is extraposed and resumed with a possessive adjective. The auxiliary is placed at the front:

(Ex. 10) *Myth.* 11,4: ***iir nȝy*** = ***t ꜥ.wy.w*** *n ir hrw nfr n-im* = *w* ***nȝy*** = ***w iwf.w*** *ḥr sȝḫy.t*

It is in a state of decomposition(?) that your houses where amusement is taken are.[22]

Second Tenses simply used to 'stress' an adverbial adjunct

I will not concentrate too much on the debates which have arisen about Polotsky's theories concerning the Second Tenses.[23] According to the so-called 'Standard Theory', the adverbial complement (which can consist not only of a simple adverbial phrase, but also of a circumstantial clause) is 'emphasized' and becomes, from the syntactical view, not only the logical 'predicate' but also the grammatical 'predicate',[24] while the verb

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Johnson, *Demotic Verbal System*, 115–16. For an earlier example of the verb *gm* used with a Second Tense, cf. *P. Vandier* 1,7 (***iir*** = ***w gm***.*t* = *f iw 7 hrw pȝ nty grḥ n pȝy* = *f ꜥḥꜥ*). However, *gm* is also found in the 'First Tenses' (*Myth.* 6,2). The question of focalized or unfocalized 'predicate' with verbs of 'incomplete predication' appears to be much dependent on subjectivity and seems better left open.

[21] For examples in other texts, cf. *Onch.* 9,9 (*pȝ nt ꜥšȝ sš mt.t* ***iir*** = ***f mwt*** *n-im* = *s*) and 10,5 (*bw ir msḥ mwt n ȝrl* ***iir*** = ***f mwt*** *n ḥqȝ*); in Late Egyptian, see, for example, *LES* 19, 10–11 (***iir.s mwt*** <*n*> *dm*), to be compared with earlier *LES* 1,6 (*mwt.f n pȝ msḥ*).

[22] Literally, 'your houses where amusement is taken, their flesh is subject to decomposition'.

[23] In 1944, H. J. Polotsky published his *Etudes de syntaxe copte* (Cairo), where he presented a theory of the Second Tenses in Coptic which was also extended to Middle Egyptian. The theory was developed more fully in subsequent works, achieving its final formulation in 'Les transpositions du verbe en égyptien classique', *IOS* 6 (1976), 1–50, i.e. Second Tenses are abstract nominal verbal formations 'transposed' or 'transferred' from the verbal category to the noun category. This view was then defined as the so-called 'Standard Theory' by L. Depuydt ('The Standard Theory of the "Emphatic" Forms in Classical (Middle) Egyptian: A Historical Survey', *OLP* 14 (1983), 13–54). For the opposition to the 'Standard Theory', see n. 25 below.

[24] As shown by F. Junge, *Emphasis and Sentential Meaning in Middle Egyptian* (Göttinger Orientforschungen 20; Wiesbaden, 1989), for instance, logical/grammatical 'predicate' and 'subject' do not seem to be workable concepts, and the notions of 'theme' (the element *considered* by the speaker the least important on the informational level) and 'rheme' (what the speaker *considers* as the most important) should be preferred to them: cf. P. Vernus, 'Le rhème marqué: typologie des emplois et effets de sens en Moyen Egyptien (Temps Seconds, Cleft Sentences et constructions apparentées dans les stratégies de l'énonciateur)', *LingAeg* 1 (1991), 334. A. Shisha-Halevy, *Coptic Grammatical Categories; Structural Studies in the Syntax of Shenoutean Sahidic* (AnOr. 53; Rome, 1986), 70, distinguishes between 'topic' (the given information) and 'theme' (what is being talked about), although they often overlap. Cf. also the discussion by Simpson, *Demotic Grammar in the Ptolemaic Sacerdotal Decrees*, 165. Nevertheless, I will sometimes resort to the term 'predicate' as a convenient way of designating that which would be focalized according to Polotsky's theories rather than as a concept with which to work.

becomes the subject and plays the part of a substantive.[25] The appellation 'emphatic' or 'emphasizing' form remains, however, unsatisfactory, since these terms suggest a focus placed more on the verb rather than on the adverbial adjunct and tend to restrain the function of the Second Tenses to that of stressing an adverbial complement, thus not taking into consideration the other properties of the form.[26] Moreover, as Junge pointed out,[27] it is mainly a problem of transposition into our languages, and the spoken intonation is an element which must be taken into account as well. It might therefore be sometimes more appropriate to leave the question of the focus on the 'predicate' 'explicitly open', and thus to be prepared to find 'emphasizing' forms in a non-'emphasizing' function.[28]

Generally, as is not surprising, the Second Tenses are used to focalize
a) a prepositional phrase.[29]

(Ex. 11) *Myth.* 5,17–18: [17]/ . . . *bn* ***iir*** = ***s ḫpr*** *n nꜣ ntr.w nꜣ rmt.w* [18]/ *wꜤꜣ.ṯ* = *w ꜣn*

It is not *only to gods and men* that it happens.[30]

One case presents a rather unusual stressed prepositional phrase; in fact, the preposition *irm* is rarely attested in this function:

(Ex. 12) *Myth.* 8,18: ***iir*** = ***k ḏ*** *nꜣy irm Ꜥꜣ nꜣy Ꜥn ꜣn wn bš* = *k mtw* = *y*

You have said these things *and the nature*[31] of these things as well, (but) does your saliva belong to me (i.e. is it constituted similarly to mine)?

[25] This alleged substantival nature of the Second Tenses has tended to become increasingly questioned (for instance, Shisha-Halevy, *Coptic Grammatical Categories*, 63, and Mikhail, *ZÄS* 115, 68 for Coptic; M. Collier, 'Grounding, Cognition and Metaphor in the Grammar of Middle Egyptian—The Role of Human Experience in Grammar as an Alternative to the Standard Theory Notion of Paradigmatic Substitution', *LingAeg* 4 (1994), 57–87 (= *Proceedings of the International Conference on Egyptian Grammar* (*Crossroads* III), Yale), and A. Loprieno, *Ancient Egyptian. A Linguistic Introduction* (Cambridge, 1995), 9, for Middle Egyptian, among others). In particular, as shown by M. Collier, *LingAeg* 4, 57–87, the fact that, in a given case, a form seems to behave like a noun does not imply that it is a noun equivalent. The 'not-so-standard theory', as ironically designated by Collier ('Predication and the Circumstantial *sḏm*(= *f*)/*sḏm.n*(= *f*)', *LingAeg* 2 (1992), 17–65), has been most recently taken up anew by P. Vernus, *Les parties du discours en Moyen Egyptien. Autopsie d'une théorie* (Cahiers de la Société d'Egyptologie 5; Geneva, 1997).

[26] This 'narrow view' was already criticized by J.-L. de Cenival, 'Sur la forme *sḏm.f* à redoublement ou *mrr.f*', *RdE* 24 (1972), 40–5, and Junge, *Emphasis and Sentential Meaning* (for Middle Egyptian).

[27] *Emphasis and Sentential Meaning*, 27.

[28] Cf. ibid. 17, and P. Vernus, 'Formes "emphatiques" en fonction non "emphatiques" dans la protase d'un système correlatif', *GM* 43 (1981), 74 ('avec emphase ou non'), for instance.

[29] No simple adverbs occur as stressed adjuncts in *Mythus*, nor are they well attested in that function in other Demotic texts. The only possible instance known to me is *Setne* I, 6,4 (cf. Gilula, *Enchoria* 6, 125).

[30] In this particular case, the Second Tense might also have been chosen because of its ability to mark a (restrictive) contrast, a function which will be dealt in the fifth section of this paper.

[31] The translation of Ꜥꜣ by 'nature' has been suggested by J. F. Quack, *Enchoria* 23, 69. Cf. also the discussion by F. Hoffmann, *Der Kampf um den Panzer des Inaros. Studien zum P. Krall und seiner Stellung innerhalb des Inaros-Petubastis-Zyklus* (MPER NS 26; Vienna, 1996), 341–2, n. 2006.

b) a purpose clause (introduced by *r* (*ti*)[32] alone, by *r-ḏbꜣ* (*ti*)[33] and possibly by *ḏ mtw = f sḏm*).[34]

(Ex. 13) *Myth.* 5,11–12 [11]/ . . . *i ⸢nḫ = s* ***iir = y ti*** *g(y)* [12]/ *nꜣ sḏy.w n rn = w iir-ḥr = t r-ḏbꜣ ti rḫ = t st* . . .

O may she live! It is *in order to cause you to know* . . . that I have stressed to you the above-mentioned discourses.

(Ex. 14) Myth. 9,1–2: [1]/ . . . ***iir = f ti*** *⸢ḥ⸣ = s* [2]/ *m-bꜣḥ Pr-ꜥꜣ r mḫy = f r mꜣy-ḥs ꜥꜣ pḥṯ se Bꜣst.t*

(Actually), it is *to compare him to Myesis*, great of strength, son of Bastet, that he made her stand before Pharaoh.

c) an explanatory clause.[35] These are introduced by (*r-ḏbꜣ*) *ḫpr* and possibly by *ḏ* (*r*).[36]

(Ex. 15) *Myth.* 5,8–9: [8]/ . . . *ḏ n = f tꜣ imy.t ikš.t* ***iir = s ḫpr*** *ḫpr* [9]/ *r tꜣ s.t r-pr = w n-im = s tꜣy*

The Ethiopian cat said to him: 'It is *because it is the place from which they emerged* that it happened (or: happens)'.

d) a circumstantial/temporal clause.[37]

(Ex. 16) *Myth.* 21,4–5: [4]/ ***iir = f ti*** *ḫ⸢ꜥꜣ tꜣ ntr.(t) n sšt* [*n*] *nry.t n pꜣ mꜣ⸢ꜥ n rn = f r <pꜣ> wn*[*š n kw*]*f* [5]/ *ir iw m-bꜣḥ = s nt iw tꜣ s.t n nꜣy/tꜣy* (*?*) *ir qm nꜣy ir qm*[= *n tꜣy* . . .]

It was *while the small dog-ape was making praise in front of her* that he caused the goddess to appear in the form of a vulture in the place aforesaid, which is the place of those/that one(?) who created those who created [us (?) . . .].[38]

In a fair number of cases, one might also hesitate to determine the identity of the focalized 'predicate' as there are several possibilities; in Example 17, it could well be the prepositional phrase (*n ḥr n imy.t*) or the explanatory clause beginning with *ḫpr*:

[32] For instance, *Myth.* 8,16; 15,21–2; 21,2.

[33] *Myth.* 3,28–9 (= Ex. 42); 12,11–12; 15,7–8; and possibly 21,31–2.

[34] *Myth.* 8,19–20 (= Ex. 45); 9,6 (= Ex. 46).

[35] Not surprisingly, these occur principally in the glossed parts of the text; for example, *Myth.* 6,17–18; *Myth.* 6,29–30 (= Ex. 50); 8,27–8.

[36] As noted by Johnson, *Demotic Verbal System*, 110, *ḫpr* alone followed by a circumstantial clause (*Myth.* 5,8 (= Ex. 15) and 8,27–8) might be either a variant of or a mistake for the construction *r-ḏbꜣ ḫpr*; on the other hand, *ḏ* (when used as a causal conjunction) is sometimes also followed by *r* (see *Myth.* 5,35; 9,1 and possibly 6,29 (= Ex. 50), and the whole phrase *r-ḏbꜣ ḫpr* occurs in the text (*Myth.* 14,7). Therefore, *ḫpr* as well as *ḏ* might simply reinforce a circumstantial clause to mark the causal meaning more clearly. On this point, see also F. de Cenival, in *Studien zu Sprache und Religion Ägyptens*, 218–20.

[37] More examples are quoted in the next section, where the question of Circumstantial clauses organized around a Second Tense (i.e. functioning as its 'predicate') is discussed at length.

[38] Note here that the antecedent (*pꜣ mꜣ⸢ꜥ n rn = f*) is clearly separated from the relative (*nt iw tꜣ s.t n nꜣy/tꜣy* (*?*) *ir qm nꜣy ir qm*[= *n tꜣy* . . .]) by the circumstantial, possibly to indicate the priority of the latter.

(Ex. 17) *Myth.* 7,21–2: [21]/ . . . ***iir*** = ***f*** *n ḥr* [22]/ *n imy.t ḫpr pȝ šsp-ntr r ir spy r pȝ ntr ʿȝ m sp ṯp pȝy*

With the face of a cat he is, because it is the divine image which remained after the great god in the first time.[39]

According to Junge,[40] when several adverbial adjuncts follow a nominal formation, it is on the last one that the emphasis is put. This might explain the unusual order of the complements in the following passage: although a purpose clause is generally found at the very end of a sentence, the prepositional phrase comes after it, thus becoming the 'marked predicate'; another solution would be to consider that both 'predicates' are emphasized:

(Ex. 18) *Myth.* 18,29: ***iir*** = ***y*** ***iy*** *r ir n* = *k tȝy* = *s šb.t n pȝ hrw*

Today I have come in order to pay you back.

OR

I have come *in order to pay you back today*.

Let us end this section with one of the most common patterns in which the Second Tenses regularly—and in all stages of the language—appear:[41] the question for specification (as opposed to the question for corroboration)[42] and the answer to that question. As shown by H. J. Polotsky, Second Tenses—in the Coptic translations of the Bible as well as in Late Egyptian—are used only when the interrogative pronoun is the indirect complement of the verb, i. e. is part of an adverbial phrase.[43] Therefore, it is not surprising that in the long dialogue between Sight and Hearing (*Myth.* 13,26–14,31), each question built around a *iir* = *f sḏm* form has a corresponding answer with the same construction.[44]

[39] Or: 'it is *because it is the divine image which remained after the great god in the first time* that he is with the face of a cat'.

[40] *ZDMG* Suppl. II, 33–41.

[41] Although, as far as Middle Egyptian is concerned at least, one should remain cautious and avoid generalizations, as the Second Tenses have not been clearly identified yet. Vernus, *LingAeg* 1, 333–55, convincingly showed that in Classical Egyptian the 'emphasizing' formations were not (yet?) mandatory in the cases when the marked rheme was an interrogative adverbial phrase (cf. CT III 2a (S_2 C) *mk ʿq.k pr.k ṯn* and the variant (G_1T) *mk ṯw ʿq.t(i) ṯn*).

[42] Generally introduced by *ȝn* (see, for instance, the long passage of *Myth.* 22,17–30).

[43] 'Une règle concernant l'emploi des formes verbales dans la phrase interrogative en néo-égyptien', *ASAE* 40 (1940), 241–5. Thus, in our text, as in Late Egyptian, *iḫ* and *iḫ r* (*Myth.* 4,17; 14,17; 14,32; 16,22, for instance, and *Myth.* 10,2; 17,13; 22,16 and 18,3) do not occur with a Second Tense, unlike *r-ḏbȝ iḫ* (*Myth.* 1,8 (damaged); 14,6 (= Ex. 19); 14,10; 16,12–13) and *tne*, var. *r tne* (*Myth.* 14,33 and 9,19–20 (= Ex. 4) if one accepts *r-iw* = *w ḫȝʿ* = *f* and *mtw* = *k ʿq* there as Second Tense forms). Unlike in Demotic, the movement of a Coptic adverbial adjunct to the front of a sentence was also possible in some cases (with ϵⲧⲃϵ ⲟⲩ (*r-ḏbȝ iḫ*) used then with a 'First Tense'), but generally, with sometimes the exception of ⲧⲱⲛ (*tne*) and ϵⲃⲟⲗⲧⲱⲛ, an interrogative pronoun placed after the verb required a Second Tense (cf., for instance, A. Shisha-Halevy, 'Quelques thématisations marginales du verbe en néo-égyptien', *OLP* 9 (1978), 60 n. 33). Besides, unlike its Late Egyptian and Demotic counterparts, ⲛⲓⲙ (cf. *iḫ*) as subject or object of verbs could also be found with a Second Tense, although the cleft sentence was regularly preferred. On the close relation between Second Tenses and cleft sentences, see n. 76, below.

[44] It is obvious that, in any case, a question remains a sentence which cannot be placed on the same level as the affirmative one.

(Ex. 19) *Myth.* 14,6–9: [6]/ *ḏ n = s ỉn-nw.t* ***ỉir = s ḫpr*** *n-im = t r-ḏbꜣ iḫ ḏ = s n = s* ***ỉir = s*** [7]/ ***ḫpr*** *n-im = y r-ḏbꜣ ḫpr bw-ir = y in-qty.k n mtre bw-ir = y wnm* [8]/ *m-sꜣ ~~pꜣ ḫꜣy ḥ(y) ḏmꜥ~~ pꜣ Rꜥ ḏ* ***ỉir ḫr sḏr = y*** *n = y n rwhy r tꜣy(= y)* [9]/ *ꜣsw.t šw.w*

Seeing said to her: 'Why does it happen to you?' She said: 'It is because I do not sleep at midday and I do not eat after (the appearance of) the sun—another version—Pre, in other words it is only at night, when my crop is dry/empty that I usually go to sleep'.[45]

Second Tenses used to structure a passage or a text

In the Leiden version of *Mythus* Second Tenses tend to be most frequently used simply to delimit a macrosyntactic unit, thus indicating the beginning of what we would define as a new paragraph. As P. Vernus has noted, for instance, since this form had the ability to focalize not only a simple adverbial syntagma, but also one or several subordinate clauses, it was often used to structure the informational development, organising a complex sentence around the theme-rheme order and thus drawing the attention of the reader to the presentation of new information. Thus, in many examples of *Mythus*, the Second Tenses do not carry on the main line of the plot, but seem more to be used as a temporal landmark to give a background situation to an ensuing section of the text.[46] This practice, already found in Middle Egyptian, is clearly exemplified by the following excerpt from P. BM 10252, a manuscript which not only includes the original version (in traditional Middle Egyptian) of the *Ritual für die Abwehr des Bösen*, but also a translation into Late Egyptian:[47]

(Ex. 20) *Urk.* VI, 63, 2–8: *pr.n.i m ỉwnw irt Ḥr m-ḫt.i* [. . .]
mꜣꜥt r ḫḥ.i
snty m ḥꜣt.i

corresponding to Late Egyptian

ỉir.i pr *n ỉwnw iw tꜣ irt Ḥr irm.i* [. . .]
iw tꜣ mꜣꜥt r ḫḥ.i
iw tꜣ wḏꜣt 2 n ḏꜣḏꜣ.i

When I came out from Heliopolis, the Eye of Horus was with me [. . .], Maat was on my neck and the two sisters (var. the two sound eyes) on my forehead (var. on my head).[48]

[45] The whole context is set in the general Present (as indicated by the negative Aorists); note the converted Aorist *ỉir ḫr sḏm = f*. In *Myth.* 5,17–19, the converted Aorist might have been chosen—instead of a simple *ỉir = f sḏm* with Aorist meaning—because it allowed the scribe to mark the tenses clearly, as it occurs right after the introduction of a past *sḏm = f* in the middle of the expository discourse.

[46] I use here the same terminology as M. Collier in his *Middle Egyptian Course 1995–1996*. See also Shisha-Halevy, *Or.* 58, 50, for instance.

[47] S. Schott, *Urkunden*, VI. *Urkunden Mythologischen Inhalts. Bücher und Sprüche gegen den Gott Seth* (Leipzig, 1929 and 1939).

[48] Example quoted by Vernus, *LingAeg* 1, 349. For other similar examples, cf. id., *GM* 43, 75 ff., and id., *RdE* 41, 187.

In an example from the fable of *The Lion in Search of Man*, the choice of the pattern *iir = w ḫpr* and *iir = s ḫpr* instead of the simple *ḫpr = f*[49] is likely to be explained as organising a macrosyntactic unit:[50]

(Ex. 21) *Myth.* 18,21–3: [21]/ *ir = f n = f ip.w ḏ iir = y wnm = f bn iw = y sy n mꜣʿ.t ḥꜣʿ = f s r-bnr* ***iir = w*** [22]/ ***ḫpr*** *r-hwn-nꜣ.w wn wʿ rmt bḥs r-iw = f ir grg r-iw = f ḫr mꜣṯbꜣl* [23]/ *r-iw = f šty hyṯ ḥꜣ.t pꜣ mꜣy*

He (= the lion) thought to himself: 'If I eat him (= the mouse), I will really not be satisfied' and he let him go. It happened that there was a huntsman, tracking and carrying a net and digging a pit before the lion.[51]

Similarly the Ethiopian cat, having been convinced by the speech of the small dog-ape, slowly changes mood:

(Ex. 22) *Myth.* 4,29–31: [29]/ . . . *wnf* [30]/ *ḥr = s ršy nꜣy = s nw.w* ***iir = s ir*** *n = f wꜣḥ r-iw = s wn*[*f r-iw = s*] *sꜣby* [31]/ *r-iw = s ḏ* . . .

Her face was rejoicing, her glances were joyful. When she answered him, she was rejoi[cing and] laughing, while saying . . .[52]

In both cases, no particular contrast[53] seems to be expressed; it is simply a specification, a marginal sentence explaining the text, and not carrying the narrative any further forward by itself.

This function of introducing what we would define as a new paragraph seems to be corroborated by *Myth.* 8,6, where the opening words of a sentence starting with an *iir = f sḏm* form are written in red:

(Ex. 23) *Myth.* 8,6–9: [6]/ . . . ***iir pꜣ šm*** *n wnš kwf* ***mnq*** *nꜣy = f mt.wt n ḏ* [7]/ *r tꜣ imy.t ikš.t kšp ḫr-twꜣ = f r-iw = s mwḫ* [*n ?*] *ḥr = f n nw* [8]/ *r-iw = s n mʿyḥꜣ r-iw = s sḏm r ḫrw = f r-iw = s n pꜣ škꜣykꜣ n pꜣ tꜣ n* [9]/ *ḏr.ṯ = f r-iw = f n ḫpr-pr.t ʿꜣ.t n ḥꜣ.ṯ = s n pꜣ gm.ṯ = s r ḏ.ṯ = s r bn-pw = s gm.ṯ = s*

When the small dog-ape terminated his speech, the Ethiopian cat was looking at him, burning his face with her glances and being amazed while listening to his voice and being full of desire for the land (of Egypt) thanks to him, he being a source of great wonder in her heart because of finding it in order to say it while she was not able to find it (= to say it).[54]

[49] *Myth.* 12,9 (*ḫpr = f* followed by a Circumstantial) or 2,16; 2,32; 13,26; 17,11 (*ḫpr wʿ ḥrw*).

[50] This pattern is not uncommon in Demotic texts; W. Spiegelberg (*Der ägyptische Mythus vom Sonnenauge,* n. 596 h and k) thought that these forms were the predecessors of the simple Past ⲁⲥⲱⲱⲡⲉ/ ⲁⲩⲱⲱⲡⲉ. For other instances, cf. *P. Vandier* 1,3 (***iir wʿ grḥ ḫpr***, in a rubric); P. Ryl. IX 18,13–14 (***iir dwꜣ ḫpr***). Other Demotic examples are quoted by Vernus, *GM* 43, 81–3.

[51] A further example with *iir = s ḫpr* is found in *Myth.* 3,8, but it is unfortunately damaged.

[52] These instances of Second Tenses giving a temporal landmark are no doubt closely related to the examples where a Second Tense is used as the protasis of a Temporal or Conditional clause (see the following section).

[53] On this function, see p. 181 below.

[54] R. A. Parker, 'A Late Demotic Gardening Agreement; Medinet Habu Ostracon 4038', *JEA* 26 (1940), 91, identifies *iir = k* in the agreement text that he is translating as the marker of the Second Tense, indicating

A particle like 'actually' could probably often render this idea; in fact, it allows the establishment of a link with the given part (i.e. the preceding section) and it draws the attention towards the new element.[55]

The next example clearly supports the suggestion that the sentence involving a Second Tense organizes a 'macrosyntactic unit', since one single *iir = f sḏm* form governs eight circumstantials.

(Ex. 24) *Myth.* 8,10–13: [10]/ . . . ***iir = s mt*** *irm = f ḏ t3 imy.t* [11]/ *ikš.t r ḥ3.ṯ = s ḏwf r spte = s ḫmm r n3 hhe.w n r3 = s n* [12]/ *nyf3 n sty.t m-qty p3 f3y r ir.ṯ = s tḫr r n3y = s nw.w* [13]/ *r⌜qy r ⌜.wy.w = s nb n ḫnyn.t r-iw = s ḏ*

(Actually), when she spoke to him, namely the Ethiopian cat, her heart was burning, her lips were hot, the blasts of her mouth were the fiery breath of a flame like the horned viper, her eyes were evil and her looks were diverted, her body in a state of disturbance, while she was saying . . .

Second Tenses used to convey a temporal/conditional or an injunctive force

Second Tenses used with a temporal or a conditional meaning

In several cases, the Second Tenses are clearly used as the protasis of a temporal/conditional clause or, at least, a clause which is best translated in our languages through the temporal or the conditional.[56]

(Ex. 25) *Onch.* 19,25: ***iir = w ti*** *n = k ⌜q (r)-ḏb3 swg my ir n = k sb3.t bty.t*

If you are given rations for stupidity, let education be an abomination to you.

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the introduction to a new paragraph ('you have to', 'you should'); on the other hand, it could be a spelling of the simple Future (cf. Johnson, *Demotic Verbal System*, 153 n. 41). Another example of a Second Tense used in a rubric has been quoted in n. 50 (*P. Vandier* 1,3).

[55] On the other hand, the choice of a Second Tense appears rather subjective, as some very similar situations, like the description of the mood of the goddess, may be rendered by a *sḏm = f* form: *Myth.* 9,29–31 ([29]/ . . . *in-nw p3 šm n wnš kwf*[30]/ *r t3 imy.t ikš.t r ḥ3.ṯ = s tḫr r ḥr = s 3qm{.t} r-iw = s ⌜ḥ⌜* [31]/ *r n3y = s yb.w r [n3y] = s nw.w n p3 iytn*). The cleft sentence could be used as an alternative to the Second Tense, for instance, in *Mythus, Lille* A 21 (*s3by sp 2 p3y ir t3 mi3e.t ikš.t iw = s ḏ*).

[56] 'If/when' (i.e. in a given case) and 'if/when' (ever), the former referring to a specific situation and the latter to general circumstances. In Late Egyptian, the *iir.f sḏm* formation is occasionally found as the protasis of a Conditional (cf. Frandsen, *An Outline of the Late Egyptian Verbal System*, 167 ex. 5—usually after *inn*; M. Korostovtsev, *Grammaire du néo-égyptien* (Moscow, 1973), §313, quotes some usages without particle). Surprisingly, although there does not seem to be any systematic correspondance with either Demotic and Greek (in the Ptolemaic decrees or in the Greek version of *Mythus*) or with Greek and Coptic (in the translations of the Bible), Demotic Second Tenses in Ptolemaic decrees are often rendered in the corresponding Greek versions by ὅταν:

Can. A18: B64–5: ***iir = w iy*** *r* (var. *iw*) *ir n3 hrw.w n n3 gy.w n 3s.t n ibt 4 3ḫ.t . . . mtw n3 rn.wt s-ḫm.wt n n3 w⌜b.w ti r-ir = w* (var. *ir = w n = w*) *kṯ.t rpy.(t) (n) Brng3*

Gr. 64–5: καὶ ὅταν τὰ Κικήλλια ἄγηται ἐν τῶν χοιὰχ μηνὶ . . . κατασκευάσαι τὰς παρθένους τῶν ἱερέων ἄλλο ἄγαλμα Βερενίκης ('When they come to celebrate the days of the *gy.w* festival of Isis in the fourth month of the *3ḫt*-season . . . the young women of the priests should cause another statue to be made for Berenike . . .').

Similarly, a clause introduced by καὶ ὅταν corresponds to ***iir p3 ḫrp*** *n p3 rt* ***pḥ*** (A19: B68), while another introduced by ἐπὰν corresponds to *iir = w (r) ir = w n w⌜b* (A19: B71). For a more detailed comparison, see Simpson, *Demotic Grammar in the Ptolemaic Sacerdotal Decrees*, 172–3.

(Ex. 26) *Myth.* 18,21: *ir = f n = f ip.w ḏ* ***iir = y wnm*** *= f bn iw = y sy n mꜣʿ.t*

He thought to himself: 'If I eat him, I will not really be satisfied.'

(Ex. 27) *Petub.* 3,7–8: [7]/ . . . ***iir = w šn***.t = *k ḥr nꜣ mt.wt n wr mšʿ nt ḥr-r = k* [8]/ *iiry ḥr r-r = s*

If one asks you about the affairs of a general of the army which concern you, pay attention to it![57]

Some scholars, among them J. H. Johnson, argue that even when used as a Conditional the Second Tense remains an 'emphasizing' formation, i.e. focalizing an adverbial adjunct. Therefore, the temporal/conditional meaning would be only secondary;[58] in those cases where 'there was no adverbial adjunct to be stressed' the forms are considered as 'anomalies', explicable through analogy.[59] As a consequence, she, (as well as G. R. Hughes, for instance) regularly translates the Conditional as a cleft sentence in a protasis. In other words, she still stresses the adverbial adjunct, translating passage Ex. 25: 'If for stupidity ((*r*)-*ḏbꜣ swg*) you are given rations, let education be an abomination to you'.[60] And in those cases where there is no adverbial adjunct in the *iir*-clause, Johnson conjectures that the emphasis could be 'intended for the adverb in the apodosis'; thus Ex. 26 might be translated: 'If I eat him, in truth (*n mꜣʿ.t*) I will not be satisfied'.[61]

Against this hypothesis, there are several cases where there is absolutely no possible adverbial adjunct to stress:

(Ex. 28) *P. Insinger* 28,24: *rmt rḫ* ***iir = f wy*** *ḥꜣ.t = f wḫꜣ pꜣy = f tmy*

A wise man, if he is far, his hearts longs for his town.

(Ex. 29) *Myth.* 18,14: ***iir = k wnm***.t = *y bn iw = k sy*

If you eat me, you will not be satisfied.[62]

[57] Other instances in the same texts are *Myth.* 13,16–17 (***iir = t [nḥm?]***.t = *y*); *Onch.* 23,14 (***iir = f šp*** *ḏr.t pꜣy = f mrt*) and *Petub.* 3,13–15 (***iir = w sḏm*** *r ḫrw = y iw = y <ti> t = f s n ḥp* ***iir = w tm sḏm*** *r ḫrw = y iw = y ti t = f s n qnqne*).

[58] Another solution would be to understand the *iir = f sḏm* occurrence as a phonetic writing of the plain conditional *iw = f sḏm*. See below p. 179.

[59] Johnson, *Demotic Verbal System*, 250. Polotsky, *Etudes de syntaxe copte*, 51, describes them as 'abusive'.

[60] *Demotic Verbal System*, 113 (E 192b), and Hughes, *JNES* 32, 246.

[61] J. H. Johnson, 'Conditional Clauses in *Onchsheshonqy*', *Serapis* 2 (1970), 26. Compare a very similar example in *Onch.* 18,7–8 ([7]/ ***iir rmt ḫm ḏ*** *iw = y ḫdb.t = k iw = f ḫdb.t = k n mꜣʿ.t* [8]/ ***iir rmt ʿꜣ ḏ*** *iw = y ḫtb.t. = k my ḏꜣḏꜣ = k ḥr tꜣy = f pnʿ ʿ.t*), translated by Johnson as: 'If a poor man says, "I will kill you", in truth he will kill you; if a rich man says "I will kill you", put your head on his doorsill'. In this particular case, she was wondering whether this pattern was not chosen because of the non-existence of a Second Tense of the Third Future or of the Imperative. I feel that this form was preferred to any other because Second Tenses are often also a way of introducing a direct quotation (see below n. 106). This alternative interpretation is also proposed by her in *Demotic Verbal System*, 110 n. 186, while on p. 114, she identifies it as a *Wechselsatz*. On this pattern, see below p. 180.

[62] Compare Ex. 26. The latter is all the more significant because *iir = y*, unlike more equivocal forms involving a second person subject, can only be the marker of the Second Tense. Besides, the passage under discussion goes on with three other similar clauses best translated as Conditionals, but which offer a possible adverbial adjunct to stress: *Myth.* 18,14–17: [14]/ . . . ***iir = k ḫꜣʿ***.t = *y r bnr* [15]/ *bn iw = k ir pꜣy(= y) ḥqʿꜣ ʿn* ***iir = k ti*** *n = y pꜣy(= y) tꜣw n špꜣ r-iw = y r ti n = k pꜣy = k* [16]/ *tꜣw n špꜣ ḥʿ = k* ***iir = k nḥm***.t = *y r tꜣy = k wty.t r-iw = y r ti ir = k* [17]/ *ir bnr r tꜣy = k ḥ-thy.t.t.*

(Ex. 30) *Myth.* 19,20–1: [20]/ [. . .] ***iir = y wnm*** = *s ḥ3.t̂ = y nḏm* [***iir = y swr*** = *s?*] *ḥ3.t̂ = y* [21]/ *tḥb mtw = y kšp r p3y*(= *y*) *t3*

When I eat it, my heart is glad, [when I drink it], my heart is drunk and I see my homeland.

It is striking that in certain texts the presence of the Conditional (*iw = f sḏm*) is not an obstacle that prevents the Second Tenses from being used as Conditionals; they can even alternate. To take an example, the Demotic Legal Code of Hermopolis[63] contains a whole section where both formations seem to interchange: thus we firstly meet a pair of Conditionals, then a pair of Second Tenses, thirdly a Conditional followed by a Second Tense and finally the reverse.[64]

(Ex. 31) *Herm. Legal Code* 3,11–13: [11]/ ***iw = w ir ṯḥn r hy3*** *iw = w ir r ḫ p3 ṯḥn nt ḥry bw-ir = w ir ḥbs ḥr 3t.t̂ = f mtw = f ḏ iw = y ti n = k ḥnq mn*[. . .] [12]/ (. . .) ***in-n3.w p3 nb n t3 hy3 s***[***my*** *r p3 rmt iir ir n = f p3 ṯḥn*] [13]/ (. . .) *iw = w ḏ n p3 nb n t3 hy*[*e*] *n3 ḥnq.w irm n3 mt̂k.w iir st r ḥḏ iw = w ir n = f r ḫ p3 ṯḥn* [. . . *nt ḥry?*]

If a lease is made concerning a brewery (?), it will be made according to the previous lease. But clothing is not put in it (i.e. the lease) and he will say: 'I will give you so much beer' (. . .).

If the owner of the brewery br[ings suit against the man who made the lease for him] (. . .) the owner of the brewery will be told: 'The beer and the *mtk*-drink, reckon them as money'. It will be done for it according to the [previous (?)] lease.

(Ex. 32) *Herm. Legal Code* 3,14: ***iir = w ir ṯḥn*** *r s.t-mn.t(?)* ***iir = w ir*** *n = f r ḫ* [*p3 nt*] ⌜*sḫ*⌝ *r ḥry*

If a lease is made for a hatchery (?), they will act for it according to the previous lease.[65]

(Ex. 33) *Herm. Legal Code* 3,17: ***iw = w ir ṯḥn*** *r* ⌜*.wy n šwt* ***iir = w ir*** (*r*) *ḫ* [*p3*] *ṯḥn nt ḥry bw-ir = w ir mw ḫmy ḥr 3t.t̂ = f*

If a lease is made regarding an emporium, (it) will be made according to [the] previous lease. Hot water is not put in it.

(Ex. 34) *Herm.* Legal Code 3,18: ***iir = w ir ṯḥn*** *r šyš iw = w ir r ḫ p3 ṯḥn nt ḥry*

If a lease is made regarding a *šyš*, they will act according to the previous lease.

The reason for these variations could be an effect of style or, as noted by Hughes,[66] the Second Tense might here be used principally to indicate the beginning of a new juridical case, thus reminding us of the ability of this form to start a new paragraph. And yet, surprisingly, this happens only once in the whole corpus.

[63] G. Mattha and G. R. Hughes, *The Demotic Legal Code of Hermopolis West* (BdE 45; Cairo, 1975).

[64] See, also, the Vienna *Tieromina* (P. Wien D 6218) which J. F. Quack presented at the second Demotische Sommerschule in Cologne (1997), where *iw = w sḏm* varies with *iir = w sḏm* without any apparent reason.

[65] Translated by Hughes (*The Demotic Legal Code of Hermopolis West*, 85) with clear emphasis on the adverbial adjunct: 'If it is for a hatchery (?) that a lease is made, it is in [accord with what is written] above that they shall act for him (sic)'.

[66] Ibid.

Two questions clearly arise: why do both constructions (*in-nʾ.w* with nominal subject[67] or *iw* with pronominal subject[68] and *iir* + nominal/pronominal subject)[69] coexist? Are we then really dealing with a Second Tense acting as a Conditional or just with a spelling of the Conditional?[70] Depuydt, for example, considers 'the Conditional to be the same as the Second Tense'.[71] On the other hand, the Second Tense, used with a conditional meaning, could be part of a separate conjugation not to be confused with the Conditional. Shisha-Halevy, in his review of *Papyrus Vandier*, tried to establish a functional opposition between the conditional expressed by *in-nʾ.w* N *sḏm/iw* = *f sḏm* and by *iir* = *f sḏm*. Unfortunately, he only mentions the problem and does not expand upon it. In his opinion, the 'conditional/temporal protatic *iir* = *f* – (Second Tense)' is 'synchronically well established in Demotic, in opposition and paradigm with the Conditional'; semantically, the Second Tense is more generally connected with specific cases (i.e. 'if', 'when' in a given case, 'as soon as') whereas the Conditional is more generic. He admits that there may be overlaps.[72] However, if we try to apply this hypothesis to the Leiden papyrus, it does not appear to work very well (compare, for instance, *Myth.* 7,16–17 (= Ex. 37), which clearly has a general meaning, with *Myth.* 5,32–3 (= Ex. 9)).

In my opinion, it appears that Second Tenses were—at some stage of the language at least—used concurrently with the Conditional (*iw* = *f sḏm*) in the protasis of conditional clauses. In those cases, however, their emphasizing role is likely to have been put aside, as the form would probably not perform both functions at the same time.[73] The evidence gathered above seems to indicate that, in the course of time, the *iir* = *f sḏm* form evolved into a semi-independent form used to convey conditional meaning. It is also possible that confusion arose in written Demotic because the Conditional and Second Tense markers were pronounced similarly (ϵρϵ) when the subject was a noun or the second person singular feminine suffix pronoun.[74]

[67] For instance, *Myth.* 5,32–4, partially quoted in Ex. 9 ([32]/ . . . *ỉn-nʾ.w msḥ ʿ(ỉ)w n ms n* [33]/ *ʿ.wy nb* ***iir*** = ***f mwt*** *n tʾ ḥny.t nt iw tʾy* = *f niw.(t) tʾy ỉn-nʾ.w ḥf* [34]/ *mtn r-iw* = *f wḥʾ m-sʾ tʾy* = *f* ~~*gnḥy.t*~~ *tphy.t r ʿq r-r* = *s*). In the first case the apodosis is filled with a Second Tense and in the second with a simple Future.

[68] For instance, *Myth.* 5,5 (*iw* = *w nw r-r* = *f*) and 14,15; 14,26; 15,16; 18,20 (*iw* = *f ḫpr*).

[69] It is striking to note that Second Tenses used as Conditionals seem to be less favoured when the subject is a noun. Thus, no examples of *iir* + nominal subject (with Conditional meaning) are found in *Mythus*, whereas only a few are attested in *Onchsheslogy*, for instance (cf. *Onch.* 18,7–8 (quoted n. 61); 25,19; 25,20).

[70] In Coptic, with one exception (Johnson, *Demotic Verbal System*, 255), the Conditional auxiliary was generally used to express conditions with a verbal predicate. In most of the dialects the particle ϣⲁⲛ was included between the auxiliary (ϵρϵ/ⲁρϵ/ⲁⲗϵ, those prefixes being indentical with that of the Circumstantial or possibly Second Present) and a nominal subject or between the pronoun subject and the infinitive. *Magical* 3,29–30 provides us with a unique example of a conditional particle *šʿne*, probably a predecessor of Coptic ϣⲁⲛ. It is striking to note with Ray, *EVO* 17, 262 that Demotic seems to have voluntarily 'ignored the developments' which then came to be part of Coptic language.

[71] *RdE* 45, 56.

[72] *OLP* 9, 426.

[73] This is also, for instance, the opinion of Depuydt, *RdE* 45, 56 n. 19: '*iir* = *f sḏm* can serve as the signal *either* of emphasis on an adverbial element in the protasis *or* of conditional character'. I am well aware of the subjectivity inherent in this opinion, which seems impossible to prove. Nevertheless, I admit there are some cases which would be best translated with a focus placed on the adverbial complement as well, although the Second Tense appears to have been chosen for some other specific reason, to give background information, for instance (cf. translation of Ex. 47).

[74] A contract dating to the reign of Ptolemy III offers us a remarkable spelling of the Conditional: *iw* = *y ḥʾʿ* = *t ḥm.t* ('if I abandon you as wife') in the first person and ***i-ir*** = ***t mr*** *šm n* = *t ḥʾ.t* ('if you wish to leave') in the second feminine person, where *iir* is clearly unexpected (P. W. Pestman et al., *Recueil de textes démotiques et bilingues* (Leiden, 1977), I, 7,7). A similar example with the second person singular feminine

On the other hand, already in Middle Egyptian, the 'nominal *sḏm = f*' could seemingly be used as an equivalent to a temporal or a conditional clause (or, at least, it is best translated in that way), when used in a correlative or balanced construction (*Wechselsatz*).[75] Similarly in Demotic, cleft sentences and Second Tenses can function as couplets, forming a pattern of which the first part is best translated as a temporal or a conditional clause:[76]

(Ex. 35) *Myth.* 7,18–19: [18]/ **ỉỉr = w ỉy** *r ir iby.t n sḫ wꜥ.t rpy.t n Nt r wn wꜥ qš n ḏr.ṯ = s tȝy nt r-iw = w* [19]/ *ir = s*

When they come to write 'honey', it is an image of Neith with a reed in her hand that they make.

(Ex. 36) *Myth.* 9,10–11: [10]/ . . . **ỉỉr = w ỉy** *r ir rnpt* [11]/ *n sḫ wꜥ.t nry.t tȝy nt r-iw = w r ir = s ḫr-r = s*

When they come to write 'year', it is a female vulture that they make for it.[77]

In one single case, both clauses are introduced by a Second Tense:

(Ex. 37) *Myth.* 7,16–17: [16]/ **ỉỉr = w ỉy** *r nhsȝ.ṯ = f tȝ wȝk (?) m-ḏr nȝ ibyṯ.w* **ỉỉr = w** [17]/ *ꜥš r-r = f n wꜥ.t sȝby.t n qše ḫpr r qš pȝy iw mḥṯ Nt n-im = f n tȝ ḥȝ.t*

When they—namely the beekeepers—come to awaken it (in?) the *wȝk*, on a reed flute they (will) call it, because it is a reed which Neith seized at the beginning.

Second Tenses used with an injunctive meaning

In several cases, a Second Tense can be translated either as a Conditional or as an Injunctive:[78]

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suffix pronoun subject in marriage contracts is quoted by Johnson, *Demotic Verbal System*, 113, who considers that, in this particular case, the Second Tense is used to 'emphasiz[e] the reflexive dative *n = ṯ*'.

[75] J.-L. de Cenival, *RdE* 24, 43–5 ('phrases associées en parallèle ou conditionnelles sans *ir*'). For other examples of balanced constructions, see also Vernus, *GM* 43 (1981), 76–82, quoting several Demotic occurrences already mentioned in n. 50 here.

[76] There is a close relation between Second Tenses and cleft sentences, since they both indicate that something is emphasized. The latter is used to signal a marked topic—generally a noun or a pronoun, but the clefted infinitive seems to be able to affect either the infinitive itself or an adverbial phrase accompanying the infinitive— according to the order rheme-theme. There are a number of examples of parallelism between the topic marked by a cleft sentence (and in particular a clefted infinitive) and by a Second Tense: *Herm. Legal Code* 7,7: *ink s in.ṯ = f r ḥry n pȝ yr pȝy ir = y*, 'It is mine. I brought it up from the canal', and its apparent equivalent: *Herm. Legal Code* 7,8: ⌜*mtwk*⌝ *s* **ỉỉr = k in.ṯ** *= f r ḥry n pȝ yr*, 'It is yours. You brought it up from the canal', quoted by Depuydt, *RdE* 45, 54. On the parallel usages of both constructions, see also Vernus, *LingAeg* 1, 342–8.

[77] And similarly, *Myth.* 8,23–5 ([23]/ . . . *ḫpr* **ỉỉr = w** *ꜥš* [24]/ *n = s m-ḏr nȝ ir(y).w ḥȝt phw ḏ pȝ sḫt n shm.t r-iw = s in-iw r ms ꜥš r* [25]/ *Bȝst.t pȝ nt iw = w ir = f r ḥȝ.t n Imn*) and 8,25–6 ([25]/ . . . **ỉỉr = w ms** *pȝ ꜥḥꜥ nt iw tȝy = w mw.t ir = f* [26]/ *n-im = w ꜥn Nḥby.t nt iw tȝ ntr.t tȝy tȝy nt r-iw = w r ꜥš r-r = s r ti ḥy = s*).

[78] In the Ptolemaic decrees, certain stipulations are introduced by a Second Tense and rendered in Greek by an infinitival construction, thus confirming their possible injunctive meaning (*Can.* A8: B29, for instance; see Simpson, *Demotic Grammar in the Ptolemaic Sacerdotal Decrees*, 174–6). For Late Egyptian, cf. P. Cassonnet, 'Modalités énonciatives et temps seconds en néo-égyptien', *LingAeg* 4 (1994) (= *Proceedings of the*

(Ex. 38) *Myth.* 4,12: . . . ***iir = k iy*** *r Kmy* [*p3y = k tš ?*] *bn iw = y ti st3.t = k r n3y t3.w ˁn sp snw*

. . . 'if you return to Egypt, [your homeland], I will never let you go back to these lands'.[79]

OR

. . . 'you should return to Egypt, [your homeland] and I will never let you go back to these lands'.

Translating is always interpreting and, although the Future and the Conditional do constitute two separate constructions, in some contexts they mean effectively the same thing; the idea remains more or less identical whether we translate by a temporal or a conditional or by two coordinated sentences.[80]

J. H. Johnson interprets most of these injunctive instances—occurring actually with second person subject—as forms of the Future without written *r*.[81] As a matter of fact, in the Leiden papyrus also, examples of the seemingly injunctive *iir = f sḏm* all occur with second person subjects; the hypothetical 'predicate' is, as far as I can see, provided in all instances.

(Ex. 39) *Myth.* 11,20–1: [20]/ *tw = t ˁḥˁ r n3y = t yb.w m-qty t3 nry.t ḫn ḥˁ3.t t3y*(= *y*) [21]/ *ḥry.t* ***iir = t sm*** *r-ḥr = y n wˁ qˁḥ n ḥ3.t = t mtw = t ir 3why r-ḥr = y mˁ3.t t3y*

You are standing on your claws like the vulture in a corpse. (And yet,) my mistress, you should greet me *with an embrace of your heart* and protect me. It is the truth.[82]

But there are cases in other texts where no adverbial adjunct is found at all:[83]

(Ex. 40) *Setne* II, 4,27–8: [27]/ . . . ***iir = k wḏ3*** [28]/ ***iir = k wḏ3*** [. . . *p3?*] *Pr-ˁ3 p3y = n nb ˁ3*

May you be healthy, may you be healthy [. . . o?] Pharaoh, our great Lord.

Second Tenses used with contrastive or restrictive emphasis

In *Mythus,* the *iir = f sḏm* form occurs frequently in sections in which the small dog-ape describes two situations which he contrasts:

International Conference on Egyptian Grammar (*Crossroads* III),Yale), 51, who quotes examples of Second Tenses used as correlatives of *iḫ sḏm.f* and of the Imperative. For Middle Egyptian, cf. J.-L. de Cenival, *RdE* 24, 40–5.

[79] This translation corresponds to the Greek version: 'Εὰν ἔλθηις μετ' ἔμοῦ [εἰς Αϒγ]υπτον (AI, 59–60 Second Aorist Subjunctive).

[80] Another example is *Myth.* 13,16–17.

[81] *Demotic Verbal System,* 111, n. 191 and 153 n. 41, for instance.

[82] *Myth.* 12,6–8 provides us with an interesting Second Tense (unfortunately with second person singular feminine pronoun subject): [6]/ *ir ḫb-iry p3y ir p3 trˁ* [7]/ *ir t3 nry.t r t3 qwqwpt.t ir n = s mn-*(*t3 ?*)*-iry.t tw = y ir-rḫ s* [8]/ *ḏ* ***iir = t sḏm*** *= w r ir*< *= t*> *ḥ3ˁ msḏr = t r-ḥr = y iw = y iy irm = t* ('The goose was a friend of the vulture, while the hoopoe was acting as nurse for her. *I know that you should listen to it,* you having put your ears to me, while I come with you.') Some scholars, among them F. de Cenival, argued that a paragraph might have been omitted by the copyist, but two alternative interpretations would be to consider the passage as either temporally structured around the clefted infinitive (creating a background situation) and the Second Tense, organizing the circumstantials—or possibly introducing an injunctive force.

[83] As noted by R. J. Williams, review of *The Demotic Verbal System,* in *Serapis* 4 (1977–8), 83.

(Ex. 41) *Myth.* 11,1–4 [1]/ . . . *šm = w n = w irm = t ḏr = w ḥp = w st r Kmy* [2]/ ***iir = w n ihɜy ḫn*** *Be-wkm šllwl ḫn nɜ štɜ.w* [3]/ *sḏyḥɜ iwt nɜ Ikš.w tɜy(= y) ḥn.t Qmy n ḫnyn.t* [4]/ *ḥr-rd.ṯ = t* ***iir nɜy = t ⌜.wy.w*** *n ir hrw nfr n-im = w* ***nɜy = w iwf.w*** *ḫr sḫy.t*

. . . They have all departed with you. They have hidden themselves from Egypt. (But) they are in jubilation in *Be-wkm* and joy is in the woodlands and amusement among the Ethiopians. My lady, Egypt is in trouble before you. It is in a state of decomposition (?) that your houses where amusement is taken are.[84]

Here, two *sḏm = f* forms are followed by two Second Tenses. The former might have been chosen to highlight the changes since the goddess left: the land of the Ethiopians is euphoric while Egypt is sad. And in fact, the *iir = f sḏm* form is often to be understood as a signal of a change of perspective.

A similar scenario can be found in the long and quite obscure[85] passage of *Myth.* 3,28–34, structured around eight *iir = f sḏm* forms, occurring in sequence. The tense (general present) seems to be contrasted with the past situation denoted by the previous *sḏm = f*. The first Second Tense might serve here to indicate this change, while the following *iir* formations could mark the contrasting circumstances:

(Ex. 42) *Myth* 3,27–34: [27]/ . . . *ḫtm mwt ḥɜ.ṯ = f* [28]/ *r-r = f pɜ nt iw = t n-im = f* ***iir = w ⌜qt⌝ ⌜.wy*** *nb r ḥp = f* ***iir Ḥ⌜py iy*** *r-ḏbɜ* [29]/ *ir n = f mnš.t ḫr ḥl = [f] r tɜ p.t irm nɜ ipt.w ḫr hrw ḫr ḥpr = f ḫn* [30]/ *pɜ mw irm nɜ rym.w [n] mny mtwf nt ti ir skty my* [31]/ *r-iw = f ti ir mnṯ⌜ɜ.t mḥ.t* ***iir = [f?] sḏr wrš*** *irm = n n mny* [32]/ ***iir pɜy = f ⌜nḫ*** *iwt nɜ Hkr.w* ***iir tɜy = f ḫrɜ.t*** *n pɜ tɜ n ⌜r[. . .]* [33]/ ***iir tɜy = f sḏr.t*** *n Pr-iw-lɜm(?)* ***i[ir = f] wrš*** *ḫn nɜ Ikš.w* ***⌜ii⌝r*** [34]/ ***tɜy = f s.t*** *n (?) nɜ Kfṯy.w r-iw = f ḫn Kmy n nw nb*

. . . Death has sealed its heart against it. That (food?) in which you are, all the houses are built to keep it safe. The inundation comes in order to make a covering for it. And [it] flies to the sky with the birds daily. And it happens to be in the water with the fish every day and it is that which causes the day bark to enjoy good wind while causing the evening bark to enjoy northern wind. [It] spends night and day with us, every day. (But) its life is among the *Hkr.w* (as well). Its belongings are in the land of the . . . (also). (And) its place of rest is in *Pr-iw-lɜm* (?), (though) [it] spends the day with the Ethiopians. While being in Egypt at any time, its place is with the *Kftiw*–people (too).

There are also cases which could be defined as having 'focalized predicates', but where actually the Second Tenses seem to be used to call attention to something else: they serve to contrast two elements which are not necessarily 'adverbial' clauses. In Ex. 43, although there is a syntactic opposition between *r-ḥr = y* and *r-r = k*, the focus seems to lie in the antagonistic situation: 'your creating evil' as against 'my being pleasant to you'.

[84] *Myth.* 11,2–3 appears to be quite unusual, as the first sentence comprises a Second Tense with pronominal subject followed by two possible 'predicates' (*n ihɜy* and *ḫn Be-wkm*), whereas the next two sentences have a nominal subject and only one possible predicate, without any *iir* form. Another solution would be to consider that *iir = w* organizes the whole sentence and to supply a preposition before each noun (*n*) *šllwl* and (*n*) *sḏyḥɜ*. The damaged passage of *Myth.* 20,16–17 probably presented the same characteristics.

[85] The fact that there is still an ambiguity concerning the identity of that which the dog-ape is referring to is the main difficulty. E. Bresciani, 'Il simbolismo del "Cibo" nei dialoghi "filosofici" del Papiro Demotico di Leida ("Mito dell'occhio del sole")', in A. B. Lloyd (ed.), *Studies in Pharaonic Religion and Society in Honour of J. Gwyn Griffiths* (EES Occasional Publications 8; London, 1992), 246–50) thought it might refer to the *ge* ('food', 'vital energy') alluded to earlier in the text.

(Ex. 43) *Myth.* 4,32: ***iir = k qm*** *bn r-ḫr = y r-iw = y* ⌜*nḏm*⌝ *(?) r-r = k*

Although I am ⌜pleasant⌝ to you, you create evil for me.

(Ex. 44) *Myth.* 6,1–4: [1]/ . . . *bw-ir ḥbyn kmm n Qmy* ***iir nꜣ fꜥꜣ.w*** [2]/ *n Pꜣ-wꜥny* ***rṯ*** *n qm qš bw-ir = w gm* [*nhy*].*t n-im = w bw-ir* [3]/ *pꜣ tḫb n it ir sty (n) ḏlm* ***iir nꜣ tw.w wtwt*** *n* [4]/ *wy.t n mꜣꜥ.t m-qty pꜣ mꜣqr n ḏwf nt rṯ*

Ebony does not become black in Egypt, (but) the waterways of Punt flourish with reeds and rushes. The [sycamor]e is not found there. The soaking of barley does not produce the scent of the *ḏlm*. (But) the mountains are green through real green stone, like the papyrus clump that grows.

Here the sentences using Second Tenses serve the purpose of introducing a contrast between Egypt and Punt. But there is no need for 'Punt' or 'Egypt' to appear as 'predicates'.

According to Vernus, following Hagège,[86] one should distinguish three points of view in studying a language: morphological, semantic and enunciative.[87] As already noted, the Second Tenses are one means of structuring the language and—like, among others, the particles *iw* and *ꜥḥꜥ.n* in Middle Egyptian—they function mainly on the enunciative level. Therefore, as pointed out by Shisha-Halevy and Vernus, the focus does not have to lie in every case on the adverbial phrase; the direct object or even the subject (i.e. the actor) can be focalized.[88]

To take a further example, in the long speech (*Myth.* 8,10–9,29) introduced by the rubric *nꜣy = s ḫm.w n ⌜my.t* ('her small scratchings (?) of claws'), a recurrent pattern built around a Second Tense occurs four times.[89] It consists of two units, the first one introduced by *iir = k* plus infinitive (referring to the dog-ape), the second one starting with *inky* followed by the copula *tꜣy* (referring to the goddess). Unfortunately, the sense of the passage is obscure, and we do not know to what exactly the goddess is alluding. She appears to be very angry and the whole context, as hinted by the imperative *my ḫpr = f* (*Myth.* 8,22)[90] seems to be injunctive .

(Ex. 45) *Myth.* 8,19–21: [19]/ . . . ***iir = k ⌜q*** [20]/ *r tꜣ wḏy ḏ mtw = k ir nb wrš inky tꜣy tꜣy = f kyḏ* [21]/ *n wnm iw = y n yb m-sꜣ = k r in.ṯ = k*

Would you enter the Sound Eye, to be the lord of time, (although) I am his right hand, I being as a claw after you in order to fetch you?

[86] C. Hagège, *L'homme de paroles* (Paris,1985), ch. 9 in particular.

[87] Although this last designation might seem less appropriate, since everything in language is enunciative; as a consequence, some scholars prefer to use the term 'pragmatic'; cf. Vernus, *LingAeg* 1, 333, for instance.

[88] Shisha-Halevy, *JAOS* 109, 428, and Vernus, *RdE* 41, 188. However, all examples quoted by these authors occur with the 'prospective' *isḏm.f*; for instance, *P. Vandier* I, 9–10 (*mn rmṯ n-im.n iw iw.f (r) rḫ dbḥ ⌜ḥ⌝ n Pr-⌜ꜣ⌝ ⌜nḫ wḏꜣ snb* ***irḫ N*** *dbḥ ⌜ḥ⌝ n Pr-⌜ꜣ⌝ ⌜nḫ wḏꜣ snb*, 'There is no one among us who will be able to ask for a lifetime for Pharaoh l. p. h. (but) it is N who will be able to ask for a lifetime for Pharaoh l.p.h.'). Coptic provides similar examples.

[89] *Myth.* 8,19–21; 8,21–3; 9,6–8 and 9, 16–18.

[90] For the Second Tenses after *ḫpr*, see n. 13, above.

(Ex. 46) *Myth*. 9,6–8: [6]/ . . . ***iir = k ir*** *ʿʿn ẖr tȝy = f pty.t ḏ mtw = k ḫpr m-gty Spt.t* [7]/ *r ir qm nȝy ir qm = n inky tȝ nry.t šps* (*n*) *sn ḥwṯ n nb Nw.t ḏ tȝ nry.t* [8]/ *šps nt iw bw-ir ḥwṯ ḫpr* [*n* (?) *tȝ*]*y = s ẖ.t* (?)

You would become an ape, carrying his bow, in order to be like Sothis, who created those who created us, (whereas) I am the noble vulture (of) the male brother, the lord of Thebes, in other words the noble vulture for whom no male counterpart exists [in h]er body?

The instances quoted above present another case of contrasted actors (you/I) and less focalisation of an adverbial adjunct. The so-called wishes expressed by the Ethiopian cat might be unreal, since, to take a particular example, the unit alluding to the god carrying a bow (*Myth*. 9,6 ff.) is glossed some lines further down (*Myth*. 9,12–14), but this time, referring to the goddess (and not to the god) in the form of a baboon.[91] As a consequence, the words spoken by the Ethiopian cat are not real wishes: they express some kind of condemnation[92] of the dog-ape for having shown himself disrespectful to her; she plays on the idea that she is the (only) one who is represented as a baboon, but he probably thinks so much of himself as to place himself on the same level as her and to carry the bow.

Second Tenses used to introduce a gloss

The Leiden version of the *Myth of the Sun's Eye* gives, at first sight, the impression of being a collection of several often unrelated sections. The text displays some inconsistencies and unexpected indications from a supposed narrator,[93] and we can distinguish two layers of redaction, one being the pure narration of the events and the presentation of the dialogues between the two main figures, the other being a commentary of a supposed

[91] As is clearly indicated by the feminine *wʿ.t ʿʿn.*(*t*) and the occurrences of *tȝ ntr.t*.

[92] A similar conclusion has been reached by E. Bresciani, *Letteratura e poesia dell'antico Egitto*[2] (Turin, 1990), 751–2.

[93] Some unexpected pronouns appear and the scribe sometimes addresses the goddess in the midst of his commentary (cf. *Myth*. 12,12–13 ('*My* lady wished to cause him to be frightened'). Some isolated cases of the third person singular masculine suffix pronoun seem to designate not so much an impersonal subject as an all-powerful anonymous deity (for instance *Myth*. 5,15 and 5,16 (*ḫȝʿ = f*); 5,18 (*tw = f ḫpr = s*); 9,12–13 (*r-iw = f iw*); 21,4 (***iir = f ti*** *ḫȝʿ*)). The account of *Mythus* preserved in the Papyrological Institute of Lille (cf. F. de Cenival, 'Les nouveaux fragments du "Mythe de l'Oeil du Soleil" de l'Institut de Papyrologie et d'Egyptologie de Lille', *CRIPEL* 7 (1985), 95–115, and id., 'Transcription hiéroglyphique d'un fragment du Mythe conservé à l'Université de Lille', *CRIPEL* 9 (1987), 55–71) seems to be more uniform and unfortunately does not bear traces of glossed passages. As for the Greek translation (S. West, 'The Greek Version of the Legend of Tefnut', *JEA* 55 (1969), 161–83), all the more important since this type of comparison was the basis of Polotsky's discoveries, it seems more concerned with the narrative and the dialogues than with the commentary. In the only parallel sentence which contains a Second Tense in Demotic (*Myth*. 3,28 = Ex. 42), the Greek does not seem to give any special treatment to it; on the other hand, the whole passage is damaged and the Greek word-order often appears much more flexible than the Egyptian one. For instance, to take some Biblical examples, even though it often happens that, when in Coptic a Second Tense or a cleft sentence is used to emphasize an element, the Greek equivalent of that element is found before the verb, the opposite also occurs, and one finds isolating emphasis in Greek and seemingly no emphasis in Coptic. Likewise, Sahidic translations—especially in questions and answers to those questions—prefer to avoid sentences consisting of only one adverbial term, thus supplying a Second Tense, whereas in the Greek version the verb is absent. Cf., for instance, L. Depuydt, 'On Distinctive and Isolating Emphasis in Egyptian and in General', *LingAeg* 1 (1991), 48–50.

narrator or recitant who indicates not only the reactions of the characters, but also paraphrases and explains, when he feels it necessary, the contents of their speeches.[94] These adjunctions or glosses referring to 'she' or 'he' chiefly occur between columns 5–9,[95] often considered the most complex and 'philosophical'[96] section of the text, and are often introduced by what seem to be Second Tenses. In this paper I will only give a few examples of this particular function of the Second Tense, since I intend to discuss this point in more detail in a separate study.

The practice of inserting indications to make a text more comprehensible is well attested in Demotic, as in other stages of the Egyptian language,[97] in particular with the comments on the *Book of Nut* preserved in P. Carlsberg I and with the explanations of the oracles from the *Demotic Chronicle*.[98] The *Ritual*[99] provides us again with an early but unambiguous example: at the very beginning of the section dealing with the cutting up of the body in relation to different infuriated deities (*Urk.* VI, 79, 20–85,12), the whole context is summarized by a Second Tense:

(Ex. 47) *Urk.* VI 79, 20–1: *rdi.t(w) tp.k Ḥr ʿȝ ḥkȝw m dndn nt* (sic) *imy Pr-Wsir* (*?*)
iir.f ḏd *r nȝ nṯr.w nt* (*ḥr*) *iṯȝ bȝw r-ḏȝḏȝ.f*

Your head will be given to Horus, great of magic, in the fury of (?) the one who is in Busiris (?)
It is about the gods who get angry at him that it (= the text?) talks.[100]

In *Mythus*, there are clear examples of comments made by an external person who simply resumes or explains what a particular character has just said.

[94] Not only through the so-called stage directions 'his/her voice likewise', indicating who is talking, but also by the rubrics preceding them, which, although often obscure to translate, seem to outline either the mood of the speaker or the contents of his/her speech; cf. F. de Cenival, *CRIPEL* 7, 95–115.; M. Smith, 'Sonnenauge', *LÄ* V, 1082–7. A fragment from *Mythus* in Lille (F. de Cenival, 'Les titres des couplets du Mythe', *CRIPEL* 11 (1989), 141–6) seems to consist of a list of at least 54 similar rubrics. However, they do not (with two exceptions) correspond to those in the Leiden papyrus.

[95] As also noted by Quack *RdE* 42, 198. Glosses do occur later in the text, for instance *Myth.* 21,31–4.

[96] E. Revillout, 'Entretiens philosophiques d'une chatte éthiopienne et d'un petit chacal *Koufi*', *RE* 1 (1880), 153–9; *RE* 2 (1881), 83–9; *RE* 4 (1885), 72–88; *RE* 11 (1904), 116–20; *RE* 13 (1910), 1–28.

[97] For Coptic, Shisha-Halevy, *Coptic Grammatical Categories*, 77 and 96 in particular, records several usages in *Shenute* of the Second Tense which seem close to those attested in the Leiden papyrus. The form is attested in glossing and lemmatic roles (to 'topicalize a quotation or a segment of a quotation', to 'attribute a subjective claim', or to 'present a personal attitude'). H. B. Rosen, 'Die "zweiten" Tempora des Griechischen. Zum Prädikatsausdruck beim griechischen Verbum', *Museum Helveticum* 14 (1957), 133, 149, notes similar usages in the Greek 'Second Tenses' (with the particle δϵ and the reiteration of the glossed words). As far as Middle Egyptian is concerned, the line of evolution, if any, is not easy to trace; there were different ways of introducing a gloss and probably the use of Second Tenses was one of them, but this remains to be investigated.

[98] W. Spiegelberg, *Die sogennante Demotische Chronik des Pap. 215 der Bibliothèque Nationale zu Paris nebst den auf der Rückseite des Papyrus stehenden Texten* (Leipzig, 1914).

[99] See n. 47.

[100] Vernus, *RdE* 41, 186. As noted by S. Schott, *Die Deutung der Geheimnisse des Rituals für die Abwehr des Bösen; Eine altägyptische Übersetzung* (AWL, Mainz Abhand. 5; Mainz, 1954), 159–60, different types of glosses seem to be found in P. BM 10252. Those introduced by *ir pȝy.f ḏd* are translated from the original papyrus, whereas the instances introduced by *iir.f ḏd*, as well as those introduced by *ḏd r*, var. *ḥr.f ḏd r*, are new additions, found only in P. BM 10252 and are also limited to certain sections.

(Ex. 48) *Myth.* 6,4–6: [4]/ . . . ***iir = f mḥy.ṯ*** < = *f* (*?*)> [5]/ *r wyṯ nt iw iny pȝy nt ḫpr ḥr pȝ tw r pȝ mȝqr n ḏwf* [6]/ *nt rṯ ḥn pȝ mw*

(Actually), he compared <it> with the green stone which is the stone which occurs on the mountain and with the papyrus clump which grows in the water.

This is a clear paraphrase of:

(Ex. 49) *Myth.* 6,3–4: [3]/ . . . ***iir nȝ tw.w wtwt*** *n* [4]/ *wy.t n mȝ*ʿ*.t m-qty pȝ mȝqr n ḏwf nt rṯ*

(But) the mountains are green through real green stone, like the papyrus clump that grows.

Similarly, the supposed narrator explains why the dog-ape professed in front of the goddess that 'the lands which are very radiant of malachite are not comparable to one single speck of barley in its manner of growing in your green highlands' (*Myth.* 6,25–7):

(Ex. 50) *Myth.* 6,29–30: [29]/ . . . ***iir = f ḏ.ṯ*** *= s ḏ ḫr ir pȝ wrs ḫrȝ.t mtw = f ti* [30]/ ʿ*nḫ ḥr nb*

He said it because the stock of barley produces food and causes everybody to live.

In *Mythus*, as in P. BM 10252 (above), we encounter a recurrent pattern involving the infinitive *ḏ* as an element of a Second Tense formation (*iir = f ḏ . . . ḏ*[101] and *iir = f ḏ . . . ḫpr*). This formation is attested twenty times in *Mythus*, and appears mainly to have been used to indicate a shift to a different level in the redaction, in other words, to introduce a gloss. As noted by Lange and Neugebauer in their publication of P. Carlsberg I,[102] *iir = f ḏ* there probably refers to the author of a book which is cited or to the book itself, whereas in our text it seems to refer directly to the dog-ape (*iir = f ḏ*) or to the goddess (*iir = s ḏ*):

(Ex. 51) P. Carlsberg I 2,23–5: [23]/ *nn rḫ.tw ḏrw.f n rst mḥt imnt iȝbt*

followed by the Demotic translation and explanation[103]

bn iw pȝ rmt rḫ pȝy = f ȝw n pr-rsy pr-mḥt [24]/ *pr-imnt pr-iȝbt ḏ pȝ kky* ***iir = f ḏ*** *pr-rsy pr-mḥt pr-iȝbt pr-imnty r ti* [25]/ *gm = k pȝ ḫpr iw = f n pȝ qty n tȝ pt*

One does not know its limits to the south, to the north, to the west and to the east, in other words (of?) darkness.
(Actually), he said 'south, north, west and east' so that you might find that it is the circuit of the sky.

[101] *ḏ*, which varies with *ḫpr* in the second section of the pattern, seems to have a range of meanings close to that of Coptic ⲭⲉ. It is therefore not always certain whether we should translate it 'in other words', 'saying' or even 'because'.

[102] H. O. Lange and O. Neugebauer, *Papyrus Carlsberg No I, ein Hieratisch-Demotischer Kosmologischer Text* (Copenhagen, 1940).

[103] However, unlike P. Carlsberg I, *Mythus* does not offer any translation of an original into another linguistic level.

(Ex. 52) *Dem. Chron.* 5,18–19: [18]/ *pȝ kȝmy iir tȝy = k wpe ḏ Pr-ꜥȝ ꜥw.s. iir tȝy = k wpe* ***iir = f ḏ*** *n-im = s (n) Pr-ꜥȝ (Nḫt-nb = f) ḏ tȝy = f wpe ȝfꜥ* [19]/ *pȝ ḥry kȝm my ꜥḥꜥ pȝy = k ḏld* ***iir = f ḏ*** *n-im = s n = fꜥn*

O gardener, do your work! i.e. Pharaoh, do your work!
(Actually), he says it,[104] i.e. his work of devouring, about Pharaoh Nectanebo,
O superior of the gardener, may your hedge keep standing.
He says it about him as well.

(Ex. 53) *Myth.* 6,16–17: [16]/ . . . ***iir = f ḏ*** *wyt r bn-pw = f ḏ k.t-ḫ.t iny ḫpr pȝ wyt Šmy* [17]/ . . . *n ḥf pȝy pȝ iny nt iw bw-ir nȝ tw.w qm pȝ nt wṯ r-r = f*

(Actually), he said 'greenstone' without having named (lit. 'said') other stones, because the green stone of Upper Egypt is the . . . of the serpent, the stone whose better the mountains cannot create.

In the last example, the gloss clearly refers to a word which has just been mentioned, as confirmed by the adjunction 'without having named other stones'.[105] It is also possible that the Second Tense *iir = f ḏ* was chosen here because of its ability to introduce a direct quotation ('greenstone').[106]

In the light of the evidence gathered above, although the picture is in some cases obscured by ambiguous orthographies and in others by our inability to assess the role played by spoken intonation, it appears indubitable that the 'emphasizing' forms are found in too broad a range of uses for them to be explained uniformly as focalizing a 'predicate', and therefore one should consider different grades or types of 'predication'. Even more significantly, strikingly few instances of Second Tenses seem to be explicable only in terms of their attachment to an adverbial 'predicate'.[107] Since this pattern belongs to the informational organisation of the discourse which, as noted by Shisha-Halevy, is 'optional' by nature,[108] any conclusion regarding the Second Tenses is bound to some

[104] Or, possibly, 'he said'. Explanations of the oracles in the *Demotic Chronicle* are more often introduced by *ḏ* than by a Second Tense (*iir = f ḏ* alone or followed by *n-im = s*, var. *n-im = w*). Some scholars, among them J. H. Johnson, have chosen not to translate these expressions in order to avoid dullness and, in her careful discussion of the text ('The Demotic Chronicle as an Historical Source', *Enchoria* 4 (1974), 9), she notes that *iir = f ḏ n-im = s* is to be understood as 'it means'. However, such a translation implies an interpretation, whereas in some cases we are clearly dealing with a simple repetition or periphrase.

[105] Similarly, *Myth.* 6,13–14.

[106] Compare with Ex. 51 and *Myth.* 8,22 (*my ḫpr = f* ***iir = w ḏ*** *r-r = k pȝ nb n nȝ kȝ.w*, 'May it happen that they call you "lord of the bulls" ') where the Second Tense also introduces a quotation. As mentioned by Johnson, *Demotic Verbal System*, 109–10, n. 186, this function might go back to examples of the 'emphatic' *sḏm.n.f* introducing a direct quote in the Coffin Texts: CT IV, 286–7 *ḏd.n.tw miw r.f m ḏd Siȝ r.f* ('He was called "Cat" when Sia spoke about him'). H. J. Polotsky, 'The "Emphatic" *sḏm.n.f* Form', *RdE* 11 (1957), 112, while quoting this example, indicated that the Arabic *innama*, often corresponding to the Coptic Second Tenses, is often used to introduce an aetiological explanation of a strange name or sobriquet.

[107] Similar conclusions have been reached by A. Shisha-Halevy and R. S. Simpson, for instance. Simpson (*Demotic Grammar in the Ptolemaic Sacerdotal Decrees*, 172–7) distinguishes three categories of usage of the Second Tenses in the Ptolemaic Sacerdotal Decrees: (a) as a temporal/conditional clause, (b) with an injunctive meaning and (c) various unclassified instances (among which is a single case of contrastive emphasis. An instance of a Second Tense in a 'narrative-(like) environment' occurs as well). There is an increasing tendency to reject this uniform 'predicate' explanation. Vernus, *GM* 43, 73–88, even concluded that in Middle Egyptian the 'emphatic' function was only a secondary development of the form.

[108] *Coptic Grammatical Categories*, 69, following H. J. Polotsky.

extent to be subjective. As a consequence, because of the subjectivity factor, some occurrences of Second Tenses will necessarily remain open to different interpretations. But the important thing is to be aware of the range of different functions which Second Tenses have; for only thus can one hope to achieve a more accurate translation taking into consideration the pragmatic usage of Second Tenses as well as the syntactic usage.[109]

[109] There is a tendency to discern in this formation not so much a tense as a mood; cf. most recently Cassonnet, *LingAeg* 4, 37 ('qui précise la manière dont le locuteur révèle sa position vis-à-vis de son propos'); cf. also Černý and Groll, *Late Egyptian Grammar*,[3] ch. 26 §106 and Vernus, *RdE* 41, 186. For a slightly different point of view, see Shisha-Halevy, *OLP* 9, 51 n. 2.

HUMAN MUMMIFICATION PRACTICES AT ISMANT EL-KHARAB*

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An estimated 169 inhumations were identified in 15 tomb chambers of the west cemetery at the Roman Period site of Ismant el-Kharab (Kellis) in Egypt's Dakhleh Oasis in the western desert. Of these, 50 were in the form of mummified human remains, about half of which represented deliberate, anthropogenic ('artificial') mummification. Comparison of mortuary practices with contemporary ones of the Nile Valley revealed some general similarities but also some exceptional differences. The most spectacular of these involved the production of composite mummies, prepared by using parts from multiple, different bodies, lashing them to a wood rack and wrapping the whole in such a manner as to resemble the external appearance of a traditional, single, mummified adult cadaver.

THE efforts of G. Elliot Smith[1], F. Wood Jones,[2] and others near the turn of this century have provided us with a base of knowledge regarding Egyptian mummification practices that helps to identify the development and progressive changes occurring over a period of more than three thousand years. While their observations are invaluable, their application to new findings is constrained by several features including their presentation as generalizations without detailed data on variations, their concentration on Egypt's elite class and their emphasis on the New Kingdom. Fortunately, the mummies excavated by Reisner's archaeological survey of Nubia in anticipation of the flooding effect of the higher Aswan Dam led to an understanding of qualitative and chronological similarities and differences in mummification in that geographic area compared with practices in Egypt.[3] However, if we focus on areas more distant from the Nile Valley, such as Egypt's

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[1] G. Elliot Smith, 'A Contribution to the Study of Mummification in Egypt', *MIE* 5/1 (1906), 3–53.

[2] G. Elliot Smith and F. Wood Jones, *The Archaeological Survey of Nubia. Report for 1907–1908*, II. *Report on the Human Remains* (Cairo, 1910).

[3] G. A. Reisner, *The Archaeological Survey of Nubia. Report for 1907–1908*, I. *The Archaeological Report* (Cairo, 1910).

western desert oases our present knowledge is supported by only a restricted number of publications, most of them limited to one or only a few cases.

This description of mummies excavated at a Roman townsite in the Dakhleh Oasis is designed to expand our database about mummification practices for that period employed by a non-aristocratic population remote from the agro-industrial activities of the Nile Valley.[4]

Material and methods

The site

Ismant el-Kharab (Kellis) site is within the depression of the Dakhleh Oasis in Egypt's western desert, about 400 kilometres directly west of the modern city of Luxor (fig. 1). In antiquity Dakhleh was an important trading centre on the caravan route through the desert from the upper Nile to Libya.[5] Although varying in intensity, contact between this oasis and the river populations existed from the Predynastic period, and these western oases were apparently 'Egyptianized' near the end of the Old Kingdom.[6] The site's adobe mausolea, temple and habitation ruins can be seen easily from the road at a point about twenty kilometres east of Mut; these are under excavation by Colin Hope.[7]

In addition to the mausolea and other burial areas, two cemeteries are located just north of the site and these have been excavated by members of the Dakhleh Oasis Project under the direction of Anthony J. Mills.[8] The one designated 31/420-C5–1 contained human mummified remains which are the focus of this presentation. The inhumations had been placed into a series of chambers, some of which had been cut into the face of a clay and sandstone terrace that is about 7 m high and forms a bank of a dry watercourse transecting the site. The chambers' dimensions are roughly 2 x 3 m and average 1 m in vertical dimension. A low, stone-flanked entryway commonly features a lintel, and the entrance area is blocked with a large stone that rarely fits snugly enough to keep out blowing sand. The linen-wrapped bodies were placed into the tomb chambers without coffins. In addition to those mummified remains, many similarly wrapped bodies had decayed into skeletons without attached soft tissue.[9]

[4] As pointed out by Colin Hope, the population of Ismant el-Kharab during this period was not 'aristocratic' when compared with the ruling elite in the main Nile Valley centres, although a range of social levels is represented here, probably middle class in some instances, lower class in others. The community was basically an agricultural one, with some limited industrial activity, such as metallurgy, also present. For an account of human remains from the necropolis at Dush (Kysis) in the Khargeh Oasis, see F. Dunand et al., *Douch*, I. *La nécropole de Douch* (*Oasis de Kharga*). *Exploration archéologique* (DFIFAO 26: Cairo, 1992), esp. 199–223. Dating from the first to the fifth centuries AD, the population provides an oasis community of roughly comparable date and access to resources to that at Ismant el-Kharab under discussion.

[5] L. L. Giddy, *Egyptian Oases. Bahariya, Dakhla, Farafra and Kharga during Pharaonic Times* (Warminster, 1987), 10–13.

[6] Ibid. 174–251, for a summary of Old Kingdom remains.

[7] C. A. Hope, O. E. Kaper and G. E. Bowen, 'Excavations at Ismant el-Kharab', *BACE* 3 (1992), 41–9.

[8] A. J. Mills, 'The Dakhleh Oasis Project. Report on the 1987/1988 Field Season', *JSSEA* 17 (1987), 142–50.

[9] A similar mixture was discovered at Dush; see further below.

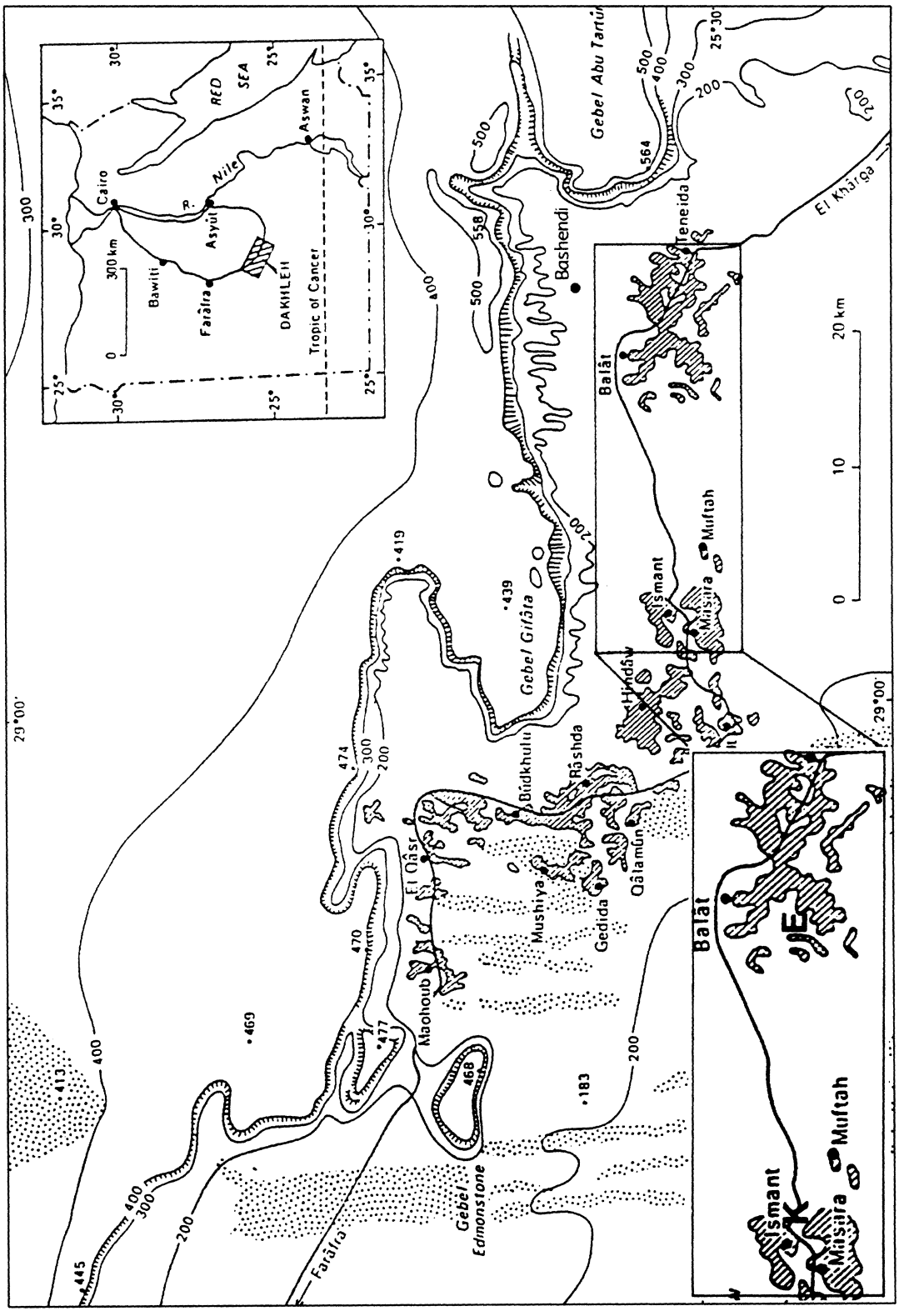


FIG. 1. The Dakhleh Oasis. Note the location (lower left insert) of the cemeteries at Ismant el-Kharab/Kellis (K) and Ein Tirghi (E).

Methodology

During the 1992 field season preliminary review of the mummies was followed by detailed dissection of several bodies,[10] and the following year fifteen bodies were examined in detail. In addition, most of the remainder of the excavated mummies were examined externally and photographed. The detailed dissections were carried out on simple tables out-of-doors, without available electric power. Following unwrapping, meticulous external examination and sampling was performed. All external resin was removed with sufficient care to identify underlying tissue, evisceration wounds or other features of interest. The anterior walls of the thoracic and abdominal cavities were then removed. Viscera were examined *in situ*, then removed, dissected and sampled, and coprolites collected. Attached heads were decapitated at the level of the foramen magnum. Eyes were extracted from the orbits, hair sampled and all soft tissue removed from the skull. After nasal examination for possible transnasal craniotomy, the calotte was removed with a hand-saw and the interior of the cranial cavity inspected. The mandible was detached and the dentition examined. Samples of muscle were acquired aseptically with the help of an alcohol lamp for radiocarbon and biochemical analyses, as was a femur sample of bone. At least one of the long leg bones was dissected and measured for stature estimation. All nonsampled tissue was placed in a labelled plastic bag and returned to the tombs. An appropriate photographic record was carried out for each mummy. Age, sex and stature criteria were employed as outlined in Ubelaker.[11]

Results

Mummification types

Two methods of achieving soft tissue preservation can be recognized in these bodies: spontaneous ('natural') mummification (SM), in which there is no evidence of any human effort made to preserve soft tissues, and anthropogenic ('artificial') mummification (AM), in which such evidence is obvious.[12]

An estimated 169 inhumations had been placed in the 15 tombs excavated from this cemetery. Of these 169 bodies, 18 (11%) had been prepared by AM. Of the remaining 151 bodies in which no recognizable effort had been made to mummify, 27 (18%) had undergone SM. In five mummies prior dissection and partial preservation of only parts of the bodies prevented classification into spontaneous or anthropogenic mummification. The remainder had become fleshless skeletons. Of sixteen AM bodies in whom age at death could be estimated satisfactorily, only one (6%) was a subadult (age five years) below age fifteen years, while of the twenty age-estimable SM bodies, two (10%) were subadults (four and nine years) (X^2 = $p>.05$). No statistically valid gender differences between the AM and SM bodies could be demonstrated. Mummification types and other demographic features for each mummy are listed in Table 1.

[10] M. A. Cook, in A. Herring and L. Chan, *Strength and Diversity* (Toronto, 1994), 259–77.

[11] D. H. Ubelaker, *Human Skeletal Remains* (Washington, D. C., 1989).

[12] The recent survey of human remains at Dush differed from that at Dakhleh in restricting the study to bodies showing a deliberate attempt at mummification (287 of 562), while spontaneous mummification was excluded (R. Lichtenberg, in Dunand et al., *Douch* I, 199).

TABLE 1. *Demographic Features of Dakhleh Mummies*

Tomb and Body number	UMD Autopsy number	Age (year)	Gender	Mummification type
3-A	1	15	M	S
10–6	2	1.8	I	S
3-B	3	25	M	A
4-E	4	21	F	S
2-D	5	48	M	A
8–4	6	48	F	S
12–1	7	23	F	A
3-C	8	9	I	S
2-E	9	5	M	A
2-B	10	48	F	S
8–5	11	28	F	A
I	12	58	M	S
I	13	55	M	A
3-L	14	58	M	A
2-P	15	48	F	A
8–1	16	Ad	M	S
8-S1	18	I	I	A
8-S4	20	30	M	S
8-S5	21	45	I	A
8–3	23	22	F	S
11–4	28	Ad	F	S
2–668	32	15	I	S
2-A	33	Ad	I	S
2–670	34	Ad	I	S
2-R	35	Ad	I	S
2–663	36	45	F	S
2-H	37	Ad	I	S
4-D	38	Ad	I	S
4-C	39	Ad	I	S
6-E	50	15	I	A
15–1	55	Ad	I	I
15–2	56	Ad	I	I
5-A	44	15	F	S
5-B	42	40	M	S
5-C	41	Ad	M	S
5-D	46	Ad	M	A
5-E	48	Ad	I	A
5-F	45	45	F	S
5-G	47	Ad	I	A
5-H	53	9	M	I
5-I	43	Ad	I	A
6-A	49	Ad	I	A
6-B	52	45	F	I
6-C	51	Ad	M	A
8-S1	17	Ad	I	A
8-S3	19	5	I	I
2-M	MZ-1	Ad	M	S
2-N	MZ-2	1	M	I
2-G	MZ-3	Ad	F	A
2-I	MZ-4	Ad	M	S

M = Male; F = Female; S = Spontaneous Mummification; A = Anthropogenic Mummification; I = Indeterminate; Ad = Adult, specific age at death indeterminate.

Evisceration

By definition, no evisceration had been carried out in SM bodies. However, evisceration was not routinely performed on AM bodies.[13] In only ten of these were the remains in such a condition that reliable judgments could be made. Seven of these ten had been eviscerated, but that procedure had not been carried out in the remaining three bodies (see below). Only one body (1–3, autopsy 3) had been eviscerated through the usual, left-sided abdominal incision. This same body had also been eviscerated in part via a perineal incision, and both of these openings had been obstructed with a resin-saturated linen cloth. Such cloths were also adherent to the perineal area of a five-year-old child (2-E, autopsy 9), but the hardened resin prohibited dissection of the area's soft tissues. How much, if any, evisceration had been carried out in this child was unclear because the trunk's body cavities contained not only abundant resin but also the liver and various intestinal loops. In several other AM bodies, evisceration had obviously been carried out, but only partial preservation of soft tissues frustrated efforts to identify the route of the organ removal.

Resin use

The two principal methods of soft tissue preservation employed in these bodies were evisceration and application of resin. At autopsy the latter was a hardened black, crystalline material that included no obvious lighter lumps of crystals which might be expected if residual natron had been present at the time of the resin introduction. The methods of resin use, however, were extremely variable.[14] On many bodies resin had obviously been dabbed on the linen straps to function as glue to hold the wrappings in position. On at least one body (1-A, autopsy 1) a very thin, almost translucent, layer of resin had been painted onto the entire skin surface but nowhere else. It is problematical whether its purpose was sterilization of the skin surface, creation of a barrier to moisture or subsequent insect invasion, or simply to immobilize the initial layer of wrappings. We assigned this mummy to the SM group because the resin layer was too minimal to have contributed to soft tissue preservation.

Introduction of resin into the abdominal and thoracic cavities was also variable. Among fifteen AM bodies resin was present in the abdominal cavity in only twelve and in two additional bodies there was no resin in the thoracic cavity, although the abdomen in those cases contained resin. In twelve, resin was found in both cavities. Of interest was the fact that in only three of twelve heads of AM bodies could resin be found within the cranial cavity, even though transnasal craniotomy had been performed in all of them.

The portal of entry employed for resin introduction into the abdominal, thoracic and cranial cavities varied enormously among these bodies. In the young adult male (autopsy 3) we found the most traditional pattern: a left-sided abdominal incision (obstructed by stuffing a resin-soaked rag into it) had been used for evisceration of both major cavities of

[13] The frequent absence of abdominal evisceration noted at Dush was initially taken to be a sign of spontaneous mummification (ibid. 201), rather than being recognized as a by-product of a different mummification technique.

[14] For resin use at Dush, see esp. ibid. 201–3.

the trunk, followed by introduction of resin. Even in this body, however, additional evisceration and introduction of resin-saturated linen rags had also been carried out through perineal incisions. In a young adult female (autopsy 7) the resin had been poured into the thoracic cavity via a left supraclavicular incision, subsequently sealed by stuffing in a resin-soaked linen tampon. The resin flowed over intact viscera in both trunk cavities before hardening. Resin was also introduced into the thoracic cavity of an elderly female (autopsy 5) in a bizarre manner. In that case the hot, liquid resin had been poured into some container that protected much of the oral cavity except the pharynx, allowing the resin to seep down the trachea, enter and fill the major bronchi from which it eventually escaped, apparently by destruction of the walls of smaller bronchi, penetrating the visceral pleura, coating the thoracic contents and lining (and pooling in its posterior recesses), finally penetrating both sides of the diaphragm to trickle down the abdominal gutters bilaterally.

In that same body a transnasal craniotomy had been performed on the right side, the passage employed to introduce resin into the cranial cavity, and then plugged with a rolled, tubular, resin-soaked, linen nasal tampon. In another case (autopsy 9) the right eye of a five and a half-year-old male had been removed and two defects created that permitted communication between the orbit and the intracranial cavity: a 3.0 × 1.0 × 0.5 cm defect in the posterior orbit and a 1.0 cm defect in the orbital roof. Though the bone around these defects was clean, the perforations were sealed by a rolled, tubular, resin-saturated linen pad, the proximal end of which filled the orbit. In addition, a left transnasal craniotomy had been performed and subsequently also plugged with a resin-soaked, rolled linen pad, the distal end of which reached the sella turcica.

Other variations included one body on which a large linen cloth, apparently soaked in resin, had been placed over a head generously covered with scalp hair, and only the most superficial layer of hair had become impregnated with resin. In another (autopsy 13) only the body surface had been painted with resin, but this had been layered several centimetres thick over the face.

Interestingly, the body cavities in those treated with resin had not been stuffed with foreign material to replace the space of the eviscerated organs. Several of them contained resin-soaked rags, but these were few in number and small in volume. In two they were draped over the spine; in several others the linen cloths had been dipped into resin, rolled into a tubular form and placed into the chest and abdomen. We transected a number of these, but found them to contain only resin, without enclosed organs, tissues, figurines or other material.[15] In some, eyes were removed and replaced with resin while in others the collapsed natural eyes were present and resin had been added to fill the remaining orbital space.

Transnasal craniotomy

For this report, transnasal craniotomy (TNC) is the descriptive term used for the skeletal destruction created to achieve a tubular defect from the nasal cavity superiolaterally

[15] No canopic jars containing preserved viscera were found with the bodies or elsewhere in the tombs, as their use had died out by the Roman Period.

through the skull, penetrating into the intracranial cavity. While the previous section identifies that a defect may occasionally be located in the posterior wall or roof of an orbital cavity, the term is employed by us to mean the common form in which a rod was passed into the nares and pushed upward through the nasal bones and the ethmoid sinuses into the cranial cavity. In the 31 mummies in whom reliable assessment for the presence of this post-mortem lesion could be carried out, all 10 of the AM bodies and 18 of the 21 (86%) of the SM bodies demonstrated this lesion. In only three of these was the defect employed to introduce resin into the cranial cavity, and none contained clothing or other foreign matter (except windblown sand in a few). All ages demonstrated TNC and no gender preferences could be established. In five cases the defect was clearly unilateral on the left, in only one on the right and in two both sides were involved. In the remainder it was not possible to be certain whether one or the other side was involved but it was clear that TNC had been performed. No brain, meningeal or other soft tissues were identifiable within any of the 21 cranial cavities that could be evaluated for this feature.[16]

Composite mummies

At least one of the mummies examined is a composite mummy, assembled from the various body parts of more than one individual. Several others might also be similar. These are the focus of a separate report[17] in which details are supplied. They are, therefore, only briefly reviewed here.

Body 2-P from autopsy 15 had the external appearance of a linen-wrapped adult human body (pl. XXV, 1–2). In its unwrapped state, however, only a small amount of soft tissue remained. The 'body' was composed of a 50–55-year-old female pelvis and severely osteophytic spine, the head of a 30–35-year-old female with minimal dental attrition, the soft-tissue-covered left leg of a 7–year-old child including both feet, and the right leg of the splinted bones of a 3–year-old child. A long, wooden stick (palm-leaf rib) extended from the pelvis through the neck area on which the head was impaled. Simple anatomy establishes that this body clearly is a *mélange* of parts from different bodies. All of these and other skeletal structures were lashed firmly by means of linen straps to a frame composed of palm-leaf ribs. Linen sheets and straps had been deployed to cover all structures in such a way as to present the contours of an adult human body.

Body 12–1 of autopsy 7 was a partially skin-covered young adult female torso with a detached head. A stick of palm-leaf rib was anchored in the spinal canal with resin and protruded from it. The head contained a segment of similar stick wedged into its foramen magnum in a V-shape, one broken end of which matches the end of the stick protruding from the spinal canal. While the body appeared too small for the head, the dentition of the head was not incompatible with the pubic symphysis in terms of prediction of age at death.

[16] See Lichtenberg, in Dunand et al., *Douch* I, esp. 201–3, for an account of cranial evacuation and resin use at Dush.

[17] A. C. Aufderheide, M. Zlonis and L. Cartmell, in *Acta of the Second World Congress on Mummy Studies* (Cartagena, 1995), in press. No such composite mummies were recognised at Dush, suggesting that this may have been a highly localised practice.

Body 8–5 from autopsy 11 consisted only of a young adult female torso without a head. A stick similar to the case above also protruded from the spine. The tomb from which this body was extracted contained two skulls, associated with palm-leaf ribs, which seemed to be candidates for the missing head.

We could find only one reported example in which an ancient embalmer in the Nile Valley had deliberately prepared a composite mummy. The case was that of a Nubian mummy. While not common, we did find rather easily at least a dozen examples of wood splints employed to stabilize various parts of a single mummified body, ranging from reports dated AD 1662 to 1939.[18]

Skeletal and soft tissue preservation

Though it is common custom to use them, the qualitative terms 'well-preserved' or 'poorly preserved' do not communicate much useful information. Aufderheide and Allison[19] have created a simple method applicable to field conditions to express the degree of tissue preservation in at least semi-quantitative terms. Employing this method, numerical values are assigned to skeletal tissues of the principal body parts: twenty points each for the head, chest, abdomen and pelvis, both arms and both legs. These values total 100 if all skeletal tissues are present. The values for the head, trunk and extremities can be assessed in the field and a total value obtained within about 30 seconds, and expressed as 'percent bone preservation' (BP). Similar values are assigned to the soft tissues (but not visceral organs—they are assessed by a separate scoring system) associated with these parts, and the total value is expressed as 'percent soft tissue preservation' (STP). Then the fractions STP/BP (multiplied by 100 for convenience) is a rough measure of the loss of soft tissue relative to that of bone, and is termed the 'soft tissue index'. Experience has demonstrated that, crude as these assessments are, they are very useful and provide information sufficiently reproducible to permit comparisons.

In this study each of the three values for each mummy were established and the mean value for the group was determined and expressed as ± one standard deviation. Results were as follows:

Soft tissue preservation (STP): 51 ± 45%
Bone preservation (BP): 78 ± 36%
Soft tissue index (STI): 65 ± 43%

Interpretations suggest this means that about two-thirds of the soft tissue relating to the surviving bone persisted in these mummies. The rather large standard deviations imply a broad range of preservation among the sampled mummies, and that these include not only a substantial number in which most tissues survived, but also that isolated body parts (isolated extremities, torsos or heads) had been the only surviving parts of a significant number of the studied group to which individual mummy autopsy or

[18] Ibid.

[19] A. C. Aufderheide and M. J. Allison, 'Bioanthropology of Spontaneously Mummified Bodies of a Late Phase Chinchorro Site (Morro 1–6) in Northern Chile', read at the fifty-ninth annual meeting of the Society for American Archaeology, Anaheim, California, 20–24 April 1994.

identification numbers had been assigned. Values in this general range are common when dissections include dozens of bodies, and all isolated body parts are included in the study.

Table 2 lists the various visceral organs of interest and the frequency with which they were preserved in the mummies we examined for this report. These values are expressed in terms of body parts represented—that is, cases were only included if the part of the body normally housing the organ of interest was present. Thus, a headless mummy would not be included in the evaluation of the frequency of preservation of hair. The value of 91% we obtained for hair preservation in all mummies means that, of the 34 mummies which were found having heads, 31 of those heads had preserved hair. Thus, the total number of bodies evaluated vary within this table according to the feature evaluated.

TABLE 2. *Frequency of Visceral Organ Survival*

	Only Spontaneously Mummified Bodies			**All Mummies**		
	Number Preserved	Number of Bodies	% Preserved	Number Preserved	Number of Bodies	% Preserved
Hair	19	19	100	31	34	91
Eyes	11	12	92	20	24	83
Breast	2	10	20	4	14	29
External genitalia	8	12	67	15	24	63
Heart	6	12	50	10	23	44
Lung	8	13	62	12	24	50
Esophagus	0	8	0	1	18	6
Liver	5	11	46	9	20	45
Spleen	0	10	0	0	19	0
Stomach	0	10	0	0	21	0
Ileum	8	13	62	11	22	50
Colon	7	13	54	10	23	44
Kidney	5	13	39	5	22	18
Aorta	2	10	20	2	21	10
Trachea	3	10	30	3	20	15
Brain	0	7	0	0	14	0
Diaphragm	6	12	50	10	16	63
Coprolites	7	12	58	8	21	38

The term 'preserved' in this table is a qualitative term and refers to any amount of an organ's grossly recognizable residual tissue sufficient to identify the organ.

Discussion

Of the estimated 169 inhumations, 50 had been mummified—roughly half by spontaneous (SM) and half by anthropogenic mummification (AM). Neither grave goods nor other criteria could be identified to reflect why these 50 bodies had been selected for mummification. While nearly every tomb included fragments of painted and/or gilded cartonnage masks and footstalls (only a few of which were intact), these same tombs usually also contained a majority of skeletons. With only a few exceptions, however, it was not possible to match the cartonnage items with specific burials.

Comparison of mummification practices in the Egyptian segment of the Nile Valley contemporary with the Dakhleh mummies is confounded by the paucity of data; only that at the equally remote site of Dush in the Khargeh Oasis provides a comparable pool of material.[20] Elliot Smith and Dawson[21] knew of absolutely no examples of examined Egyptian mummies from the later periods available to them when they wrote their text, which still functions as the ultimate resource for Egypt's mummification methods. What *is* clear is the increasing demand that the *external* appearance of the mummified product be as attractive as possible. To that extent, in the Egyptian segment of the Nile the wrapping techniques evolved into elaborate 'criss-cross' patterns, coupled with increasingly complex cartonnage ornamentation. For body preparation during later periods, however, these authors borrowed data provided by examination of the Nubian bodies excavated in the region of Aswan by Reisner in 1907–1908.[22]

In Nubia the complex cloth patterns were far less frequent. Accounts of body treatment document that the later periods were characterized by soft tissue preservation methods that relied principally upon the application of resin. Abdominal evisceration wounds dwindled in frequency with variable organ removal, filling materials, abdominal inclusion of organ packages and decreasing efforts at brain removal. Decomposition of bodies prior to mummification is also described, as well as numerous examples of the use of stabilizing sticks, in these and other reports published between 1662 and 1939.[23] Only one example (cemetery 14, body 54A) of primary composite mummy preparation is cited,[24] and the parts of other mummies in that example are merely long bones of the lower legs.[25] Our perusal of Nubian reports published since 1924[26] failed to identify detailed quantitative studies of Egyptian mummification practices for the later periods of interest that are sufficient to determine whether and to what extent Egypt engaged in significantly different practices.

The recently published human remains from the cemetery at Dush in the Khargeh Oasis[27] provide the closest available parallel to those at Dakhleh, being roughly contemporary in date and coming from a similar Western Oasis community. The use of communal tombs, some specialised (e.g. containing only infants), containing a mixture of mummified bodies and skeletal remains when discovered, was the norm. The excavators[28] considered that some of the poorly preserved skeletons could be from once-mummified bodies, and that mummification was the general practice at the site. Both spontaneous (SM) and anthropogenic (AM) mummification were noted. Bodies were sometimes laid on mats or stretchers, with the limbs normally entended along the sides, as was general in

[20] See n. 4.
[21] G. Elliot Smith and W. R. Dawson, *Egyptian Mummies* (London, 1924).
[22] See n. 2.
[23] See n. 11.
[24] Elliot Smith and Wood Jones, *Archaeological Survey of Nubia, 1907–1908* II, 111, 213.
[25] Ibid.
[26] W. R. Dawson, 'A Bibliography of Works Relative to Mummification in Egypt', *MIE* 1 (1929), 1–48; D. E. Derry, 'Mummification: II – Methods Practiced at Different Periods', *ASAE* 51 (1942), 240–65 plus two plates; W. R. Dawson and P. H. K. Gray, *Catalogue of Egyptian Antiquities in the British Museum*, I. *Mummies and Human Remains* (London, 1968); M. R. Zimmerman and J. L. Angel, *Dating and Age Determination of Biological Materials* (London, 1986).
[27] See n. 4 (volume also contains detailed description and analysis of all individual bodies *in situ*), with nn. 12–14.
[28] Lichtenberg, in Dunand et al., *Douch* I, 200–1.

the Roman Period, although variations in posture were found.[29] Cranial evacuation was often apparent, accompanied by frequent use of resinous material in the cavity.[30] Abdominal evisceration was uncommon,[31] and the exacavators drew the conclusion that rather than employing the most expensive type of mummification described by Herodotus (Book II, 84ff.), embalmers at Dush had preferred his cheaper second or even third class methods, involving no abdominal incision, but dissolving the internal organs by the injection of fluids and immersion in salt, eventually destroying the soft tissues and leaving little more than skin and bones.[32] The general tendency found in the Nile Valley in the Roman Period to concentrate on the physical appearance of the mummy, rather than on scrupulous preservation techniques, was apparent.[33] Incidents of post-mortem accidents (often dental) were high, and in several cases repairs were made with the insertion of palm-leaf ribs to attach detached members.[34] At the other end of the range, a number of bodies at Dush seemed to belong to members of a higher, wealthier social stratum, evincing both cranial and abdominal evisceration and generous amounts of resin in the head.[35] Traces of gilding directly onto the skin, mainly of the head, a practice well known in the Nile Valley during the Roman Period,[36] were found on seven bodies, which also received more careful preservation. Overall, those who analysed the human remains from Dush concluded that despite it being a distant, relatively poor, provincial site, the quality of mummification observable in the necropolis was quite competent, and sometimes of a very high standard.[37]

Comparing the Dakhleh practices with those of Nubia at earlier periods and Khargeh in the Roman Period reveals both similarities and differences. The absence of the use of natron and reliance on resin to preserve soft tissues is clearly a feature of both Nubian and Dakhleh mummification during the later periods. The use of facial portraits had not reached Ismant el-Kharab at the time these mummies were prepared, if, indeed, it ever reached the site; they are unknown in any oasis.[38] Elaborate geometric wrappings are known from this remote site at Dakhleh, although no traces were found with the bodies in the tombs examined here.[39] Employment of stabilizing sticks was certainly proportionately more popular at Dakhleh than in Nubia, suggesting that spontaneous disarticulation prior to mummification had probably occurred (no cut marks were present on the bones). Especially striking at Dakhleh was the variation in method of resin introduction into the body, which included not only the usual abdominal incision and the less frequent perineal incision, but also transorbital, transoral and transthoracic wall ports as well.

[29] Ibid. 204.

[30] Ibid. 201–3. Of the 55 heads examined, 33 showed traces of resin.

[31] See n. 13; only 5 of 47 bodies clearly showed this.

[32] Ibid. 201. This tallies well with the physical state of many of the Dush corpses.

[33] Ibid. 201–4. Attempts to replicate a 'chubby' appearance despite lost tissue were apparent, although restoration was relatively rare and usually confined to the head, with, for example, the use of nasal tampons or resin to seal the mouth.

[34] Ibid. 204. In one instance mummification was not begun until putrifaction had commenced.

[35] Ibid. 203.

[36] Ibid. 203, 235.

[37] Ibid. 201.

[38] Colin Hope, personal communication.

[39] See G. E. Bowen, C. A. Hope and O. E. Kaper, 'A Brief Report on the Excavations at Ismant el-Kharab in 1992–93', *BACE* 4 (1993), pl. 2.

The most startling difference, however, was the production of composite mummies at Dakhleh. The very substantial effort demonstrated in the body 2-P (autopsy 15), made to fashion an externally-viewed product that resembled a single adult body, was unique. Furthermore the probability is high that at least one other (12–1: autopsy 7) and perhaps even a third (8–5: autopsy 11) may be represented at Dakhleh. Our very diligent, though not exhaustive, effort to find reported precedence for this in Egypt has to date identified only a casual comment by Ruffer and Rietti citing a similar, although less dramatic, observation[40] and the one in Nubia cited by Elliot Smith and Wood Jones.[41] None are reported from Dush. Even reports of extensive studies on Egyptian mummy collections at the Manchester Museum[42] and the British Museum[43] in England and in Czechoslovakia[44] have not included examples of composite mummies. The Dakhleh penchant thus appears a very localised feature.

Finally, something needs to be said about the phenomenon of spontaneous mummification at Dakhleh. We classified mummified bodies without visible human effort at soft tissue preservation (i.e. evisceration and resin use) as examples of conservation of soft tissues as an accident of climatic conditions (SM). It is conceivable, however, that the bodies had been desiccated rapidly by deliberate post-mortem exposure to the hot Egyptian sun. It is true that in one of our taphonomy studies an *in vitro* test of this phenomenon in rat bodies resulted in a more rapid desiccation, but that result was accompanied by a devastating increase in soft tissue destruction by bacterial enzyme action.[45] However, that test had been carried out at 43°C. Higher temperatures, enough to inhibit bacterial multiplication, might achieve the desired desiccation result without the tissue-destructive effect. Perhaps the Egyptian midsummer sun could act upon a body in this way. Conceivably some of the bodies without resin became desiccated before soft tissue decay was completed because they were placed in a tomb which permitted the bodies to be covered by windblown sand. Although we have been unable to demonstrate any significant enhancement of desiccation by an alleged capillary action of sand (compared to air exposure) to date in our *in vitro* rat studies, these are not yet complete, and do not exclude that possibility.

One observation is disturbing with reference to our assumption that SM bodies were treated exactly the same way by those burying them as were the skeletonized corpses. That observation is that 100% of AM bodies had been subjected to transnasal craniotomy, as had 86% of SM bodies, but only 3 of a sample of 36 (10%) skulls of skeletonized bodies in these tombs demonstrated TNC. We have not yet dated the skeletonized bodies, but if they are, as we expect, contemporaneous with the mummies, then the vastly different

[40] M. A. Ruffer and A. Rietti, in R. L. Moodie (ed.), *Studies in the Palaeopathology of Egypt* (Chicago, 1921), 127–38.

[41] See n. 2.

[42] R. A. David (ed.), *Science in Egyptology* (Manchester, 1986).

[43] P. H. K. Gray, 'A Radiographic Skeletal Survey of Ancient Egyptian Mummies', *Excerpta Medical International Congress Series* 120 (1966), 35–8.

[44] E. Strouhal and I. Vyhnanek, 'Egyptian Mummies in Czechoslovak Collections', *Sborníck Národního Muzea v Praze* 35B (1–4) (1979), 1–195.

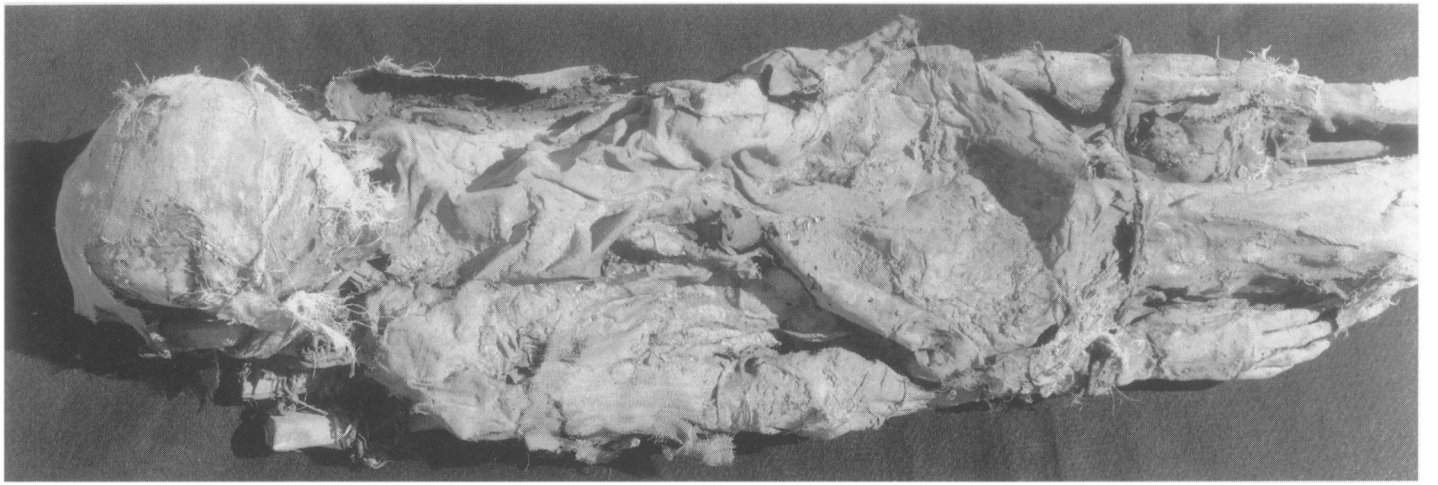
[45] S. Aturaliya, J. Wallgren and A. C. Aufderheide, 'Studies in Human Taphonomy: I. An Experimental Animal Model', *Acta of the First World Congress on Mummy Studies* (Tenerife, 1992), II, 803–12.

TNC rates suggest that the SM mummies were viewed differently from the skeletons by those interring these bodies. This is most likely due to differences in socio-economic status.[46]

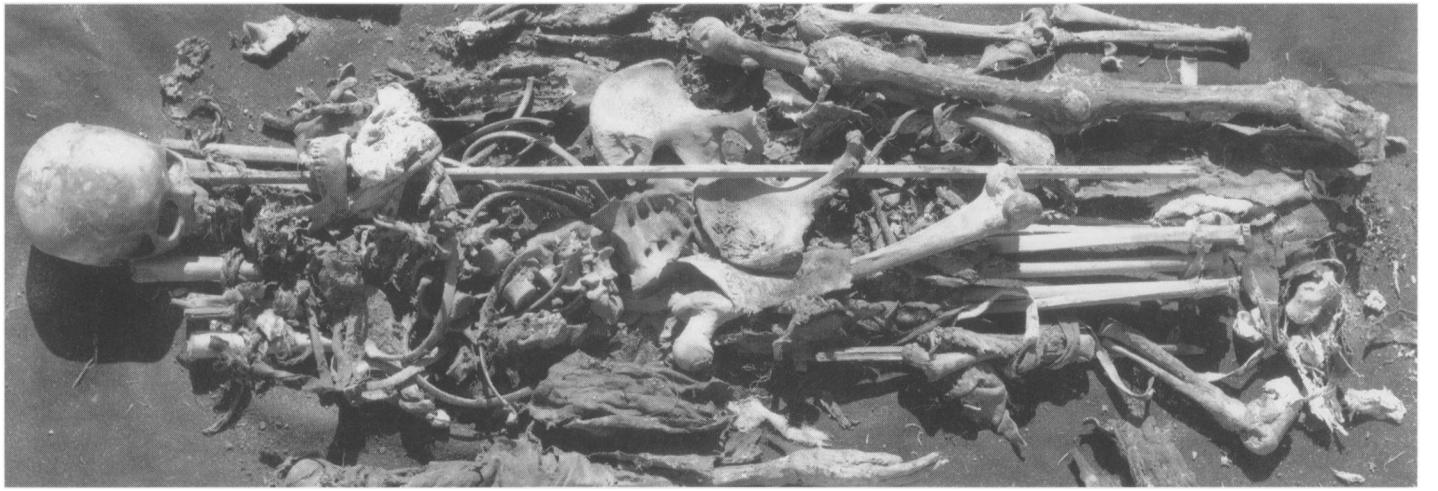
Reconstruction of the mortuary practices at this remote desert site could suggest several differing scenarios. Our working hypothesis is that the majority of the bodies were placed in these tombs without any effort to preserve soft tissues.[47] Episodes of unfavourable climatic conditions resulted in total soft tissue decay in most of these, but in about one out of five bodies, desiccation with soft tissue preservation of at least some body parts occurred. At a later time evisceration and the use of resin were popularized for soft tissue preservation, and these practices were sometimes used to restore some of the former bodies (which had undergone partial spontaneous disarticulation prior to desiccation) to a human, mummified form, using sticks, resin and appropriate wrappings to achieve it. We hope further studies on future excavations will shed additional light on this enigma.

[46] As suggested by Colin Hope.

[47] If so, then there would have been a regional difference in treatment between bodies at Ismant el-Kharab in the Dakhleh Oasis and at Dush in the Khargeh Oasis, where mummification is thought to have been the norm.



1. Composite mummy of body P2, autopsy 15. Partly unwrapped mummy bundle resembling the appearance and conformation of an intact body



2. Body P2, autopsy 15, after removal of all wrappings, revealing a jumble of largely skeletonized body parts. In addition to two adult femurs, a child's soft-tissue-retaining left leg and younger child's skeletonized and splinted right leg are apparent. The cranium was that of an adult younger than the adult pelvic bones

HUMAN MUMMIFICATION PRACTICES AT ISMANT EL-KHARAB (pp. 197–210)

SEBAKH, SHERDS AND SURVEY*

By DONALD M. BAILEY

For at least two centuries ancient city and village mounds in Egypt have been destroyed for agricultural purposes and for the manufacture of gunpowder. It is argued that the spread of *sebakh* from ancient mounds to cultivated ground as fertiliser negates the utility of field survey as a technique for locating ancient habitation in Egypt.

SEBAKH is primarily the remains of mud-brick houses and other structures of the same material, forming the ancient mounds of Egyptian cities and villages, the bricks being made of nutrient-laden Nile silt, added to which is the nitrogen-rich occupational material surviving within the buildings. It also includes courtyard work-areas, and the unpaved streets between houses on which household rubbish was constantly dumped, causing the streets to rise ever higher and turning the ground floors of houses into basements that eventually became useless due to increasing depth, to be filled with rubbish (the multi-storeyed houses of Karanis,[1] for example, were not built that way originally, but floors were added above as those below went out of commission). There were also the droppings of innumerable animals, both inside and outside the houses, as well as the massive rubbish-dumps once a feature of many Graeco-Roman settlements in Egypt and a particular target for papyrus-seekers. An illustration of Tell el-Yahudieh in 1887, according to Amelia Edwards, 'gives an excellent idea of a mound which has been cut and caved away by many generations of Arab husbandmen'.[2] And not only mounds supplied *sebakh*. John de Monins Johnson says of the cemeteries of Aphroditopolis, in northern Middle Egypt, the chief city of the Twenty-second Upper Egyptian nome, that 'as the mounds of the ancient city vanished, the big modern village, or rather group of villages, of some 20,000 souls turned more and more to the cemetery for its supply of *sebakh*, the mud[-brick] walls and hard mud filling of the graves forming a never-failing and invaluable source of supply'.[3] Even high-level alluvium, laid down by ancient Nile floods and cut through by the present river, was regarded as *sebakh* when it was taken away (together with the graves it contained) for agricultural purposes around Dakka in Lower Nubia.[4] The term *sebakh* is not limited to middens.[5]

It is not known when the value of *sebakh* as a fertiliser was first recognised, but the heyday of its removal for mainly agricultural use was the century between about the 1830s and the 1930s, after which *sebakh*-digging by large land companies was generally

* Jeffrey Spencer, Penelope Wilson and Peter Grossmann kindly read the manuscript and supplied some very useful references. I must also thank Peter Clayton, Colin Hope, Catherine Johns, Dominic Rathbone and Pamela Rose for help in various ways.

[1] M. Husselman, *Karanis, Topography and Architecture* (Kelsey Museum of Archaeology, Studies 5; Ann Arbor, 1979), plans 22–43.

[2] *Pharaohs, Fellahs and Explorers* (New York, 1892), 19. The devastation caused by the *sebakhin* is well described in R. Weill, 'Koptos', *ASAE* 11 (1911), 107.

[3] 'Excavations at Atfieh', in F. Ll. Griffith (ed.), *EEF, Archaeological Report 1910–1911* (London, 1911), 6–7.

[4] C. M. Firth, 'The Destruction of the Cemeteries in the Neighbourhood of Dakka (Pselchis) by *Sebakh*-digging', *The Archaeological Survey of Nubia, Bulletin* 5 (1910), 1–9.

[5] As in M. van der Veen, 'A Life of Luxury in the Desert? The Food and Fodder Supply to Mons Claudianus', *JRA* 11 (1998), 103, fig. 2, 108.

officially banned, although *sebakh*-removal, in small and substantial quantities still occurs to the present day, particularly in the Delta, where mounds are often in remote areas.[6] In 1942, also of the Delta, Labib Habachi wrote 'many important ruins have not been excavated, but have been left to the *sebbakhin* who are still very active. Sooner or later these ruins disappear, leaving a few traces or no traces at all of the importance of the old cities they used to represent'.[7]

The Egyptian Antiquities Department, founded in the late 1850s, and always with less influence than the agricultural lobbies, could not prevent the taking of *sebakh* and, indeed, often licensed its extraction. Two narrow-gauge railway tracks[8] penetrating right into the mounds of Hermopolis Magna for the removal of *sebakh* and the movement of sugar cane were constructed no later than 1884 by the Daira Sanieh, a private company producing sugar and probably cotton; Frances Llewellyn Griffith writes in 1901, 'Eshmunên [Hermopolis Magna] is unfortunately outside the jurisdiction of the [antiquities] department; there the Daira Sanieh is master, and the destruction by means of sebakh digging is going on apace'.[9] Sobhi J. Arif, in charge of the antiquities of the Fayum, in 1904 states that 'Le sébakh est d'utilité publique et l'enlèvement en est autorisé gratuitement',[10] and Johnson, writing in 1914 in a long footnote on the activities of the *sebakhin*, says, 'any effort to curtail his energies would be met by the united protest of the Ministries of the Interior, Finance, Agriculture and Public Works'. Johnson also mentions the existence of the 'large contractor with a line and trolley and large gangs of workmen (cf. Hermopolis, Antinoë and today at Socnopaei Nesus)'.[11] The removal of *sebakh* by narrow-gauge railway at the latter site is confirmed by Arthur Boak.[12] He mentions that the fertiliser was transported by boat across Lake Moeris to the southern side of the lake, where fields may well contain sherds from this north-shore site.

In 1901 the Antiquities Service presented to the Ministries of Public Works, of the Interior, and of Finances, 'Instructions sur le sébakh', with nine Articles, which the Service

[6] For recent *sebakh*-removal and mound-destruction: W. D. E. Coulson and A. Leonard, 'Investigations at Naukratis and Environs, 1980 and 1981', *AJA* 86 (1982), 364; A. Nibbi, 'Some Rapidly Disappearing and Unrecorded Sites in the Eastern Delta', *GM* 35 (1979), 41–6.

[7] 'Sais and its Monuments', *ASAE* 42 (1943), 369. In his n. 1 on the same page, Habachi refers to reports by Georges Foucart in *ASAE* 2 (1901), 44–83, 258–64 on a great number of sites visited in the Eastern Delta in 1893–4, showing that even then many mounds had disappeared, and as Habachi says, 'he describes many others of which we do not know now even the position'.

[8] C. E. Wilbour, *Travels in Egypt* (Brooklyn, 1936), 266; G. Roeder, *Hermopolis Magna 1929–1939* (Pelizaeus-Museum, Wissenschaftliche Veröffentlichung 4; Hildesheim, 1959), pl. 88.

[9] *EEF, Archaeological Report 1900–1901* (London, 1901), 9.

[10] 'Rapport sur deux ans passés à l'Inspectorat de Fayoum et de Benisouef', *ASAE* 5 (1904), 52. In the same report (pp.44–7) Arif describes his difficulties in overseeing *sebakh*-extraction at Kiman Faris. See also G. Schweinfurth, 'Zur Topographie der Ruinenstätte des alten Schet (Krokodilopolis-Arsinoë)', *Zeitschrift für die Gesellschaft für Erdkunde zu Berlin* (1887), 59, where he remarks on the 'Hunderte von Sebbách-Gräbern, mit Lasteseln und Kameelen' working at Ptolemais Euergetis in the 1880s. A. Grohmann, *Einführung und Chrestomathie zur arabischen Papyruskunde*, I (Prague, 1964), 14, says of mounds of the same city: 'die 1914 noch einen Umfang von 560 Morgen Land einnahmen und eine Höhe von 20 m erreichten, . . . 1920 auf einen Hektar zusammengeschmolzen und auch dieser Rest . . . durch die dauernde Tägigkeit der Sebahgräber ein halbes Jahr später verschwunden'. In 1908, Maspero states that 'la moudiriéh de Fayoum continue à fournir des quantités énormes d'engrais': G. Maspero, *Gouvernement égyptien, Rapports sur la marche du Service des Antiquités de 1899 à 1910* (Cairo and Leipzig, 1912), 260.

[11] J. de M. Johnson, 'Antinoe and its Papyri', *JEA* 1 (1914), 173, n. 1.

[12] A. E. R. Boak, *Soknopaiou Nesos. The University of Michigan Excavations at Dimê in 1931–32* (Ann Arbor, 1935), 3.

asked to be circulated to the agents of the three Ministries for their guidance.[13] The Ministry of Public Works, in 1910, issued a decree concerning the removal of *sebakh*, requiring that permission should be sought from the Antiquities Service, which would organise effective surveillance; removal without permission would be penalised. The decree lists 545 *tells* or *koms* throughout Egypt to which the decree applied, arranged by Inspectorates and districts, from the Delta to Aswan. The great majority were in the Delta, many in Middle Egypt and the Fayum, few in Upper Egypt.[14] The government itself sold off the rights to entire sites: the whole of the mound of Athribis 'was sold . . . many years ago, to a very rich and influential landowner, who sells the sebakh to various companies and private persons'.[15] In 1924, the Antiquities Service, despite the antiquities laws, had great difficulties in ensuring its own rights. Earlier, in 1906, Gaston Maspero describes the attempted seizure by a wealthy proprietor of the whole site of Medinet Madi, the ancient Narmouthis, in the Fayum, for his own *sebakh*-extraction and agricultural purposes.[16]

At Karanis, the University of Michigan excavators, from the start of their work in 1924, were required to accommodate the Daira Agnelli, a land company with a permit to remove 200 cubic metres of *sebakh* daily, and had to supply that organisation with the soil that was archaeologically excavated. The entire centre of the ancient village had already been eliminated before the commencement of the excavations, and thousands of tons of *sebakh*, consisting of houses and their contents, were extracted by large and small groups of *sebakhin*, often using railways to carry off the earth.[17] At Kom el-Hisn in the Western Delta,[18] Georges Daressy in 1903 reports how quickly the mound was being removed by a land company entitled the Delta Light Railways, and in 1943 Abdeul Hamada and Mustafa el-Amir state that this mound was by then 'scarcely higher than the cultivated land surrounding it, and very few are the potsherds seen on its surface. Half a century ago, it was 7 or 8 metres high . . .' Much of the material later than the Second Intermediate Period has gone.

In addition to its value as a fertiliser, *sebakh* was also used for the industrial production of saltpetre[19] and for the manufacture of fired brick.[20] A possible sign that a saltpetre

[13] The full text of these instructions is found in Maspero, *Rapports sur la marche*, 51–3.

[14] I. Sirry, 'Liste des tells et koms à sebakh', *Journal officiel du gouvernement égyptien* (Cairo, 12 February 1910): extracted by the Institut Français d'Archéologie Orientale (Cairo, 1915). The decree itself, of 7 December 1909, is also published in Maspero, *Rapports sur la marche*, 310–11.

[15] R. Engelbach, 'The Treasure of Athribis (Benha)', *ASAE* 24 (1924), 178–9. Earlier difficulties for Inspectors and *gaffirs* in policing *sebakh*-producing sites are given in Maspero, *Rapports sur la marche*, 94 (at Hu and Armant), 95–6 (the Delta), 291 (Middle Egypt), 319 (the Delta and the Inspectorate of Alexandria).

[16] Maspero, *Rapports sur la marche*, 206, 227.

[17] A. E. R. Boak and E. E. Peterson, *Karanis, Topographical and Archaeological Report of the Excavations during the Seasons 1924–28* (Ann Arbor, 1931), 3–4; Husselman, *Karanis, Topography*, 1–2. The Daira Agnelli used a Decauville railway: E. K. Gazda, *Karanis, an Egyptian Town in Roman Times* (Ann Arbor, 1983), 3, fig. 5: Boak and Peterson, *Karanis, 1924–28*, plan I shows the extent of the railway.

[18] G. Daressy, 'Rapport sur Kom el-Hisn', *ASAE* 4 (1903), 281–2; A. Hamada and M. el-Amir, 'Excavations at Kôm el-Hisn, Season 1943', *ASAE* 46 (1947), 101. At Kom Afrin, not very distant from Kom el-Hisn, and described by Edgar as the largest mound in the Western Delta, much had already 'been dug away by the Arabs for earth' by 1884, when Petrie examined it: W. M. F. Petrie et al., *Naukratis* I, *1884–5* (MEEF 3; London, 1886), 94. 'Since then the Delta Light Railway has run a branch into the mounds, and enormous quantities of earth have been removed': C. C. Edgar, 'Inscribed Stones at Kom Frin and Kom Barnougi', *ASAE* 11 (1911), 277–8.

[19] See D. M. Bailey, 'A Ghost Palaestra at Antinoopolis', *JEA* 85 (1999), 237–9.

[20] Arif, *ASAE* 5, 45. The *sebakh* of rather less than a quarter of Kiman Faris was set aside for fired-brick production; see also Schweinfurth, 'Ruinenstätte des alten Schet', 61.

factory was sited at or near an ancient mound where large-scale *sebakh*-removal has taken place is the quantity of pottery sherds remaining. Sherds are a nuisance for saltpetre production and were sieved out by the *sebakhin*. At el-Ashmunein sherds lie deep (sometimes massed more than a metre thick) on the south and south-west part of the mound, near the saltpetre/gunpowder factory there, but are more scattered at the north and east, where the *sebakh* was removed by railway by the Daira Sanieh to be spread on the fields. The huge mass of Kom Kassum on the north-west was reduced enormously by the Daira Sanieh (its southern extent had earlier gone to the saltpetre works). It completely buried the now exposed Amun/Thoth temple of Ramesses II, Merenptah and Seti II, and in wide areas it has been taken down to Third Intermediate Period levels. The houses of subsequent dates, Late Dynastic, Ptolemaic, Roman, and very probably of the early Arab Period, have all been removed, but only a comparatively thin layer of sherds remains; most of the pot fragments from more than 10 m depth of mound must have gone with the *sebakh*. Breccia states that *sebakh* from el-Ashmunein was taken on the Daira Sanieh's railway as far as Minya, some 40 km away.[21] Whether there was a large or small sherd content in this *sebakh*—there must have been some—a certain amount of pottery fragments from Hermopolis Magna was spread on the fields around Minya. Maspero in 1907 writes of the 'disparition progressive des tells à sébakh', developing from simple local operations to a veritable industry, with light railway companies carrying the fertile earth for sale far away.[22]

Because of a saltpetre factory there, Antinoopolis also has large areas of deep-lying sherds, but most ancient mounds do not, even those that have been almost entirely removed for their fertiliser content, like Theadelphia, Euhemeria and Kom es-Shalawi in the Fayum, where a fair sprinkling remains, but no massed amounts of sieved-out sherds. Nor is there much pottery remaining at Kom Danial, which has been completely removed to the underlying rock except for areas of thin earth and low piles displaced by bulldozers. At Kom Talit, the ancient Talei, where large areas have been stripped down to bedrock and the remainder to its early Ptolemaic founding level, the pottery is remarkably sparse; not much above a hundred diagnostic sherds were found in 1995 during a surface survey. No large quantity has been sieved out to remain on site: thousands upon thousands of sherds must have built up in the occupation levels of thirteen hundred years of the village's life and where they have all gone is very puzzling.[23]

[21] See E. Breccia, 'ΕΡΜΟΥ ΠΟΛΙΣ Η ΜΕΓΑΛΗ', *BSAA* 7 (1905), 26. For Kom Kassum, see A. J. Spencer, *Excavations at el-Ashmunein*, I. *The Topography of the Site* (British Museum Expedition to Middle Egypt; London, 1983), 5; for the Amun/Thoth temple, found in 1901, see A. H. Sayce, 'Notes from Egypt', *PSBA* 24 (1902), 86; Maspero, *Rapports sur la marche*, 39–40; and M. Chaban, 'Fouilles à Achmounéîn', *ASAE* 8 (1907), 211–21: for Kom Kassum rising high beyond the temple and the Daira Sanieh's railway in front, see his pl. i. See also Roeder, *Hermopolis Magna*, ch. II §§ 83–9. For the British Museum excavations within the depleted Kom Kassum, see A. J. Spencer, *Excavations at el-Ashmunein*, III. *The Town* (British Museum Expedition to Middle Egypt; London, 1993), 13–50 (Area W: Third Intermediate Period housing); 51–71 (Area C: First Intermediate Period cemetery, perhaps kept clear until the end of paganism, but then built over).

[22] *Rapports sur la marche*, 231–2.

[23] These Fayum sites were examined or surveyed during Dominic Rathbone's South-west Fayum Survey of 1995–8, projected in 1993 (D. Rathbone, 'Towards a Historical Topography of the Fayum', in D. M. Bailey (ed.), *Archaeological Research in Roman Egypt* (*JRA* Supplementary Series 19; Ann Arbor, 1996), 50–6): for the first two years see D. Rathbone, 'Surface Survey and the Settlement History of the Ancient Fayum', in A. D. Natale and C. Basile (eds), *Archeologia e papiri nel Fayyum, Atti del Convegno Internazionale, Siracusa, 24–25 Maggio 1996* (Syracuse, 1997), 7–20. Also C. Kirby and D. Rathbone, 'Kom Talit: the

Two possible explanations for this phenomenon are that the sherds have been either purposefully removed from the site after being sieved out for whatever purpose (see below) or that they were taken with the *sebakh* to the fields where the latter was employed as a fertiliser: sherds do not matter in agricultural land and, indeed, lighten the soil or were thought to do so.

Johnson[24] mentions that in the south of Antinoopolis, where the *sebakhin* had been and were working in 1914, digging *sebakh* for agricultural use, sherds were sifted out and left behind. He was also told that huge quantities of such sherds had been carted off to be used, presumably as hardcore and in concrete, in the great barrage at Assiut, built between 1898 and 1903. Some of this material may, of course, have already been sieved out for the Antinoopolis saltpetre factory. In addition to this, it appears that in the later years of the nineteenth century and the early decades of the twentieth, the Antiquities Service had the right to sell the *shakfs* (sherds) abstracted by the *sebakhin*.[25]

At Naukratis in 1884 Petrie noted that about a third of the mound had 'been cleared out already by the Arabs, in digging for earth to lay on their fields'. The area concerned was 'heaped over with the broken pottery, which has been found and cast aside by the Arabs in their removal of about thirty feet of earth, the heaps [of sherds] being from a few inches to five or six feet in depth'.[26] William Coulson mentions that at Naukratis the modern-day farmers, presumably after its removal from the mound, extract from newly deposited piles of *sebakh* in the fields 'as many sherds as possible before spreading it over the fields'.[27] Colin Hope tells me that at the site of Mut el-Kharab in the Dakhleh Oasis on several occasions he observed people removing sherds and was told that they were scattered on recently tilled fields to keep the soil open.[28] At Dakka, where we have seen that ancient alluvium plus the filling of graves were taken as *sebakh*, Cecil Firth says that large bones and heavy pots were left in the graves, but that 'Pottery generally shared the fate of the smaller bones, being smashed to pieces and sent out with the earth' to be spread on the cultivated areas near the Nile.[29] It is probable that some agricultural *sebakh* contractors and individual farmers removed sherds and some did not; others would have been careless in their assiduousness with regard to removal, and even those who attempted the removal of all sherds were unlikely to be wholly successful.

What implications can be drawn for survey work in Egypt? Because of the way agriculture was organised from ancient times until the Aswan High Dam, governed as it was by the annual inundation, people had perforce to build on mounds of their ancestors' creation. Hamlets, villages and cities were sharply defined from the cultivated areas appearing, as Herodotus noted (Book II, 97), as islands during the flood, with mounds

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Rise and Fall of a Greek Town in the Faiyum', *EA* 8 (1996), 29–31 (here the village's date range from before 250 BC until AD 1064/5 is given). Fields are now being laid out over Talit.

[24] *JEA* 1, 174.

[25] Maspero, *Rapports sur la marche*, 15, 36, 83, 122 (fraudulent sale of *shakfs*), 173 (theft of *shakfs*). The sale of these sherds was earmarked for the publication budget of the Antiquities Service, and tables on pp. 115, 145 and 190 show receipts for *shakfs* linked with sales of publications.

[26] *Naukratis*, 9.

[27] W. D. E. Coulson and A. Leonard, *Cities of the Delta*, I. *Naukratis, Preliminary Report of the 1977–78 and 1980 Seasons* (Malibu, 1981), 50. The sherds thus removed were spread along the edges of the fields and unless collected and taken away, will eventually and confusingly get into the ground elsewhere.

[28] Personal communication.

[29] *Archaelogical Survey of Nubia, Bulletin* 5, 3.

rising up as houses were built upon earlier houses, but not spreading much into arable land. In no country but Egypt did this occur.[30] Individual farmsteads and houses have no place within the fields. Even now, with no inundation, and despite the fact that the population has very recently begun to increase catastrophically, modern villages are not expanding to a great extent into the cultivation, but those on and adjacent to ancient mounds are pushing into them whenever possible. And not only villages: Medinet el-Fayum, the city of that province, has over the last few decades spread to all but cover and obliterate the widespread mounds of the ancient city of Shedet/Crocodilopolis/Arsinoe/Ptolemais Euergetis/Kiman Faris.[31] The many hamlets and villages whose names are known from the papyri may exist still as unidentified small mounds, are perhaps buried completely under the silt of successive annual inundations or, much more likely, form the basis of modern villages and will thus not be located. However, the mounds (those that are left after more than two centuries of concentrated *sebakh*-removal, more than a century of total eradication to cultivation level so that the site can be used for agricultural land, and more than half a century of modern social and industrial development) can be surveyed with profit as entities as mounds in their own rights,[32] to plan their extent and visible structures and to determine as far as possible their latest use from the sherds found on the surface (a not altogether exact science but certainly of value).

Where an ancient site, known from maps such as were produced by the Revenue Survey of Egypt between 1892 and 1907,[33] has all but or entirely disappeared, it will have a scattering of sherds. The Roman and early medieval Kom es-Shalawi and the late Roman Kharabet Zakia, located during Dominic Rathbone's survey in the *meris* of Polemon in the Fayum, are just such sites, each partially hidden by a modern village, both partially extending into the adjacent fields where once their mounds rose up. They will very soon completely disappear. In addition to villages beginning to extend onto them, mounds are being nibbled away at the edges to enlarge fields, even today;[34] mounds have

[30] Some believe that the inundation, with its silt content, was not allowed to cover the agricultural land of the Fayum, the water of the main irrigation canals being regulated to obviate this (for example, see R. S. Bagnall, *Egypt in Late Antiquity* (Princeton, 1993), 116), but this suggestion is unlikely. In high flood years the surge along the Bahr Yusuf must have been such that a good proportion of the Fayum's cultivable land was covered. The classic *tells* of the Middle East were not limited by inundated cultivated land but by defensive walls, known in only a few cities in Egypt and not in villages.

[31] A. N. Hewison, *The Fayoum* (Cairo, 1986), xi ('the rape of Kiman Faris'), 41–2.

[32] As with Rathbone's work in the Fayum (in *Archeologia e Papiri nel Fayyum*, 7–20) and Spencer's in the Delta: A. J. Spencer, 'Roman Sites in the Northwest Delta', in U. Luft (ed.), *Intellectual Heritage of Egypt: Studies Presented to László Kákosy* (Studia Aegyptiaca 14; Budapest, 1992), 535–9. Similar surveys have been carried out in the north-east Delta during 1997 by Patricia and Jeffrey Spencer, but are yet to be published (a report has been made to the Committee of the Egypt Exploration Society). Another useful survey, in which some of the points discussed in the present paper are mentioned, is S. R. Snape, *Liverpool University Delta Survey: Six Archaeological Sites in Sharqiyeh Province* (Liverpool, 1986).

[33] H. G. Lyons, *The History of Surveying and Land-Measurement in Egypt* (Cairo, 1907). Very detailed maps of 1:2500 and some of 1:4000 of most of the cultivable land of Egypt were produced (to ensure the government received its full land-tax), together with others of much smaller scale (of 1:50000 and 1:100000). Modern maps of 1:25000 are based upon this survey, but with recent features added and some material omitted. I have been unable to trace copies of the 1:2500 and 1:4000 maps in Britain, but, known as cadastral maps they are readily obtainable in Egypt.

[34] For recent expansion onto mounds, see A. J. Spencer, *Excavations at Tell el-Balamun 1991–1994* (London, 1996), 11, and there has been large-scale agricultural spread over the low-lying site of Amarna: B. J. Kemp, 'Outlying Temples at Amarna', in B. J. Kemp (ed.), *Amarna Reports*, VI (EES Occasional

disappeared entirely,[35] and will continue to do so. But the positions of these lost mounds are known from the Revenue Survey of Egypt maps which recorded all such signs of ancient villages: surface survey, using these maps (known also as cadastral maps), may eventually be employed to locate these mapped but now vanished villages if it is thought worthwhile.

Fields where mounds once were can give useful results, but mainly to excavators rather than surface surveyors. Labib Habachi, working in the Delta between 1942 and 1945, showed that mounds in the Avaris area, several of them in part reduced to cultivation level, were fruitful archaeologically.[36] Penelope Wilson has recently described[37] how surface sherd collection in cultivated fields now within the lowered mounds of Sais gave no useful results, despite substantial subground structures showing on magnetometer readings: the sherd material was very mixed chronologically. The same can be said for material from the destroyed northern mounds of Kom Kassum at el-Ashmunein, mentioned above. In contrast, surface sherds from the largely untouched desert-edge mounds in the Fayum, for example, give more coherent results. Sais was another victim of the Delta Light Railways.

Fields can be extended into sites at the desert edge, as at Amarna and Kom Talit,[38] but this practice is often severely limited by the abrupt rise of the desert almost everywhere. To make the new fields level with the existing cultivation and thus able to be irrigated involves removing an immense amount of the desert for only small gains. Any desert-edge ancient settlement or cemetery dug away in such an exercise might be eliminated completely and no sign of it or its pottery would remain to be found by a survey conducted in the agricultural land thus obtained. Of course, for great distances beyond the cultivated land, the desert edge itself, is eminently suitable for surface survey.

Sherds are indeed to be found in fields away from mounds, but they normally do not represent ancient settlement: no structure may ever have existed where they lie. Most sherds in fields got there by the spreading, as fertiliser, of *sebakh*, probably from a nearby ancient mound, but possibly from a distant one. Modern wide-ranging archaeological field survey techniques as used in Europe, North Africa and elsewhere[39] cannot, in Egypt, indicate the extent of an ancient village or city beyond the main mound, because it

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Publications 10; London, 1995), 411–62, particularly 416. Rather earlier, in 1924, the devious means used by farmers to encroach upon the isolated mounds in the Delta are described by H. Abou-Seif in his 'Report on the Inspectorate of Tanta', *ASAE* 24 (1924), 146–9. As early as 1903 the practice of neighbouring proprietors of usurping parts of mounds was mentioned by J. E. Quibell (Maspero, *Rapports sur la marche*, 96). See also Snape, *Delta Survey*, 1.

[35] C. C. Edgar describes the removal of a small mound in the Delta, except for the centre which supported a sheikh's tomb. The material was transported 400 m to fill in four pools within the village of Dondit: 'Report on the Demolition of Tell Sheikh Nasreddin', *ASAE* 13 (1913), 122–4. The sherds within the mound were thus taken to a place, admittedly not far away, at which they were not originally deposited.

[36] 'Khatâ'na-Qantir: Importance', *ASAE* 52 (1954), 443–562. For Avaris in general and the results of two decades of work in the fields where once its mounds lay, see M. Bietak, *Avaris: the Capital of the Hyksos, Recent Excavations* (London, 1996), with references.

[37] In an EES lecture of 20 January 1999, 'Surveying the Royal City of Sais' and in a personal communication.

[38] See nn. 34 and 23.

[39] As in Italy, T. Potter, *The Changing Landscape of South Etruria* (London, 1979); in Greece, W. Cavanagh et al., *Continuity and Change in a Greek Rural Landscape: The Laconia Survey* (London, 1996); and in Tunisia, D. L. Stone et al., 'Suburban Land-Use and Ceramic Production around Leptiminus (Tunisia)', *JRA* 11 (1998), 304–17. There is a vast number of other examples of this fashionable but useful activity.

is probable that these were never much larger than the surviving mound, or at least the mound as mapped by the Revenue Survey. Nor can they show individual ancient houses or workshops outside a village, as such structures are very unlikely ever to have existed: they would decrease the area of the cultivable land and lessen the amount of taxes levied. In more recent times some important local officials occasionally had separate dwellings outside villages, probably on expanded areas of dykes,[40] but only since the stoppage of the inundation in 1971 have the wealthy started to build country houses within fields or has the erection of large buildings for the factory-farming of chickens and eggs taken place away from the villages.

At Naukratis a survey of the fields surrounding the mound (which consists mainly of a lake where the mound has been removed by the *sebakhin*, but includes surrounding modern villages and a cemetery) was undertaken during the late 1970s and early 1980s, 'in an attempt to discover the extent of sherd cover and hence to determine, if possible, the perimeters of the ancient city'.[41] Sherds gradually thinned out at distances of more than two km north and south of the mound and it is suggested that Naukratis extended that far.[42] But care must be taken in interpreting such evidence: even one of the three Greek cities of the Egyptian *chora* is unlikely to have been six km in length. All that is shown by this field survey is the area over which *sebakh* from the city mound has been spread in modern times, an opinion also arrived at by Dominic Rathbone.[43]

In conclusion it can be said that *sebakh* extraction and the saltpetre industry have destroyed more ancient mounds in Egypt than one cares to contemplate; that others are still being lost to housing, to industrial development and in particular to agriculture; that sherds are meaningful only on the mounds (or where mounds have been) but not in the surrounding fields; and that large-scale field surveys are in all probability not worthwhile in the cultivated areas of Egypt. The desert is another matter.

[40] For example, the house of Yakub Pasha at Naukratis: Petrie, *Naukratis*, pl. xl. In antiquity structures within the cultivation probably consisted only of flimsy shelters, as can be seen today, as discussed by A. Syrcou in P.Oxy. LXVI 4536–8; these may have generated a minimal amount of sherd material.

[41] W. D. E. Coulson et al., *Ancient Naukratis* 2, Part I: *The Survey at Naukratis* (Oxford, 1996), 11; Coulson and Leonard, *AJA* 86, 371–5. The small mound of the nearby village of Nebire is suggested as being within the confines of the city, but it is perhaps best to regard it as a separate ancient hamlet below the present-day village.

[42] Coulson, *Ancient Naukra tis*, 12–13.

[43] Reviewing Coulson et al., *Ancient Naukratis*, he states 'the surviving surface pottery . . . may reflect the modern process of destruction more than the ancient pattern of settlement': *AJA* 102 (1998), 635.

BRIEF COMMUNICATIONS

Note on the pyramidion found at Dahshur

The significant discrepancy between the slope of the pyramidion found at Dahshur and the slope of the Red Pyramid, beside which it was found, suggests that this pyramidion might have been planned for another pyramid. Study of surviving pyramidia and the evidence provided by the other pyramids in the area seem to point to the second stage of the construction of the Bent Pyramid as its original destination.

IN 1982, the expedition of the Deutsches Archäologisches Institut Kairo at Dahshur discovered fragments of an uninscribed limestone pyramidion among the debris surrounding the Red Pyramid.[1] Although still in pieces, the pyramidion immediately appeared to be steeper than the pyramid. The discrepancy was ascribed to a deliberate variation of the slope of the pyramid during construction, in order to make the uppermost part of the monument more visible from the ground.[2] Since then, the fragments have been assembled and placed in front of the pyramid. The result of the reconstruction, however, raises questions about the relationship between this pyramidion and the Red Pyramid.

Because of the large number of fragments and the generous use of plaster in the reconstruction, the surfaces of the pyramidion are slightly irregular. Nevertheless, at about 96 cm from the top, measured along the edge, it is possible to measure the breadth of the faces directly on the original pieces. They are about 96 cm wide, which means that the four faces were each equilateral triangles. The pyramidia of Amenemhat III (at Dahshur) and Khendjer, both in the Cairo Museum, show the same proportions, that is, the length of the edge is equal to the length of the base.[3]

The Egyptians measured the slope, which was called *seked*, as the horizontal displacement of the sloping face for a vertical drop of one cubit.[4] That is, they measured the number of cubits, palms and fingers from which the sloping side had 'moved' from a vertical line at the height of one cubit. Basically the Egyptians constructed a right-angled triangle: of the two *catheti* (i.e. the two sides at a right angle to one another), one was equal to one cubit, the other corresponded to the *seked* (fig. 1).[5] In a pyramid, if edges and base have the same length, the four faces are four equilateral triangles resting on oblique planes inclined toward the vertical axis. The slope of such a pyramid can be measured as 54°30', or a *seked* of 5 palms (fig. 1b). Although it does not seem to have been a very regular piece altogether,[6] the pyramidion found at Dahshur appears to have shared these geometrical characteristics.

Of the casing of the pyramids of Amenemhat III and Khendjer, only loose blocks survive and for both it was possible to ascertain that their slope was between 54° and 56°.[7] These

[1] R. Stadelmann, 'Die Pyramide des Snofru in Dahschur. Zweiter Bericht über die Ausgrabungen an der nördlichen Steinpyramide', *MDAIK* 39 (1983), 235–6. The location and condition of the pyramidion led Krauss to suggest that the stone was never placed on the top of the Red Pyramid and that, therefore, it did not break during the fall but was smashed on the ground (R. Krauss, 'Zur Berechnung der Bauzeit an Snofrus Roter Pyramide', *ZÄS* 125 (1998), 30).

[2] Stadelmann, *MDAIK* 39, 236.

[3] About 187 cm for Amenemhat III (JE 35133 and 35745) and about 141 cm for Khendjer (JE 53045) (measurements taken in the Cairo Museum).

[4] Cf. R. Gillings, *Mathematics in the Time of the Pharaohs* (New York, 1972), 185–7, 212.

[5] This triangle is proportional to half the vertical section of the pyramid, i.e. it is a small version (only one cubit high) of half the vertical section.

[6] R. Stadelmann, *Die ägyptischen Pyramiden* (Mainz, 1985), 101.

[7] D. Arnold, *Der Pyramidenbezirk des Königs Amenemhet III. in Dahschur* (Mainz, 1987), 13; G. Jéquier, *Deux pyramides du Moyen Empire* (Cairo, 1933), 30. Jéquier's drawings of the pyramidion of Khendjer might be misleading, since he drew the plain faces, not their projection: the triangle in his drawing is, therefore, the form of the faces of the pyramid (four equilateral triangles with a slope of 60°), not of its vertical section (the *seked* of which is 5 palms, corresponding to 54°30'. See fig. 1).

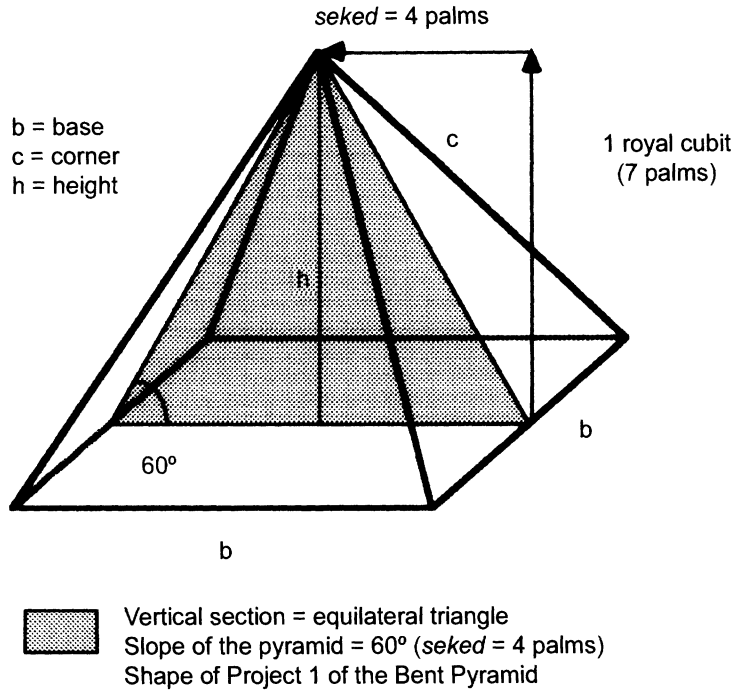


FIG. 1a. *Seked* of 4 palms and corresponding slope in degrees.

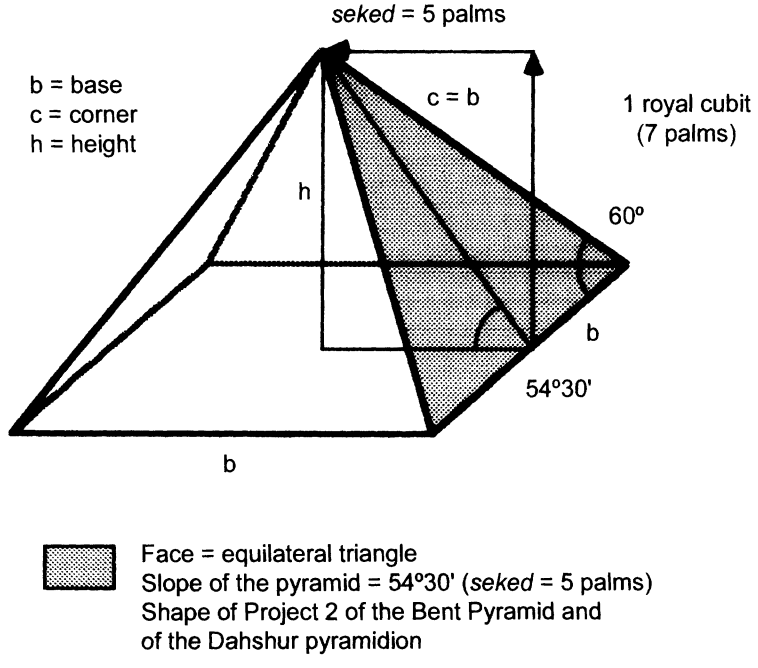


FIG. 1b. *Seked* of 5 palms and corresponding slope in degrees.

measurements are indeed very close to those for the associated pyramidia. In the case of the pyramidion found at Dahshur, however, the discrepancy between pyramid and pyramidion is striking.

According to Perring,[8] who cleared the corners, the slope of the Red Pyramid was about 43°36'. Petrie could not clear the base but calculated the slope from the rough surface of the core masonry as about 44°36', 'clearly not 45°'.[9] The result of a more recent measurement by Polz[10] provided a value of just 45°. Thus, the slope of the pyramid has been given values between 43° and 45°, while the pyramidion has, beyond any doubt, a slope of about 54°30'. Although the idea of a voluntary or involuntary variation of the slope during construction cannot be ruled out,[11] it seems that a variation of about 10° would have been very unlikely. Therefore, it is worth considering whether this pyramidion might have been intended for another pyramid in the area.

Amenemhat III chose a slope of 5 palms for his pyramid at Dahshur, and for its inscribed pyramidion now in the Cairo Museum.[12] Amenemhat I also chose the same *seked*,[13] but his pyramid lies at a significant distance from Dahshur, at el-Lisht. The pyramid of Amenemhat II at Dahshur is badly destroyed and nothing can be said about its slope.[14] Therefore, the possibility that he also used the same *seked* as his predecessor and his successor, that is, 5 palms, can be neither ruled out nor confirmed.

Middle Kingdom kings seem to have preferred inscribed and decorated pyramidia, as the remains of the completed monuments of Senusret II,[15] Amenemhat III (at Dahshur) and Khendjer[16] suggest. Moreover, the surviving Middle Kingdom pyramidia are made of dark stones: black granite for those of Senusret II, Khendjer and the two unfinished pyramidia from Saqqara,[17] dark grey granite for those of Amenemhat III and Merneferra-Ay,[18] and basalt for the pyramidion from Ezbet Rushdi.[19]

The pyramidion found at Dahshur, therefore, being undecorated and made of limestone, does not share what seem to be typical Middle Kingdom features. On the other hand, it is difficult to establish common characteristics for Old Kingdom pyramidia, since the surviving examples are limited to the undecorated limestone pyramidia of Khufu's satellite pyramid[20] and that of GIIIa (a queen of Menkaura),[21] and to fragments of the black granite pyramidion of Queen Khentkawes.[22] As for the basalt pyramidion found at Abusir in the area of the two pyramids

[8] J. Perring, in H. Vyse, *Operations Carried on at the Pyramids of Gizeh*, III (London, 1842), 63–5.

[9] W. M. F. Petrie, *A Season in Egypt* (London, 1887), 27.

[10] Stadelmann, *MDAIK* 39, 235.

[11] Although a number of pyramidia have been found, for only the Middle Kingdom pyramids of Amenemhet III (at Dahshur) and Khendjer can the slope of the pyramidia be compared with the slope of the surviving casing of the pyramids.

[12] Now JE 35133 and 35745. See G. Maspero, 'Sur le pyramidion d'Amenemhait III à Dachour', *ASAE* 3 (1902), 206–8; H. Schäfer, 'Die Spitze der Pyramide Königs Amenemhat III', *ZÄS* 41 (1904), 84–5; L. Habachi, 'Two Pyramidions of the XIIIth Dynasty from Ezbet Rushdi el-Kebira (Khataʿna)', *ASAE* 52 (1954), 471–9; Arnold, *Amenemhet III*, 14.

[13] Stadelmann, *Pyramiden*, 230–1.

[14] J. de Morgan, *Fouilles à Dahchour en 1894–1895* (Vienna, 1903), 30.

[15] W. M. F. Petrie, *Lahun*, II (ERA 27; London, 1923), pl. xxiv.

[16] Jéquier, *Deux pyramides*, 19–26.

[17] Ibid. 58.

[18] Habachi, *ASAE* 52, 472.

[19] Ibid. 475.

[20] M. Lehner, *The Complete Pyramids* (London, 1997), 222–3.

[21] P. Jánosi, 'Das Pyramidion der Pyramide G III-a', *Studia Aegyptiaca* 14 (1992), 306–14.

[22] M. Verner, 'Excavations at Abusir. Season 1978/1979—Preliminary Report', *ZÄS* 107 (1980), 158. Of the pyramids of Khafra and Udjebten, only the bases of the pyramidia are preserved. For Khafra: L*D* I, 27; for Udjebten: G. Jéquier, 'Rapport préliminaire sur les fouilles exécutées en 1925–1926 dans la partie méridionale de la nécropole Memphite—La pyramide de la reine Oudjebten', *ASAE* 26 (1926), 48–9, and *La pyramide d'Oudjebten* (Cairo, 1928), 3–5.

known as Lepsius 24 and 25 (possibly built for two queens of Neuserra),[23] it may be interesting to note that it bears a strong similarity to the pyramidion found at Ezbet Rushdi, attributed to the Thirteenth Dynasty: both are made of basalt and both were probably meant to be covered by a metal cap. Moreover, the length of their bases is very similar (44 cm, about 6 palms, for the first and 53 cm, about 7 palms, i.e. 1 cubit, for the second) and their slope is the same, about 60°.[24] Lepsius interpreted two mounds close to the edge of the cultivation at Abusir as pyramids, which he called 16 and 28,[25] and Dodson has suggested that these might be Thirteenth Dynasty monuments.[26] So far, however, the excavations of the Czech Institute at the site have not revealed any evidence to support this idea.[27]

The pyramidion found at Dahshur, then, appears to be similar to the two surviving Old Kingdom limestone pyramidia. A possible answer to the question of its origin may, in fact, lie in the sequence of pyramids built by Snefru. At the end of his reign, Snefru left three completed pyramids, the relative chronology of which has been the subject of several studies.[28] Following Stadelmann's hypothesis, the Bent Pyramid was the first pyramid intended as a true pyramid (although not necessarily Snefru's first pyramid). It was followed by the Red Pyramid, during the construction of which the step pyramid of Meydum was also cased. The final form of the Bent Pyramid is the result of three changes of slope (which will be called Projects 1, 2 and 3), caused by structural problems, rather than by an original intentional design.

With Project 1, the vertical section of the pyramid was meant to be an equilateral triangle: the *seked* was 4 palms, corresponding to a slope of 60° (cf. fig. 1a). Evidence of this first construction can be found in the West and North Descending Corridors at the points where the new portion of corridor joins the original.[29] This first project reached at least the height of the West Corridor, but was then abandoned because of a settling in the masonry. This was probably due to subsidence in the foundation rock.[30] The base of the pyramid was then enlarged and the *seked* was changed from 4 to 5 palms, corresponding to a reduced slope of about 54°30' (Project 2, cf. fig. 1b). The conditions of the structure, nevertheless, continued to deteriorate to the point when, the pyramid having reached the height of 90 cubits, a radical decision was taken: in order to reduce the weight on the already damaged core, a second change in the slope was necessary and the pyramid was completed using a slope of about 43°–45° (Project 3).

The slope of the pyramidion found at Dahshur, in fact, corresponds to the *seked* chosen for Project 2. The slope of pyramids was established before the beginning of the work, and the pyramidion was probably completed in advance in order to act as a guide for the final smoothing of the faces. When construction was completed, it could then be placed on the top of the monument. This pyramidion, therefore, could have been prepared during the second stage of the construction of the Bent Pyramid, and then abandoned and thrown away when the last variation of the project made it useless.

CORINNA ROSSI

[23] M. Verner, 'Abusir Pyramids: Lepsius no. XXIV and no. XXV', in C. Berger, G. Clerc and N. Grimal (eds), *Hommages à Jean Leclant* (BdÉ 106/1; Cairo, 1994), I, 371–8.

[24] According to Habachi's drawing (*ASAE* 52, pl. 18), the pyramidion found at Ezbet Rushdi seems to have a slope of about 70°. According to the dimensions written in the text, however (side-length of 53 cm and corner of 70 cm; ibid. 475–6), the slope can be calculated as about 60°.

[25] L*D* I, pl. 32.

[26] A. Dodson, 'Two Thirteenth Dynasty Pyramids at Abusir?', *Varia Aegyptiaca* 3 (1987), 231–2.

[26] M. Verner, personal communication.

[28] See especially K. Mendelsohn, *The Riddle of Pyramids* (Cambridge, 1974), 88, 114, and R. Stadelmann, 'Snofru und die Pyramiden von Meidum und Dahschur', *MDAIK* 36 (1980), 437–49.

[29] J. Dorner, 'Form und Ausmaße der Knickpyramide', *MDAIK* 42 (1986), fig. 4.

[30] V. Maragioglio and C. Rinaldi, *L'architettura delle Piramidi Memfite*, III (Rapallo, 1964), 58–62; D. Arnold, *Building in Egypt* (New York, 1991), 110, 234–5, 238–40.

The real location of KV 'C'?*

Removal of the old Rest House in the Valley of the Kings in 1992 revealed the preliminary cutting for a tomb on the east side of the main wadi. This may be KV 'C', the location of which was lost after the excavation of KV 55 in 1907.

ON 4 January, 1907, during excavations in the Valley of the Kings that would result, a few days later, in the discovery of the so-called 'Tomb of Queen Tiyi',[1] the sponsor, Theodore Davis, received a note from Edward Ayrton, the archaeologist assigned to him by the Antiquities Service. Its contents were recorded in the diary of Davis's companion, Mrs Emma Andrews:[2]

> Mr. Ayrton wrote a note this morning to Theo saying he had found a tomb. Theo had intended going over today, so when he returned he reported that it promised something—but was still uncertain.

Then later she records:

> Another note from Mr. Ayrton saying the tomb was not a tomb!

The location of this 'tomb' has never been pinpointed, yet the fact that it seems to have taken a day to excavate suggests that it was of some size. Ayrton had been working on the east slope of the royal wadi, south of the tomb of Ramesses IX, digging down through the debris thrown up by its cutting and that of the tomb of Ramesses VI opposite. In a few days he reported:[3]

> After sinking deep pits and trenches down the side of the rock face, we had almost given up hope when we came across several large jars of the XXth dynasty type lying together in what appeared to be a recess in the rock. On digging deeper we came to a cut face with squared corners on either side, showing that a tomb had at least been begun on this spot.

The jars he found are actually Eighteenth Dynasty amphorae of the Canaanite type,[4] probably used to hold embalming materials associated with KV 55. Three possible amphorae, one of this type, were found during the reclearance of the tomb in 1993.[5] Only two of the originals exist today. The others may have been destroyed during the visit of Sir Eldon Gorst to Davis's storehouse, when a number of jars were broken open to entertain the distinguished visitor.[6] The remainder were given by Davis to the Metropolitan Museum of Art in 1909 and subsequently acquired by the Oriental Institute in Chicago (pl. XXVI, 1).[7]

* This information was included in talks presented at the American Research Center in Cairo on 12 March, 1997, and the Society for the Study of Egyptian Antiquities in Toronto on 8 September, 1998.

[1] T. M. Davis, 'The Finding of the Tomb of Queen Tîyi', in T. M. Davis et al., *The Tomb of Queen Tîyi* (London, 1910), 1–5.

[2] J. A. Wilson, 'Mrs. Andrews and the Tomb of Queen Tiyi', in E. F. Wente and J. H. Johnson (eds), *Studies in Honor of George R. Hughes* (SAOC 39; Chicago, 1976), 274.

[3] E. R. Ayrton, 'The Excavation of the Tomb of Queen Tîyi, 1907', in Davis, *Tîyi*, 7.

[4] T. E. Peet and C. L. Woolley, *The City of Akhenaten*, I (MEES 38; London, 1923), pl. lii, type XLIII/67.

[5] L. Pinch Brock, 'The Final Clearance of KV 55', in J. Phillips, L. Bell and B. B. Williams, (eds), *Ancient Egypt, the Aegean and the Near East. Studies in Honour of Martha Rhoads Bell* (San Antonio, 1997), 121–36.

[6] H. E. Winlock, *Materials Used at the Embalming of King Tut-ʿankh-amun*, (MMA Occasional Papers 10; New York, 1941, reprint 1973), 5.

[7] MMA 09.184.171–2; now OrInst 1978.1.12–13. N. C. Reeves, *Valley of the Kings. The Decline of a Royal Necropolis* (London, 1990), 178 n. 72; Catharine Roehrig, Metropolitan Museum of Art, personal communication. My thanks go to Ms Roehrig and to Dorothea Arnold for permission to publish the MMA photos, and to the Oriental Institute for permission to publish the jars, which will be part of a future article on the pottery from KV 55.

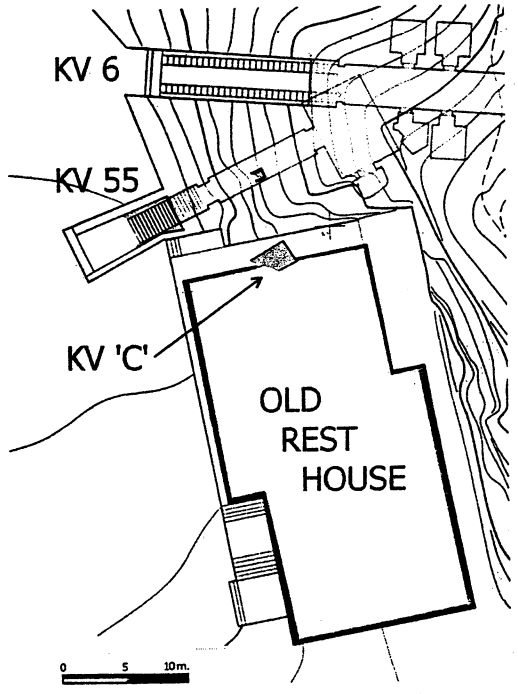


FIG. 1. Location of the cutting for a tomb discovered in the Valley of the Kings in 1996 by E. C. Brock (map courtesy K. Weeks, Theban Mapping Project, with additions by L. P. Brock).

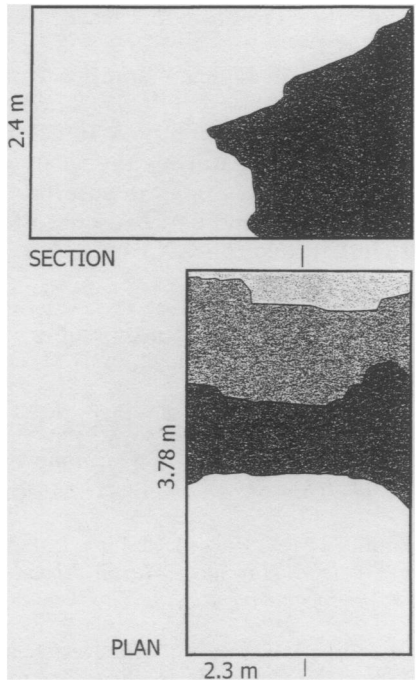


FIG. 2. Plan and section of the preliminary cutting for a tomb near KV 55 (illustration: L. P. Brock).

In 1994 I had speculated that the 'tomb' might have been the upper part of KV 55 itself, and that the 'recess in the rock' was located above it on the slope,[8] but scant evidence exists for the recess. Reeves believed that they were both the same feature, namely KV 'C'.[9] KV 'C' was Thomas's designation for the 'tomb', which she thought might be one of a number of embalming caches.[10] Ayrton, however, seemed to distinguish carefully between the 'recess' and the 'tomb' in his reports. In fact, the next entry in Andrews's diary, of 7 January, does imply that the latter was an unfinished tomb.[11]

Part of the problem lies, as Aldred explained, in '. . . the imprecise English used by the different excavators'.[12] 'Digging deeper', for example, does not necessarily mean digging deeper *on the spot*, but perhaps *further down the hill*, where the overburden was indeed deeper. Weigall wrote that Ayrton's report was heavily edited by Davis.[13] Added to this is Ayrton's problem with directions. Bell noted that some of his orientations were incorrect,[14] and in his second published report on the tomb he confused north with south: 'In the winter of 1906–1907 our work commenced by digging near, and to the North of, the tomb of Rameses IX . . .'[15] In reality, he must have begun south of this tomb and worked his way northward.

Post-excavation photographs of KV 55 taken by A. Paul[16] and a *Times* photographer[17] help clarify the situation: Ayrton's digging method seems to have been to line-up his workmen and march them down the hill, *turreyas* pounding all the way.[18] There is a small, darkened area in the Paul photograph, a few metres east and in a direct line with the opening of KV 55. The workmen must have come upon this feature first. If this was the 'recess', it does not look large enough to contain 'several' jars of the type shown in plate XXVI, 1,[19] each of which measures approximately 40 × 50 cm. The photographs show a disturbed area also east of KV 55 but further south than the 'recess'. It appears to be a large aperture of some depth. This must have been found next.

In 1994 I suggested that the building of the old Rest House in the late 1950s had obliterated evidence that might explain some aspects of the excavation of KV 55.[20] The recent discovery of a cutting for a tomb in the area supports this idea. In 1992 the old building was torn down and replaced with a modern wooden shelter. Since it was not as large as the older structure, some of the area around it was re-exposed. In 1996 E. C. Brock noticed the edges of the pit shown in plate XXVI, 2.[21] The new building abuts this pit at the north-east end, partially absorbing its south side. Its appearance and location correspond to the feature on the far right of the Paul photograph. It shows up as a shadow in the *Times* photograph. Its location in relation to KV 55 is shown in figure 1. It seems to represent the commencement of a tomb. At least one side and the floor were roughly chiselled smooth, and further cutting into the hill was halted before much depth had been achieved. The corners are visible. It is approximately 2.3 m wide on the east (corresponding to the width of the stairs in KV 55), its greatest length is 3.78 m, and its depth 2.40 m (fig. 2). It was certainly large enough to hold 'several' jars of the aforementioned type, but contained no pottery that might link it to the original discovery. In 1998 further construction in the area has almost

[8] L. Pinch-Brock, 'Theodore Davis and the Rediscovery of Tomb 55', in R. H. Wilkinson, (ed.), *Valley of the Sun Kings* (Tucson, 1995), 34–46.

[9] *Valley of the Kings*, 172.

[10] E. Thomas, *The Royal Necropoleis of Thebes* (Princeton, 1966), 149.

[11] Wilson, *Studies . . . Hughes*, 274: '. . . Ayrton had this time found a whole tomb'.

[12] C. Aldred, *Akhenaten, King of Egypt* (London, 1988), 196.

[13] A. Weigall, 'The Mummy of Akhenaten', *JEA* 8 (1922), 194.

[14] M. R. Bell, 'An Armchair Excavation of KV 55', *JARCE* 27 (1990), 97–138.

[15] E. R. Ayrton, 'The Tomb of Thyï', *PSBA* (13 November, 1907), 277.

[16] Davis, *Tîyi*, frontispiece.

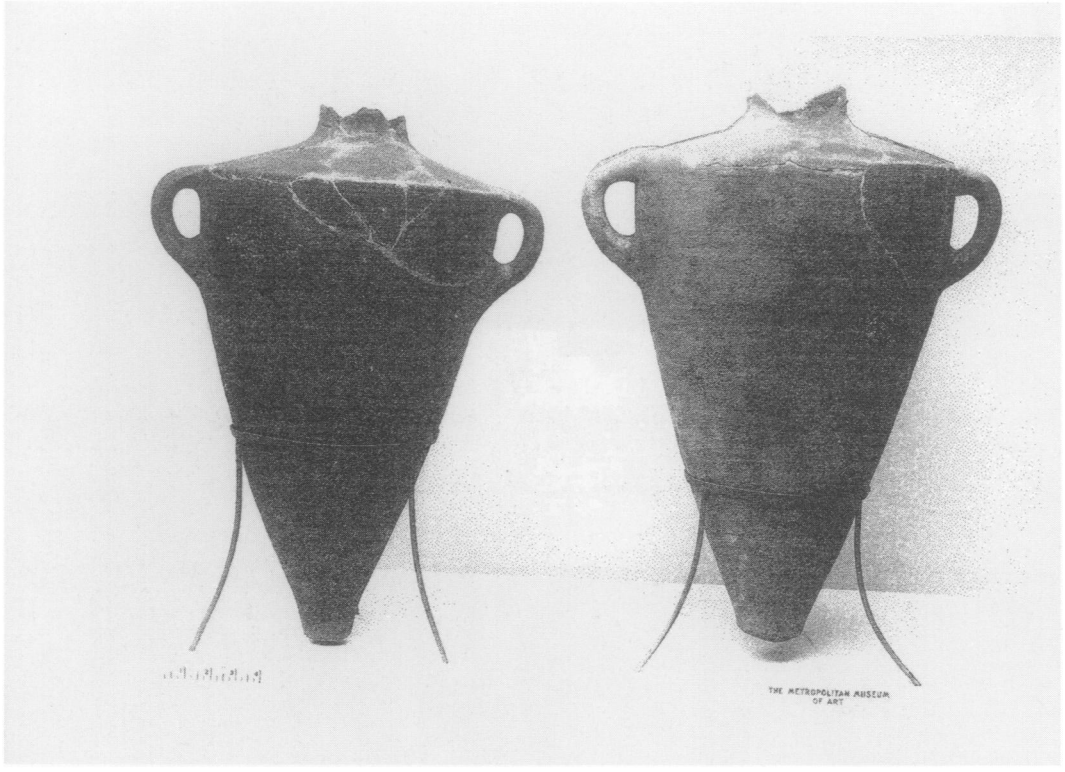
[17] N. C. Reeves and J. H. Taylor, *Howard Carter Before Tutankhamun* (London, 1992), 140.

[18] T. M. Davis et al, *The Tombs of Haremhabi and Touatankhamanou* (London, 1912), pl. x.

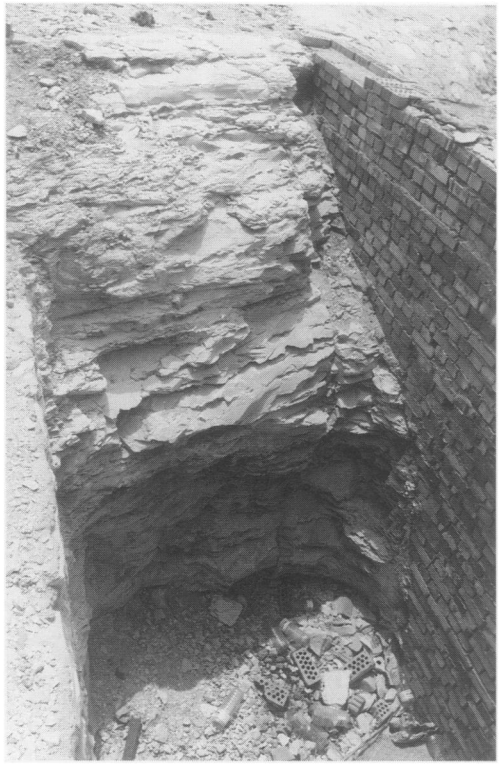
[19] The pit which might have been the embalming cache for Tutankhamun measured approximately 1.90 × 1.25 × 1.40 m deep: Winlock, *Materials*, 6.

[20] Pinch-Brock, *Valley of the Sun Kings*, 36.

[21] I fully credit E. C. Brock with the discovery and appreciate his comments on the first draft of this paper.



1. The two remaining 'XXth dynasty' jars found by Ayrton during the KV 55 excavations in1907 (*Courtesy of the Metropolitan Museum of Art, New York*)



2. The cutting for a tomb revealed by the dismantling of the old Rest House on the east side of the main wadi in the Valley of the Kings (*photograph by E. C. Brock*)

obliterated the pit's outline, and little of it can now be seen. Whether this cutting represents the 'recess' or the 'tomb' or both will probably never be known, but it does seem to be associated with the excavation of KV 55.

LYLA PINCH-BROCK

Hori, Hoherpriester des Amun*

The obscure High Priest of Amon, Hori, is generally placed at the end of the Nineteenth Dynasty, but according to the monuments of his son, the lieutenant-commander of chariotry, Kanakht, he must have lived in the time of Ramesses II, and, even more precisely, most probably flourished around Year 24 of that ruler.

IN dem jüngst veröffentlichten, von R. Schulz und M. Seidel herausgegebenen, schönen Übersichtswerk *Ägypten. Die Welt der Pharaonen* (Köln 1997) findet sich eine von St. Wimmer photographierte und bis dato unpubliziert gebliebene sog. 'rechteckige Platte'[1] aus Münchner Privatbesitz (S. 352, Abb. 45). Avers ist dargestellt ein prächtig gekleideter Adorant mit erhobenen Händen hinter der gleichläufig ausgerichteten Thronnamenskartusche Ramses' II. über einem *nbw*-Zeichen: *nb t3.wj* (*Wsr-M3ʿ.t-Rʿ stp* [*.n*]-*Rʿ*) Das Revers benennt den Adoranten: |[1] *jdnw K3-nḫt mʿ-ḥrw t3 nj.t ḥtr(j)* – |[1] der 'Stellvertreter' Kanacht, gerechtfertigt, |[2] 'der Streitwagentruppe'.[2]

Ein solchermaßen betitelter *K3-nḫt*[3] ist noch durch eine Reihe anderer Denkmäler belegt: Zwei weitere, ganz ähnliche Platten mit gleichlautender Inschrift,[4] ferner einer rechteckigen Platte, die

* H. De Meulenaere zum 14.05, 1998

[1] L. 1,5 cm, B. 1 cm, T. 0,6 cm. Zu Typologie und Dekoration dieser Denkmälergruppe vgl. zuletzt O. Keel, *Corpus der Stempelsiegel – Amulette aus Palästina/Israel - Einleitung* (OBO SA 10, Freiburg – Göttingen 1995), 89–96 (§§216–35), bes. 91 (§222), und ders.,—*Katalog Band* I (OBO SA 13, Freiburg – Göttingen 1997), 783. Mit Avers wird die den Königsnamen tragende, zumeist bildliche Darstellungs-mit Revers die den Beamten identifizierende, zumeist reine Inschriftenseite bezeichnet.

[2] Zur deutschen Übersetzung dieses ägyptischen Militärtitels s. W. Helck, s.v. 'Militär', *LÄ* IV, 131 (4a). Französisch: 'Lieutenant-Général de la charrerie', s. zuletzt P.-M. Chevereau, *Prosopographie des cadres militaires égyptiens du Nouvel Empire* (Antony 1994), 38.

[3] *PN* I, 338.7, ein im Neuen Reich (in Schreibvarianten) nicht so häufig vorkommender Personenname, der, wie schon J. Yoyotte, 'Les pèlerinages', *SourcesOr* 3 (1960), 51, fraglich feststellte, wohl auf eine thebanische Herkunft des Namensträgers schließen läßt.

Neben den bei Ranke gegebenen Belegen (Turin 80 = A. Fabretti et al., *Regio Museo di Torino. Catalogo generale dei musei di antichità*, I (Turin, 1882),117–18, no.1448; *Mém. Miss.* 8, 293, 232 = Norman de Garis Davies und M. F. L. Macadam, *A Corpus of Inscribed Egyptian Funerary Cones* (Oxford 1957), Nr. 534; G. Daressy, 'Un ostracon de Biban el Molouk', *ASAE* 22 (1922), 75 = oKairo, JE 49865; CG 25764, s. K*RI* IV, 437. 5–6; R. Ventura, *Living in a City of the Dead* (OBO 69, Freiburg – Göttingen 1986), 26) vgl. z. B. noch pTurin 1888 = *RAD*, 67.6; pTurin 2018 = K*RI* VI, 857.7; pTurin 2057 = K*RI* VI 651.13 (Sohn des *Stj*, ebenso: pTurin 1932 und 1939 = K*RI* VI, 686.14; pTurin 2018 = K*RI* VI, 853.13; 862.2; pTurin Fragment ϵ = M. Gutgesell, *Die Datierung der Ostraka und Papyri aus Deir el-Medineh und ihre ökonomische Interpretation, Teil* I: *Die 20. Dynastie*, I–II (HÄB 18–19, Hildesheim 1983), 339, 340); Stele Kairo, JE 72273, s. z.B. Ch. M. Zivie, *Giza au deuxième millénaire* (BdE 70, Kairo 1976), 233, 328; Stele Louvre C 306 (zitiert von W. Helck, *Materialien zur Wirtschaftsgeschichte des Neuen Reiches, Teil* II (AMAW, Wiesbaden 1960), 164); Stele Marseille 32, Text Maspero, 'Monuments égyptiens du Musée de Marseille', *RecTrav* 13 (1890), 119; vgl. ferner W. M. F. Petrie, *Shabtis* (BSAE 57, London 1935; ND Warminster 1974), Tf. xx.

[4] Paris, Louvre E 3700 (= N° Cat. du Mémoire 195; L. 1,81 cm, B. 1,27 cm, T. 0,62 cm), s. P. Pierret, *Catalogue de la salle historique de la galerie égyptienne* (Paris 1873), 122 no. 511; W. M. F. Petrie, *A History of Egypt*, III[3] (London 1925), 94. Diese rechteckige Platte gelangte als Geschenk des Grafen Tyszkiewicz 1862 in den Louvre—zur Person und seiner Sammlung s. jetzt eine Reihe von Beiträgen verschiedener Autoren in: *Essays in Honour of Prof. Dr. Jadwiga Lipińska*, (Warsaw Egyptological Studies I, Warschau 1997), pass., besonders Ch. Rouit, 'La Collection Tyszkiewicz du Musée du Louvre', ebd., 213–24, bes. 223. Vermutlich

ebenfalls auf der einen Seite Titel und Namen des *K3-nḫt* nennt, auf der anderen ihn aber verehrend vor Hathor wiedergibt[5] und schließlich dem Statuensockel Kairo CG 1116.[6] Das aussagekräftigste Denkmal ist dabei dieser oft besprochene Statuensockel.[7] Hier werden für *K3-nḫt* neben dem bereits erwähnten Titel die Funktionen eines 'Truppenoberst'[8] und 'königlichen Boten'[9] angeführt, vor allem aber weist ihn das Denkmal als Sohn des Hohenpriesters des Amun Hori (*Ḥrj*) aus. Dieser Hohespriester des Amun ist nur mit dieser einen Erwähnung belegt.[10] Entsprechend schwierig war die zeitliche Fixierung seiner Amtszeit, die bis dato zumeist an das Ende der 19. Dynastie gesetzt wurde.[11] Aufgrund der rechteckigen Platten mit Namenskartusche jedoch läßt sich dieser Datierungsansatz nicht halten.

Diese Platten gehören zu einer Reihe gleichartiger Denkmäler, auf denen sich zumeist hochrangige Beamte über einen Königsnamen ins 'Leere' wenden[12] und die als 'Gunsterweis' dieser Beamten an ihnen Untergebene interpretiert wurden, um sich mittels ihres Vorgesetzten mit einer beliebigen, von ihnen bevorzugten Gottheit in Verbindung setzen zu können.[13] Entscheidend dabei ist, daß der gewählte Königsname den 'König seiner Zeit' nennt, sei es seiner Amts-, sei es seiner Geburtszeit.[14] Damit muß jetzt für *Ḥrj* als *terminus post quem non* seiner Amtszeit die Epoche Ramses' II. geltend gemacht werden.

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stammt diese Platte aus einer der Grabungen, die Michael Tyszkiewicz im thebanischen Gebiet hat durchführen lassen. Mein Dank für Informationen zu diesem Stück gebührt Chr. Ziegler u. C. Bridonneau sowie M. u. P. Chuzeville für die Photographien.

1967 wurde eine dem Louvre-Exemplar nahezu identische Platte (L. 1,9 cm, B. 1,3 cm) in Deir Alla gefunden, publiziert im Ausstellungskatalog (H. J. Franken) *Een verhaal voor het oprapen. Opgravingen te Deir Alla in de Jordaanvallei*. Rijksmuseum van Oudheden, 25 augustus 1989 – 7 januari 1990 (Leiden 1989), 94–5 Nr. 14; aufgeführt bei Keel, *Stempelsiegel*, 91 (§ 222). Dieses Stück befindet sich in der Obhut der Altertümerverwaltung Jordaniens und trägt die Reg.-nr. DA 2020 (1967). Der einzige Unterschied zu der neu bekannt gemachten Platte besteht darin, daß beidesmal Avers der Kartusche kein weiteres Schriftzeichen folgt.

[5] A. Wiedemann, 'Varia', *Sphinx* 15 (1911–12), 125–6 (L. 1,6 cm, B. 1,25 cm), Anfang 1907 von ihm in Theben erworben. Dieses Denkmal ist zusammen mit den anderen Platten bei Chevereau, *Cadres militaires*, 40 (4.10) nachzutragen, und die chronologische Fixierung dieses Militärbeamten auf die Zeit Ramses' II. zu präzisieren.

[6] Ibid. 40 (4.10).

[7] U.a.: A. Mariette, *Abydos: Description des fouilles exécutées sur l'emplacement de cette ville*, II (Paris 1880), 55, Tf. 56c; G. Daressy, 'Remarques et notes', *RecTrav* 11 (1889), 92 [xli]; J. Lieblein, *Dictionnaire de noms hiéroglyphiques*, Supp. (Leipzig 1892), 809 Nr. 2115 (= 825 Nr. 2168); ders., 'Etude sur la chronologie égyptienne', *Actes du onzième congrès international des orientalistes* (Paris 1897, ND 1968) (sectiones 5–7), 7; W. Wreszinski, *Die Hohenpriester des Amon* (Diss.) (Berlin 1904), 16 § 24; G. Lefebvre, *Histoire des grands prêtres d'Amon de Karnak jusqu'à la XXI^e dynastie* (Paris 1929), 156–7, 260 § 25; L. Borchardt, *Statuen und Statuetten von Königen und Privatleuten*, IV (CG, Berlin 1934), 67; PM V, 94; H. Kees, *Das Priestertum im ägyptischen Staat vom Neuen Reich bis zur Spätzeit* (PÄ 1, Leiden 1953), 123 m. Anm. 3; M. Valloggia, *Recherche sur les 'messagers' (wpwtyw) dans les sources égyptiennes profanes* (Genf–Paris 1976), 162 [118]; M. L. Bierbrier, s.v. 'Hoherpriester des Amun', *LÄ* II, 1244 m. Anm. 28; *KRI* IV, 377–8; Chevereau, *Cadres militaires*, 40 (4.10).

[8] *ḥrj-pḏ.t* — ibid. 76 (11.83).

[9] *wp.wtj nj-sw.t r [t3 nb]* — Valloggia, *Messagers*, 162 [118].

[10] Bierbrier, *LÄ* II, 1244, m. Anm. 28.

[11] Vgl. die oben in Anm. 7 gegebenen Literaturverweise. Ausschlaggebend für die ursprüngliche Datierung dieses Denkmals in die 20. Dynastie war eine im Fundkontext zutage getretene Stele aus dem Jahr 27 Ramses' XI., die Mariette, *Abydos* II, 45 (256) (= *KRI* VI, 701 (2.)), dazu veranlaßte, alle im Umfeld gefundenen ramessidischen Denkmäler dieser Dynastie zuzuweisen.

[12] Belege in: P. Pamminger, 'Magistrale Intervention. Der Beamte als Mittler', *SAK* 23 (1996), 300 Anm. 128.

[13] Ibid. 281–304, bes. 300.

[14] Letzteres läßt sich für den Königssohn von Kusch, *Rʿ-ms-sw-nḫt*, der Zeit Ramses' IX. konstatieren, s. P. Pamminger, 'Buhen, Südtempel, Säule 26 (32) und der Vizekönig von Kusch *Rʿ-msj-s(w)-nḫt*', *GM* 137 (1993), 83–6.

Mit *B3k-n-Ḥnsw* (I.) und dessen Nachfolger *Rm-rj* ist die Zeit ab etwa Jahr 40 Ramses' II. bis hin zu Sethos II. einigermaßen sicher abgedeckt.[15] *Nb-nṯr.w*, der Vater des Wesir *P3-sr*, ist als Hoherpriester des Amun unter Sethos I. belegt.[16] Im Jahr 1 Ramses' II. wurde *Nb-wnn=f* aus dem Amt des Hohenpriesters des Onuris in Thinis und der Hathor in Dendera zum Hohespriester des Amun berufen.[17] Nach Kitchen verstarb er im Jahr 12.[18] Zwischen dem Jahr 21 und 30 Ramses' II. muß der Wesir *P3-sr* selbst in diese Stellung gelangt sein,[19] die er nach Kitchen bis etwa Jahr 38 innegehabt haben soll.[20] Als sein Vorgänger wird im allgemeinen *Wnn-nfr* in Anspruch genommen, der, wiederum nach Kitchen, um das Jahr 27 Ramses' II. verstorben sein müßte.[21] Dieser zeitliche Ansatz läßt sich jedoch nicht aufrecht erhalten, da *Wnn-nfr* höchstens bis in die Zeit des Haremhab als Hoherpriester des Amun fungiert haben kann, denn nach Kampp ist er mit dem Grabinhaber von TT–162– *P3-rn-nfr*, genannt *Wnn-nfr*, Hoherpriester des Amun seit der Zeit von Tutanchamun, aufgrund von gleichnamigen Familienangehörigen identisch.[22] Die

[15] Vgl. zu *B3k-n-Ḥnsw* M. L. Bierbrier, 'The Length of the Reign of Sethos I', *JEA* 58 (1972), 303; K. A. Kitchen, *Pharaoh Triumphant*[3] (Warminster 1985), 171. S. auch M. Plantikow-Münster, s.v. 'Bekenchons I', *LÄ* I, 687–8 (veraltet) und für die für ihn belegbaren Denkmäler L. Bell, 'Dira Abu el-Naga: The Monuments of the Ramesside High Priests of Amun and Some Related Officials', *MDAIK* 37 (*Fs Habachi*) (1981), 54–8. Seine Karriere zeichnet K. Jansen-Winkeln, 'The Career of the Egyptian High Priest Bakenkhons', *JNES* 52 (1993), 221–5, nach (mit einer Fülle von Literaturhinweisen), der allerdings ebd., 225 Anm.37, aufgrund seiner Überlegungen 'now a larger margin for the transition from Bakenchons to *Rm-rj* at the end of the reign of Ramses II' sieht.

[16] Z.B. K*RI* I, 285.11; V. A. Donohue, 'The Vizier Paser', *JEA* 74 (1988), 106 m. Anm. 7. Vor seiner Amtseinsetzung führte dieser den Namen *Ṯwl*, s. W. Helck, s.v. 'Paser', *LÄ* VII, 13–14; Th. Schneider, *Asiatische Personennamen in ägyptischen Quellen des Neuen Reiches* (OBO 114, Freiburg – Göttingen 1992), 252 (N 538).

[17] K*RI* III, 283.6 (TT 157). Vgl. auch Kitchen, *Pharaoh Triumphant*[3], 44, 46–7, 170. Eine Zusammenstellung seiner für ihn belegbaren Denkmäler, ebenfalls von Bell, *MDAIK* 37, 52–4, ergänzt durch R. K. Ritner, 'Denderite Temple Hierarchy and the Family of Theban High Priest Nebwenenef: Block Statue OIM 10729', in: D. P. Silverman (Hg.), *For His Ka. Essays Offered in Memory of Klaus Baer* (SAOC 55, Chicago 1994), 205–26, hier 221 Anm. 14.

Die Erinnerung an ihn war noch 19 Generationen später lebendig, wie die cuboide Statue des Basa, Chicago OIM 10729, belegt, s. Ritner, in: *Gs Baer*, 208, Text Z. 27. Aus seinem Grab TT 157 wissen wir, daß einer seiner Söhne, *Smn-t3.wj* (II.), sein Nachfolger im Amt des Hohenpriesters der Hathor von Dendera war, s. K*RI* III, 283.9; 286.1–2, wie es uns auch auf der cuboiden Statue berichtet wird (Z. 27). Darüberhinaus allerdings werden zusätzlich Name und Titel seines Vaters überliefert (ergänze danach K*RI* III, 290.14): dieser *Smn-t3.wj* (I.) war ebenfalls Hoherpriester der Hathor von Dendera und zudem Rinder-, Felder-, und Scheunenvorsteher (Z. 28), wie auch fünf weitere Vorfahren. Da TT 157 für sekundäre Bestattungen bis in ptolemäische Zeit Verwendung fand, blieb auch die lokale Erinnerung an diesen Hohenpriester des Amun wach, s. Ritner, in: *Gs Baer*, 222; H.-J. Thissen, 'Varia Onomastica', *GM* 141 (1994), 91–3.

[18] Kitchen, *Pharaoh Triumphant*[3], 126, 171. Für diesen zeitlichen Ansatz hat m.W. nach Kitchen noch nicht seine Argumente vorgelegt (s. ebd., 254; ebenso Ritner, in: *Gs Baer,* 220–1 Anm. 13), doch wird dies Datum inzwischen als mehr oder minder gesichert in der Sekundärliteratur tradiert, vgl. z.B.: C. Lalouette, *L'Empire des Ramsès* (Paris 1985), 230; B. M. Bryan, 'The Career and Family of Minmose, High Priest of Onuris', *CdE* 61 (1986), 22 m. Anm. 1; M. Trapani, 'La carriera di Imeneminet, Soprintendente ai lavori di Ramesse II', *BSEG* 19 (1995), 58 m. Anm. 36 (auf 61); Ch. Desroches Noblecourt, *Ramsès II: la véritable histoire* (Paris 1996), 270.

[19] Bierbrier, *LÄ* II, 1243 m. Anm. 22; Kitchen, *Pharaoh Triumphant*[3], 126, 171; Donohue, *JEA* 74, 107. Nach freundlicher Auskunft von F. Kampp-Seyfried könnte *P3-sr* den Titel eines Hohenpriesters des Amun aber auch nur ehrenhalber getragen haben, ohne das Amt de facto auszuüben.

[20] *Pharaoh Triumphant*[3], 126, 171; ebenso: Desroches Noblecourt, *Ramsès II*, 359.

[21] *Pharaoh Triumphant*[3], 126, 171. Und auch dieses Datum hat zwischenzeitlich Eingang in die Sekundärliteratur gefunden, s. z. B. Lalouette, *L'Empire des Ramsès,* 230; Bryan, *CdE* 61, 22 m. Anm. 2; Desroches Noblecourt, *Ramsès II,* 312.

[22] F. Kampp, 'Vierter Vorbericht über die Arbeiten des Ägyptologischen Instituts der Universität Heidelberg in thebanischen Gräbern der Ramessidenzeit', *MDAIK* 50 (1994), 186; dies., *Die thebanische Nekropole: zum Wandel des Grabgedankens von der XVIII. bis zur XX. Dynastie* (Theben 13, Mainz 1996), 716; dies., 'Die Verfemung des Namens *P3-rn-nfr*', in: H. Guksch und D. Polz (Hg.), *Stationen, Beiträge zur*

daraus bis jetzt resultierenden chronologischen Probleme ergaben sich aus dem Umstand, daß der ältere Sohn des *Wnn-nfr*, *Ḥrj*, das vermeintlich zuvor von seinem Vater bekleidete Amt eines Hohenpriesters des Onuris in Thinis bei dessen Berufung in das Amt des Hohenpriesters des Amun übernommen haben soll,[23] und der Sohn des *Ḥrj*, *Mnw-msj.w*, wiederum diese Priesterstelle von seinem Vater erbte. Da von *Mnw-msj.w* bekannt ist, daß er im Jahr 42 Ramses' II. gleichzeitig mit dem Hohenpriester des Osiris, *Wnn-nfr*, und dem Wesir *Pꜣ-Rʿ-ḥtp* dem älteren im Amt war,[24] hätte dies zur Folge gehabt, daß Vater *Ḥrj* und Sohn *Mnw-msj.w*, dessen Karriere im übrigen nach einer Untersuchung von Bryan die zweite Hälfte der Regierungszeit Ramses II. umspannte,[25] das Amt des Hohenpriesters des Onuris in Thinis für ein knappes Jahrhundert innegehabt haben müßten. Kampp konnte jedoch unlängst plausibel machen, daß der Titel eines Hohenpriesters des Onuris nachträglich an die Stelle im Text der Statue des *Wnn-nfr* eingesetzt wurde, an der ursprünglich der Namensbestandteil *Pꜣ-rn-nfr* gestanden hat.[26] Damit dürfte *Wnn-nfr* diesen Titel erst posthum erhalten haben und sein Sohn *Ḥrj*, der vorher als Priester der Mut, Herrin von Ischeru, tätig war,[27] in das Amt zu Beginn der Regierungszeit Ramses II. gelangt sein, vielleicht als Nachfolger des *Nb-wnn=f*.

Von dem jüngeren Bruder des *Ḥrj*, *Ỉmn-m-jn.t*, der im übrigen bislang ausschließlich für die Erinnerung an seinen Vater, den Hohenpriester des Amun *Pꜣ-rn-nfr*, genannt *Wnn-nfr*, verantwortlich zeichnet,[28] ist bekannt, daß er unter anderem als Baumeister des Ramesseums tätig war. Als militärischen Titel führte *Ỉmn-m-jn.t* unter anderem den eines' großen Truppenoberst des Heeres Ramses' II.',[29] und übte ebenso wie *Kꜣ-nḫt* die Funktion eines 'königlichen Boten' aus.[30] *Ỉmn-m-jn.t* kannte Ramses II. aus seinen Jugendtagen, und dies persönliche Verhältnis zum Herrscher wird mit seine und vielleicht auch seiner Familie Karrieren bedingt haben.[31] Ähnliches könnte auch für *Kꜣ-nḫt* angenommen werden.

Die zwischen *Nb-wnn=f* und *Pꜣ-sr* liegende Zeitspanne jedenfalls ist lang genug, um hier einen weiteren Hohenpriester des Amun vermuten zu dürfen. Dieser zeitliche Ansatz könnte gestützt werden durch einen Brief des Schatzhausvorstehers *Pꜣ-nḥsj* aus dem Jahr 24 Ramses' II.[32] *Pꜣ-nḥsj* berichtet darin unter anderem über die Errichtung eines Getreidespeichers für Amun in der Nähe von Memphis. Sein Schreiben richtet er an einen Priester des Amun in Theben namens *Ḥrj*. Da der Schatzhausvorsteher im allgemeinen seinen (täglichen) Rapport an (seinen unmittelbaren Vorgesetzten) den Wesir oder den König selbst zu senden hatte, ist die Vermutung von Helck, daß

Kulturgeschichte Ägyptens (*Fs Stadelmann*) (Mainz 1998), 304, 305–6, 315. Die Veröffentlichung der Belege ist im Rahmen der Grabpublikation geplant. Mein Dank gilt einem ungenannten *JEA*-referee sowie F. Kampp-Seyfried, die mich von der Identität überzeugt haben. F. Kampp-Seyfried stellte mir zudem freundlicherweise vorab ihr Manuskript für die *Fs Stadelmann* zur Verfügung.

[23] KRI III, 292.1 = Cuboide Statue Kopenhagen NCG AEIN 662; Bryan, *CdE* 61, 21 m. Anm.4.

[24] KRI III, 453.10; 454.5–6. Vgl. auch KRI III, 453.3–4. Nun wird aber ebenfalls auf Denkmälern des Hohenpriesters des Osiris *Wnn-nfr* der Wesir *Nb-Ỉmn* als 'sein Bruder' bezeichnet (KRI III, 450.2; 451.9–10. Wohl aufgrund dieser Erwähnung datiert I. Pomorska, *Les flabellifères à la droite du roi en Égypte ancienne* (Warschau 1987), 138 (49.) die Amtszeit dieses Wesirs bis in die Epoche Ramses' II.), der dieses Amt nachweislich unter Sethos I. innehatte (KRI I, 283.7). Selbst wenn man keine zeitliche Überschneidung beider Amtszeiten postulieren will (sicher im Amt belegt ist *Wnn-nfr* zwischen Jahr 21 und 47, s. KRI III, 457), muß das (verwandtschaftliche) Verhältnis von *Wnn-nfr* zu *Nb-Ỉnm* doch recht eng gewesen sein.

[25] *CdE* 61, 29.

[26] In: *Fs Stadelmann*, 316 m. Amn. 53.

[27] Kampp, *MDAIK* 50, 185.

[28] Kampp, in: *Fs Stadelmann*, 306 m. Anm. 9.

[29] Z.B. Statue Luxor Museum N° 227 - KRI III, 274. 7–275.7 und KRI VII, 128.3–13; Chevereau, *Cadres militaires*, 79 (11107 und P. Pamminger, 'Contributions à la prosopographie militaire du Nouvel Empire', *BiOr* 54 (1997), 17).

[30] Valloggia, *Messagers*, 134–6 (82–3).

[31] KRI III, 274.16; Kitchen, *Pharaoh Triumphant*[3], 28.

[32] oGardiner 86 = KRI III, 138.5–140.9. Übersetzungen: Helck, *Materialien*, 467–8; Kitchen, *Pharaoh Triumphant*[3], 131–2; E. Wente, *Letters from Ancient Egypt* (Atlanta 1990), 118–19; Desroches Noblecourt, *Ramsès II*, 302.

es sich bei diesem *Ḥrj* um den 'Hohenpriester des Amun von Theben' handelt,[33] nicht unwahrscheinlich. Sollte der *ḥm-nṯr . . .nj Ỉmn m njw.t rsj.t Ḥrj*[34] also identisch mit dem *ḥm-nṯr tpj nj Ỉmn Ḥrj* sein, ließe sich dessen Amtszeit um das Jahr 24 fixieren. Die historisch belegbare Abfolge der Hohenpriester des Amun in den ersten 40 Jahren der Herrschaft Ramses' II. läßt damit genügend Spielraum, hier einen weiteren Hohenpriester des Amun anzusetzen: *Ḥrj*, den Vater des *Kꜣ-nḫt*.

PETER PAMMINGER

More fragments of the Book of the Dead of Padinemty

A brief notice of the appearance on the antiquities market of more fragments of the Book of the Dead papyrus of a 'king' Padinemty (the existence of which was first reported by R. Weill in *BIFAO* 49 (1950), 57–65, with pl. I) is followed by discussion of the significance of the papyrus.

IN May 1999, a chance meeting with Mr James Ede resulted in an invitation to look at some papyrus fragments which had recently come into his possession. He subsequently kindly gave permission for a brief account to be published here, and I am grateful to him for providing colour photographs of the pieces and generous access to the originals.[1] The fragments (pl. XXVII) come from a Book of the Dead prepared for a 'king' called Padinemty, whose name survives only in this one text. Other scraps of this document were reported nearly fifty years ago by Raymond Weill,[2] who published a photograph of two of them and a brief description. Although it has attracted little attention since, it is of interest not only for the social and political history of the late Libyan/Kushite Period which produced it, but also for our understanding of the transmission of the Book of the Dead in the first millennium BC. Sad as their state is, the appearance on the antiquities market of additional pieces of the papyrus provides an opportunity to draw the attention of scholars to its existence and significance.

The Ede fragments—some thirty in number—come from a Dutch collector, Wahlen, who, Mr Ede informs me, must have acquired them at latest by the end of the 1930s when he stopped collecting. The pieces published by Weill are said to have been found among other papyrus fragments, including some in hieratic, which were bought in the region of Assiut. Weill did not reveal when his acquisition was made, so it is impossible to say whether the two groups of fragments reached the market at the same time or separately. However, since Weill's general description of what he found is equally applicable to the Ede fragments, it may be quoted here: '. . . les débris, morceaux et miettes en grand nombre d'un papyrus funéraire joliment écrit en colonnes séparées, sous un frise de figures en ligne continue, le tout accusant visiblement un type de l'époque tardive.'[3] Weill also notes that portions of BD Chapters 142, 145 and 146 were identified during conservation in the Louvre.[4] The Ede fragments contain parts of BD Chapters 18–24, of which Chapters 19–22 and 23–4 are definitely in that sequence. There are also two partially-preserved vignettes, of which one is particularly interesting because it depicts Padinemty himself. The text is written in black, in vertical columns of cursive hieroglyphs and is retrograde. The rubrics are in red, as are the vignettes.

What caught Weill's attention was the name of the ancient owner of the papyrus, and the fact that it was written in a cartouche. The name itself is otherwise unattested, and provides a rare

[33] Helck, *Materialien*, 288.

[34] *KRI* III, 139.11 und 138.7.

[1] Mr Ede's address is c/o Charles Ede, 20 Brook Street, London W1Y 1AD.

[2] 'Un nouveau pharaon de l'époque tardive en moyenne Egypte et l'Horus de Deir el-Gebrâwi (XII[e] nome)', *BIFAO* 49 (1950), 57–65, with pl. i.

[3] *BIFAO* 49, 57.

[4] I am indebted to Dr Marc Etienne for the information that some fifty fragments were registered in the Louvre as E. 17302.

occurrence of the name of the falcon god of the twelfth Upper Egyptian nome in the onomastic repertoire of the first millennium BC.[5] This association, together with the reported place of acquisition of his fragments, led Weill to describe Padinemty as 'un pharaon local de Deir El-Gabrawi'. On the basis of the palaeography, he assigned the 'king' to the politically fragmented 'tanito-éthiopienne' period in the late eighth century, speculating that Padinemty might have been a contemporary of Piye, given that little is known of the political leaders the latter encountered south of Hermopolis.

No further evidence for this king has come to light and Weill's dating has generally been accepted.[6] Bonhême has emphasised that it is only the cartouche which encircles his name that makes any claim to kingship for Padinemty.[7] The Ede fragments confirm this. In none of the more than a dozen examples preserved in these is his name preceded by any title. The depiction of him in the vignette shows no uraeus, although his skull-cap and broad diadem with fillet are sufficiently reminiscent of the royal iconography of the later Libyan and Kushite Periods to confirm the general date proposed by Weill. It has been suggested that Padinemty might have been associated with the mini-dynasty of kings known at Hermopolis in the late eighth century BC, rather than being an isolated kinglet.[8] However, since local dynasts also flourished towards the end of the Twenty-fifth Dynasty, when Assiut was one of the few towns in Upper Egypt with a governor recognised by the Assyrians—Esarhaddon appointed or, more likely, conferred his authority on one Djedher there in 671 BC[9]—the coincidence of reported place of purchase of the Weill fragments and the geographical association implied by the personal name of the king should perhaps be allowed to locate Padinemty's political base at Assiut. Little is known of the location of the late cemetery there where he is likely to have been buried.[10] There is insufficient evidence to choose between a date in the late eighth century and one closer to the end of the Twenty-fifth Dynasty, but the possession of a Book of the Dead at a provincial site at either date does in itself provide a hint of the local prestige which might have encouraged a local governor with pretensions to allow himself some royal allusions.

The place of Padinemty's papyrus in the transmission of the Book of the Dead is difficult to establish for lack of documents of comparable date. All the known Book of the Dead papyri of the Libyan Period are Theban, and given the history of Upper Egypt in the preceding centuries, Theban influence on an Assiut temple scriptorium would be no great surprise. However, production of Book of the Dead papyri there seems to cease in the middle of the Twenty-second Dynasty,[11] and it is often supposed that it only reappeared as part of funerary equipment with the advent of the Twenty-sixth Dynasty.[12] Yet whatever its precise date, Padinemty's papyrus is surely pre-Saite and seems to be the earliest known example of the re-emergence of the practice.

[5] The sparse evidence, including this name, has been gathered by E. Graefe, *Studien zu den Göttern und Kulten im 12. und 10. oberägyptischen Gau* (Freiburg, 1980), 43–4. Almost all the names listed by Ranke, *PN* I, 69, 16–70, 7, are from the Old and Middle Kingdoms.

[6] J. von Beckerath, *Handbuch der ägyptischen Königsnamen* (MÄS 20; Munich and Berlin, 1984), 107 (XXIV A/d) and n. 4: 'Offenbar ein mittelägypt. Kleinkönig dieser Zeit. Sein Name erscheint in einem Totenpapyrus der XXV. Dyn. aus Asjût'.

[7] M.-A. Bonhême, *Les noms royaux dans l'Egypte de la Troisième Période Intermédiaire* (BdE 98; Cairo, 1987), 226.

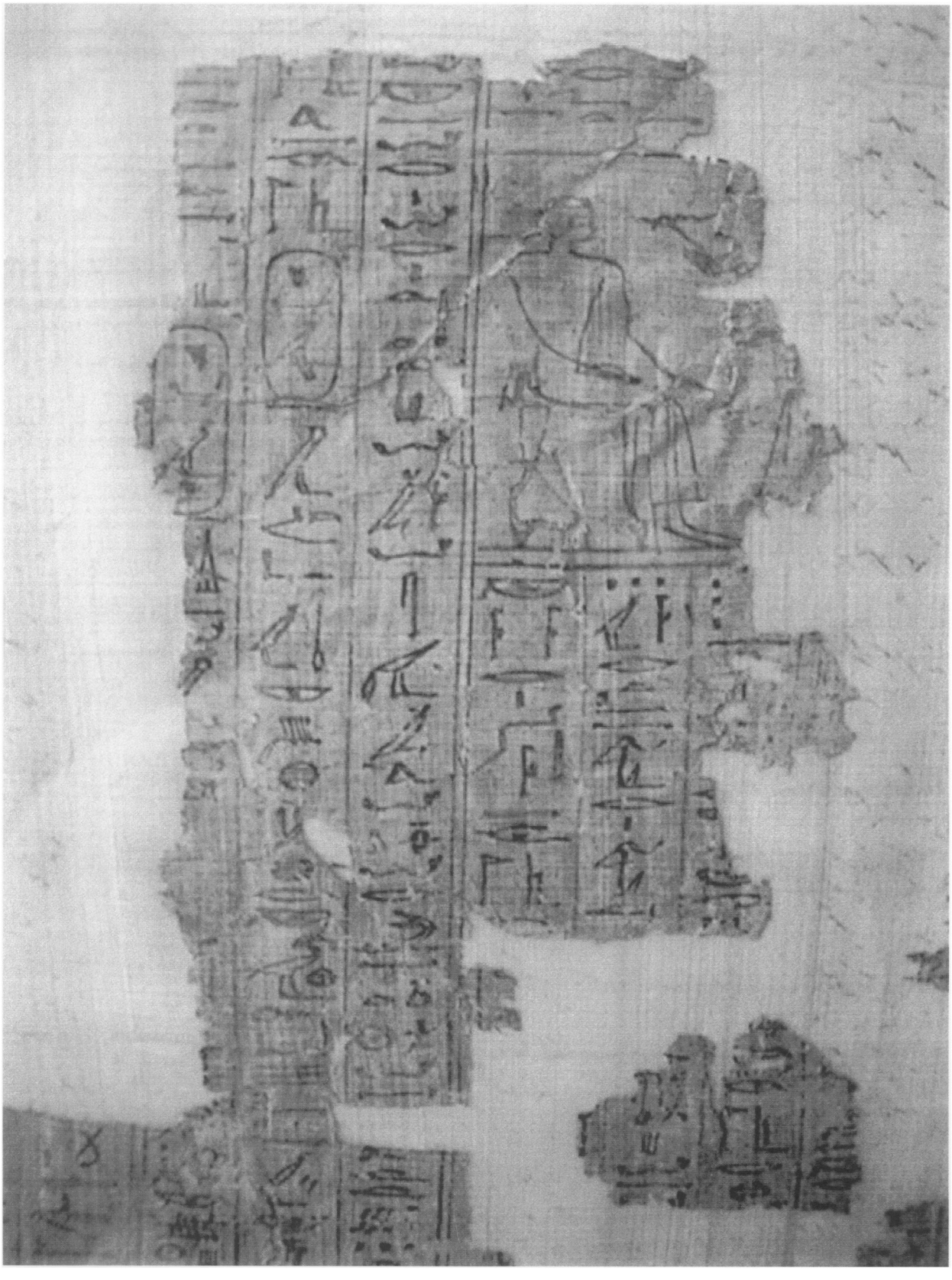
[8] K. Baer, 'The Libyan and Nubian Kings of Egypt: Notes on the Chronology of Dynasties XXII to XXVI', *JNES* 32 (1973), 22. Cf. K. Kitchen, *The Third Intermediate Period in Egypt*[2] (Warminster, 1986), § 525: 'Hermopolis or elsewhere'.

[9] Kitchen, *The Third Intermediate Period in Egypt*[2], § 358.

[10] J. Malek, 'Nekropolen. Late Period', *LÄ* IV, 441 n. 40.

[11] S. Quirke, *Owners of Funerary Papyri in the British Museum* (British Museum Occasional Papers 92; London, 1993), 18–19. See also the detailed typology of A. Niwiński, *Studies on the Illustrated Theban Funerary Papyri of the 11th and 10th Centuries B.C.* (OBO 86; Freiburg and Göttingen, 1989). On the Book of the Dead tradition in this period, see U. Rössler-Köhler, 'Bemerkung zur Totenbuch-Tradierung während des Neuen Reichs und bis Spätzeitbeginn', in U. Verhoeven and E. Graefe (eds), *Religion und Philosophie im alten Ägypten* (Leuven, 1991), 277–91.

[12] This view is reiterated, for example, by M. Mosher, 'Theban and Memphite Book of the Dead Traditions in the Late Period', *JARCE* 29 (1992), 143 with n.2.



The larger fragment preserves parts of Chapters 20–22 of the Book of the Dead (*photograph courtesy of Mr James Ede*)

THE BOOK OF THE DEAD OF PADINEMTY (pp. 230–2)

It is also the earliest occurrence of Chapter 19.[13] It is noteworthy that the papyrus harks back to the New Kingdom style, which had persisted into the Twenty-first Dynasty, of vertical columns of cursive hieroglyphs, rather than following the tradition of the Libyan Period, which favoured texts in hieratic and in horizontal lines. In this respect it appears to be isolated, as the small number of Book of the Dead papyri which are securely of the Twenty-sixth Dynasty all continue the Libyan Period hieratic tradition.[14] It does, however, fit quite nicely with the archaising tendency of the late eighth and early seventh centuries BC in other areas of Egyptian culture.[15] The fact that the text is retrograde also looks back to earlier times rather than forward to the post-Twenty-sixth Dynasty examples which also use cursive hieroglyphs, but which are not retrograde in arrangement. However, on the basis of the admittedly scanty evidence of the Ede fragments, the sequence of spells is already that of the Saite recension of the Book of the Dead, despite the pre-Twenty-sixth Dynasty date. As Quirke has pointed out, neither the date nor the place at which the 'Saite' recension developed is yet known.[16]

ANTHONY LEAHY

A Saite figure of Isis in the Petrie Museum*

The first publication of a small private statuette in the Petrie Museum (UC 42553), originally from the Wellcome Collection, dedicated to Isis and Horus during the Twenty-sixth Dynasty. It bears an unusual set of royal cartouches.

IN the collections of the Petrie Museum of Egyptian Archaeology at University College London is a small seated figure of Isis nursing the child Horus (fig.1 and pl. XXVIII, 1–4).[1] The subject matter is an example of a very well-known genre of Late Period statuary and the figure itself unremarkable, but it has an unusual attribute for a private offering from someone of modest means, in that it bears royal cartouches and includes the names of not one, but two, Twenty-sixth Dynasty kings.

The figure is 16.9 cm tall, with the base measuring 10.5 cm deep by 3.7 cm wide, and is made of grey-green siltstone. Isis is represented sitting on a low-backed block-throne, and the piece is finished with a square-topped back-pillar and round-fronted base. The goddess herself wears a tight-fitting sheath dress, of which only the bottom of the skirt is modelled, a beaded collar, plaited wig, Nekhbet headdress and uraeus. The original crown is missing, presumably because it was made from a different material. A small figure of Horus as a child is shown sitting on her lap. The heads of both figures are rather clumsily carved, though that of the goddess shows both the over-large ears and enigmatic smile common in Late Period sculpture. Her hands and feet are also outsize and somewhat clumsy, but the curves of the arms and legs, and the areas where the body meets the back-pillar, are well and subtly rendered, while the patterning on the collar, wig and headdress is lightly incised. The figure of Horus also has clumsily shaped hands and feet, with

[13] Cf. Mosher, *JARCE* 29, 143 n.3.

[14] Quirke, *Owners of Funerary Papyri*, 21. U. Verhoeven, *Das saitische Totenbuch der Iahtesnacht. P. Colon. Aeg. 10207* (Bonn, 1993), 41–2.

[15] A. Leahy, 'Royal Iconography and Dynastic Change, 750–525 BC: The Blue and Cap Crowns', *JEA* 78 (1992), 238–9.

[16] Quirke, *Owners of Funerary Papyri*, 20–1. For different regional traditions at a later date, see Mosher, *JARCE* 29, 143–72. There is a very useful bibliography of studies on the Book of the Dead generally in E. Hornung, *The Ancient Egyptian Books of the Afterlife* (Cornell, 1999), 165–8.

* I would like to thank Professor W. J. Tait for helpful comments and the staff of both the Egyptian Archaeology Department and the Petrie Museum at UCL, Dr Steven Snape and the *JEA* referees.

[1] Registration number UC 42553. It was part of a substantial group of material from the Wellcome Collection, presented to the Petrie Museum in 1964, but there is no surviving documentation regarding its original provenance.

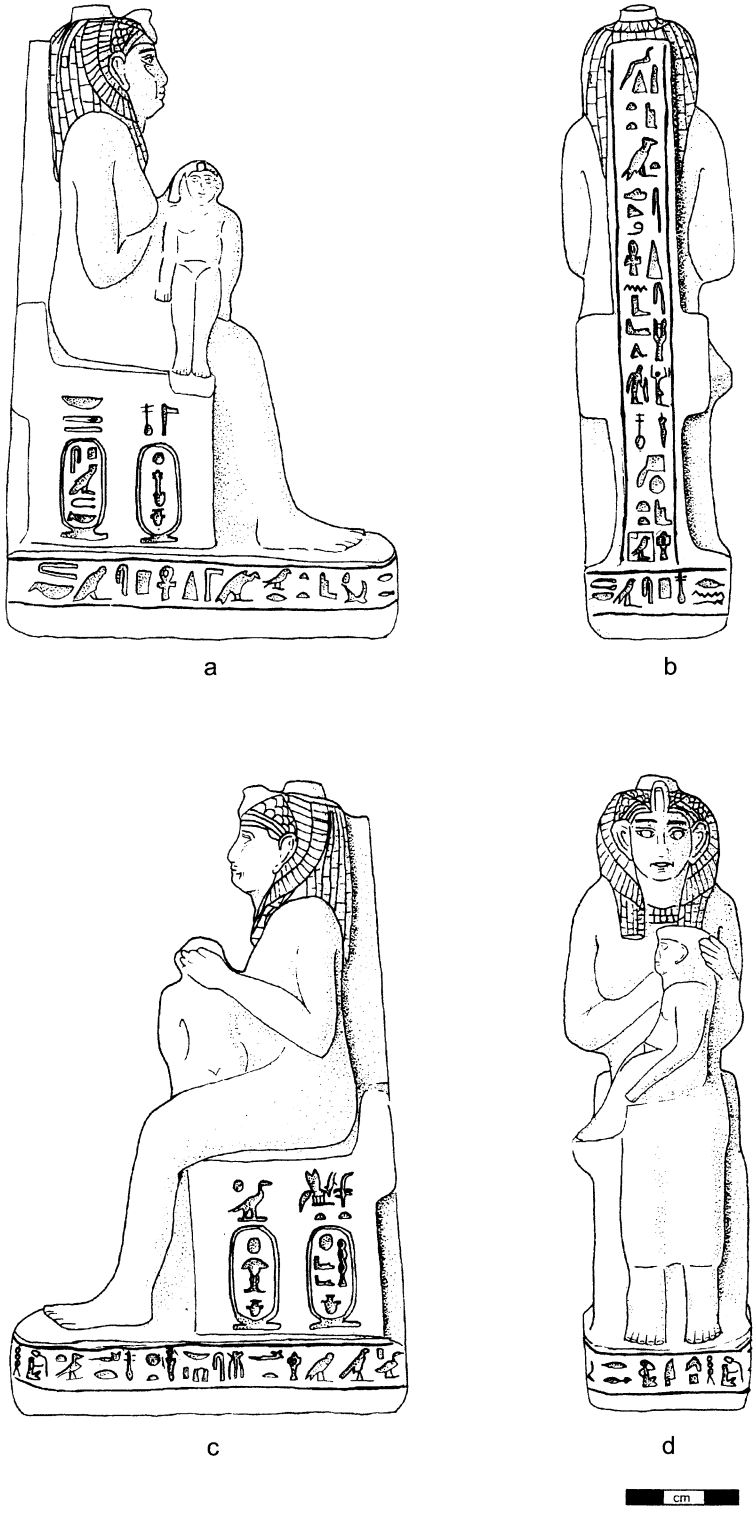


FIG. 1. UC 42553.

only the merest suggestion of fingers and toes, but the torso and limbs are delicately moulded. There are traces of red staining on the limbs, in depressions and in the hieroglyphs, and there are also numerous small patches of gold leaf over the whole figure, as well as the throne, back-pillar and base. The red traces are probably from the size used as a base for the gold leaf. However, it is also possible that they represent a coloured layer painted onto the stone to enhance the colour of the gold. Modern gilders employ base colours to manipulate the quality of the gold leaf, with red and yellow both used to create richer, warmer tones. The 'layer of yellow ochre between the plaster and the gold leaf' discussed by Lucas as an occasional feature perhaps served the same purpose.[2]

An incised hieroglyphic text runs down the back-pillar and around the base of the throne. Both sides of the throne are filled with the royal titles and names of Psammetichus II and his successor Apries.

Translation

Back-pillar

'Speech of Isis the Hidden One,[a] who gives life, health and a long life and a great and good old age to the venerable one before Isis, protected[b] (by) Hathor'

Throne base

'Isis the Great, god's mother, may she give life to Psamtek, his good name being Psamtek,[c] son of Horemsaf,[d] born of the lady of the house Sekhmetnofret, daughter of the *wʿb*-priest Hapiraa'

Left side of throne

'King of Upper and Lower Egypt, Haaibre, Son of Re, Wahibre'

Right side of throne

'The good god, Neferibre, lord of the two lands, Psamtek'

Commentary

(a) The epithet, if it is to be read *tȝ sdkw*, has no other comparable examples applied to Isis known to me.[3] Perhaps it may derive from *sdgi*, 'to conceal', and/or *sdgw*, 'hidden things' (*Wb.* IV, 372–3).

(b) Reading the unclear sign before *Ḥwt-ḥr* as *sȝ*.

(c) To have the same birth name and 'good name' is without parallel in the Saite Period.[4] Alternatively, on the basis of haplography, the first name might be *ʿnḫ-psmṯk*, or, as the Saite 'good name' was usually basiliphorous, the second name might be *Nfr-psmṯk*.[5]

[2] A. Lucas and J. R. Harris, *Ancient Egyptian Materials and Industries*[4] (London, 1962), 232, discussing yellow ochre found underneath gold leaf on a Ptolemaic wooden coffin in tomb H at the Bucheum (R. Mond and O. H. Myers, *The Bucheum*, I (MEES 41; London, 1934), 68).

[3] None is cited in standard works on the goddess and her titles and epithets; e.g. M. Münster, *Untersuchungen zur Göttin Isis* (MÄS 11; Berlin, 1968), 203–8, though the list given here does not claim to be comprehensive beyond the New Kingdom.

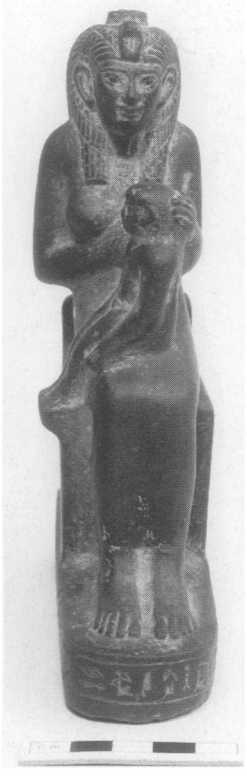
[4] H. De Meulenaere (*Le surnom égyptien à la Basse Époque* (Istanbul, 1966), 27–31), and ('Le surnom égyptien à la Basse Époque (Addenda et Corrigenda)', *OLP* 12 (1981), 127–34) notes that 'good names' derived from royal names were used in the Twenty-sixth Dynasty between the reign of Psammetichus II and the end of the reign of Amasis. This seems to have been a conscious revival of the Old Kingdom 'official name' (*rn ʿȝ*), but De Meulenaere believes that in the Saite Period basiliphorous 'good names' were given as a reward for long or distinguished service to those who were close to royal administration. It is even possible that such names acted as an honorific title.

[5] I am grateful to the *JEA*'s referee for this suggestion.

1. UC 42553, right side

2. UC 42553, back

3. UC 42553, left side



4. UC 42553, front

A SAITE FIGURE OF ISIS IN THE PETRIE MUSEUM (pp. 232–5)

(d) I am unable to adequately explain the *t* under the *f*—surely not simply a space filler?

Among the personal names mentioned on the statue, Horemsaf is common in the Late Period, while Psamtek is frequent in the Twenty-sixth Dynasty. Sekhmetnofret (*PN* I, 319, 26) is found as a Late Period female name, while a similar date may be ascribed to the male name Hapiraa (*PN* I, 237, 8). Thus, all the personal names are well attested on Apis stelae and elsewhere at this period, and are not particularly distinctive. There are other small private statues of the same period which bear royal names as part of the inscription,[6] including one found at the Serapeum.[7]

This statue is most unusual in that it bears the cartouches (both prenomen and nomen) of two kings, Psammetichus II and Apries. Whether the statue was inscribed during 589 BC and modified before completion, or was dedicated towards the end of the reign of Apries, when Psamtek wished to include the king after whom he had been named, or indeed for some other reason, is not clear.

SUSANNA THOMAS

A ghost palaestra at Antinoopolis

A palaestra (an athletic training-ground) is shown on a recently published plan of the Roman city of Antinoopolis. It is suggested here that the structure is a nineteenth-century saltpetre factory.

IN the otherwise admirable plan of Antinoopolis[1] distributed by the Istituto Papirologico G. Vitelli to participants of the Twenty-second International Congress of Papyrology at Florence in 1998[2] there is one feature that causes concern. At the left side of the plan, north of the Ramesses II temple and within and slightly overlapping the square 1800/1600 × 600/800, is a large structure, more than 100 m long and 80 m wide, with outbuildings stretching even further, that is entitled PALESTRA. On a visit to Antinoopolis in 1988, the present writer was at first persuaded by the appearance of this site that it must be the palaestra of the ancient city (indeed, youths from the local village of Sheikh Abada were playing football on a large cleared area of concrete paving within it), but the more the structure was examined, the less satisfactory this interpretation appeared to be. Tapering buttresses attached to some of the ancillary buildings (pl. XXIX, 1) seemed unlikely to be Roman, and, although water was no doubt necessary for a gymnasium/palaestra, the presence of structures that held water-raising wheels pointed to the need for very large quantities of water indeed (I believe there were emplacements for several wheels, but cannot remember for sure, having only a photographic record of two: pl. XXIX, 2).

Concerning palaestrae, there are some references to this type of building in the papyri. Ignoring documents without known provenance and those of Ptolemaic date (mainly concerning Philadelphia and Alexandria), a palaestra is recorded in a papyrus only at Heracleopolis Magna,[3] but palaestrae are mentioned in documents found at Theadelphia[4] and at an uncertain place within the

[6] See G. Daressy, *Statues de divinités*, I–II (CG; Cairo, 1905–6), 329 (CG 39306), a statue of Isis and Horus dedicated by Redi-Khonsu with the nomen of Psammetichus I, II or III. The modelling of the Petrie statue shows considerable similarities to another figure mentioned by Daressy (ibid. 322, pl. lxi (CG 39283)).

[7] Ibid. 74 (CG 38245), a bronze statue of Osiris dedicated by Padi-Bast with the prenomens of both Psammetichus I and Apries.

[1] M. Manfredi and A. Pericoli, *Carta di Antinoupolis, 1:4000* (Florence, 1998), published as an additional aid to the exhibition on Antinoopolis held at Florence at the time of the papyrological congress, the catalogue of which is L. Del Francia Barocas (ed.), *Antinoe cent' anni dopo* (Florence, 1998).

[2] I am very grateful to Dominic Rathbone for giving me a copy of the Antinoopolis plan. I would also like to thank Lucilla Burn, Andrew Meadows and Dirk Obbink for help in various ways.

[3] A. Łukaszewicz, *Les édifices publics dans les villes de l'Égypte romaine* (Warsaw, 1986), 59; E. G. Turner, *The Hibeh Papyri*, II (EES Greco-Roman Memoirs 32; London, 1955), no. 217, line 38 (AD 176–80).

[4] T. Kalen et al., *Berliner Leihgabe griechischer Papyri* (Uppsala, 1932), no. 17, line 12 (AD 164).

Arsinoite Nome,[5] where no palaestrae were likely to have been during Roman times, unless the latter comes from Ptolemais Euergetis. Ceremonial 'palaestra-guards' were attached to various municipal officials at Hermopolis Magna,[6] presumably when they were carrying out their formal duties in a gymnasium. The same agents are found also in documents from Theadelphia and other places in the Arsinoite Nome (all probably undertaking their responsibilities at the nome capital, Ptolemais Euergetis, as village gymnasia apparently disappeared after the reign of Augustus),[7] and at Oxyrhynchus.[8] Many, probably all, metropoleis, including Antinoopolis itself,[9] had gymnasia, of which the palaestra was an integral part. As far as I know, not one gymnasium has been located archaeologically in Egypt. Günther Roeder, applying his great knowledge of the site, and using information supplied by Hermann Schmitz from the papyri, suggested that the gymnasium at Hermopolis Magna was located at Kom an-Nar,[10] in the West City Quarter, but no one has yet investigated that area with excavation.

The so-called palaestra on the Manfredi and Pericoli plan is in a suburb outside the principal city wall and is not lined up with the main pattern of right-angled streets and insulae shown on this plan and known also from the work of Napoleon's Commission d'Égypte and later discussions, such as that of H. I. Bell,[11] but the same can be said of the hippodrome. The gymnasium,

[5] E. Kiessling, *Sammelbuch griechischer Urkunden aus Ägypten*, 8 (Wiesbaden, 1967), no. 9830, line 15 (AD 81–96).

[6] Łukaszewicz, *Les édifices publics*, 169; B. P. Grenfell and A. S. Hunt, *The Amherst Papyri*, II (London, 1901), no. 124, line 3 (third century AD); A. H. M. Jones, *The Cities of the Eastern Roman Provinces* (Oxford, 1937), 320.

[7] Jones, *Cities*, 319; A. K. Bowman and D. Rathbone, 'Cities and Administration in Roman Egypt', *JRS* 82 (1992), 121.

[8] *Palaistrophylakes* in documents from Theadelphia: J. Schwartz, *Papyrus grecs*, 9 (Strasbourg, 1985), no. 847, col. 2, lines 37 and 43, and no. 848, col. 1, line 5 (*c.* AD 150); from Theadelphia or Euhemeria: L. Varcl, in *Listy Filologické* 80 (1957), no. 102, line 309, republished in Kiessling, *Sammelbuch*, 6 (Wiesbaden, 1963), no. 9406, line 309 (AD 246); from the Arsinoite Nome: G. Vitelli, *Papiri greci e latini*, 10 (Florence, 1932), no. 1100, line 8 (AD 161) and G. M. Parássoglou, *The Archive of Aurelius Sakaon* (Bonn, 1978), no. 94, line 5 (AD 284); from Oxyrhynchus: B. P. Grenfell and A. S. Hunt, *POxy* II, no. 390 (first century AD), and *POxy* X, no. 1266, line 8 (AD 98), and H. A Rupprecht, *Sammelbuch griechischer Urkunden aus Ägypten*, 16 (Wiesbaden, 1988), no. 12495, col. 2, line 23 (first century AD).

[9] Łukaszewicz, *Les édifices publics*, 59, 169; B. Kramer and R. Hübner, *Kölner Papyri*, 1 (Opladen, 1976), nos 52–3 (AD 263). Łukaszewicz, *Les édifices publics*, 168–9, lists Roman Period gymnasia, known from the papyri, at Alexandria, Antinoopolis, Elephantine, Heracleopolis Magna, Hermopolis Magna, Memphis, Nikiou, Oxyrhynchus, Panopolis, and Ptolemais Euergetis.

[10] G. Roeder, *Hermopolis Magna 1929–1939* (Pelizaeus-Museum, Wissenschaftliche Veröffentlichung 4; Hildesheim, 1959), ch. IV § 40; ch. II § 32d. The gymnasium was apparently part of a huge complex including the baths of Hadrian, the Great Sarapieion, the bouleuterion, the prytaneion and the library: D. M. Bailey, *Excavations at el-Ashmunein*, IV. *Hermopolis Magna: Buildings of the Roman Period* (London, 1991), 59, with references (Kom an-Nar is shown on pl. 1 there).

[11] The city's public buildings as seen by Edmé Jomard in 1799–1800 (*Description de l'Égypte*, IV (Paris, 1823), pls. 53–61, described fully in text volume IV (Paris, 1821), 197–283), were nearly all destroyed by 1820. Most were still in place in 1815 when William Bankes described and planned them (ms at Kingston Lacy, Dorset). John Hyde in his journal of 1 August 1819 (British Library, Add ms 42102) notes that the splendid triumphal arch was being burnt for lime at that time. Only the hippodrome and the shattered remains of the 'baths' were to be seen in 1840 by T. J. Newbold ('The Present State of the Sites of Antaeopolis, Antinoe, and Hermopolis, on the Banks of the Nile', *Transactions of the Royal Society of Literature, Second Series* 1 (1843), 96). Traces of the hippodrome and of the colonnaded streets, the *cardo* and the *decumani*, so very obvious in the *Description*'s plates, still remain, although the columns are all broken or lost: those of the *cardo* are still today much as shown in A. Adriani, 'Scavi della missione dell'Istituto Papirologico Fiorentino ad Antinoe', *ASAE* 38 (1938), 660, fig. 64; the rectangular districts and blocks are known from the papyri as *grammata* and *plinthia* (H. I. Bell, 'Antinoopolis: a Hadrianic Foundation in Egypt', *JRS* 30 (1940), 133–47; D. L. Thompson, 'The Lost City of Antinoos', *Archaeology* 34 (1981), 44–50). Other descriptions include L. Dietrichson, *Antinoos, eine kunstarchäologische Unterschung* (Christiana, 1884), 99–107, with material supplied by the traveller G. Freund; H. Leclercq, 'Antinoe', in F. Cabrol, *Dictionnaire d'archéologie chrétienne et de liturgie* (Paris, 1905), 2326–59; A. Calderini, *Dizionario dei nomi geografici e topografici dell'Egitto greco-romano* 1, 2 (Madrid, 1966), 66–114; Del Francia Barocas, *Antinoe*.

however, was such a vital part of Greek city life in Egypt that it might be expected to be in a much more central area of Antinoopolis and certainly within the walls, just as the main gymnasium at Alexandria was well within the city boundary, close to the agora.[12] Could the large edifice at Antinoopolis described as 'baths' and shown by Napoleon's savants on the main street leading eastward from the triumphal arch be part of the gymnasium?[13] This so-called bath-building, the plan of which has none of the normal characteristics of such structures, may be the gigantic entrance of a larger complex, of which only the ruins of this elegant building survived at the time of the French scientists' visit. The gymnasium itself is described as circular in two repair papyri of AD 263.[14]

Although many an Egyptian ancient site has been cleared without subsequent publication, because of its large size it is surprising that there appears to be no record of the excavation of the putative Antinoopolis palaestra shown on the Manfredi and Pericoli plan. Pensabene's discussion of the excavation history of the site and the references he gives do not mention it.[15] If this edifice were indeed the city's palaestra and accompanying gymnasium, necessarily with multicolumned peristyles and monumental entrance buildings, and probably baths close to hand, at least some remains of architectural sculpture and statuary in classical style would be expected from such a vast site of prime importance to the ancient inhabitants, but again Pensabene's huge catalogue lists none. It must be assumed that this prominent building was not excavated at all, but was erected on the surface of the ancient site in comparatively modern times and subsequently abandoned, upon which decay and the beginnings of burial ensued.

If not a Roman palaestra, what is this immense structure of concrete and stuccoed, fired, red brick? The answer lies in a remark by J. de M. Johnson in his report to the Egypt Exploration Fund on his search for papyri at Antinoopolis in 1914.[16] He mentions that 'a derelict powder factory' stands 'as at Ahnasia to the north of the site'. Actually, it is more to the north-west, but Johnson, following local practice, found it convenient to regard the river as running south–north and discusses the site accordingly.[17] The saltpetre/gunpowder factory is mentioned in a journal of Jacques de Rougé during his visit to Egypt in 1863–4, who blames it for much destruction at Antinoopolis.[18] Its construction probably started not much earlier than that date, as de Rougé asserts that Auguste Mariette, who became Director of Egyptian Monuments in 1858, was enraged to hear that a marble statue of Antinous was burned for lime when the factory was being built. Evaristo Breccia alludes to the Antinoopolis manufactory in 1938.[19] This saltpetre factory is thus thirty or more years later in date than the even larger one just across the river at el-Ashmunein, recorded by Roeder,[20] which was almost certainly built in its main form from about 1826 onward, its fired, red brick held together by mortar produced by the burning for lime of the

[12] Strabo, XVII, 1, 10C: it was 180 m long; A. Adriani, *Repertorio d'arte dell'Egitto greco-romano*, Serie C, I-II (Palermo, 1966), 227; P. M. Fraser, *Ptolemaic Alexandria*, I (Oxford, 1972), 26, 28–9; F. Burkhalter, 'Le gymnase d'Alexandrie: centre administratif de la province romaine d'Égypte', *BCH* 116 (1992), 345–73. Although gymnasia of Greek cities were originally found outside their walls, by the fourth century BC they were regularly built in central areas: H. von Hesberg, 'Das griechische Gymnasium im 2. Jh. v. Chr.', in M. Wörrle and P. Zanker (eds), *Stadtbild und Bürgerbild im Hellenismus, Kolloquium, München, 1993* (Vestigia, Beiträge zur alten Geschichte 47; Munich, 1995), 13–27.

[13] *Description* IV, pls. 53 and 61, 22.

[14] J. Rea, 'Cologne Papyri', *The Classical Review* ns 30 (1980), 261–2; see also Łukaszewicz, *Les édifices publics*, 59, and Kramer and Hübner, *Kölner Papyri*, nos. 52–3.

[15] P. Pensabene, *Elementi architettonici di Alessandria e di altri siti egiziani* (Rome, 1993), 273–88. Neither does M. Manfredi, in Del Francia Barocas, *Antinoe*, 23–8.

[16] 'Antinoe and its Papyri', *JEA* 1 (1914), 168–81.

[17] Ibid. 170, n. 2.

[18] Noted in an obituary discussion of de Rougé by J. Capart, *CdE* 13 (1938), 335.

[19] E. Breccia, 'Le prime ricerche italiane ad Antinoe', *Aegyptus* 18 (1938), 285.

[20] Roeder, *Hermopolis Magna*, pl. 89: the scale given should be 100 m, not 200 m, as A. J. Spencer points out in *Excavations at el-Ashmunein*, I. *The Topography of the Site* (British Museum Expedition to Middle Egypt; London, 1983), 4, 3iv.

great pronaos of Hermopolis Magna.[21] Many twentieth-century houses at el-Ashmunein have visible foundations on the factory's truncated walls, which also enclose a large rectangular open space.

The demand for gunpowder by Mohammed Ali was the principal motivation for his son Ibrahim Pasha to build the el-Ashmunein factory, and the Antinoopolis structure, built, as we have seen, after 1858, was constructed by one of the descendants of the former, probably Said Pasha (1854–63) or less likely, Ismail Pasha (1863–79), presumably for the same reason. Johnson has shown that the Antinoopolis establishment had fallen out of use before 1914 and the el-Ashmunein factory was in ruins in 1929 when Roeder saw it and had Arnold Nöldeke include it in his plan of Hermopolis Magna. It seems to have been deserted when Giacomo Biondi and Ernesto Schiaparelli were excavating for papyri in the mounds of el-Ashmunein in 1904.[22] The two saltpetre works at Ehnasiya (see below) were abandoned before 1894.

It is very noticeable on ancient city mounds in Egypt that when there has been a heavy fall of rain, saltpetre and other salts crystallize out from the *sebakh* of which the mounds are composed,[23] often coating the ground thickly, as though snow had fallen. The huge, flat, inner spaces of the factories, as in the one surviving still at Antinoopolis, were seemingly used to spread out the nitrogenous *sebakh*, which was then soaked with water to extract the salts. Mere evaporation would produce an impure saltpetre, although probably quite effective for gunpowder, and this was likely to have been the main method used. Other procedures may have been employed as time went on, such as that where the solution produced by dissolving the salts was treated with woodash or potassium carbonate, and the liquid filtered and then crystallized to produce saltpetre. This was collected and, together with sulphur and charcoal, used to manufacture gunpowder, either on site or at another specialised factory: Edmé Jomard in 1800 reports that saltpetre made on the mounds of Hermopolis Magna was taken to Mellawi to a powder works there.[24] Another of Napoleon's savants mentions that saltpetre for gunpowder was commonly recovered from ancient city or village mounds.[25] At Ehnasiya el-Medina (Omm el-Keman, the 'Mother of Mounds'), the ancient Heracleopolis Magna, two large but defunct rectangular structures at each end of the mound were described as saltpetre works and are shown in Adolf Erman's plan of the site.[26] They were described by Edouard Naville as being in use at the beginning of the nineteenth century by the Mamelukes and Mohammed Ali and were certainly functioning in 1833.[27] Another saltpetre

[21] S. Snape and D. Bailey, *The Great Portico at Hermopolis Magna: Present State and Past Prospects* (British Museum Occasional Paper 63; London, 1988), 48–9.

[22] G. Biondi and E. Schiaparelli, 'scavi eseguiti a Hermupolis Magna', *Rendiconti della Reale Accademia dei Lincei*, fifth series, 14 (1905), 283.

[23] See D. M. Bailey, '*Sebakh*, Sherds and Survey', *JEA* 85 (1999), 211–18.

[24] In *Description*, text volume IV, 168. See Snape and Bailey, *Great Portico*, 49, for references to the saltpetre factories at el-Ashmunein. According to J. M. Sherer, in his *Scenes and Impressions in Egypt and in Italy* (London, 1825), 134–5, a saltpetre factory existed at el-Ashmunein in 1823. This I believe was replaced by Ibrahim Pasha's works built after 1826; James Bonomi saw Sherer's factory in 1825, as did Wilkinson about the same time (Snape and Bailey, *Great Portico*, 36 and 34 respectively). Wilkinson later reported that a 'powder-mill has been established there by the Pasha, and many persons are constantly employed amidst the mounds in removing the nitre, for the manufacture of purified saltpetre, and for agricultural purposes': J. Gardner Wilkinson, *Modern Egypt and Thebes*, II (London, 1843), 68. James Webster in 1828 noted that at el-Ashmunein there is 'a manufactory for saltpetre, which is obtained by the evaporation of water from large basins': J. Webster, *Travels through the Crimea, Turkey and Egypt*, II (London, 1830), 181. Clot Bey states that more than 76 tons of saltpetre was produced by the evaporation method in a single year (1833) at el-Ashmunein, the third most productive manufactory in Egypt (A. B. Clot, *Aperçu général sur l'Égypte*, II (Paris, 1840), 294–5). The amount of *sebakh* needed to produce 76 tons must have been staggering—and this is all houses and occupation-levels of Hermopolis Magna! No saltpetre works is listed in 1840 by Clot as being situated at Antinoopolis, and we have seen that it was probably built after 1858.

[25] P. S. Girard, in *Description de l'Égypte*, text volume XVII (Paris, 1824), 252–3.

[26] E. Naville et al., *Ahnas el-Medineh (Heracleopolis Magna); The Tomb of Paheri at el-Kab* (MEEF 11; London, 1894), pl. xiii.

[27] Naville, *Ahnas el-Medineh*, 1. One of these factories is mentioned by Johnson, *JEA* 1, 172. They were the fifth most productive works in 1833: Clot, *Aperçu général*, 295. The removal of *sebakh* was the major

factory was designed and built in 1818–19 near Memphis by Pascal Coste. It was a large rectangular structure with cell-like walls similar to those of the Antinoopolis structure and four *sakiyas* for lifting water.[28]

It would be interesting to know whether the *sebakh*, after the extraction of the saltpetre, retained enough nitrogen-rich salts still to be useful as a fertiliser. Perhaps not, as Biondi and Schiaparelli mention the rectangular banks presumably of processed *sebakh* that surrounded the el-Ashmunein powder-mill in 1904, but which are now no longer there, removed during the expansion of the modern town.[29]

The abandoned and ruined saltpetre factory, as a surviving industrial building of recent times built within the city of Antinoopolis, is part of the modern history of that site and a major agent in its destruction, and as such must remain in the archaeological record, appearing on plans of the city like that now produced by Manfredi and Pericoli. But, just as ghost words, proposed by editors as readings of all but indecipherable terms in ancient documents, but subsequently found to be untenable, are continually being rejected by papyrologists, so must this 'palaestra' be removed from the Romano-Egyptian archaeological record.

DONALD M. BAILEY

reason for mound destruction, but stone-robbing both before (as at Antinoopolis—see n. 11) and during *sebakh*-digging led to the demolition of buildings, as also did the taking of fired brick: Petrie at Ehnasiya in 1904 states that 'We had continual trouble with the contractor who annually purchases from the Antiquity Department the right to destroy the Roman buildings for bricks. The whole of the walls of Roman age are mined out by long underground burrows; and the large piles of red bricks thrown up for sale to distant places, show the sites of churches and mansions of which no one will ever know more' (W. M. F. Petrie, *Ehnasya 1904* (MEEF 26; London, 1905), 1).

[28] P. Ghazaleh, in *Al-Ahram* 30 July-5 August 1998, p. 15, with a sketch and a plan of the factory, taken from D. Jacobi, *Pascal Coste, toutes les Egypte* (Marseille, 1998 (*non vidi*)). I am grateful to Patricia Spencer for this reference.

[29] Biondi and Schiaparelli, 'Hermupolis Magna', 283, n. 3. Biondi's map, published in M. Chaban, 'Fouilles à Ashmounéîn', *ASAE* 8 (1907), 213, fig. 1, shows these rectangular embankments.

1. The eastern side and ancillary buildings of the saltpetre factory at Antinoopolis (*author's photograph*)

2. Emplacements for water-lifting wheels at the Antinoopolis saltpetre factory (*author's photograph*)

REVIEWS

State Formation in Egypt. Chronology and Society. By TOBY A. H. WILKINSON. Cambridge Monographs in African Archaeology 40, British Archaeological Reports International Series 651. 210 × 296 mm. Pp. v + 122, figs. 18, diagrams in text, and 58 unnumbered pages of drawings. Oxford, Tempus Reparatum, 1996. ISBN 0 86054 838 4. Price £32.

This book is a revised and updated version of Wilkinson's doctoral dissertation, presented in 1993 at the University of Cambridge. The general aim of the work is to investigate the formation of the Egyptian state through the published archaeological data.

In his first section, Wilkinson discusses the recent evidence concerning cultural development and state formation in Egypt, and provides an overview of present knowledge on the chronology of the Predynastic and Early Dynastic Periods. With regard to cultural development, the emphasis is, of course, placed on the increased information on Lower Egypt which has become available during recent years. This is then used for a summary of current ideas concerning the relationship between Upper and Lower Egypt. It is, however, very difficult to judge the value of this summary, because it is apparently strongly influenced by the doctoral dissertation of Christiana Köhler (*Tell el-Fara'in-Buto: Die Keramik der Schichten III bis VI. Untersuchungen zur Töpfereiproduktion einer frühen Siedlung des Nildeltas,* Heidelberg, 1993).[1] Köhler's notion that the predynastic culture consisted of three regional variants of a single cultural tradition (E. C. Köhler, *GM* 147 (1995), 79–92), is, however, not seriously criticised in the light of Kaiser's objections (*GM* 149 (1995), 5–11). The summary of the political development is less problematic. The emergence of local elites, and consequently of developing kingship, can be seen at several sites from late Naqada I times onwards. In this respect, the most fundamental recent information comes from cemetery U at Abydos, showing a local development of rulership, which ultimately gained control over the whole country.

With regard to the chronology of Predynastic and Early Dynastic Egypt, Wilkinson focuses mainly on the Naqada III Period, which, of course, is of fundamental importance for understanding the origin of the Egyptian state. The historical development of the relative chronology is presented in a very clear manner, indicating both the merits and the weak points of the studies by Petrie, Kantor, Kaiser, Kemp and Hendrickx.[2] In his overview of the political chronology of the late Predynastic to Early Dynastic transition, Wilkinson discusses the reading of the early royal names. He rightly states that the period of unification seems to have been relatively short, and that this is one of the reasons why one should be cautious about adding new kings on limited evidence. However, his rejection of Iry-Hor is not supported by the archaeological data. Although the reading of the name can indeed be questioned, there seems to be no doubt about the existence of this king or his chronological position. Indeed, the location of tomb B 1–2 clearly indicates the royal status of its owner and the sequence Iry-Hor – Ka – Narmer. This sequence is also confirmed by the pottery from these tombs. Contrary to Wilkinson's opinion (p. 13), there is no evidence that *serekhs* were used for writing royal names prior to Iry-Hor. It seems obvious that the *serekh* developed as an independent symbol, as is shown by the examples from tomb U-s at Abydos (G. Dreyer, *MDAIK* 46 (1990), fig. 3 a–b), referring to the 'royal palace' and only afterwards was combined with the royal name. That being the case, Iry-Hor would have been the last king whose name was not written in a *serekh*.

The first part of the work concludes with the correlation between the relative and absolute chronology on the one hand, and the cultural and political sequence on the other.

[1] Recently published as E. C. Köhler, *Tell el-Fara'in–Buto* III. *Die Keramik von der späten Nagada-Kultur bis zum frühen Alten Reich (Schicten III bis VI)* (AV 94; Mainz, 1998).

[2] The missing correspondence between the cultural phases and kings' reigns during Dynasties 0 and 1, mentioned by Wilkinson, has since been published: S. Hendrickx, 'The Relative Chronology of the Naqada Culture: Problems and Possibilities', in A. J. Spencer, (ed.), *Aspects of Early Egypt*, (London, 1996), 36–69.

The core of the study is the seriation of seven cemeteries representing different types of communities in various regions along the Egyptian Nile Valley. The second part of the work discusses the techniques used for these seriations. After presenting an overview of the possibilities of the seriation technique, the author tackles the difficult problem of the Predynastic and Early Dynastic pottery typologies, defined originally by W. M. F. Petrie. In recent years, it has been stated repeatedly that the study of the cemeteries of the Naqada culture is seriously hampered by the fact that nearly all of the relevant sites were excavated before the Second World War, and consequently published according to the standards of that time. After presenting the many problems arising from the definition and the utilisation of Petrie's typologies, Wilkinson rightly concludes that types should be grouped. The difficulty here is to determine to what extent this can be done. Wilkinson reduces Petrie's original 1420 pottery types to 141 new types. This approach, of course, carries the risk of producing strongly heterogeneous 'types', and as the author himself admits, some of his categories 'bring together types with broad similarities but some significant differences' (p. 23). Here, indeed, lies the main problem with the work under discussion. An examination of the plates which illustrate the manner in which Petrie's types have been regrouped reveals problems with nearly every one of the newly defined types, especially in the case of the plates, cups and bowls (P 001, P 004, P 033, P 034 etc.). It is impossible to list all of these problems in this review. Evidently, when defining his types, the author had little experience with the actual objects. Among the most notable difficulties is the grouping of Nile silt and marl clay bowls and even the very characteristic Nile silt bread moulds in the types P 094, P 095 and P 103. One can also question the validity of distinguishing two types of wine jars (P 107 and P 108) by the broadness of their shoulders, while very distinctive elements such as the applied ridges and the wavy decorations are completely ignored. It should be noted that type P 044 is defined in a completely different manner from the other groups because it brings together all the White Cross-line ware. Furthermore, it is difficult to understand why in type P 052 cylindrical jars both with and without incised decoration have been grouped. This is all the more disturbing because the author should have been aware that this element has been used as a chronological indicator by Kaiser (*Archaeologia Geographica* 6 (1957), 69–77; *MDAIK* 46 (1990), 287–99) for the development of his *Stufen* chronology. The same applies to type P 069, where the smaller types R 84 and R 84 a, characteristic of Kaiser's *Stufe* IId2, are grouped with the broader types such as R 84 e, characteristic of *Stufe* IIc. It is obvious that Wilkinson's method of grouping Petrie's types makes it impossible to arrive at the same results as those which Kaiser obtained for his *Stufen* chronology.

Another disturbing factor is that the reader is not made aware of the relative frequency of Petrie's original types within the newly defined groupings. It is, for example, obvious that type P 070 is quantitatively completely dominated by R 81, which is the most frequently occurring Predynastic type of pot, while the remaining Petrie types grouped as P 070 only occur occasionally.

The inevitable conclusion is that when Petrie's types are grouped into only 141 new categories, these become heterogeneous to a degree no longer consistent with the concept 'type'. While this does not render Wilkinson's seriations totally meaningless, the many anomlies involved introduce a disturbing element of uncertainty into the results. The author is fully aware of the problems associated with his typology, but the manner in which the grouping of Petrie types is defended by reference to the results of the seriation is methodologically unsound. Furthermore, it should be noted that only pottery vessels have been used for seriation. Stone vessels, which become increasingly important towards the end of the Naqada III Period, are not included, and neither are palettes which are quite numerous throughout the Naqada Period.

The discussion of the techniques used concludes with a very well-documented overview of the statistical analysis of early Egyptian mortuary data.

The third part of the work deals with the actual seriations. Details can be found in three appendices, where all the data employed are presented in a very thorough manner. The cemeteries chosen have been selected mainly because they cover the period of state formation and are distributed throughout Egypt, with the notable exception of the Delta, for which no cemetery has yet been published completely. For Lower Egypt, which is here restricted to the Memphis area, the cemeteries at Turah and Tarkhan are included, and for Middle Egypt three cemeteries at Matmar and one at Mostagedda. These cemeteries do indeed offer the greatest potential for

analysis, but it is unclear why the Tarkhan Valley Cemetery, which is far better published than the Hill cemeteries of the same site, is not used for seriation. For Upper Egypt, the cemeteries at Mahasna and Armant and the Hierakonpolis Fort Cemetery have been chosen. Although this selection is defensible, one wonders why cemetery E at Abydos or the cemetery at Salmany near Abydos is not included. As control seriations, the cemetery of Turah is used again, but this time using Junker's original typology and Petrie's equivalent types, and the Naqada III cemetery at Elkab.

Whenever possible, the result of the seriations has also been plotted on a plan of the cemetery, to facilitate discussion of the chronological development of the cemeteries involved. It remains, however, a basic problem that the horizontal distribution of graves and pottery types is not used as a source of information, but only as a method of control.

It is impossible to discuss each of the seriations individually. Therefore only a few striking phenomena will be mentioned here. Particular attention will be given to those cemeteries for which a plan has been published, and which therefore permit one to compare the results of the seriation with the horizontal distribution patterns.

For the Turah seriation, it is noteworthy that two very heterogeneous types have been used for the delimitation of both phase I (types P 105 and P 125) and phase II (types P 94, P 99 and P 115). The horizontal distribution of the different types of cylindrical jars shows a particularly clear chronological pattern at this site (W. Kaiser, *ZÄS* 91 (1964), 107–9; Hendrickx, *Aspects of Early Egypt*, 59, fig. 2), as can also be seen though in a less explicit manner, when the result of Wilkinson's seriation is plotted on the cemetery plan (fig. 5). The possibility of comparing the seriation with the horizontal distribution patterns offered by the Tarkhan Hill cemeteries is clearly very limited. Wilkinson's conclusions seem to overestimate the potential of the evidence in seeking chronological developments spanning several generations on the basis of a very few graves in each of these small cemeteries.

The control seriations for Turah, using respectively Junker's and Petrie's typologies, aim principally at evaluating the effect of the grouping of types, a point of great concern throughout the whole of Wilkinson's work. The fact that both seriations show strong similarities is obviously to be expected because Petrie's reworking of Junker's typology is actually hardly anything more than a renaming.

I made a particularly close examination of the seriations for the Elkab cemetery, because they deal with my own work. First, Wilkinson seriates the cemetery according to his own typology, and compares the result with the chronology proposed by me. Because he does not include the stone vessels (over 10 per cent of the vessels at Elkab), which are especially characteristic for the most recent group of tombs (Naqada IIID), this group disappears completely from Wilkinson's study. For the remaining group, Wilkinson regards the result as 'very encouraging', which seems somewhat exaggerated. Indeed, although the seriation groups certainly show a progression from earlier to later dates when compared with the chronology proposed in the original publication, there is also a confusion between the first two groups distinguished by Wilkinson and the tombs attributed by me to Naqada IIIA1 and IIIA2.

The Elkab cemetery is then seriated using the typology according to which it was published.[3] When this is compared with the original seriation, there seems to be very little correspondence. As a further test, the results of this second seriation are compared with the chronology originally proposed. The resulting correspondance is less close than was the case for the first seriation. From this, Wilkinson concludes that 'seriation of Elkab employing some grouping of pottery types yielded a chronologically more accurate result than seriation conducted without such grouping'. This is certainly so at first sight, but there are several problems involved. In general, the two large groups, attributed respectively to Naqada IIIA1 and IIIA2, stand out far more clearly than in Wilkinson's original seriation, but they are separated by a group of burials among which are all four tombs attributed to Naqada IIIB and three tombs for both Naqada IIIA1 and IIIB. This

[3] An analytical typology largely following the method used by H. Å. Nordström, *Neolithic and A-Group Sites* (SJE 3; Copenhagen, 1972), and R. Holthoer, *New Kingdom Pharaonic Sites. The Pottery* (SJE 5:1; Stockholm, 1977).

chronologically invalid order is clearly the result of the limited number of tombs at the Elkab cemetery combined with the fact that there are two tombs (93 and, especially, 85) containing an exceptionally large number of objects. These tombs can be easily distinguished chronologically through their cylindrical jars, but they also contain a number of identical pottery types. Because of this, the seriation creates a middle group for reasons which have only limited chronological relevance. A minor detail is that the two most recent tombs (76 and 77, dating to Naqada IIIC1) show up at the very beginning of the seriation, making them among the oldest in the cemetery. This is simply the result of the fact that the most characteristic vessel types have not been included because they are unique types (the cylindrical jar M 248 for tomb 77, the cylindrical beaker M 226, and the restricted beakers M 218 and M 224 for tomb 76) or stone vessels (among others the remarkable stone cylindrical jar M 229 for tomb 76). The fact that these two tombs occur in the seriation matrix among tombs from which they should be distinguished on the evidence of their burial goods, illustrates one of the weak points of seriation. Furthermore, it is illogical that the original chronological attribution of the tombs at Elkab is used as the 'ideal' chronology, with which the author's seriations are compared, but is at the same time criticised.

In conclusion, Wilkinson's seriations do confirm the existing view of the chronological development of the Naqada culture, but the picture is blurred by the heterogeneity by which Petrie's types have been grouped. It is therefore possible to agree with Wilkinson's statement (p. 59): 'Grouping of pottery types undoubtedly causes a certain loss of detail in the seriation result. But the efficacy of the seriation procedure for identifying broad cultural/ chronological phases is not impaired'.

Among the chronological implications presented by Wilkinson, the warning that great caution should be exercised in using pottery to date graves to individual reigns of late Predynastic or Early Dynastic kings is certainly valid. Particular attention is paid to the dating of Turah, because the earliest tombs in that cemetery were used as evidence by Kaiser for dating the unification of Egypt about 150 years before the reign of Narmer. Wilkinson convincingly demonstrates that the cemetery at Turah probably came into use only a few decades before the time of Narmer. Obviously this does not rule out Kaiser's suggestion, which can be substantiated by, for example, the earlier date at which the Tarkhan cemetery came in to use, and especially by the recent finds at Abydos.

Part 4 deals with the socio-economic effects of state formation. Here Wilkinson links his chronological framework with two socio-economic elements, namely grave size, expressed in square metres, and grave wealth, expressed by the number of pots in the graves. With respect to the latter, it is particularly disturbing that the stone vessels have not been included. Nevertheless, the chronological phases distinguished for each cemetery are broad enough to contain a sufficient number of tombs to justify this kind of investigation. Possible trends of socio-economic evolution are discussed for each of the seriated cemeteries. The individual sites show varied patterns of development. As a general observation, however, the mid-Naqada II Period seems to be characterised by increasing social stratification. By the end of the Predynastic Period, the importance of most communities in Middle and Upper Egypt declined, with the exception of the main centres at Abydos and Hierakonpolis. This, of course, illustrates the increasing importance of regional states focused on those sites, and originally also at Naqada. Evidence from elite tombs not included in the seriations confirms the drastic impact of state formation at several sites.

The socio-economic changes related to state formation recognised in the mortuary evidence are considered by the author in the light of changes in settlement patterns. A number of small communities seem to have disappeared, as is illustrated by the abandonment of small living sites and a number of cemeteries during the early Naqada III Period, while at the same time larger settlements became increasing important. These developed urban characteristics, which once again can easily be associated with state formation.

In his concluding remarks, Wilkinson rightly stresses the importance of local factors, such as agricultural productivity or access to resources, for early state formation. By the beginning of the Early Dynastic Period, differences in regional developments had ended the uniform socio-economic development which had been characteristic for Predynastic times.

In a final part of the study, the author discusses briefly the impact of state formation on the Delta. At Buto and Tell Ibrahim Awad, changes in architecture occur at the beginning of the Naqada III Period, while at about the same moment, changes in burial practices are attested at Minshat Abu Omar. This, together with the replacement of the Lower Egyptian ceramic technology by the superior Upper Egyptian pottery, reflects the integration of the Delta into a united Egypt. The main motivation for the Upper Egyptian policy may well have been the wish for direct access to prestige commodities, such as wine and oils from Syria–Palestine.

Despite the problems arising from the seriations, Wilkinson presents stimulating ideas which provide a basis for further investigations into the motives and consequences of state formation in Egypt. The discussion of the socio-economic dynamics of Predynastic and Early Dynastic Egypt is particularly relevant in this respect.

STAN HENDRICKX

Chronologie des pharaonischen Ägypten. Die Zeitbestimmung der ägyptischen Geschichte von der Vorzeit bis 332 v. Chr. By JÜRGEN VON BECKERATH. Münchner Ägyptologische Studien, Band 46. 302 × 213 mm. Pp. xix + 244, figs. 20, pls. 8. Mainz, Verlag Philipp von Zabern, 1997. ISBN 3 8053 2310 7. Price not stated.

Establishing an accurate chronology for the history of ancient Egypt through three millennia down to Graeco-Roman times remains a perennial challenge, especially as new data and new methods of interpreting data emerge. No detailed modern monograph *au fait* with Egyptian and relevant Near Eastern data has appeared since the long-gone days of Meyer or Borchardt, and therefore this new book bids fair to fill the gap in good measure. The author finished his work in mid-1995, hence he could not know of, or take account of, works issued in the three to four years elapsed since that date. An altogether briefer overall survey by this reviewer (mainly up-to-date to 1996/97) was issued in mid-1997 (as 'The Historical Chronology of Ancient Egypt, a Current Assessment', in G. Randsborg (ed.), *Absolute Chronology, Archaeological Europe 2500–500 BC, Acta Archaeologica Supplementa*, I (Copenhagen 1996 [1997]), 1–13, appearing simultaneously as *Acta Archaeologica* 67 (1996 [1997]), 1–13). Likewise, there appeared in 1996 the revised update of the second edition of my *Third Intermediate Period in Egypt (1100–650 BC)*; both works are more up-to-date than von Beckerath's in certain particulars, while the new work (1997) by Ryholt cited below brings some drastic new advances in our understanding of the Turin Papyrus of Kings; cf. also remarks on that document (covering Helck, von Beckerath, Ryholt and others) in K. A. Kitchen, *Ramesside Inscriptions, Translated and Annotated: Notes & Comments*, II (Oxford 1999), 53–48, §§993–1010*c*, Section 288. Such is the unending flow of work in this field.

This present book falls into three main divisions. Part I (pp. 3–76) surveys Egyptian modes of time-reckoning and the calendar, then the nature and extent of the direct, written sources for Egyptian chronology (Turin king-list, other tabulations of kings, private biographies and genealogies, Manetho and other classical data). Then it considers possible astronomical data (Sothic, lunar, seasonal dates), and Carbon-14, before turning to synchronisms with foreign states, returning finally to jubilees, co-regencies and Apis-burials. Part II (pp. 79–184) is the heart of the work. Here, von B. deals with all the successive periods of Egyptian history — and in the only sound and solid way, i.e., by moving backwards from the solid base of the Saite and Persian Periods (664–332 BC) into earlier epochs to just before the First Dynasty. Part III (pp. 187–231, plus indexes, pp. 232–44) consists of a long series of 15 Appendices (A to O) covering various items of detail, and beginning with his suggested Tables of Dates for dynasties and kings (Section A), tables to turn Julian into Gregorian dates and to show the Egyptian civil calendar's progress through the sequence of Julian years (B, C), and accession-dates of New Kingdom rulers (D). Then comes another reconstruction of the Palermo Stone annals, a translation of the Turin king-list, drawings of the sets of kings' names at Medinet Habu, Abydos (Sethos I), Saqqara (Tjunuroy), and on O. Cairo CG 25646, and the versions of Manetho in translation (E to K).

Finally, he considers the Sothic datum from the Lahun papyri, the Ebers calendar, the lunar tables from P. Carlsberg 9, and rulers from the Canon of Ptolemy (L-O).

So much for content, what about performance? Here, we will follow the historical sequence (unlike the book). For the Archaic Period, von B. allows about 325 years, and I (1997) between 300 and 400 years. For the Third Dynasty, von B. offers 68 years, I (1997) 74 years. However, there is no longer any reason to begin that dynasty with Sanakht Nebka, who belongs better in the middle of the dynasty (Kitchen, 1999, 535–8, §§999–1000, correcting both von B. and myself of 1997). For the Fourth to Sixth Dynasties inclusive, von B. allows some 413 years, I (1997), some 433 years: only 20 years apart, for two modern and entirely independent investigators. For the Seventh/Eighth Dynasty, von B. gives 50 years, myself (1997), 40 years. For the entire period from Menes to the end of the Old Kingdom, the Turin list summarises 955 years; compare the overall 862 years given by von B., and my 924/824 years (1997). My uppermost estimate is close to that of the Turin list; my lower one, almost as close to von B. Thereafter, both of us recognise that Manetho's Ninth and Tenth Dynasties are (in effect) doublets of each other; his 19 kings for each are probably a slight corruption of Turin's mainly lost 18 kings; our totals are close—von B. 140/100 years, myself (1997), 113 years, both approximations. Thus, overall, before the Eleventh Dynasty reunited Egypt, von B. arrives at close on 1000/960 years, and I (1997) at about 1040/940 years—in other words, both on close to a millennium, maximally only 40/20 years apart, which is not bad going for an epoch that ended roughly 4,000 years ago!

Dating in the high Middle Kingdom, the Eleventh–Twelfth Dynasties, tends to revolve around the famous Sothic date in the Lahun papyri. Here, both of us concur on a Memphite area observation (which alone would be valid at Lahun, whatever happened elsewhere), and with Luft that Year 7 of Sesostris II fell consequently in 1866 BC. As a result, von B. assigns the Twelfth Dynasty 182 years, from 1976–1794/93 BC, while in 1997 I gave it just 178 years, 1973–1795 BC, only 3 to 4 years apart. The now scrappy data in the Turin king-list can be interpreted in more than one way. Von B. (p. 134 and n. 612) followed Krauss, Franke and Helck in supposing an interchange of names in that document, but slight corruptions in the figures is a simpler and far more likely origin for the state of its present data, as I set out in P. Åström (ed.), *High, Middle or Low?*, Part 1 (Gothenburg 1987), 49 end (overlooked by von B.). For the Eleventh Dynasty, we concur (with most scholars) on 143 years, but now from 2119 and 2116 BC respectively.

The Second Intermediate Period (Thirteenth–Seventeenth Dynasties) is the graveyard of many chronological essays. For the Thirteenth Dynasty, the essential skeleton is Columns VI-VII (verso) in the Turin king-list papyrus, filled out by a good number of contemporary monuments. It is satisfying to note that, building on his major work of 1965 on the period, von B. arrives at 50 kings for 146/152 years for the Thirteenth Dynasty, while independently (1997) I came to (again!) 50 kings, for 150 years (*Acta* (1997), 7 top), theoretically extendable to 155/169 years (ibid. p. 11 end), but not needfully. As for the Theban Sixteenth/Seventeenth Dynasty/ies, von B. reaches 96 years down to 1550 BC for accession of the Eighteenth Dynasty, while I had variable figures above and below 90/96 years for the same rulers, but coming down to 1540 BC if needed. We each have 108 years for the Fifteenth (Hyksos) Dynasty, only 10 years apart. An argument for the minimum length of the Second Intermediate Period not utilised by von B. is that of the *irreducible archaeological sequence of rulers attested in Thebes* for the whole period, which comes to a minimum close on 240/246 years (*Acta* (1997), 7). Added to 1540 or 1550 BC, this automatically enforces a bottom date of approximately 1780/1790 BC for the end of the Twelfth Dynasty, *independent* of the Sothic datum, and confirming it as a northern observation. At this point, it is essential to introduce the new work by K. S. B. Ryholt, *The Political Situation in Egypt during the Second Intermediate Period (c. 1800–1550 B.C.)* (Copenhagen 1997). In essence, based on examination of the Turin papyrus itself (especially for fibre-correspondences), he is able to establish the following important points: (i) The curious mythological-sounding entries on various fragments traditionally placed in Cols. 'IX' and 'X' can now be removed entirely thence into a new Col. 2, between the present Cols. I and (usual) II, into the period of gods, demigods and spirits, etc., before the First Dynasty. (ii) For the Thirteenth Dynasty proper, Ryholt would add [Merhotepre Sobekhotep] at the end of Col. VI (using scarab seriation), and in Col. VII (because of the fibres) place fragment 87 (Merkheperre and fellows) *above* the group of fragments 93+94/95, instead of

below it. This merely alters the order of some late-Thirteenth Dynasty kings, but nothing else. (iii) In agreement with von B., and aided by a classical colleague, Ryholt is (I think) able definitively to abolish <Tu>timaios both from Manetho's text and hence from our chronological considerations.

Ryholt's treatment of the Fourteenth Dynasty is geographically radical, but not chronologically so. Sceptical of Xois as a capital, he takes up Redford's suggestion (*Egypt, Canaan and Israel in Ancient Times* (Princeton, 1992), 106–7), that 'Xois' is a misinterpretation of *khaswut*, 'foreign lands'. Thus, he (Ryholt) would transplant the Fourteenth Dynasty from the West Delta to the East Delta, as a Semitic predecessor there of the Hyksos Fifteenth Dynasty, and ended by it. Thus, the Thirteenth and Fourteenth Dynasties would end at the same time, when the new Hyksos regime took not only the East Delta but also Memphis/Ithet-tawy. He has also adjustments in order to make, in the early Thirteenth and the early Sixteenth Dynasties. His least convincing suggestion is to locate an ephemeral dynasty at Abydos. Except that he would begin the Thirteenth/Fourteenth parallel Dynasties in 1803 BC, a decade before von B. and myself (1997, but close to me in 1987!), Ryholt's date for their end in 1649 BC is almost identical with von B.'s 1648/45 BC, and my (1997) 1638 date before 1540 (Eighteenth Dynasty) if raised to 1648 BC (on 1550 for the Eighteenth Dynasty). So, regardless of numerous lesser variations, the overall framework for this trickiest period is beginning to look more settled than at any time in the past.

Within the New Kingdom, we reach calmer waters but for a small handful of famous cruxes. This period was earlier covered in detail by von B., in his *Chronologie des ägyptischen Neuen Reiches* (Hildesheim, 1994) (completed 1993), as Hildesheimer Ägyptologische Beiträge 39. We can be briefer here. In essence, the reigns of Tuthmosis III at 1479–1425 and of Ramesses II at 1279–1213 BC are agreed in both of his books, by this reviewer and most others, for good reasons. Before Tuthmosis III, the one weak point is the reign-length of Tuthmosis II—three years (by emendation of Manetho plus scepticism), or thirteen? (hence, 1550 or 1540 BC for the start of the Eighteenth Dynasty.) Von B. bases a thirteen-year reign on Hatshepsut's jubilee-celebration and the family ages ((1994), 111–12; (1997), 120–1). This is possible, but not certain. For reigns between Tuthmosis III and Ramesses II, von B.'s dates vary by two to four years, as between his 1994 and 1997 books, depending on preferences for reign-lengths of Amenophis II (26 or 30 years?), Haremhab (27 years) and Sethos I (11 years or more). In the latter's case, it must be stressed that Ramesses II was exclusively *prince* regent under his father, *not* a coregent; there is no proven overlap of years between these two kings! For the later Nineteenth Dynasty, von B. rejects Krauss's placing of Amenmesses within the reign of Sethos II. On that score, Krauss now offers fresh considerations (*SAK* 24 (1997), 161–81) too complex to deal with here. Along with other reasons, Krauss's view would make it impossible to limit the reign of Ramesses X to just over three years as von B. would prefer. Von B.'s Twentieth Dynasty dates in 1997 are the same as in 1994.

Finally, before returning to the safety of the Saite Period, we have the so-called Third Intermediate Period. His Twenty-first Dynasty (1997) is that of 1994, and is very close to mine in successive editions of *Third Intermediate Period* (1973, 1986; and 1996, not seen by von B.). His overall dates for the Twenty-second to Twenty-fifth Dynasties inclusive (946/945 BC to 664 BC) correspond almost exactly to mine—but with some very unsound divergencies in the middle of the period, which cannot be sustained factually. Thus, on his p. 94, von B. adopts totally uncritically the erroneous views of Leahy and Aston on Takeloth II and the Twenty-third Dynasty, without stopping for even a moment to scrutinise their evidence. As I have shown in the augmented second edition of *Third Intermediate Period*, in 1996 (not available to von B. in 1995, of course), there is absolutely *no* evidence for locating Takeloth II (or any other Libyan king) in Thebes, and still no reason to repeat the old blunder of confusing Takeloth II's son Prince Osorkon with the (much) later Osorkon III, with the bizarre result that the Thebans (who had bitterly opposed his presence as high priest in Thebes for decades) would suddenly and magically have undergone a complete change of heart to welcome him as king! It is methodological madness to assume that the Thebans tolerated Takeloth II in their midst as 'king', fuming in helpless anger while they resolutely rejected his son Osorkon as high priest year after year. Moreover, the Twenty-third Dynasty of Manetho is that of the monuments: Petubates = Pedubast I; Osochor = Osorkon III; Psammus and Zet (31 years) occupy the places of Takeloth III and Iuput II (about 31 years); Shoshenq VI

(old IV) and Rudamun have slipped out, just as other names have fallen out of Manetho's Twenty-second Dynasty. And the Twenty-third Dynasty is attested on monuments in the Delta, not merely recognised by anti-Twenty-second Dynasty Thebans. On this whole matter, von B.'s work is entirely outdated; cf. *Third Intermediate Period* (1996), xxviii-xxxiv for full details. Also completely outdated is von B.'s treatment (both here, pp. 61–2, and in *Ugarit-Forschungen* 24 (1993), 3–8) of the relationship of Taharqa to the events in Palestine in 701 BC. He has failed to understand the biblical reference. The parallel narratives in 2 Kings 19 and in Isaiah 37 end with a notice (19:37, and 37:38) of the murder of Sennacherib and accession of Esarhaddon in Assyria, *which dates the present narratives to 681 BC or later*, when Taharqa had been king of Egypt for a decade already! Therefore, as is universal practice, the Hebrew narrators name him by his then-current (681 ff.) title as king, not as prince. There is no 'anachronism' here, and it is unacceptable to pretend so. In exactly the same way, Taharqa as king on Kawa Stela IV refers to himself as 'His Majesty' when describing himself as a prince called north by king Shebitku (cf. *Third Intermediate Period*, 160). One might today remark that 'Professor J. von Beckerath was born in 1920'—but our distinguished colleague was *not* 'Professor' in 1920! We too use a current title even when referring to the past. Hence, in 2 Kings 19:9 (and Isaiah 37:9) the position is no different. In 701 BC, Taharqa was prince, not king, but in 680 BC was appropriately given his then-current title. The accession of Shebitku should *not* be arbitrarily down-dated to 700/698 BC. That king, alone of all the late-eighth and seventh century rulers, adopted an imperialistic titulary; and he made prince Taharqa bring an army 1,500 miles or more down the Nile—not for tourism, but surely for war. And in 701 BC occurred the only war involving Egypt until the 670s! Hence, it is essential to respect the total evidence, and date Shebitku from 702/701 BC onwards.[1] The Year 3 text at Karnak proves absolutely nothing, and von B.'s treatment of Manetho is very unsatisfactory (contrast my *Third Intermediate Period*, 554–7, and (1996) xli-xlii (Spalinger, probably wrong over 'Pir'u of Musri')).

As for later periods, the Twenty-sixth Dynasty is well-fixed at 664–525 BC, and the overall Persian dominance at 525–332 BC, down to Alexander. Von B. deals with the lesser problems of the Twenty-eighth and Twenty-ninth Dynasties in the light of recent work on these. (In his citation of Amyrtaeus in Aramaic P. Brooklyn 13:3, read initial *alif*, not *ayin*.)

This volume has been splendidly produced by von Zabern in their accustomed style. For the most part, von Beckerath's work presents a solid, careful and (usually) reliable survey of Egyptian chronology at most periods. On the Second Intermediate Period, he has been overtaken by Ryholt (1997); on the Third Intermediate Period, he must stand corrected by the 1986 and 1996 editions of my *Third Intermediate Period*. Otherwise, it is a pleasure to commend this work of a respected *Altmeister*.

K. A. KITCHEN

Temples of Ancient Egypt. Edited by BYRON E. SHAFER, with additional contributions by D. ARNOLD, G. HAENY, L. BELL and R. B. FINNESTAD. 165 × 240mm. Pp. xii + 335, figs. 112, maps 3. London, New York, I. B. Tauris Publishers, 1997. ISBN 1 86064 232 2. Price not stated.

Like the earlier volume, *Religion in Ancient Egypt. Gods, Myths, and Personal Practice* by the same editor (Cornell University Press, 1991), the present book is the result of an annual Egyptological symposium held at Fordham University in New York City. Its aim is also similar: to present specialist and non-specialist readers with a summary of current knowledge about important aspects of ancient Egyptian culture. The topics chosen reflect the background of the editor, who is Associate Professor of Religious Studies at Fordham University. With respect to the present volume, this means that the contributors concentrate on ancient Egyptian temples as the

[1] For Shebitku in office in 706 BC, see now G. Frome, *Or* 68 (1999), 52–4.

expressions and stages of religious beliefs and ritual. Less attention is given to the role of the temples within Egyptian society, although this subject is not passed by entirely unnoticed.

The contribution by the editor (pp. 1–30) can be seen as a theoretical introduction to the specialist essays that follow: on the royal mortuary temples of the Old and Middle Kingdoms by Dieter Arnold (pp. 31–85), the New Kingdom 'Mansions of Millions of Years' by Gerhard Haeny (pp. 86–126), the Luxor temple by Lanny Bell (pp. 127–84), and the temples of the Graeco-Roman Period by Ragnhild Bjerre Finnestad (pp. 185–237). Together, these contributions provide an overview that is interesting and readable, even for a non-scholarly audience, although the general reader will have to put up with Egyptological transliterations now and then. Discussions of specific sources and details have been conveniently banished to the notes at the end of the book, and an index of names and subjects further enhances the appeal of the volume for a lay readership.

For specialists, the value of the book lies not so much in the publication of new research (many of the topics dealt with have been discussed by the same authors and others in previous articles or monographs), but rather in the move towards synthesis: the book covers almost the entire pharaonic and Graeco-Roman periods (the absence of the Third Intermediate Period and the Late Period is to be regretted), as well as a representative range of temple types. One line consistently pursued is the distinction between 'divine' and 'royal' (or 'mortuary') cults, and the combination of these two cults. As is justly pointed out by Shafer, and elaborated on, notably by Haeny, the distinction is not always supported by Egyptian architecture and terminology. Indeed, it may even be asked to what extent a 'primary' cult can be recognized in the complex ritual assemblage of one particular temple (cf. p. 4). The king may have been the ritual focus in the cult complexes attached to the Old Kingdom pyramids, but the gods took his place as recipients of the offerings in similar sanctuaries of the Middle Kingdom (p. 75). Royal and divine cults were closely or even inseparably related in the New Kingdom temples of Luxor and Western Thebes. The Ptolemaic Period saw the incorporation of dynastic cults in the great temples of the gods, and the cult of the Roman emperors was celebrated in the Luxor temple, the traditional function of which as a centre of royal ideology reached back to the New Kingdom.

Royal and divine cults thus were two traditional components of Egyptian temples and their rituals, although the exact manner of their combination varied through the centuries. Even so, the continuity of Egyptian temple architecture and ritual is striking, but the 'stability and cohesiveness' (p. 21) suggested by this continuity is a reflection first and foremost of the world of religious architecture and ritual itself, not necessarily of Egyptian society. This point is made clear by Finnestad when she states that whereas the societies of the Greek and Roman periods in Egypt were different, the temples were truly 'Graeco-Roman' (p. 188, n. 6).

Only Bell and Finnestad briefly touch upon the temples' significance for the surrounding population. The generally held assumption that the people were allowed into the open courts of the temples on festive occasions receives some support from the presence of the gate of Ramesses II in the Luxor temple, oriented towards the city east of the temple, and depicting the adoring *rḫyt* and *pʿt* (pp. 163–72). The documented public activity around the Graeco-Roman temples is intriguing, and illustrates Finnestad's contention that popular support for the temple cult was vital (p. 236). For earlier periods, however, it is often hard to say what role the temples played in public life.

Together, the contributions to this fine volume go a long way toward making clear to a scholarly and lay audience what we know, and what is still enigmatic, about the temples of ancient Egypt.

BEN HARING

The Tombs of Amenhotep, Khnummose, and Amenmose at Thebes (Nos. 294, 253, and 254). By NIGEL STRUDWICK, assisted by HELEN M. STRUDWICK. With contributions by JEFFREY BURDEN, GÜNTER HEINDL, CAROL MEYER, PAMELA ROSE, STUART TYSON SMITH and TONY WALDRON. 210 × 303 mm. Vol. I: Pp. xx + 212, pls. 72; Vol. II: Pls. 36. Oxford, Griffith Institute, 1996. ISBN 0 900416 58 0. Price £120.

Die Zeiten, in denen thebanische Gräber nach ästhetischen Gesichtspunkten oder auf Grund der kompletten Erhaltung ihrer Dekoration zur Publikation ausgewählt wurden, sind vorüber. Einerseits ist die Zahl derartiger noch nicht publizierter Gräber inzwischen kleiner geworden, andererseits haben sich die Interessen der Ägyptologie verändert. Neben die Qualität der Dekoration sind Fragen nach der architektonischen Entwicklung, den Beziehungen zwischen verschiedenen Anlagen, der Wiederbenutzung und Geschichte eines Grabes, einer speziellen Zeitstellung, Bemühungen um eine Erweiterung des sozialen Spektrums der Grabbesitzer u. a. m. getreten.

Die vorliegende Publikation der Gräber TT 294, 253 und 254 ist ein gutes Beispiel für diese erweiterten Kriterien. Ausgehend von Archivmaterial des Griffith Institute, das von Norman und Nina de Garis Davies erstellt worden ist, fiel die Wahl auf drei Gräber der 18. Dynastie, die sich um einen gemeinsamen Vorhof in el-Khokha (Theben-West) gruppieren. Da keine genealogische Verbindung zwischen den Grabeigentümern feststellbar ist, könnte der sie an diesem Ort vereinende Grund in ihrem Tätigkeitsbereich liegen, denn alle drei haben für den Amun-Tempel gearbeitet: Amenhotep (TT 294, Thutmosis III./Amenophis II.) nimmt als *imy-r šnwty n Imn* den höchsten Rang unter ihnen ein, nach ihm folgen zeitlich und auf der mittleren Verwaltungsebene des Tempels[1] Khnummose (TT 253, Thutmosis IV./Amenophis III.) als *sš ḥsb it n Imn* bzw. *sš ḥsb it šmʿw tȝ-mḥw n šnwt ḥtpw ntr* [*Imn*] und Amenmose (TT 254, Eje) als *ḥry iry pr-ḥḏ n pr Imn-rʿ*, *sš pr-ḥḏ Imn*, *sš iti ntr Imn* und *iry (n) pr Tiy m pr Imn*.

Die Grabung erbrachte außerdem die Entdeckung von fünf weiteren, weitgehend zerstörten Anlagen (s. Plan auf S. 6):[2]

Gräber A – C (A: S. 5 und 19ff.; B und C: S. 5 und 9): westlich und östlich von TT 294 gelegen und mit diesem eine Reihe bildend,

Grab D (S. 2, 4f., 32–4, 182–4): die vierte Anlage des Vorhofes (auf dessen Ostseite), auf Grund von zahlreichen Grabkegelfunden eventuell einem weiteren Amenhotep zuzuschreiben, einem *sš ḥsb it n Imn*, also ebenfalls einem Angehörigen der Verwaltung des Amuntempels, und

Grab 253 A (S. 64f. und 130–2): südlich von TT 253 und 254 liegend.

Nach der Beschreibung des zentralen Vorhofes folgt die ausführliche Dokumentation der drei Hauptgräber in (fast) einheitlichem Aufbau: zunächst die Nennung der im Grab angeführten Personen und die Diskussion der Datierung, dann die Architektur der ober- und unterirdischen Teile, die archäologische und die Dekorationsbeschreibung. Grabübergreifend schließen sich daran die extensive Behandlung der Farben in den Gräbern, der Katalog der Funde, die Bearbeitung einzelner Fundgattungen durch Spezialisten sowie ein Überblick über die Ausstattung der 18. Dynastie-Bestattungen und die Geschichte der Gesamtanlage an. Die Dokumentation wird vervollständigt durch zahlreiche Tafeln: arabisch numeriert sind die Farb-, Schwarzweiß- und Strichzeichnungstafeln, die in den Hauptband eingebunden sind, römisch numeriert die Falttafeln im Extraschuber, die die Grabpläne und -schnitte sowie in einheitlichem Maßstab die gesamte Grabdekoration in Umzeichnung bringen.

Mit der Auswahl dieser Gräber hat sich N. Strudwick keine leichte Aufgabe zugemutet: Die Dekoration ist streckenweise stark zerstört, wodurch ihre Identifizierung und Interpretation erschwert werden. Die Architektur sowie die archäologischen Befunde der unterirdischen Schachtsysteme sind in dieser eng belegten Region auf eine Weise miteinander verwoben, die eine Zuordnung zu den einzelnen Gräbern zumindest schwierig und teilweise sogar unmöglich macht.

[1] Diese Einordnung verdanke ich S. Eichler, s. ihre Dissertation *Die Verwaltung des "Hauses des Amun" in der 18. Dynastie*. (*SAK* Beihefte 7, Hamburg, im Druck).

[2] Da sie teilweise etwas versteckt im Rahmen der drei Hauptgräber behandelt werden, führe ich zur leichteren Orientierung die zugehörigen Seitenzahlen an.

Dem Autor durch dieses Gewirr von Gängen, Schächten, Durchbrüchen und Verbindungen zu folgen, fällt dem Leser nicht immer leicht. Um so dankbarer ist er für die Tafeln ii und iii, die den Gesamtbefund mit wechselseitiger Betonung der ober- und der unterirdischen Teile der Anlage darstellen, und mehr noch für die Tafel viii, die die einzelnen Ebenen in axonometrischer Projektion von einander löst und zugleich durch zarte Linien wieder miteinander in Verbindung setzt. Die Konsequenzen für den archäologischen Befund faßt P. Rose (S. 166 f.) auf anschauliche Weise zusammen: Die Vermischung der Inventare durch Wiederbenutzung, Durchbrüche, Beraubung und rezente Bewohnung erlaubt es nur in seltenen Fällen, von 'sealed deposits' zu sprechen. Die Fundbearbeitung geht daher sinnvollerweise in der Regel grabübergreifend vor.

Grabpublikationen sind, wie die ihnen zugrunde liegenden Gräber, vielschichtige Gebilde. Aus Platzgründen möchte ich mich im folgenden auf nur eine der 'Schichten', nämlich auf die Dekoration, beschränken:

Hinsichtlich TT 294 (pls. ix-xii) ist dazu jedoch nur wenig zu sagen: Die zahlreichen Lücken und die inhaltliche 'Normalität' der erhaltenen Reste erfordern keinen weiteren Kommentar. Dafür aber läßt sich hier ein ramessidischer Wiederbenutzer des Grabes, ein *wʿb n Imn* namens Roma, identifizieren, der nicht nur eigene Szenen und Inschriften anbrachte, sondern auch zusätzliche Räume ausarbeiten ließ.

Die Dekoration der beiden anderen Gräber ist aufschlußreicher, auch hinsichtlich der Vorgehensweise des Autors. Vor allem fällt eine eigenwillige Definition des Begriffs 'Szene' auf: Grundsätzlich wird *eine* Grabwand mit *einer* Szenennummer, die mit der Wandnummer identisch ist, versehen. Die inhaltliche Separierung verschiedener Szenen auf derselben Wand findet erst auf den darunterliegenden Dezimalebenen statt, wobei häufig diejenige Ebene übersprungen wird, die den 'Namen', d. h. die Identifizierung der Szene bringen könnte. Die Benennung und Beschreibung setzt erst auf dem Niveau der Szeneneinzelteile ein, d. h. der Szenenzusammenhang wird zersplittert, dadurch manches Mal unklar und in seiner Aussagekraft reduziert. Hier hilft jedoch der Rekurs auf die ausgezeichneten Umzeichnungen, sie sind das Kernstück dieser Publikation. Der Leser sollte sie in jedem Fall neben dem Text liegend konsultieren, auch um kleinere Ungenauigkeiten bei der Beschreibung der Szenen und Wiedergabe der Texte (in Übersetzung) zu korrigieren.

In Bezug auf die Dekoration von TT 253 möchte ich nur auf einen Punkt eingehen,[3] der in der Darstellung von N. Strudwick ein wenig unterzugehen droht: Die unterste rechte Rahmenszene

[3] Erwähnenswert wäre noch die ausführliche Wiedergabe der Amtsaufgaben des Grabherrn mit der Darstellung des Getreidemagazins des Amun auf Wand 1 und einer 'nachgereichten' Subszene auf Wand 9, wo sie etwas beziehungslos unter dem Brandopfer und einer Opferszene erscheint (s. Taf. xiii-xvi und xxiv-xxv). Die folgenden Einzelheiten verdienen außerdem noch eine kurze Bemerkung:

S. 35, Fig. 3.5: Die mechanische Durchnumerierung der Wände (und Szenen), die vom *main room* ausgeht, dann in den *shrine* übergeht, um dann in den *main room* zurückzukehren, erweist sich inhaltlich als wenig sinnvoll: Als Konsequenz muß der Autor nach der Beschreibung der Wände 1–3 die Wände 7–9 folgen lassen (auf S. 44ff.), um dann ab S. 51 die Szenen der Wände 4–6 nachzufügen. In der Beschreibung von TT 294 (s. Fig. 2.2 auf S. 11) ist dies besser gelöst.

S. 44 und Taf. xxii: Mit dem verständlichen Ziel der Platzersparnis sind die Dekorationsreste der Wand 7 auf Taf. xxii nicht im Originalabstand wiedergegeben, sondern ineinandergeschoben. Um die Ergänzungsvorschläge des Autors auf S. 44 nachvollziehen zu können, wäre es jedoch hilfreich gewesen, die Erhaltungslücke auf irgendeine Weise dennoch exakt anzugeben, z. B. als cm-Angabe im Beschreibungstext oder auf der Tafel. Das *location diagram* auf Taf. 41A kann dies ohne Einzeichnung der Bruchlinien des Erhaltenen nicht leisten. Ein ähnliches Problem ergibt sich für die Taf. xxiv und xxv, die gemeinsam die Dekoration der Wand 9 wiedergeben, hier fehlt die Angabe, in welchem Abstand zueinander diese Tafeln zu arrangieren sind. Gut wäre es auch gewesen, in all den Fällen, in denen die rechte oder linke Seitenbegrenzung der Dekoration zerstört ist, auf der entsprechenden Tafel statt dessen das zugehörige Wandende einzuzeichnen, um einen ungefähren Anhaltspunkt für die vorhandene Wandfläche zu geben.

S. 52: In der Beschreibung des Osiris-Kioskes der Szene 4.1 (Taf. xx und 19A) erwähnt N. Strudwick eine *series of ovoid shapes, doubtless originally white,* unterhalb der Hohlkehle des Daches. Diese *ovoid shapes* sind sicher Weintrauben, wie sie häufiger in Osiris-Kiosken hängen (S. z. B. A. und A. Brack, *Das Grab des Haremheb* (AV 35, Mainz 1980), 54, 86 und Taf. 65b). Die weiße Farbe ist durch das Abplatzen des originalen Blau/Schwarz zu erklären.

um die Scheintür (S. 47f. und Taf. xxiii) zeigt ein interessantes Detail. Hier libiert ein Priester vor einem Opferaufbau, neben ihm stehen zwei Kästen auf dem Boden, davor liegt das Schulterjoch, mit dessen Hilfe sie herangetragen wurden.[4] Diese Kästen tauchen ebenfalls in Grab 254 in den beiden untersten Rahmenszenen um die Stele auf (S. 87f. und Taf. xxxii sowie xxxiv): Auch hier libiert (und räuchert) ein Priester, rechts werden die Kästen noch herangetragen, links stehen sie am oberen Bildrand, beide Szenen werden durch Klagefrauen ergänzt. Derartige Kästen kennen wir im Zusammenhang des Bestattungszuges in dessen neuer Form, die in der Mitte der 18. Dynastie einsetzt und die Vorgänge und Stationen des Weges zum Grab in seinen Einzelheiten schildert. Die Kastenträger bilden in diesem Zug eine eigene Gruppe neben den Trägern der Grabbeigaben.[5] In diesem Kontext sind sie auch in Grab 254 noch einmal zu sehen: s. Szene 2.2.c, S. 73 und Taf. xxviii. Das Aussehen dieser Kästen variiert von einfacher Blockform bis zu elaborierteren Beispielen mit Hohlkehle, gewölbtem Deckel und reich verzierten Seitenwänden. An ihrer Seite hängt oft ein Gefäß, so in TT 56 ein rotbrauner Krug, häufiger aber ein schmales Libationsgefäß (wie wohl auch in der unteren rechten Rahmenszene von TT 254 vor dem hinteren Kasten, von Strudwick tentativ als *yellow stand with jar* identifiziert, S. 88), auf dem Kasten kann ein Räuchergerät liegen (s. untere linke Rahmenszene in TT 254) oder auch ein Bündel grüner Zweige (s. Rahmenszenen von TT 254). Das Interessante am Auftauchen der Kästen und ihrer Träger in den Rahmenszenen von Stele und Scheintür ist ihre Loslösung aus dem Bestattungszug. Einen Anklang an diesen Zusammenhang erkennen wir noch in den Klagefrauen im Stelenrahmen von TT 254, in TT 253 ist dieser jedoch nicht zu finden. Statt dessen präzisiert die kleine Szene den Vorschlag von C. Beinlich-Seeber,[6] daß diese Kästen nichts mit dem Transport der Grabausstattung zu tun haben, sondern Behälter für Kultgeräte und Opfergaben seien. Sie werden für den Ritus der Libation und Räucherung von Opfergaben benötigt und können als solche im Zusammenhang des Bestattungszuges auftauchen, aber auch unabhängig von ihm, wenn es um die Weihung von Opfern vor der Scheintür oder Stele geht.

TT 254 ist das interessanteste der drei Gräber, wie der Autor zu Recht feststellt (S. 61). Der Grund liegt in der Datierung zwischen der Amarnazeit und dem Beginn der 19. Dynastie und ihren Konsequenzen für das Dekorationsprogramm und den Darstellungsstil sowie an einigen Besonderheiten, die auf das individuelle Vorhaben des Grabherrn zurückzuführen sein dürften.

Angesichts dieser Tatsachen kann ich die Frustration von N. Strudwick über das Verblassen der schwarzen Farbe, besonders soweit sie die Texte betrifft (S. 66), gut nachfühlen, wir standen in Grab 85 vor dem gleichen Problem. Nach der dortigen Erfahrung möchte ich J. Baines mit seiner Vermutung (s. S. 27 mit Anm. 1) Recht geben, daß der feuchte Untergrund die Ursache für das unstabile Verhalten der Farbe sein könnte. Denn in Grab 85 gelang es uns durch eine Zufallsentdeckung, die verblaßten oder völlig verschwundenen Inschriften durch starkes Streiflicht zumindest teilweise wieder sichtbar zu machen, da der rauhe Pinsel des Schreibers in dem noch weichen Untergrund Kratzspuren hinterlassen hatte, die im Seitenlicht minimale Schatten warfen.

In der Dekoration des Grabes hat sich der horizontale Bildstreifenstil, den wir aus der Ramessidenzeit kennen, gegenüber der vertikalen Szenenfolge der 18. Dynastie schon durch-

[4] Bei dem beigeschriebenen Text handelt es sich um PT 32, einen Libationsspruch, der mehrfach in thebanischen Gräbern der 18. Dynastie vorkommt: TT 29, Pfeiler B, unpubl., s. A. Gnirs 'Das Pfeilerdekorationsprogramm im Grab des Meri, Theben 95', in: J. Assmann, E. Dziobek, H. Guksch und F. Kampp, *Thebanische Beamtennekropolen* (SAGA 12, Heidelberg 1995), 241, Anm. 52 / TT 85, Pfeiler Aa und Sargkammer, unpubl., Veröffentlichung durch H. Guksch in Vorbereitung / TT 95, Pfeiler F, unpubl., Veröffentlichung durch A. Gnirs in Vorbereitung, s. A. Gnirs in: *Thebanische Beamtennekropolen* 241 / TT 96, Sargkammer, s. Virey, *RT* 22 (1900), 86f. und fig. 21 / TT 100, Längsraum, Südwand, Westende, s. N. de Garis Davies, *The Tomb of Rekh-mi-rēʿ at Thebes* (New York 1943), II, Taf. 78, 1–6 / TT 119, s. E. Schiaparelli, *Il libro dei funerali degli antichi egiziani*, II (Rome 1890), 149–52.

[5] S. dazu C. Beinlich-Seeber, in: C. Beinlich-Seeber und A. G. Shedid, *Das Grab des Userhat (TT 56)*, (AV 50, Mainz 1987), 89ff.; P. Barthelmeß, *Der Übergang ins Jenseits in der thebanischen Beamtengräbern den Ramessidenzeit* (SAGA 2, Heidelberg 1992), 71ff. und Taf. 3. 4; D. Polz, *Das Grab des Hui und des Kel, Theben Nr. 54* (AV 74, Mainz 1997) 62f. mit Anm. 132.

[6] C. Beinlich-Seeber und Shedid, *Das Grab des Userhat (TT 56)*, 91f.

gesetzt, auch mit der Konsequenz einer teilweise wandübergreifenden Thematik, wenn auch die Einzelwände je für sich noch durch die seitlichen Schmuckbänder voneinander getrennt werden.

Die Zersplitterung der Szenen macht sich in der Dekorationsbeschreibung von TT 254 besonders bemerkbar, ich möchte daher im folgenden eine Szenen'zusammenschau' und deren Ergebnisse nachreichen:

So scheint die Wand 1 eine eigenwillige Verbindung von der in der 18. Dynastie direkt neben dem Eingang zu erwartenden Brandopferszene mit einer Berufsszene aufzuweisen (S. 76ff., Taf. xxvi-xxvii), die beide Themen nicht nebeneinander, sondern übereinander setzt: Die gesamte Wand zeigt in zwei Registern, die je in zwei Unterregister aufgeteilt sind, den Grabherrn mit seiner Frau (oben stehend, unten sitzend) bei der Beaufsichtigung von Feldarbeiten. Nur das oberste Unterregister enthält anstelle von Feldarbeiten mehrere Priester bei der zum Eingang gewandten Räucherung, Libierung und Übergießung von aufgehäuften Opfergaben ohne dargestellten Empfänger, wie es für das Brandopfer üblich ist. Der rechts anschließende Grabherr steht hinter dem letzten und größten Opferaufbau, greift aber selbst nicht in die Handlungen ein, sondern überwacht sie gemeinsam mit seiner Frau und beaufsichtigt zugleich die Getreideernte des zweiten Unterregisters. Der zugehörige Text nennt nur die Namen und Titel des Ehepaares. Da die Wand direkt im Anschluß an den Eingang zerstört ist, bleibt unsicher, ob hier die Anrufung des Amun gestanden hat, die den Kontext des obersten Registers geklärt hätte. Eindeutig ist jedoch, daß derartige Opferungen im Zusammenhang der Landbearbeitung ungewöhnlich wären.

Auch die anschließende Wand 2 bringt eine derartige horizontale Anordnung zweier unterschiedlicher Szenen (S. 71ff., Taf. xxviii):[7] Sie ist in drei Register aufgeteilt, deren zwei untere durch Teile des Begräbniszuges gefüllt werden. Das oberste Register zeigt demgegenüber eine Gastmahlszene: Die Gäste sitzen in langer Reihe, von Dienern versorgt, und blicken nach außen ihren Gastgebern entgegen, doch diese sind nicht der Grabherr und seine Frau, sondern drei große, aufgerichtete Kobras auf einer Papyrusmatte! Die zerstörte oder verblaßte Beischrift und die Einmaligkeit einer solchen Darstellung machen eine Identifizierung der Schlangen sehr schwierig, wahrscheinlich aber ist der Vorschlag N. Strudwicks richtig, daß diese Schlangen noch im Zusammenhang mit der vorausgehenden Wand 1 zu sehen sind, die Getreide- und Ernteszenen zeigt, so daß es sich bei diesem Register insgesamt um Festlichkeiten anläßlich der Ernte handelt.

Das inhaltliche Übergreifen von Teilen einer Wand auf die nächste finden wir erneut zwischen den Wänden 2 und 3: Die beiden unteren Register der Wand 2 zeigen Teile des Begräbniszuges: die sog. Neun Freunde, Klagefrauen, Gabenträger, Ritualkastenträger (s. dazu oben) und die Boote der Westfahrt. Der Sargschlitten selbst ist zerstört. Sie alle sind nach rechts (= innen) gerichtet, laufen jedoch gegen die Wandecke, ohne ihr Ziel, das Grab, zu erreichen. Diese Anomalie wird beseitigt, wenn wir die anschließende Wand 3 hinzunehmen (S. 75ff., Taf. xxix), deren oberes Register den Grabherrn mit Frau und Gabenträgern vor Osiris tretend darstellt, während das untere Register mit einer sehr zerstörten Szene gefüllt ist, deren Inhalt N. Strudwick versuchsweise mit *A procession before a temple(?)* angibt. Die bloße Umrißzeichnung der Taf. xxix erweist sich in diesem Fall als ein Problem, auch die zugehörige Beschreibung ist durch die Identifizierungsunsicherheit nur begrenzt hilfreich, hier wäre die Ergänzung durch eine Fotografie dringend nötig gewesen. Dennoch möchte ich eine Interpretation wagen, die sich durch den Bezug zu Wand 2 aufdrängt: Im unteren Register der Wand 3 müssen die Riten vor der Mumie am Grab angebracht worden sein! Eine Tatsache allerdings spricht dagegen: Die bauliche Struktur mit Rundstab, die von N. Strudwick als Tempel angesehen wird und die ich als Grabfront bezeichnen möchte, liegt am linken Rand des Registers, d. h. die Register des Begräbniszuges von Wand 2 ziehen *hinter* das Grab, nicht davor! Eine überraschende Erklärung für diese eigenartige Anordnung findet sich in der Architektur des Grabes, denn wie wir auf pl. I sehen können, liegt direkt unterhalb der vermuteten Darstellung der Grabfront an der linken Wandseite ein Schacht![8] Diese

[7] Bei einer Ergänzung der zerstörten Registerlinien im unteren Tafelteil ergeben sich Schwierigkeiten: Sie verlaufen auf unterschiedlichen Höhen. Liegt dies am 'schiefen' Wandaufbau oder an der Wiedergabe auf der Tafel?

[8] Diesen Hinweis verdanke ich F. Kampp-Seyfried.

Übereinstimmung dürfte kein Zufall sein, vielmehr wird dadurch der sog. *shaft* A (S. 62f.) zum zeitgenössischen Hauptschacht der Anlage und auf seine Position sind die Darstellungen des Bestattungszuges der Wände 2 und 3 ausgerichtet. Nachdem die Szenenausrichtung nun also nicht mehr gegen, sondern gerade für die Interpretation spricht, können wir die Darstellungsreste im unteren Teil der Wand 3 im Sinne der Riten vor dem Grab deuten: Die Grabarchitektur wird durch den Rundstab des Einganges mit seiner internen Gliederung repräsentiert, davor steht, sich mit dem Eingang überschneidend, die Mumie[9] (das sog. *rectangular object* bei Strudwick). Sie wird von hinten umfaßt durch einen Priester, dadurch erklären sich die Fußreste hinter der Mumie,[10] zwischen beiden rinnt die Wasserlinie der Reinigungsriten hinunter.[11] Vor der Mumie hockt eine trauernde Frau und berührt mit ihrer Hand, deren Reste noch deutlich sichtbar sind, den Fuß der Mumie.[12] Hinter ihr stehen zumindest drei Priester und häufen sich Opfergaben auf einer grünen Matte.[13] Die *pink platform* unter dem Grab und der Mumie stellt den sog. reinen Sand oder einen Ausläufer des Wüstengebirges dar.[14]

Der rechte Teil der Grabrückwand (Wand 5, S. 79ff., Taf. xxxi) enthält ebenfalls eine Kombination zweier Szenen übereinander: oben ein Gastmahl, unten eine Darstellung des Wohnhauses des Grabbesitzers und einen Einblick in die darin stattfindenden Tätigkeiten der Bediensteten. Die Verbindung beider Szenen auf einer Wand lädt zu Spekulationen über eine inhaltliche Zusammengehörigkeit ein: Ob die in der Schlachterei und Bäckerei des Hauses tätigen Bediensteten die Vorbereitungen für das oben gezeigte Fest treffen oder ob gar das gesamte Gastmahl in das Innere des Hauses verlegt werden kann? Den Anlaß dieses Festes können wir aus dem linken Szenenteil des unteren Registers erschließen, wo der Grabherr seiner vor dem Haus wartenden Frau einen Strauß überreicht. Parallelen hierzu stammen aus TT 41 und 49,[15] in beiden Fällen ergänzt durch eine weitere Szene: In TT 49 zeigt sie Neferhotep aus dem Amuntempel kommend, wo er den Strauß empfing, in TT 41 den Grabherrn mit Pferd und Wagen nach Hause zurückkehrend aus einer nicht angegebenen Lokalität.[16] Dieser Vorspann fehlt in TT 254, dafür aber gibt es einen Nachspann: in der Gastmahlszene des oberen Registers wird das Ereignis festlich gefeiert.[17]

Wie die korrespondierende Wand 1 weist auch der linke Teil der Grabeingangswand (Wand 7, S. 88ff. und Taf. xxxv–xxxvi) eine interessante Verbindung von Opfer-und Amtsszene auf: Der zweiregistrige Wandaufbau zeigt im oberen Teil die Verehrung des Osiris und der Isis durch (nach der überzeugenden Rekonstruktion von N. Strudwick) Amenophis I., Ahmes-Nefertari und den Grabherrn. Hinter dem Grabherrn schließen sich Tätigkeiten in den Magazinräumen des Schatzhauses des Amun an, die im unteren Register wiederaufgenommen werden, hier überwacht durch den Grabherrn und seine Frau.[18] Das Besondere der Opferszene im oberen Register liegt in

[9] Vgl. dazu TT 49: N. de Garis Davies, *The Tomb of Nefer-hotep at Thebes* (New York 1933), Taf. xxiv.

[10] Zur Schräglage der Mumie und ihrer Umarmung von hinten s. TT 181, N. de Garis Davies, *The Tomb of Two Sculptors at Thebes* (New York 1925), Taf. xxi.

[11] S. wiederum Davies, *Tomb of Two Sculptors*, Taf. xxi.

[12] S. vorige Anm.

[13] Vgl. Davies, *Tomb of Two Sculptors*, pl. xx oder id., *The Tomb of the Vizier Ramose* (London 1941), Taf. xxiii.

[14] Vgl. z. B. E. Hofmann, *Das Grab des Neferrenpet gen. Kenro* (*TT 178*), (Theben 9, Mainz 1995), Farbtaf. VIb, oder Davies, *Ramose*, Taf. xxiii.

[15] S. J. Assmann, *Das Grab des Amenemope* (*TT 41*) (Theben 3, Mainz 1991), 73f. und Taf. 31 sowie Davies, *Nefer-hotep*, Taf. xli. Diesen Hinweis verdanke ich F. Kampp-Seyfried und K.-J. Seyfried.

[16] Zu den amarnazeitlichen Anklängen dieser 'Heimkehr zu Wagen' und ihrem Zusammenhang mit der Belohnung durch den König, s. U. Hofmann, in: Assmann, *Amenemope*, 74ff.

[17] In einem Aufsatz in: R. Tefnin (ed.), *La peinture égyptienne ancienne*, Actes du Colloque Bruxelles 1994 (MonAeg 7, Bruxelles 1997), 37ff. stellen N. und H. Strudwick die Rückkehr nach Hause in einen anderen Bezug, indem sie das Haus mit seinem eine *ḥtp-dj-nswt*-Formel enthaltenden Türrahmen mit dem Grab gleichsetzen bzw. eine Verbindung zur Tb 132 und dessen Gedanken eines Besuches des Wohnhauses aus dem Grab herstellen.

[18] Die Szene im unteren Register zeigt auf keinen Fall den Grabherrn und seine Frau in Parallele zu Osiris und Isis als Empfänger der Produkte des Schatzhauses, wie auf S. 91 vorgeschlagen. Seine Haltung und Ausstattung entsprechen vielmehr der Tätigkeit des Beaufsichtigens. Die Anwesenheit seiner Frau mag dabei eigenartig erscheinen, findet sich aber ebenso schon auf der Wand 1.

der Tatsache, daß hier Amenophis I. und Ahmes-Nefertari nicht, wie sonst häufig in der Ramessidenzeit, als Opfer- oder Verehrungsempfänger, sondern selbst als Opfernde dargestellt werden *und* daß ihnen der Grabbesitzer dabei folgt. Diese Kombination ist rar[19] und fordert zu einem Kommentar heraus. H. Altenmüller (s. Anm. 19) hat sich mit einem derartigen Fall befaßt und erklärt die Anwesenheit des Efnamun hinter Amenophis I. als Opferndem auf einer Stele aus Deir el Medineh durch die mögliche Teilnahme NNs als Statuenträger an Prozessionsfesten Amenophis' I. Entgegen der Ansicht von N. Strudwick, daß die Kombination von Verehrungsszene und *everyday scenes* (und d. h. in diesem Fall: Berufsdarstellungen) in TT 254 durch Platzmangel bedingt sein könnte, möchte ich gerade in dieser Kombination die Erklärung für Amenmoses Anwesenheit hinter Amenophis I. und Ahmes-Nefertari vermuten: Könnte nicht sein Aufgabenbereich als *senior supervisor* und *scribe of the treasury of the estate of Amun-Re* seine Teilnahme begründen, indem er z. B. für die Bereitstellung von Opfergaben während solcher Prozessionen zuständig wäre? Für ihn ergab sich dadurch die Möglichkeit einer Szene der Verehrung des Totengottes im Gefolge des vergöttlichten Paares und einer Demonstration seiner Amtsausübung zugleich.

Diese Publikation von N. Strudwick hat unser Spektrum thebanischer Gräber um zwei Anlagen der mittleren Beamtenebene erweitert, Aufschluß über eine der Ursachen von Gräbergruppierungen, das gemeinsame Tätigkeitsgebiet der Grabherren, gegeben und im Falle von TT 254 interessante Einblicke in die Dekoration des Überganges von der Amarna- zur Ramessidenzeit ermöglicht. Die Entscheidung für diese drei zunächst so unspektakulär erscheinenden Anlagen hat sich gelohnt.

HEIKE GUKSCH

The Tomb of Simut called Kyky. Theban Tomb 409 at Qurnah. By MAGED NEGM. 220 × 300mm. Pp. xii + 47, pls. 63. Warminster, Aris and Phillips Ltd., 1997. ISBN 085668 698 0. Price £38.

The tomb of Samut Kyky was discovered during excavations in the Assasif region of the Theban necropolis by Mohamed Abdel Qader Mohamed in 1959, while he was conducting work in the area of the tomb of Kheruef. The tomb consists of a small chapel of Ramesside date, accompanied by a twisting shaft typical of that period. For much of the time since the discovery the chapel has been accessible to tourists, but even at the time it was found, salt damage was very evident on the wall paintings, and the tomb has been closed to visitors for a number of years owing to the fragility of the painting. Conservation is being undertaken by the Supreme Council for Antiquities, and it is to be hoped that it will not be long before the tomb is open again.

The original discoverer published a substantial article on the tomb in *ASAE* 59 (1966), 159–84, in which descriptions and translations of the texts were accompanied by drawings and photographs. Further studies have been written on the longer texts. In 1996–7, thanks to the generosity of the Gardiner Scholarships scheme run by the Griffith Institute in Oxford, Negm spent some time in Liverpool, and produced this republication of the chapel. The book follows the conventional structure of describing the tomb's history, architecture, and decoration, and the text is accompanied by new photographs, reproductions of many of the drawings by Abdel Qader Mohamed, and some new hand copies of the longer texts (pls. xliv–lxii).

From personal inspection, the tomb itself is very attractively decorated, and includes a wide range of scenes of great interest, which is presumably why it was chosen for republication. I recall Jan Assmann, no stranger to the world of the Ramesside private tomb, commenting that this was

[19] Während es für Darstellungen von Amenophis I. und Ahmes-Nefertari in dieser Funktion als Mittler für einen Privatmann noch relativ viele Beispiele gibt (s. dazu Gabriele Hollender, *Amenophis I. und Ahmes Nefertari*, MA-Arbeit, Köln 1991, 121, H. Altenmüller, 'Amenophis I. als Mittler', *MDAIK* 37 (1981), 6 sowie K.-J. Seyfried, *Das Grab des Djehutiemhab, TT 194*, (Theben 7, Mainz 1995), 50. 55. 57 und Taf. xxx), sind die Fälle, in denen ihnen ein Privatmann bei dieser Handlung direkt folgt, selten, s. Hollender, *Amenophis I. und Ahmes Nefertari*, 29 mit Anm. 88 und 92 mit Anm. 251 sowie Altenmüller, *MDAIK* 37, 1ff.

probably his 'ideal tomb' of this epoch because of the material it contained. The whole subject of the New Kingdom tombs in the Assasif is an interesting one, which is not really touched on in the book. Only a few Eighteenth Dynasty sepulchres were cut in the area, to the east and west of TT 409, and the Ramesside tombs added subsequently were all quite small and were fitted in around these earlier chapels. Perhaps they were orientated towards the route of the Valley Festival; the minimal encroachment of New Kingdom tombs into the Assasif valley indicates that the area possessed a sanctity greater than that of other parts of the necropolis.[1]

The scenes in the tomb are individually described, the translations of the texts are respectable and take into account the literature on the tomb which has appeared since its original publication. It is perhaps a pity that *this* tomb was chosen for study, since there are many tombs in the necropolis of this date which remain totally unpublished, while that of Samut Kyky is, in Theban terms, rather well served by Abdel Qader Mohamed's original article and subsequent studies by other scholars. It is true that new photographs of the tomb have been made, but their reproduction at the hands of the publisher has negated much of their value. I accept that it would not have been possible for new drawings to have been made, given the precarious state of most of the walls, but the plan is taken from the original article (scale a little less than 1:100), and a new one drawn according to 1990s standards would have been welcome. Given that the tomb is extremely colourful, a representative selection of colour plates would have given the reader an idea of the beauty of the chapel.

My only real criticism of the book is that Negm has been poorly served by his publisher. The quality of the reproduction of the text, plans, and line drawings is often no better than that of a photocopy of inferior quality, and most of the impact of the new photography made in 1993 is lost in the very poor reproduction. The same fate recently befell another Egyptian colleague (Hassan el-Saady) whose work was issued by the same publisher. It seems to me a pity that, having brought these promising young scholars to the UK, the results of their careful research are placed in the hands of a publishing house which seems to pay minimal attention to the appearance of books which bear its imprint.

It is a great pleasure to welcome this book to the shelves, and I wish to congratulate Maged Negm on an excellent piece of work. It is very satisfying that co-operation between Egypt and the UK is allowing the future leaders of our subject in Egypt time away from their exhausting duties at home to undertake research here. Long may the scheme continue!

NIGEL STRUDWICK

Herr Beider Länder. Ägypten im 1. Jahrtausend v. Chr. By KAROL MYŚLIWIEC. Translated by TADEUSZ KACHLAK. Kulturgeschichte der Antiken Welt Band 69. 250 x 175 mm. Pp. 288, figs. 111, colour pls. 15. Mainz am Rhein, Philipp von Zabern, 1998. ISBN 3 8053 1966 5. Price DM 78.

A book devoted to Egypt in the first millennium BC—as the subtitle reveals this to be—is still a rarity and on that count alone to be welcomed. Its author has worked extensively as an archaeologist in Egypt and has made important contributions to art historical studies in particular. In a short introduction, he explains why the period is so little known and discusses the limitations of the sources. He also explains why it is still unduly neglected and sets out his aim, which is to combat the characterisation of this period of Egyptian history as one of decadence, and to show that it was instead one of cultural diversity and creativity. After a brief sketch of pharaonic thought and iconography which moves seamlessly into an account of the New Kingdom background, the meat of the book is provided by chapters on the Libyan, Kushite, Saite and Persian periods. It ends with a chapter devoted to the achievements of Polish archaeology in Egypt, with particular reference to Alexandria and Athribis. Anomalous and eclectic as this is, it

[1] See, for example, K. J. Seyfried, *Das Grab des Djehutiemhab (TT 194)* (Theben 7; Mainz, 1995), 3–5.

does provide an opportunity for the author to continue his coverage well into Ptolemaic, and even Roman, times. Rapid reading of the text is assisted by up to six 'signposts' in the margins of each page, where are also to be found the cross-references to the many excellent and unusual colour and black-and-white illustrations which are grouped in clusters throughout the book. While sources are to some extent identified in the text, there are only seventy footnotes, almost all of clarification rather than reference, for the whole book. The bibliography is short, very sculpture-oriented and much of it rather inaccessible to a general reader, who will thus not find it easy to follow up particular points of interest. The useful chart of the comparative chronology of events in the Near East and the Greek world, as well as in Egypt, does not really compensate for this.

Myśliwiec carries his reader along at a fast pace with a broadly chronological presentation of ancient history interwoven with accounts of important archaeological episodes in the rediscovery of Egypt during the last two centuries. The narrative moves easily from one topic to another and is regularly reinforced by observations on sources or aspects of material culture. Where appropriate texts survive—the Chronicle of Prince Osorkon or the stelae recording the victorious campaign of Piye and the adoption of Nitocris—he is ready to let often lengthy verbatim translations tell the story. In general, this works well, although Herodotus' account of the Twenty-sixth Dynasty needs a more extensive commentary than it is given to put it into context. Despite the wealth of information it contains, this is an entertaining book and written with enthusiasm. The author is not afraid of personal reminiscence: on p. 166, he interrupts a description of Twenty-sixth Dynasty construction at Memphis to describe his visit to its namesake in Tennessee in 1980. And, like Herodotus, he readily digresses: six pages (p. 77 ff.) on the discovery of the Serapeum and the history of the Apis cult separate a discussion of the identity of the lady depicted in the famous Louvre bronze of Karomama from an explanation of the value of the Serapeum stelae for distinguishing between identically-named individuals.

To write a history of Egypt in the first millennium BC in just over two hundred and fifty pages is no easy task. This undertaking is strongest in its narrative framework and, as might be expected, in its rich artistic commentary. Myśliwiec skates lightly over the dynastic complexities of the Libyan Period, for example, and manages to provide a fresh view on the Persian Period, about which much has recently been written. The book's main weakness is the neglect of social and economic history: Papyrus Rylands IX, surely a crucial text for the understanding of Egypt in the first millennium BC, is not even mentioned, nor do the abundant extant contracts and other legal texts in abnormal hieratic and demotic figure. Secular literature—from P. Vandier to Setna-Khaemwese and Ankhsheshonqy—is also largely missing. There is silence, too, on another distinctive feature of the culture of the later part of the period, the growth in the practice of dedicating mummified sacred animals in catacombs. This book is, nonetheless, a fine achievement, which succeeds admirably in conveying the cultural vibrancy of Egypt after the New Kingdom. Its breadth of coverage is notable, it is generally up-to-date and is attractively presented. The general reader with a knowledge of German will find it a stimulating introduction to the complexities of a fascinating era, while specialists will also find much to ponder or to provoke.

ANTHONY LEAHY

Studies in Ancient Egyptian Anatomical Terminology. By JAMES H. WALKER. The Australian Centre for Egyptology: Studies 4. 148 × 211 mm. Pp. ix + 347. Warminster, Aris and Phillips Ltd., 1996. ISBN 0 85668 803 7. Price £34.50.

The background to this book is both unusual and tragic. The author was a medical practitioner, but with a long-standing interest in Egyptian philology. He completed his BA (Hons) in Egyptology at Macquarie University, and then embarked on his doctoral thesis, under the supervision of Dr Boyo Ockinga, with Professor Naguib Kanawati as his associate supervisor. James Walker submitted his thesis in June 1993, but died shortly afterwards. The degree of

Doctor of Philosophy was awarded posthumously in April 1994. The external examiners, Professor H. S. Smith and Dr Mark Collier, recommended that the thesis be published as it stood.

Walker's prime interest was in pathology terminology, but he was soon frustrated by his uncertainties regarding some of the underlying anatomical terms, previously considered by Lefebvre,[1] Grapow (vol. 1 of the *Grundriss*, 1954), Lacau[2] and Weeks.[3] Walker's approach was to retranslate every relevant passage in the medical papyri, supplementing this with examination of literary, funerary and magical texts. Particular attention was devoted to lists of parts of the body taken from the Pyramid Texts, the Coffin Texts, the Book of the Dead and specialist butchery terms. Some 45 anatomical lists are reproduced in full, with hieroglyphs and transliteration, in Appendix II (pp. 283–341).

The author lists 315 anatomical terms, of which he regarded the meaning of 275 as sufficiently well attested not to require further consideration. He concentrates his attention on twenty basic words which, with their compound forms, gave a total of forty anatomical terms selected for analysis in nineteen chapters, each designed to be read independently. Chapter 20 presents his rather brief conclusions, and the whole is brought together in his Lexicon of Ancient Egyptian Anatomical Terms (Appendix I), listing all 315 anatomical terms with hieroglyphs and transliteration. Many of his proposed English translations are conventional, but some are radically different from what has previously been believed.

The first eight chapters consider the words *ḥ ʿ*, *ʿt*, *iwf*, *kꜣp*, *wpt*, *wʿrt*, *qʿḥ*, *ṯbt*, and various compounds derived from these words. Some altered emphasis is proposed, but no major changes from customary notions, except that *ṯbt* should mean 'foot', with *ḥt nt ṯbt* for the more precise designation of 'sole of the foot'. Chapter 9 is more radical, with the suggestion that *ḥt* should lose its alternative meaning of 'body', and be restricted to 'trunk' or 'torso', and particularly the ventral aspect. The author noted that the *ḥt* sometimes included the heart and lung (as well as intestines and womb), and its meaning could not, therefore, be confined to 'abdomen'. Derivations from *ḥt* are considered in Chapter 10.

The following chapters are much more controversial, and Chapter 11 proposes that 'stomach' as the meaning of *rꜣ-ib* should be abandoned in favour of 'thorax' or 'chest'. Not every case in the 'Book of the Stomach' (Papyrus Ebers 188–207) supports the translation of *rꜣ-ib* as 'stomach'. Walker concluded that *rꜣ-ib* was an anatomical location rather than an organ and 'a sort of shrine for the *ib*'. This hypothesis requires another Egyptian word for 'stomach', and Chapter 16 makes the revolutionary proposal that this should be *mnḏr*, hitherto generally thought to be an undefined 'internal organ'. The evidence for this new meaning for *mnḏr* is slender, and the absence in the medical papyri of the world *mnḏr* as any part of a patient makes it seem an unlikely word for such an important organ.

Chapter 12 is the most controversial of all, and addresses the words *ib* and *ḥꜣty*. Many passages in the medical papyri, and particularly the cardiac glosses in Papyrus Ebers 855, suggest that these words are synonyms meaning 'heart', although *ḥꜣty* is only seldom used in the sense of 'mind' or 'psyche', as is *ib* in such compounds as *ꜣw-ib*. Quite apart from the medical papyri, the butchery texts leave no doubt that *ḥꜣty* can be translated as 'heart'. However, Walker cited passages where *ḥꜣty* appears to have the wider meaning of 'the central compartment of the chest (mediastinum)' and, very occasionally in the Pyramid Texts and Coffin Texts, the non-anatomical meanings usually associated with *ib*. Walker's views on the meaning of *ib* were radical. He concluded that the evidence for the meaning of 'heart' was very meagre and wrote: 'Because *ib* so infrequently denotes the physical heart, almost nothing is lost, and much is gained, by completely abandoning 'heart' as a translation for *ib*'. Many might feel this too sweeping, and Walker himself cited Papyrus Ebers 207, in which *ib* must surely mean 'heart'.

[1] G. Lefebvre, 'Tableau des parties du corps humain mentionée par les Égyptiens', *SASAE* Cahier 17 (Cairo, 1952).

[2] P. Lacau, *Les noms des parties du corps en Égyptien et en Sémitique* (Paris, 1970).

[3] K. R. Weeks, *The Anatomical Knowledge of the Ancient Egyptians and the Representation of the Human Figure in Egyptian Art*, unpublished PhD thesis, Yale University, 1970.

Chapter 13 distinguishes between *sm3* and *wf3*, which are usually considered to be synonyms meaning 'lungs', although *wf3* does not appear as the bodily part of a patient in the medical papyri. It is suggested that *sm3* refers to the entire respiratory tract (trachea, bronchi and lungs) while *wf3* means only 'lungs'. Chapter 14 presents the novel reading of *m3kt* as 'thoracic spine' or 'breast bone' in addition to its usual meaning of 'support' or 'pillar'. Chapter 15 raises the possibility of *šḫn* ('swelling' in the *Grundriss*) meaning the thyroid gland, and Chapters 17 and 18 propose replacing *phwyt* with *ʿty* as the word for 'anus', leaving *pḫwyt* to mean 'rectum' or 'pelvic intestine'. This would appear to create problems in the reading of Papyrus Chester Beatty VI.

The book has certain omissions, some of which are undoubtedly due to the tragic circumstances of its presentation for publication. It would have been most helpful to have had a general and citation index, and an English-to-Egyptian dictionary. Also, there is no discussion of the meaning of that most difficult word *mt*. Walker supported the conventional view that, in association with *ḥ3ty*, *mtw* can mean blood vessels (p. 165), but he did not consider other meanings of this word, so fundamental to the interpretation of the medical papyri. One would also have welcomed discussion of *ʿmm*, *ntnt*, *štyt n fnd*, *q3b*, *ggt* and *tp3w*, on which the last word has surely not been written.

The breadth and depth of James Walker's scholarship and his meticulous approach are apparent on every page. His extensive citations and tabulations provide a mine of information, and this book will be essential reading for any student of the medical papyri. He has challenged many conventional views on the meaning of certain Egyptian anatomical terms, and there can be no doubt that his book will stimulate discussion, debate and further research. This is his memorial.

JOHN NUNN

Choice Cuts: Meat Production in Ancient Egypt. By SALIMA IKRAM. Orientalia Lovaniensia Analecta 69. 165 x 246 mm. Pp. xvii + 326, figs. 75, tables 4. Leuven, Uitgeverij Peeters en Departement Oosterse Studies, 1995. ISBN 90 6831 745 8. Price not stated.

Choice Cuts is the published version of a doctoral thesis examining the role of meat in ancient Egyptian society. In gathering together information about the stages of acquiring, processing, storing and transporting meat, the author has made use of the traditional Egyptological sources: artistic representations in tombs and temples, and lexicographical references; where appropriate, reference is made to scientific analyses. Of particular interest is the fact that the author undertook experimental work in the butchering of animals.

The book, quite logically, begins with an outline of the types of animals, birds and fish which were available to the ancient Egyptians and which were likely to have been consumed. As we would expect from a mainly agricultural society, that all-important triad of domesticates—bovines, sheep and goats—was the mainstay of animal husbandry in ancient Egypt. Particular types of these animals are discussed within the context of linguistic (hieroglyphic) differentiation and, very importantly, the author outlines the intractable and often ambiguous role of the pig (*Sus scrofa*) in Egyptian society. A selection of the huntable wildlife known to the ancient Egyptians is also given. Here the author wisely refrains from attempting to provide a definitive list of wildlife creatures, recognising that the aim of killing an animal in human terms may not always be for the procurement of food. Thus, the list is restricted to the mammals, birds and fish which commonly appear in artistic or textual sources and in the faunal assemblage. There are some interesting exclusions from this discussion, namely, crocodiles and snakes. Ancient Egyptian sources certainly indicate human involvement with crocodiles and in some modern world societies snakes are viewed as a useful food item. Although it is difficult to assess whether or not the ancient Egyptians were attracted to the meat of these reptiles, some mention of the problems in evaluating the sources would be useful. This omission, however, is not a major weakness.

Information concerning the slaughter of mammals, birds and fish and the processing of the carcasses is dealt with in a clear and ordered fashion and, again, the bulk of the information concerning butchery is gleaned from artistic representations. Inevitably, the question arises as to

whether these scenes—some sacred in import, others secular—can actually contribute to our knowledge of ancient Egyptian butchery. For the author the answer is clearly in the affirmative, as it is unlikely that there was any differentiation in the methodology of slaughter and processing in these two contexts. This theme of sacred and secular contexts is enlarged upon in a chapter on the locations wherein mammals, birds and fish may have been slaughtered. Using the available sources, principally artistic and faunal, the author charts the evidence for slaughter areas from the Old Kingdom to the New Kingdom. From the evidence from the many Old Kingdom tombs containing scenes of butchery, the author suggests that animals were killed and processed outdoors, possibly within a temporary structure. This would seem to be a reasonable deduction given the potential assaults on the senses during the processing of meats in the hot Egyptian climate.

In the section on the jointing of mammals (fish being eviscerated, opened and dried, whilst poultry were preserved) the author, interestingly, describes how a modern Middle Egyptian butcher would perform the task. However, although observations on modern practices are always welcome and informative, it cannot be assumed that they reflect the sequence of events in pharaonic times. For example, as the author recognises, it is always possible that the size of the animal and the position in which it is butchered (ie. suspended or supine) might have affected the order of the jointing operation. A suspended animal, even a large one, may be more easily jointed than a recumbent and smaller animal, as the downward thrust of the body-weight could aid the process. In fact, there is insufficient evidence from ancient Egyptian sources to reveal the actual order of jointing. There is a range of lexicographical evidence for ancient Egyptian names for joints, of which the author gives examples, basing her comments upon A. H. Gardiner's *Ancient Egyptian Onomastica*, the *Wörterbuch* and W. Barta's *Die altägyptische Opferliste*. Here named joints are matched, where possible, with faunal examples and, again, the question of accuracy in tomb representations is raised. The chapter on jointing is complemented by the appendices entitled ' "Meat Boxes" ' and 'Victual Mummies and Physical Evidence'. The author's own venture into experimental butchery work, using a replica of an ancient Egyptian knife and described in a chapter on 'Tools and Furniture', gives an added dimension to the book.

In countries with hot climates, the decision whether or not to consume meat immediately after jointing is of paramount importance, and this matter is dealt with in a chapter on meat processing, wherein various methods of preserving meat are outlined. Possible ways of dealing with meat by-products (blood and fat) are also discussed in a separate chapter. Containers and buildings used for meat storage, together with an evaluation of the ways and means of transporting meat, are also briefly outlined.

Choice Cuts ends with a discussion entitled 'Using the Evidence: Toward a Sociology of Meat'. As our current knowledge of meat consumption in ancient Egypt is somewhat limited, this chapter perhaps raises more questions than can be answered at present. Certainly, most of our information is skewed towards the more privileged members of society. Yet the fact that a great deal of the faunal evidence tends to be in the form of food offerings for the dead raises the inevitable question as to how representative they are of foods genuinely consumed in life. In reality, we do not know which foodstuffs were actually eaten by the elite nor the quantities consumed. We know even less about the diets of the ordinary people. As science continues to contribute towards our understanding of ancient Egyptian society, particularly with regard to the strontium analyses of human bone, we may soon obtain a greater understanding of the relative proportions of cereals and meats in the ancient Egyptian diet. The discussion continues with an examination of faunal evidence from several archaeological contexts in order to assess *who* was eating *what* at places such as Amarna and Malkata. Further on, the author states (p. 227) that 'the Harris lines mentioned in connection with Nakht's mummy are indications of food deprivation', a somewhat misleading comment. Modern research has shown that Harris lines, also termed 'lines of arrested growth' or 'transverse lines', can occur in bone in connection with a range of aetiologies. They can arise not only from nutritional insufficiencies, but also following febrile illnesses and psychological stress. In recent decades, Harris lines have also been seen to occur following inoculations. Thus, it is difficult to use such bone evidence as an indication of malnutrition.

Choice Cuts is an essential source of references for the role of meat in ancient Egyptian society, presented in a plain and straightforward manner. However, as the book does not include an index, it is rather difficult to retrieve particular pieces of information. A range of line drawings and photographs is included. The book is clearly written and serves as a useful introduction to a much understudied aspect of ancient Egyptian society.

JOYCE M. FILER

Amelia Edwards. Traveller, Novelist & Egyptologist. By JOAN REES. 157 × 235 mm. Pp. ix + 112, pls. 8. London, The Rubicon Press, 1998. ISBN 0 948695 61 7 (hardback), 0 948695 60 9 (paperback). £15.95 (hardback).

Modern British Egyptology is fortunate in having some outstanding women scholars, but there is little doubt that the subject remains male-dominated. Considerably more women than men study it, but the latter hold the majority of decision-making professional posts in the United Kingdom. Yet the person who jolted British Egyptology into action from its inward-looking stagnation in the second half of the nineteenth century was a woman.

The century or so which separates us from the death of Amelia Ann Blandford Edwards on 15 April 1892 has bestowed on her an aura of remoteness and cold impersonality. The much reproduced portrait shows a rather stern-looking Victorian lady and must have contributed considerably to this perception. But the person who emerges from Joan Rees's fascinating book is startlingly different, complex and contradictory, and infinitely more interesting and attractive.

Amelia Edwards's writing is now better known to non-specialists than to professional Egyptologists. *A Thousand Miles up the Nile* is still read as an example of travel writing at its best, but her more specialized contributions, including *Pharaohs, Fellahs and Explorers*, have been superseded and are hardly ever consulted. Most of the articles about Egyptian monuments and excavations in progress in *The Academy* and similar journals have been relegated to the stacks of old magazines.

In her pre-Egyptological days Amelia Edwards was a hack writer in the best sense of the word and could turn her pen to most subjects with competence and ease. The sheer volume of her literary output is astonishing and ranges from standard three-part Victorian novels to poems, travel books, popular histories and biography. She also translated from the French, including Fanny Loviot's *A Lady's Captivity among Chinese Pirates in the Chinese Seas* (1859). Few people associate the author of the ghost stories, still regularly reprinted in modern compilations of the genre, with the founder of the Egypt Exploration Fund.

But it is her novels, from *My Brother's Wife* in 1855 to *Lord Brackenbury* in 1880, which reveal most about Amelia Edwards as a person. It is fortunate that her first biography has been written by an Emeritus Professor of English Literature at the University of Birmingham. Professor Rees's analysis of Amelia's character, 'a woman whose multiple talents fed two careers' (p. 3), is as exciting as Amelia's novels. While Amelia's contribution to Egyptology and to the Egypt Exploration Fund (later Society) has been periodically, but superficially, reviewed as anniversaries accumulated, it is the patient unravelling of the hidden clues to her motives which is new and original. Rees's text is gently perceptive and refreshingly open-minded without pursuing matters which would serve little purpose but sensationalism. Only occasionally one gets a glimpse of the steel under the cloak: 'The record of jealousy, self-seeking and stabbing-in-the-back among distinguished Egyptologists must rank high even in the annals of academic rivalries' (p. 56).

It is difficult to escape the feeling that in spite of her now semi-mythical status, Amelia Edwards was a lonely and often sad figure, held back and frustrated by her modest social background, financial restrictions, the lack of academic recognition, her sexuality and the mere fact that she was a woman. Her selfless dedication to the Egypt Exploration Fund and the cause of Egyptian archaeology is all the more remarkable. Nevertheless, I must admit that even after reading Rees's book I do not fully understand Amelia's motivation. The idea that in the Egypt Exploration Fund she found, at last, an area where she was able to use her formidable talents to the full is attractive but cannot explain such a complex character entirely.

One is also very forcefully reminded of how much even in Egyptology is due to chance and accident. What if the autumn of 1873 had been sunny in France and Amelia and her female friend L. had never embarked on their Egyptian tour? How would British Egyptology have fared without the influence of Amelia Edwards? How would the careers of the future brilliant stars on the Egyptological scene, such as Flinders Petrie and Francis Llewellyn Griffith, have developed without her influence?

The list of manuscripts which Rees used in writing her book does not mention Amelia Edwards's papers in the Archive of the Griffith Institute in Oxford (these were also overlooked by M. L. Bierbrier in the third edition of *Who was Who in Egyptology*). The most attractive of the Griffith papers are two albums with drawings and watercolours known to us from engravings in *Untrodden Peaks and Unfrequented Valleys* and *A Thousand Miles up the Nile*. They include the notorious coffee-painting of the face of one of the Abu Simbel colossi (it was in the year 1873, after all). Egyptologists will be interested in her notebook, dated to about 1881, which contains, among other things, notes on several Egyptian objects in private collections in the United Kingdom.

I should assess Amelia's contribution to Egyptology in a slightly different way from that presented by Rees. Nobody would deny that the Egypt Exploration Fund played a major international role in the excavation and preservation of Egyptian archaeological sites from its inception. But its greatest contribution was domestic: it helped to change the focus of British Egyptology and provided an alternative to the sterile Egyptological setup which prevailed in the United Kingdom in the 1880s. In this way it rescued the subject in this country from becoming insular and losing ground internationally on an alarming scale.

This is a biography of a woman by a woman, and as its title suggests, the book is about more than Egyptology. Joan Rees has given us a lively and scholarly story of a remarkable person—a woman, a writer and an Egyptologist. I am still undecided as to whether the concluding impression is one of optimism. But what a spirit, and what courage!

JAROMIR MALEK

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